A.M.I.

www.ami-control.com

CATALOGUE - 2022
VERSION 1

LED indicator display panels
Display and three-phase protection
Technical Alarm processing
Bus centralization

APPLY SIMPLICITY
TO BE EFFECTIVE
IN EMERGENCY

Nuclear

Offshore / Gas

Petro-Chemicals

Navy

Iron and steel

MADE IN
FRANCE

A.M.I. created in 1976 manufactures indicator panels and alarm annunciators for monitoring and protection over a wide range of equipment fitted in many environments, particularly hostile and hazardous where undetected problems or failures can produce significant risks.

The SCADA system, with screen or text, can be over complicated in the event of emergency. A.M.I. has adopted a simple display system, coupled with a powerful information process and eases customer's programming to suit a site application.

The many different features built into A.M.I. products result from our in-house experience added customer's specific requirement which have evolved along the last 40 years, from within the navy and an extensive range of industrial applications.

A.M.I. APPLY SIMPLICITY FOR INDICATION OF EMERGENCY :

All our products are designed to inform a plant operator of a situation indicating potential danger or failure.
Therefore, the greatest rapidity is required. A simple glance at the display must able to determinate how critical the problem is. With effect flagged on the display, causes can be determined later.
Some plant operators can be unfamiliar with screens system, on which it is necessary to navigate through the menu, to read a text and taking far too much time.
A.M.I. products are visual and, for annunciators resonant providing immediate information. An inexperienced operator can understand the situation and inform. We are committed to optimize the usability by large bright surfaces, maximum lighting and labels (feasible on computer screen) with ability to add logos and images.

Apply simplicity to be effective in emergency

Despite their simplicity, our products are high performing :
- Many different functions included in our products are the result of our experience and listening to our client needs over more than 40 years (1st fault processing, lead continuity monitoring on input terminals, etc.).
- Product reliability :
  - We have rendered our products «autonomous». Each product remains independent of the others and of any central unit. This configuration will not cause a cascade of breakdowns. If a module fails, all other modules will carry on functioning. An alarm management system with our products has a multi-task capacity.
  - Our power voltage tolerance ranges are generally +/- 30% with max operating temperatures at 60°C ambient temperature.

And we have not forgotten the technician :
- Many of our products have communication and centralizing capacity with SCADA and a supervisor. We offer you an alarm management system with Centralization Bus, touch screen, history and operator assistance.
- We provide software that facilitates label production, and the capacity on your PC screen to set the various products and to save the data from this setting. This is available for free on the INTERNET.
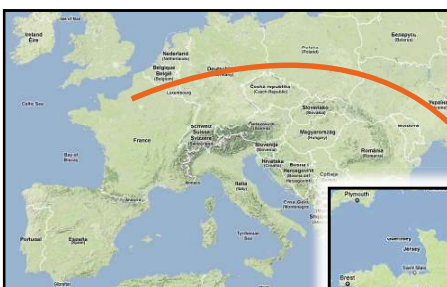
AMI SITE LOCATION :

INDICATOR OR ALARM TECHNOLOGY :

Indicator Panel : It is carried out by simple LED indicators. Used to give an operator information concerning a state, a position. This is an indication or information that is not of a dangerous nature. It is a help allowing the operator to follow the progress of a sequence or process.
Examples :
- Pump : ON/OFF.
- Door : Open/Close.

Indicator Panels can function as stand alone mounted with or adjacent to an operation, or grouped to form a central information panel, where a multiplicity of functions can be viewed, even compared.

Alarm Annunciators : It is carried out by LED signaling automatons which process the information locally. Allows an operator to be informed of a situation that can quickly turn into a situation of danger or even disaster. It has an emergency character. It becomes necessary to call the operator who may be busy with another task. This flashing visual and audible information will be memorized until the operator has acted or taken into account and / or until the normal state is returned. The alarm can only be reset when the fault has been resolved. In the event of secondary or cascading alarms from the first alarm, these alarms will flash slower than the original alarm. Two-level alarms can be arranged, the first indicating a pre-alert and the second providing shutdown of the particular equipment.
This arrangement allows an operator to take early action to possibly avoid costly downtime.

The centralization : It consists in returning all the information to a central station where the operators or the central system are located. It allows you to have all the information at a glance.
It can be carried out in wired or bus mode.

Signaling or information processing in LOCAL mode: It is directly located near the part of the installation to be controlled.
In the event of centralization, considering that there are no longer any local operators and for reasons of economy, one may be tempted to eliminate it. However, in critical situations, the operator will have to go to the offending location and will have instant access to all the control elements. The central station may be temporarily overloaded and not be able to provide it with the necessary information. In these different cases, speed of intervention is essential and it involves local signage. On the other hand, to achieve centralization, it is necessary to provide local concentrators. A.M.I. products are local hubs WITH local display and processing of information. The local information does not depend on the central system (which can also be out of order).

DISPLAYING THE PRESENCE OF THE PHASES AND PROTECTION OF THREE PHASE STARTS

- Economic display 3 LEDs to display the presence of the phases.
- Complete controller with detection of the direction of rotation of the phases, Over and Under voltage, phase loss / loss of neutral and asymmetry.

OUR COMMITMENT :

A.M.I. has a continuous design and development program to ensure products incorporate the best in advanced technology, consistent with proven software and hardware to ensure on-site installations provide security for equipment and confidence for the end-user.

Some specific products in the range have ship classification society approval for Navy applications, but all products are manufactured to the same highest standard, with quality control ensuring operation in the harshest environments.

All products are tested individually after manufacture to maintain the standard of quality and ensure flawless operation.

All products in the A.M.I. range carry a 2 years warranty.

OUR GREATEST PLEASURE :

On a visit at the customer's intallation, be proudly shown an A.M.I. product bought 30 years ago and still working.

We hope this catalogue of standard products covers your requirements,
but AMI staff are always available to offer help, or advice,
for any special applications you may have.

François LACALMETTE   **Jean-Pierre LACALMETTE**

A.M.I.

Indicators

Three-phase display and protection

Same functions as à traditional indicator light, but with an integrated test LED and an optional «contact» to send remote information.

«Breaker by Breaker» use

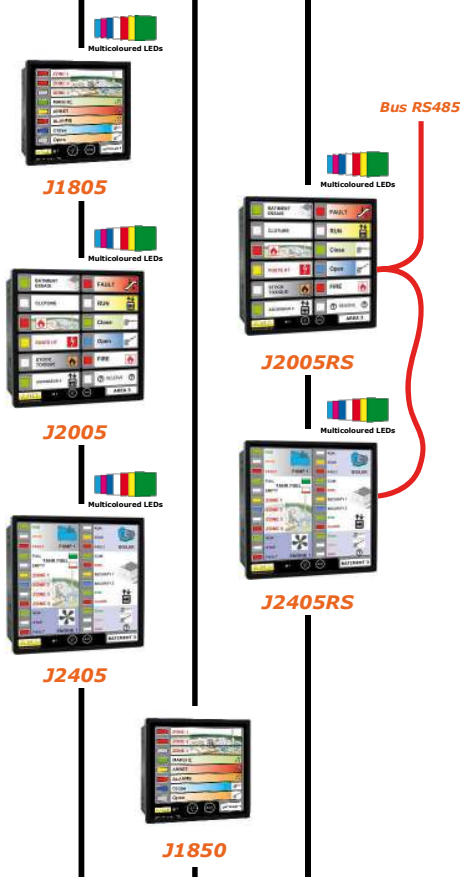### «regrouped» use

«Three-phase» power supply

- To report 3 or 4 states on the same departure. Example : Run/Stop/Alarm
- To replace 3 or 4 indicator lights.
- Exists with 2 buttons and remote reporting.

To regroup the luminous informations in the same place.

- To display the presence of the 3 phases.
- To protect a three-phase feeder (phase rotation, overvoltage, undervoltage, asymmetry/loss of neutral)

Multicoloured LEDs

PAN35 & PAN45

Multicoloured LEDs

J1805

Multicoloured LEDs

Bus RS485

Multicoloured LEDs

PAN35-55-13

Multicoloured LEDs

PAN35BV PAN45BV

Multicoloured LEDs

J2005

J2005RS

Multicoloured LEDs

Multicoloured LEDs

PH001

PAN35SH PAN45SH

Multicoloured LEDs

J2405

J2405RS

J1850

page 7 to 19

page 20 to 29

page 30 to 37

Application

Realized by the company «Kautz Starkstrom-Anlagen GmbH» (Germany)
Multicoloured LEDs Products fitted with a 7-colour LED set selector.

Technical Alarms

This automatic alarm processing system integrates all necessary functions with, in particular, a report by BUS and a channel-by-channel report by wires.

Multicoloured LEDs

J1905S

Multicoloured LEDs

J1905S-0X-0XS-00

Multicoloured LEDs

Bus RS485

J3000/J3105

Bus RS485

J3500

page 38 to 67
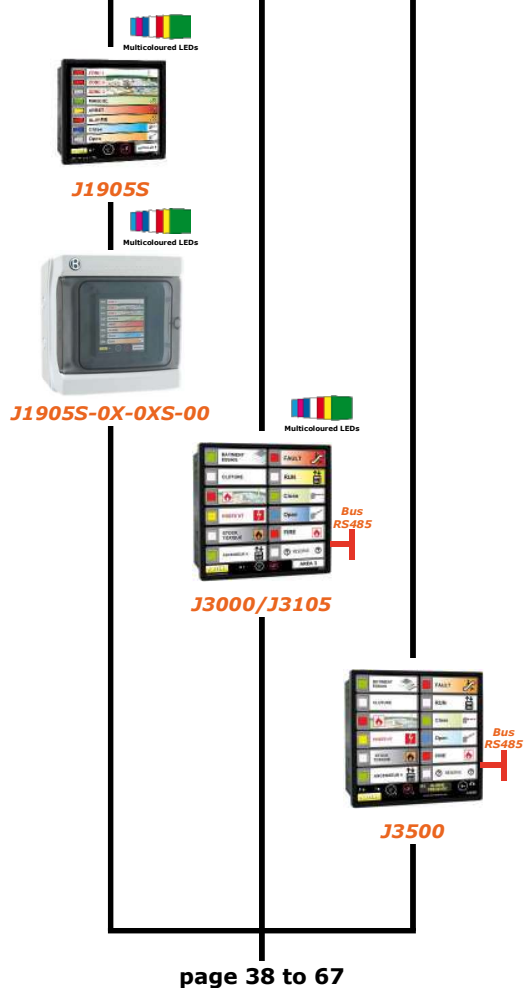
Centralization

Allows the centralization by Bus of alarms treated in local mode by panels J3000 and J3500. Integrates many functions (archiving, printing, operator assistance, etc.)

Wired   By BUS

Multicoloured LEDs

ALARM'BOX

Bus RS485

PANEL'PC

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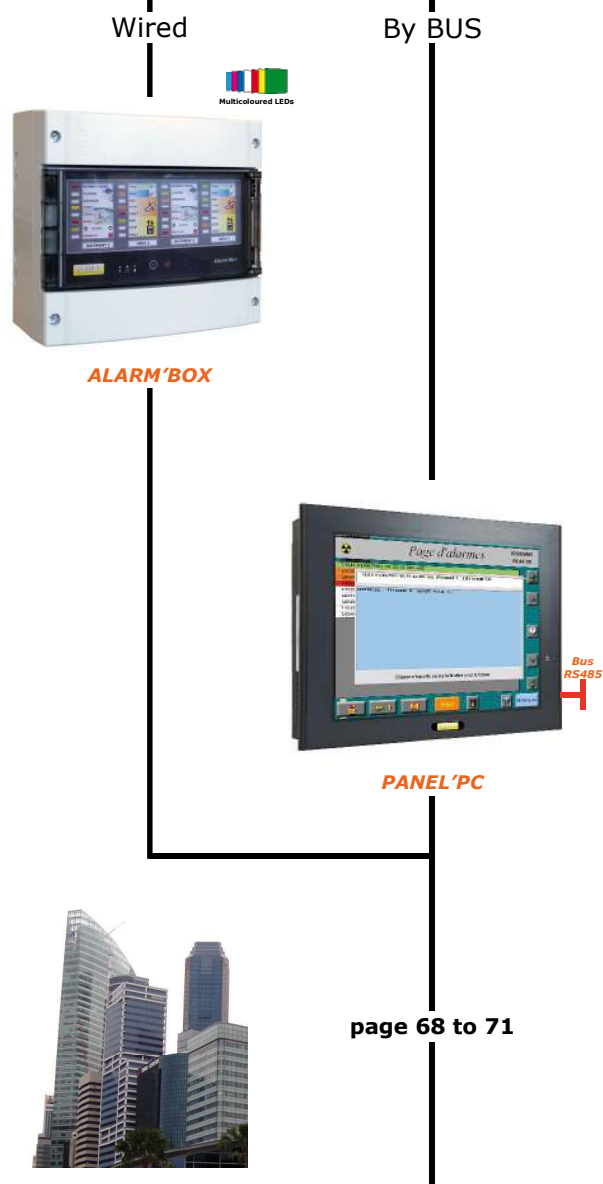
www.ami-control.com

The following products have been approved Marine «Bureau Veritas» :
- Simple indicators signaling : J1805, J2005, J2405
- Annunciators / Technical Alarms Panels : J1905S / J3000 / J3500.
We continually evolve our products to provide solutions for maximum safety, even in difficult cases.

PAN35/PAN45 :

The range has been extended with the integration of 1 or 2 relays in the box to send remote contact about the indicator state.

Concept of «Voltage Useful» :
This concept allows the LED to be turned on only if the voltage is sufficient. It avoids unwanted signaling in the event of leakage or induction voltage in the cables or residual voltage.
It is an ignition from a minimum voltage threshold.

"Secure Useful Voltage" concept for operator safety:
One version makes it possible to signal by flashing, undervoltages that are too low but remain dangerous (induction or a voltage return that could present a danger for users).
This is an undervoltage ignition with display of the undervoltages present by flashing (residual voltage too high, induction in the cables).
(example: flashing display between 35V and 125V / fixed display from 125V and more.
All PAN35 models in version 05-13 (operating from 15 to 300Vac/dc) can be equipped with this option.
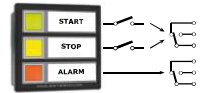
J1905S :

Derived from the J1905, it incorporates its features with the addition of:
- Redundant continuous or alternative safety power supplies. (Allows operation to be ensured even in the event of loss of one of the two power supplies). This solution avoids the use of batteries with charger which are often a source of problems.
- Selection of inputs with common positive or negative voltage contacts. (This allows, among other things, to activate the inputs by contact and by any electronic output).

These products are also available in an IP65 wall box version.

DISPLAY OF THE PRESENCE OF THE PHASES: PAN35-55-13
PROTECTION OF THREE-PHASE FEEDERS: PH001 + PAN45-01-00

Our range is expanding with a display and protection for three-phase feeders:
- Economic display with 3 LEDs to display the presence of the phases.
- Complete controller with detection of the direction of rotation of the phases, Over and Undervoltages, loss of phase/loss of neutral and asymmetry. A "memory" function allows the reason for the last trip to be redisplayed. In addition, a very low voltage secure display on the front of the cabinet allows the status to be viewed, thus avoiding the opening of the door.

SCHEMA :

To help you in your choice of connection, we added at the end of catalog a new chapter «connection diagram» including :
- The definitions used in this catalog for power supplies, inputs, outputs.
- Several examples of wiring and connections diagram with our products.
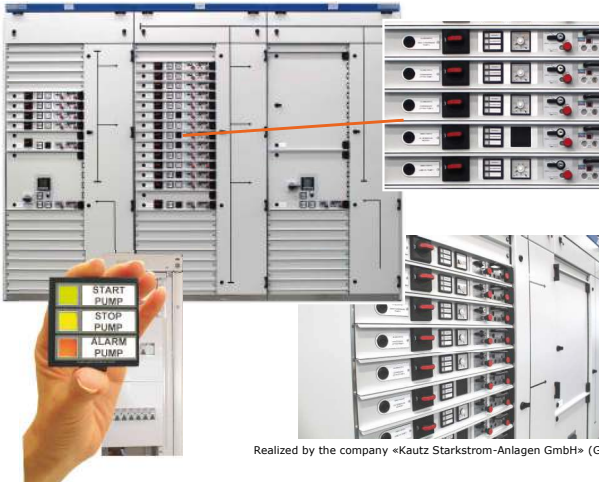
**A.M.I. Building
at Saint-Marcel (France)**

**Manufacturing unit in Normandy
FRANCE.**

Nouveautés_EN002_21-11-2022

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General

Simple indicator display panels or «INDICATORS» :

LED Indicator Display

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Centralization

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Accessories

Clients references :

References

Approval certificates :

Tab Matières_EN004_08-11-2022

INDICATORS Range

TECHNICHAL ALARMS FOR INDUSTRY, NUCLEAR PLANTS, PETROLEUM, NAVY, TERTIARY SECTOR

www.ami-control.com

warranty 2 years warranty

«BREAKER by BREAKER» «PHASES PRESENCE»

«REGROUPED»

Realized by the company «Kautz Starkstrom-Anlagen GmbH» (Germany)

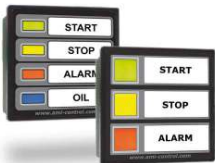Products fitted with 7 colours selector per LED.

3 OR 4 INPUTS AND «PHASES PRESENCE»

		PAN35			PAN45	
DC	**AC**	**Without relay**	**1 relay**	**2 relays**	**Without relay**	**1 relay**
8V - 60V	8V - 60V	PAN35-02-13			PAN45-02-13	
15V - 60V	15V - 60V		PAN35-02-113			PAN45-02-113
70V - 150V	70V - 150V				PAN45-04-13	
15V - 300V	15V - 265V	PAN35-05-13	PAN35-05-113	PAN35-05-123		PAN45-05-113
	70V - 300V Ph-N	PAN35-55-13			PAN45-55-13	
	104V - 500V Ph-Ph	PAN35-55-13				

WITH 2 CONTROL BUTTONS
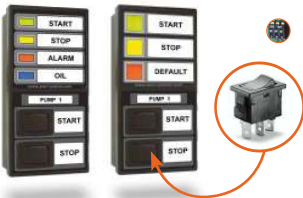
		PAN35BV			PAN45BV	
DC	**AC**	**Without relay**	**1 relay**	**2 relays**	**Without relay**	**1 relay**
8V - 60V	8V - 60V	PAN35BV-02-13			PAN45BV-02-13	
15V - 60V	15V - 60V		PAN35BV-02-113			PAN45BV-02-113
70V - 150V	70V - 150V				PAN45BV-04-13	
15V - 300V	15V - 265V	PAN35BV-05-13	PAN35BV-05-113	PAN35BV-05-123		PAN45BV-05-113
	70V - 300V Ph-N	PAN35BV-55-13			PAN45BV-55-13	
	104V - 500V Ph-Ph	PAN35BV-55-13				

WITH 2 INTEGRATED SWITCHES OR 2 SWITCHES AND 1 BUTTON OR 2 SWITCHES AND 1 COUPLER
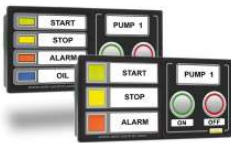
		PAN35SH - AA/BB/RJ			PAN45SH - AA/BB/RJ	
DC	**AC**	**Without relay**	**1 relay**	**2 relays**	**Without relay**	**1 relay**
8V - 60V	8V - 60V	PAN35SH-02-13			PAN45SH-02-13	
15V - 60V	15V - 60V		PAN35SH-02-113			PAN45SH-02-113
70V - 150V	70V - 150V				PAN45SH-04-13	
15V - 300V	15V - 265V	PAN35SH-05-13	PAN35SH-05-113	PAN35SH-05-123		PAN45SH-05-113
	70V - 300V Ph-N	PAN35SH-55-13			PAN45SH-55-13	
	104V - 500V Ph-Ph	PAN35SH-55-13				

8,12 OR 24 «CONTACT» INPUTS OR «BUS RS485» INPUT

		J1805	J2005	J2405	J1850	J2005RS	J2405RS
DC	**AC**	**8 «contact» inputs**	**12 «contact» inputs**	**24 «contact» inputs**	**8 «contact» inputs**	**Input by BUS RS485**	**Input by BUS RS485**
24V (+/- 30%)	24V (+/- 30%)				J1850-02-10 J1850-02-1H	J2005-02-30 J2005-02-32	J2405-02-30 J2405-02-32
48V (+/- 30%)					J1850-03-10 J1850-03-1H	J2005-03-30 J2005-03-32	J2405-03-30 J2405-03-32
15V - 60V	15V - 60V	J1805-02-11	J2005-02-11	J2405-02-11			
70V - 150V direct inputs	70V - 150V direct inputs	J1805-04-11	J2005-04-11	J2405-04-11			
80V - 265V	80V - 265V	J1805-05-11	J2005-05-11	J2405-05-11			

In use AC : 50Hz to 60Hz only
(can not be used with a frequency variator ex : variable speed drive)

PAN_short_EN003_08-11-2022

PAN35, PAN45, BV, SH
LEDS INDICATOR DISPLAY PANELS

www.ami-control.com

warranty 2 years warranty

Multicolored LEDs

MADE IN
FRANCE

Each piece
is tested
one by one

LED Indicator Display

INDICATOR DISPLAY PANELS ULTRA COMPACTS
WITH LEDS
DIN 48X48
DIN 48X96
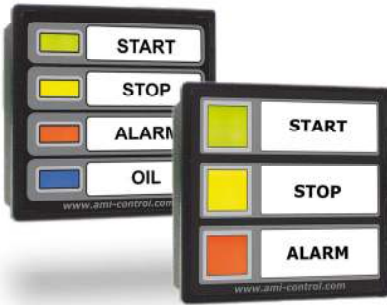
PAN45
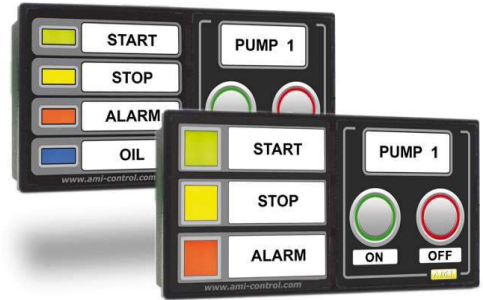
PAN35

PAN45SH

PAN35SH

Selection of 7 colours per LED

Possible options :
- Displaying under voltage presence
(induction cables)
- Lighting up after undervoltage threshold
- Contacts for remote information
- Pushbuttons to control

Possible supply
from 8V to 500Vac/dc

PAN45BV

PAN35BV

Realized by the company Mayfield Industries
(Australia)

mayfield

Realized by the company Kautz Starkstrom-Anlagen GmbH
(Germany)

KAUTZ

8

GAMPAN35PAN45_EN012_02-11-2022

PRESENTATION :

Very economical, the new range PAN35/PAN45 is designed for cabinets with many repetitive outputs such as :
Extractable cell distribution cabinets, Pump multipleoutputs, Circuit breakers...
The PAN35/PAN45 series can be used in the most difficult situations.

THE DIFFERENT BOXES :

Each product includes :
- A luminous part fitted with of 3 or 4 indicators. This luminous part may be used alone (48x48 box) or combined with a control part (48x96 box).
- 1 or 2 contacts for remote information can be present in the luminous part.

There are many available models for all scenarios.

PAN35 / PAN45
DIN box 48x48mm
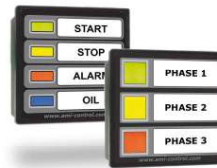
Luminous Part only
3 or 4 indicators
with or without options
- displaying undervoltage
- undervoltage threshold
- output contacts

Advantages :
- Allows to integrate :
  Signaling + contacts for remote information + control functions in the most restricted spaces.

- Very wide tolerance of each voltage supply range allowing to regroup many models and to reduce the stock via the standardization.
- The supply voltage tolerances allow the use of the same model for several various supply voltages. (example : One single model from 15Vac/dc to 265Vac or 300Vdc).
- Strengthened over-voltage protection.
- Selecting of one colour among 7 for each LEDs.
- Increased brightness with reduction in consumption (and decrease of internal heating).
- Exceptional long working life (LEDs).
- Sealing front face : IP65.
- «LEDs Test» terminal.
- Unpluggable terminal board to screw in.
- Label achievable oneself by the printer (free software).

All luminous parts can be used in the 48x96 format including the 1 or 2 transfer contact.

PAN35BV / PAN45BV
DIN box 48x96mm

Luminous Part
3 or 4 indicators
with or without options

Extension
- 2 control switches

PAN35SH / PAN45SH
DIN box 48x96mm

Luminous Part
3 or 4 indicators
with or without options

Extension
- 2 push buttons
- 2 push buttons + 1 switch
- 3 push buttons
- 2 push buttons + RJ coupler

All these products are designed and manufactured in FRANCE.
They are designed to have maximum durability in difficult environments.

PRODUCING LABELS :

Labels are ordinary paper sheets that can be slid into a transparent pocket included in the thickness of the front face.
A blank label is supplied with each unit.
Labels can be handmade, or draw on the screen of the PC and produced with a colour printer (laser or ink-jet).
The PC software allows to create labels including images, allows to save and duplicate the achievements.
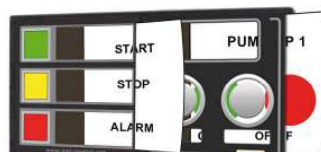This PC software is FREE. It is possible to load it on our website :
www.ami-control.com
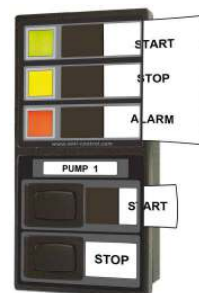For high humidity countries, the printing on plastic sheets is recommended.
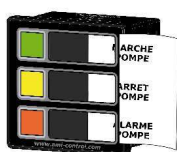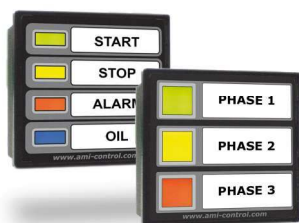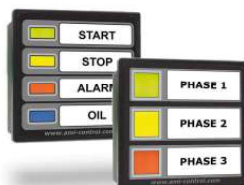

PAN35 *PAN45* *SH* *BV*
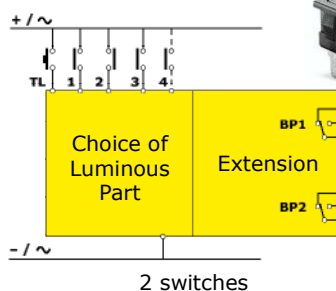
THE RANGE :

Luminous Part with / without option

3 or 4 indicators
with or without options
- displaying undervoltage
- undervoltage threshold
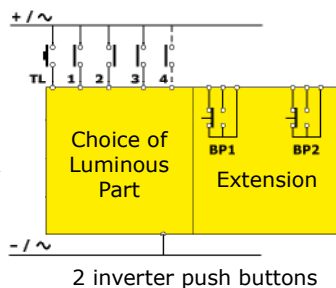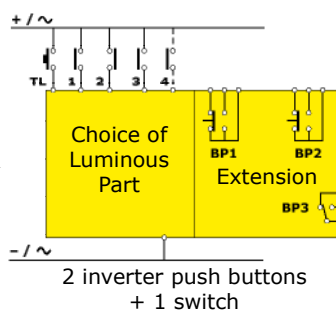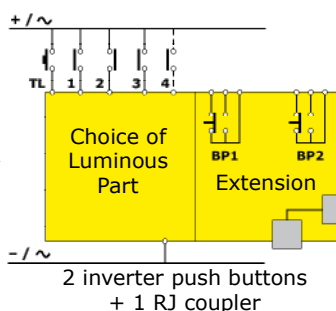- output contacts

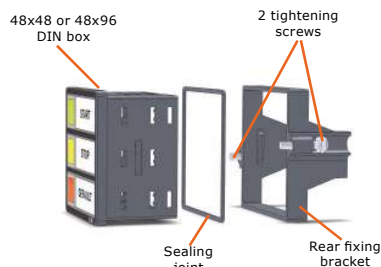**+ EXTENSION**

PAN45 / PAN35

Extension

2 switches

BV

2 inverter push buttons

SH-AA

2 inverter push buttons + 1 switch

SH-BB

2 inverter push buttons + 1 RJ coupler

SH-RJ

GENERAL FEATURES TO ALL MODELS :

48x48 or 48x96 DIN box
2 tightening screws
Sealing joint
Rear fixing bracket

The boxes are made of polyamide PA66 30gf loaded to 30% for a high mechanical strength over time. A gasket at the front ensures sealing (IP65).

This new bracket allows an easier fitting by a simple push. The screw heads come to abut on the stops, avoiding bending of these. Possibility to rotate the bracket at 90° for 48x48 models.
- Unpluggable terminal board to screw-in (3 or 4 inputs + 1 common + «LEDs Test»).
- Very high luminosity.
- Very low consumption (10mA per Leds).
- Constant luminosity irrespective of supply voltage.
- Each LEDs is protected against over-voltage.
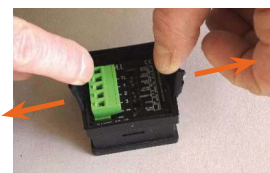
To fit the bracket, just put it on the panel and push the tabs.

To remove the bracket, just pull outward the 2 tabs, then pull to the rear of panel.

GENERALITIES :

The luminous part can be used with both types of boxes :
- **DIN 48x48,** one luminous part, with 3 or 4 LEDs with «LED test» input, with the optional output contacts.
- **DIN 48x96,** containing the luminous part and an extension with a automatism part such as push-buttons, switches, coupler of connection.

It consists of an assembly containing 3 or 4 (10x10mm) LEDs or 4 (5x5mm) LEDs and a large common label with a label holder. LEDs are cms tri-LEDs type. For each input, there is a switch that allows the user to choose a display color from 7 options.
This component service life is practically unlimited. To improve reliability, LEDs are not connected directly to the inputs.
An electronic circuit ensures an effective protection of each input.
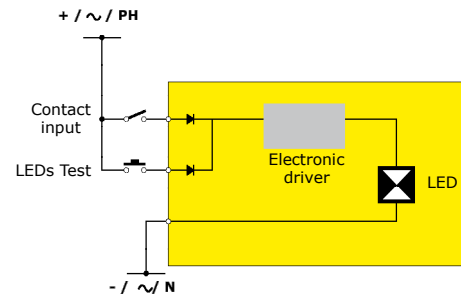It ensures among other things :
- LED monitoring at 10ma ensuring a significant and constant luminosity
  regardless of the voltage supply.
- The operation area width is increased.
- Effective protection against overvoltage on the input.
- A non-return device to avoid reinjecting voltage to external components.

In addition, every element contains an input intended for an outside push-button allowing realizing «Leds Test» general.
(The «economic» version does not possess a regulator of light and the tolerances of tension of uses remain standard).

- All the connectors are of «unpluggable terminal screwed» type.

Many options can be added:
- minimum voltage threshold (avoids a glow in the Led in the presence of residual voltage).
- undervoltage detection (flashes in the presence of a dangerous residual voltage)
- reporting contacts (used to report the status of the remote signaling).

LEDS COLOUR SETTING :

A display choice of 7 colors per LEDs is possible. This choice is selectable using switches on the panel front face. You have a choice of the following colours :

Red, Green, Yellow, Blue, White, Cyan, Magenta.
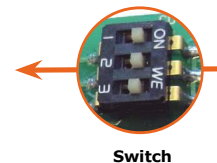
For safety reasons, models with high voltages have the switches located in the front.
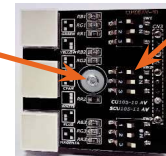**(PAN35-02-113, PAN35-05-13, PAN35-55-13, PAN45-02-113, PAN45-04-13, PAN45-05-113 and PAN45-55-13 versions)**
To achieve this, it is necessary to extract the circuit board unit. Take out screw A and extract the unit by rear.
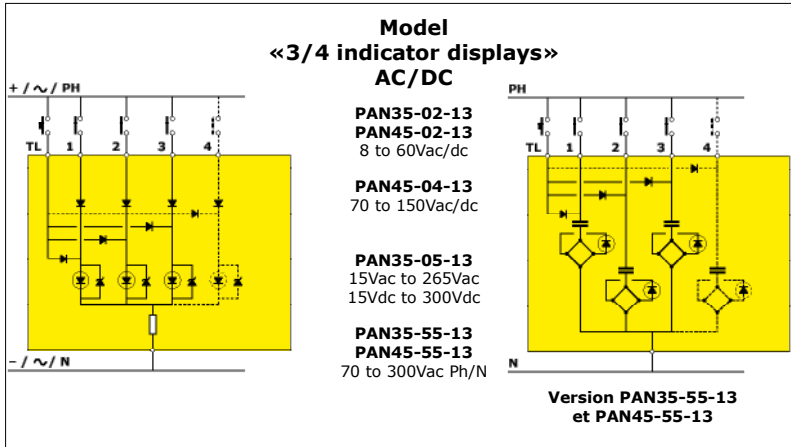
PAN35-55-13
rear view with screw A

PAN35-55-13
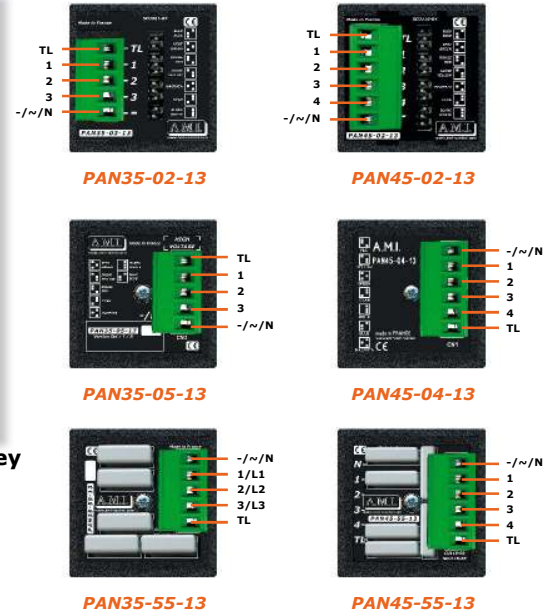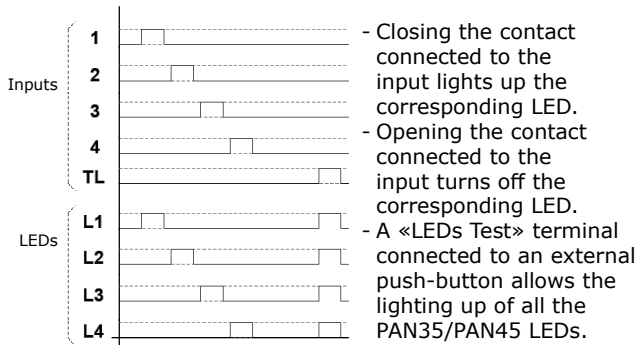front view cover removed

THE DIFFERENT LUMINOUS PARTS :

VERSIONS WITHOUT OPTION :

**Model
«3/4 indicator displays»
AC/DC**

**PAN35-02-13
PAN45-02-13**
8 to 60Vac/dc

PAN45-04-13
70 to 150Vac/dc

PAN35-05-13
15Vac to 265Vac
15Vdc to 300Vdc

**PAN35-55-13
PAN45-55-13**
70 to 300Vac Ph/N

Version PAN35-55-13
et PAN45-55-13

PAN35-02-13

PAN45-02-13

PAN35-05-13

PAN45-04-13

PAN35-55-13

PAN45-55-13

PAN35-55-13 can be used to display the presence of the phases. They are described in the part of the catalog "Three-phase display and protection".

In order to avoid an electric shock (due to the residual voltage in the capacitors), during an intervention, each capacitor is equipped with fast discharge resistors.
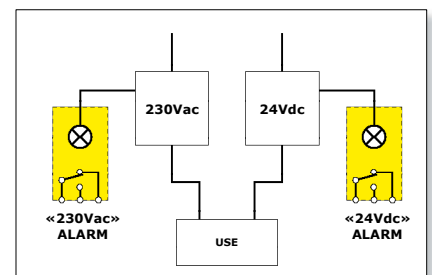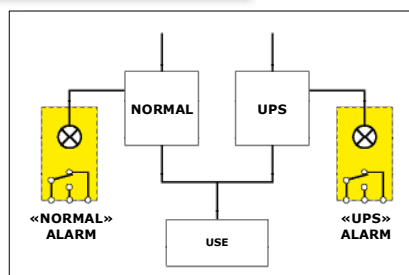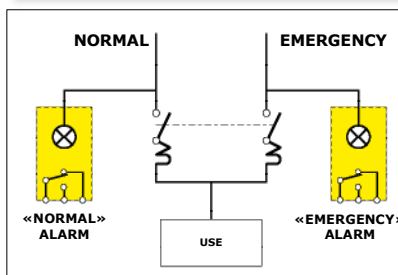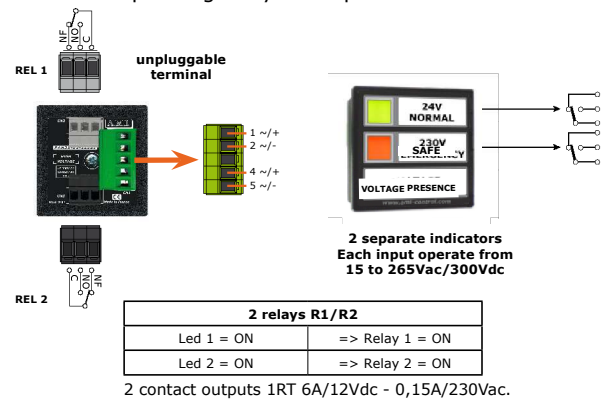
OPERATION :

Inputs: 1, 2, 3, 4, TL

LEDs: L1, L2, L3, L4

- Closing the contact connected to the input lights up the corresponding LED.
- Opening the contact connected to the input turns off the corresponding LED.
- A «LEDs Test» terminal connected to an external push-button allows the lighting up of all the PAN35/PAN45 LEDs.
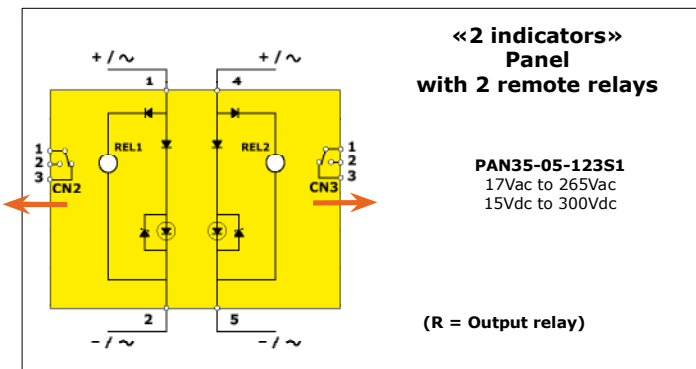
PAN35-02-13	3 indicator displays + «Leds Test» terminal 8 to 60Vac/dc
PAN35-05-13	3 indicator displays + «Leds Test» terminal 15 to 265Vac (Mono) / 15 to 300Vdc
PAN35-55-13	3 indicator displays + «Leds Test» terminal 70 to 300Vac Ph/N
PAN45-02-13	4 indicator displays + «Leds Test» terminal 8 to 60Vac/dc
PAN45-04-13	4 indicator displays + «Leds Test» terminal 70 to 150Vac/dc
PAN45-55-13	4 indicator displays + «Leds Test» terminal 70 to 300Vac Ph/N

☐ **if using AC: 50Hz to 60Hz only** (can not be used with a frequency variator ex : variable speed drive)

VERSION «CONTROLLER OF PRESENCE OF 2 DIFFERENT ISOLATED VOLTAGES» :
PAN35-05-123S1

Allows monitoring of two independent power supplies. (example: 24Vdc and 230Vac) or two power transformers.
A disappearance of one or the other voltage to be checked will cause the corresponding relay to drop out.
The output relays are positive safety (normally activated).

«2 indicators» Panel with 2 remote relays

PAN35-05-123S1
17Vac to 265Vac
15Vdc to 300Vdc

(R = Output relay)

REL 1

unpluggable terminal
1 ~/+
2 ~/-
4 ~/+
5 ~/-

REL 2

24V NORMAL
230V SAFE
VOLTAGE PRESENCE

**2 separate indicators
Each input operate from
15 to 265Vac/300Vdc**

2 relays R1/R2	
Led 1 = ON	=> Relay 1 = ON
Led 2 = ON	=> Relay 2 = ON

2 contact outputs 1RT 6A/12Vdc - 0,15A/230Vac.

NORMAL — EMERGENCY

«NORMAL» ALARM — «EMERGENCY» ALARM

USE

NORMAL — UPS

«NORMAL» ALARM — «UPS» ALARM

USE

230Vac — 24Vdc

«230Vac» ALARM — «24Vdc» ALARM

USE

UNDERVOLTAGE THRESHOLD (PAN35-55-13 & PAN45-55-13)

The purpose of an LED (or an indicator) is to indicate information that is present or not.
- If voltage is present, the Led must be on.
- If the voltage is absent, the Led must be off.
But what if the voltage is «too low»?

LEDs have undeniable qualities: longevity, very low consumption, high brightness. But, on the other hand, they can cause inconvenience.
Their very high sensitivity added to their low consumption allow them to switch on at a very low voltage that could mislead an operator.
However, it often happens that a leak or a return voltage is present on the installation, generating a residual voltage of a few volts when it should be zero.
In order to prevent the LEDs from lighting up (weak glow) in the presence of residual voltage, it is possible to add a minimum ignition threshold (mark S).
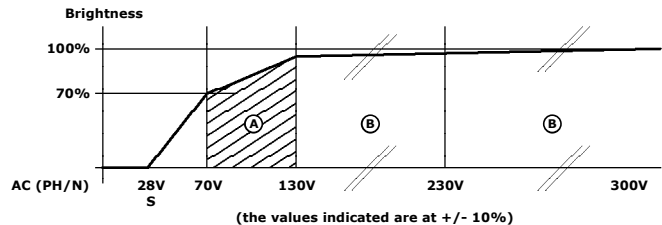The LEDs will only light up if the voltage present is greater than this threshold.

On the diagram, the correct brightness (70%) will be reached at the minimum operating voltage.
- In the ignition start zone (A), the color white may be pink. Normal brightness is reached as soon as 50% of nominal voltage.
- In zone (B) the brightness will be constant.

In «LED test» use and in order to limit general consumption in the case of numerous displays, the brightness is reduced.

OPTION WITH UNDERVOLTAGE THRESHOLD
AND/OR DISPLAY UNDERVOLTAGE PRESENCE (PAN35-05-13)

Model « Tx » : This display will only illuminate from an acceptable voltage threshold.

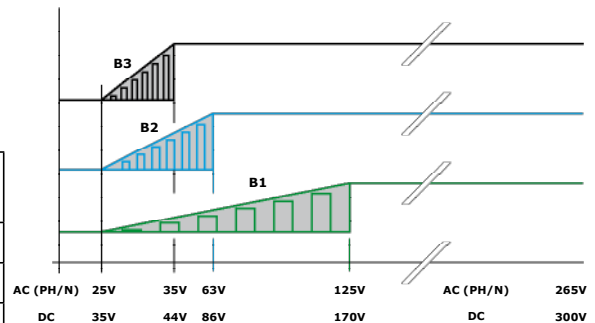|	Minimum lighting voltage +/- 10%	Recommended use voltages
PAN35-05-13	15Vac / 15Vdc	15Vac to 265Vac 15Vdc to 300Vdc
PAN35-05-13T1	125Vac(Ph/N) 170Vdc	230Vac to 265 Vac 200Vdc to 300Vdc
PAN35-05-13T2	63Vac / 86Vdc	127Vac to 265Vac 110Vdc to 300Vdc
PAN35-05-13T3	35Vac / 44Vdc	48Vac to 265Vac 45Vdc to 300Vdc
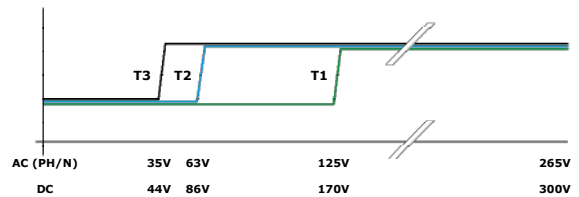
This new model allows to display a voltage state or voltage presence only after an acceptable voltage threshold has been exceeded. It avoids unwanted signaling in the event of insufficient voltage, leakage voltage or induction in the cables.

An option indicates flashing, undervoltage, cable induction or voltage feedback which could be dangerous for users.

Model « Bx » :
- As soon as dangerous voltage (positive or alternating) is present, the indicator light flashes.
- If the voltage increases, the flash will accelerate to a maximum.
- When the voltage reaches an acceptable value, the indicator lights steadily.

|	Start of detection of voltage presence (Flashing light)	Minimum lighting voltage in FIXED mode +/- 10%	Recommended use voltages
PAN35-05-13B1	25Vac / 35Vdc	125Vac(Ph/N) 170Vdc	230Vac to 265 Vac 200Vdc to 300Vdc
PAN35-05-13B2	25Vac / 35Vdc	63Vac / 86Vdc	127Vac to 265Vac 110Vdc to 300Vdc
PAN35-05-13B3	25Vac / 35Vdc	35Vac / 44Vdc	48Vac to 265Vac 45Vdc to 300Vdc

with voltage threshold	with voltage threshold with flashing when «under-voltage» presence
PAN35-05-13	
PAN35-05-13T1	PAN35-05-13B1
PAN35-05-13T2	PAN35-05-13B2
PAN35-05-13T3	PAN35-05-13B3

▢ if using AC: 50Hz to 60Hz only (can not be used with a frequency variator ex : variable speed drive)

This function is ideal for :
Check the minimum level of a supply voltage or battery voltage.
Too low a level will prevent starting or disturb the automatic systems.

Works in AC and DC
up to 300Vdc / 265Vac (Mono Ph/N).
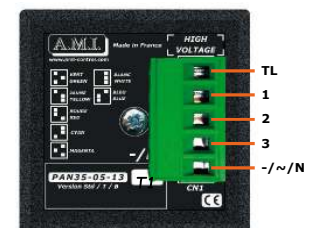
PAN35-05-13Bx or Tx

REPORT RELAY OPTION :

Many types of switchgears have multiple departures (extractable drawer, circuit breakers, motor departures...)

All these departures may require a local signaling of the 3 positions such as :
«OPEN / CLOSED / ALARM»
But it may become necessary to send information about the real position of the departure to the control room.
This requires one relay, which is costly in material ,in space and wiring.

The new versions can include 1 or 2 relays with a dry contact
1 O/C (galvanic isolation) avoiding to wire an external relay.
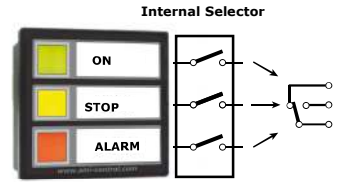A selector allows to choose the information to send:
(Open and/or Close and/or Alarm)
Space saving, Wiring saving, Price saving.
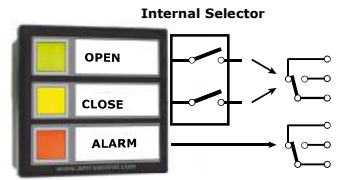
The relay contacts are inverters (1 O/C).
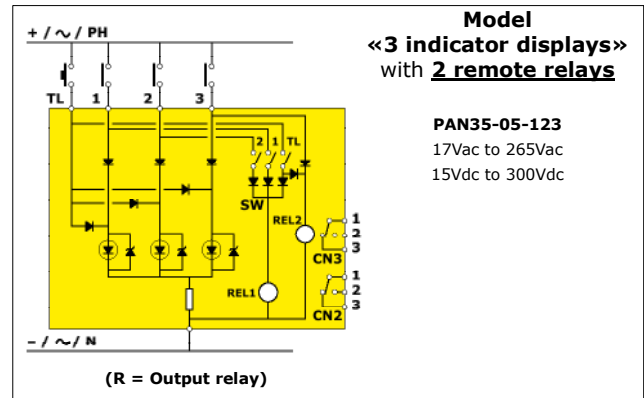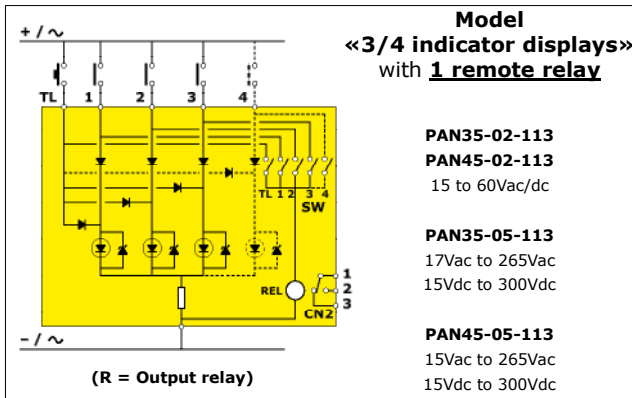PAN35 : 6A/12Vdc - 0,15A/240Vac.
PAN45 : 2A/30Vdc - 0,25A/250Vac.

With 1 relay version

Internal Selector

ON
STOP
ALARM

With 2 relays version

Internal Selector

OPEN
CLOSE
ALARM

Model «3/4 indicator displays» with **1 remote relay**

PAN35-02-113
PAN45-02-113
15 to 60Vac/dc

PAN35-05-113
17Vac to 265Vac
15Vdc to 300Vdc

PAN45-05-113
15Vac to 265Vac
15Vdc to 300Vdc

(R = Output relay)

Model «3 indicator displays» with **2 remote relays**

PAN35-05-123
17Vac to 265Vac
15Vdc to 300Vdc

(R = Output relay)
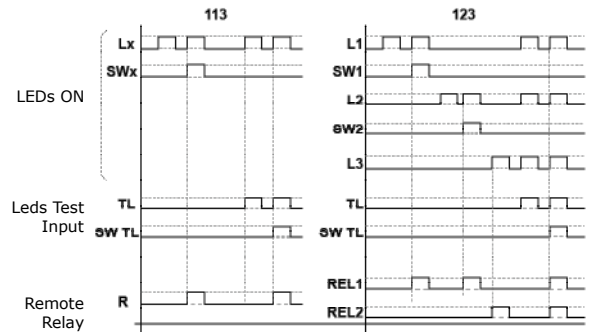
The TL position of the switch allows the relay to be tested or not during the «Led test» function.

### Version output relay option 113 or 123 :

	1 relay (113)	2 relays (123)
Led 1 = ON	+ switch 1 = ON => Relay = ON	+ switch 1 = ON => Relay 1 = ON
Led 2 = ON	+ switch 2 = ON => Relay = ON	+ switch 2 = ON => Relay 1 = ON
Led 3 = ON	+ switch 3 = ON => Relay = ON	=> Relay 2 = ON
Test Led	+ switch TL = ON => Relay = ON	+ switch TL = ON => Relay 1 & 2= ON

1 relay	PAN35-02-113	PAN35-05-113	PAN45-02-113	PAN45-05-113
2 relays		PAN35-05-123	PAN35-05-123S1	

▢ **if using AC: 50Hz to 60Hz only** (can not be used with a frequency variator ex : variable speed drive)

With 1 relay version

PAN35-02-113
PAN45-02-113

PAN35-05-113
PAN45-05-113

With 2 relays version

PAN35-05-123

PAN35-05-123S1
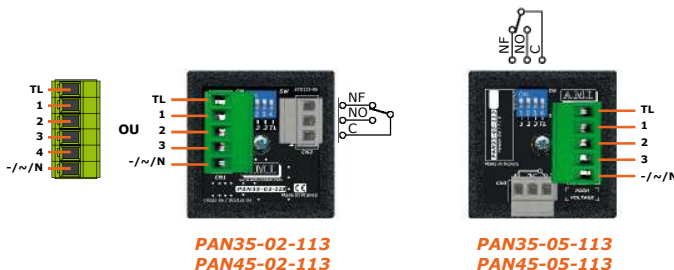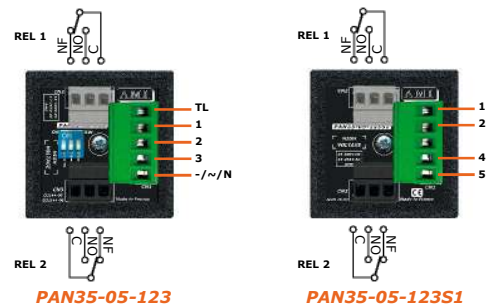
THE EXTENSIONS: CONTROL PART (CASE 48X96)

48x96 box consist of a «luminous» part and a «control» part. They can use any of the luminous part models described previously.
(See «LUMINOUS PART» for the special features and connections of each of them).

As for the luminous part, all the components of the control part may receive labels that shall be inserted in a transparent pocket on the front side.

The «control» part is entirely isolated from the luminous part. All connections are either «unpluggable terminal screwed», or «Faston plug, 4.8». (See § «LUMINOUS PART» for the special features and connections of each of them).

HOW TO DEFINE THE EXTENSION IN CASE 48X96 :

- 1°) Choose the light part with its options, corresponding to your use. Note the reference.
- 2°) Choose the extension in the following possibilities.
- 3°) In the tables of each of the posible extensions, find the reference of the luminous part by completing with the chosen extension :
- Example : *PAN35BV-05-123* or *PAN35SH-05-123AA*

THE «BV» EXTENSIONS :

Allows to associate 3 or 4 usual indicator displays :

«ON / OFF/ ALARM»

**With choice of 2 control units
(On/off, impulse, Auto/Manu, ...)**

- **Control part :**
The lower part of the housing has two positions for mounting switches of your choice. The connection can be made directly using «Faston» type terminals on the switches. The upper and lower parts of the housing are completely insulated electrically one from the other.

Without contac	1 contact	2 contacts
PAN35BV-02-13	*PAN35BV-02-113*	
PAN35BV-05-13	*PAN35BV-05-113*	
PAN35BV-55-13		*PAN35BV-05-123*
PAN45BV-02-13	*PAN45BV-02-113*	*PAN35BV-05-123S1*
PAN45BV-04-13	*PAN45BV-05-113*	
PAN45BV-55-13		

▢ **if using AC: 50Hz to 60Hz only** (can not be used with a frequency variator ex : variable speed drive)
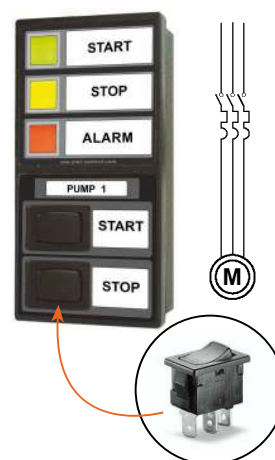
- Order : For this model, please, specify the part number and the desired switch model and their position.

Position 1

Position 2

PAN45BV

PAN35BV

unpluggable terminal

FASTON 4.8 connection
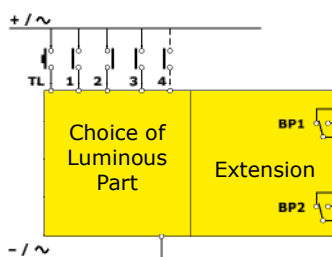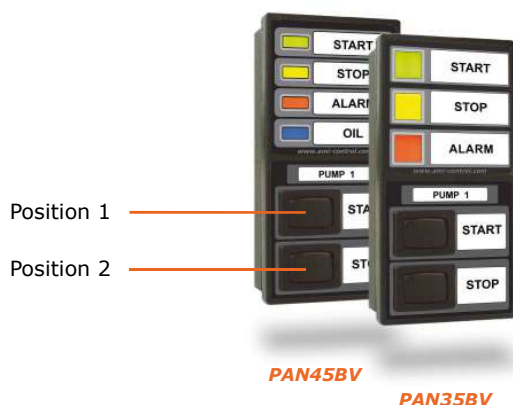
CONTROL BUTTONS :

Switch models:

The 2 switches are included in the price of the panel.
The reference is to be specified separately.

1 ON/OFF switch,
2 2 stable positions, 2 terminals output
3 Ref. : B0001-20-30

1 NO impulse switch,
2 1 stable NO position + 1 return position,
3 2 terminals output
   Ref. : B0001-20-31

1 NC impulse switch,
2 1 stable NC position + 1 return position,
3 2 terminals output
   Ref. : B0001-20-32

1 Inverter, 2 stable positions, 3 terminals output
2 Ref. : B0001-30-30
3

Inverter, 3 stable positions (C+O+C), 3 terminals output
Réf. : B0001-30-31

1 or
2 Inverter, 3 stable positions (C+O+Impulse),
3 3 terminals output
   Ref. : B0001-30-32

Switches : 6A-125Vac / 4A-250Vac max.

FASTON 4,8 plug The use of isolated plugs is recommended
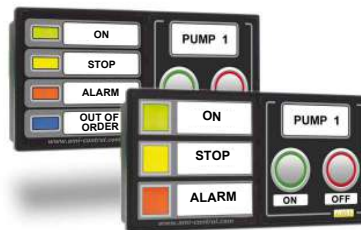
Protection cap on request
Ref. : B0001-50-10

Black cover on request
Ref. : B0001-50-20

«SH» EXTENSIONS WITH VERSION AA :

«ALL in ONE», it combines all the controls
of a power departure :
- 3 or 4 indicator displays,
- 2 impulse push-buttons of control,
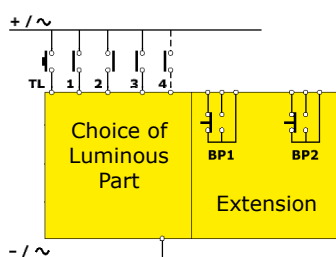**- 1 or 2 output contacts to send remote information (optional)**

- **Control :**
The control part (on the right side) consists of 2 impulse inverter buttons. These buttons are used to control a contactor or can be used as «Leds Test» via an external wiring.
- The connection is made directly on the unpluggable terminal screwed terminal blocs. A color code on connectors avoided wrong connections. These buttons are fitted with a protection against power surges generated by inductive components.
- The «Indicator display" part and the 'Control part" are entirely isolated from each other.

Without contact	1 contact	2 contacts
PAN35SH-02-13AA	*PAN35SH-02-113AA*	
PAN35SH-05-13AA	*PAN35SH-05-113AA*	
PAN35SH-55-13AA		*PAN35SH-05-123AA*
PAN45SH-02-13AA	*PAN45SH-02-113AA*	*PAN35SH-05-123S1AA*
PAN45SH-04-13AA	*PAN45SH-05-113AA*	
PAN45SH-55-13AA		

☐ **if using AC: 50Hz to 60Hz only** (can not be used with a frequency variator ex : variable speed drive)

Rear side :
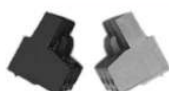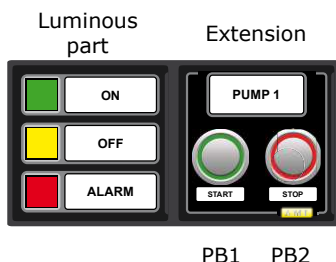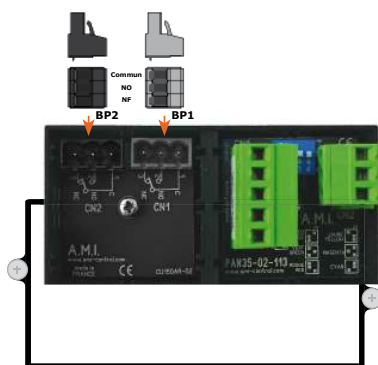
Power surge protection on pushbuttons :

Contacts :
EN 61058-1 : 6A, 250Vac
UL 1054 : 5A, 125-250Vac
Mechanical life : without protection 15×10^6

unpluggable terminal

Push Button O C

Voltage at terminal of push buttons
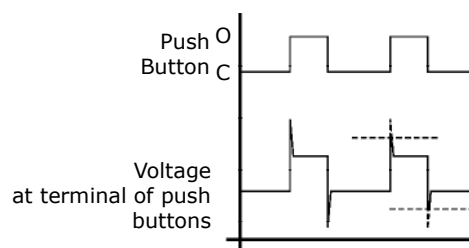
Surges generated by closing / opening of inductive circuits reduce the lifetime of the contacts.
The internal protection on each contact restricts this overvoltage to 400V and increases considerably the lifetime.

Example of usual application for a departure of electric engine or circuit breaker :

- Luminous Part : 3 indicator displays + 2 output relays, relay 1 is selected on way 1, relay 2 on way 3, the relay test with the "Test LED" is selected.
-
- BP1 and BP2 will enable/disable the contactor.

- The information «Stop» and «Alarm» will be transmitted in Control room.

(R = Output relay)

«Alarm» Information
«Stop» Information
To Control Room

16
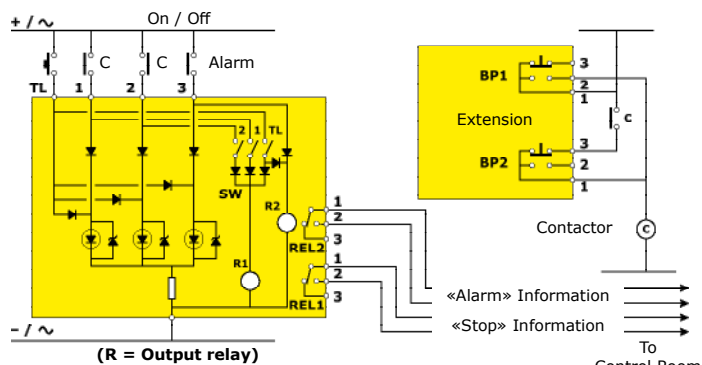
«SH» EXTENSIONS WITH VERSION BB :

«ALL in ONE», it combines all the controls of a power departure :
- **3 or 4 indicator displays,**
- **1 switch for selection,**
- **2 impulse push-buttons of control,**
- **1 or 2 output contacts to send remote information (optional)**

Control :

This is a SH model in version AA model with, an add-on, a selector switch. In addition to the uses of AA model, the switch can be used for the following functions :
- make a test led with an impulse switch.
- make a selection as "Manual/Automatic" with a selector switch.
- Display this selection on a Led.
- Inform the Control Room about the present selection with an isolated output contact.

Without contact	1 contact	2 contacts
PAN35SH-02-13BB	PAN35SH-02-113BB	
PAN35SH-05-13BB	PAN35SH-05-113BB	
PAN35SH-55-13BB		PAN35SH-05-123BB
PAN45SH-02-13BB	PAN45SH-02-113BB	PAN35SH-05-123S1BB
PAN45SH-04-13BB	PAN45SH-05-113BB	
PAN45SH-55-13BB		

Rear side :

☐ **if using AC: 50Hz to 60Hz only** (can not be used with a frequency variator ex : variable speed drive)

For this model, please specify the part number and the desired switch model (See § BV the different available switches).

## Power surge protection on push buttons :

Contacts :
EN 61058-1 : 6A, 250Vac
UL 1054 : 5A, 125-250Vac
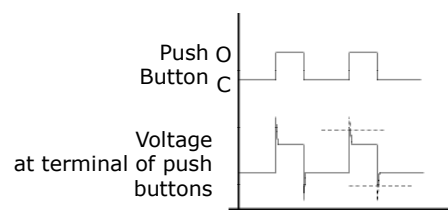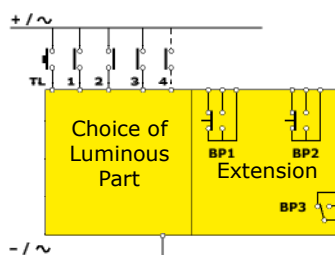Mechanical life : without protection 15×10^6

Surges generated by closing / opening of inductive circuits reduce the lifetime of the contacts.
The internal protection on each contact restricts this overvoltage to 400V and increases considerably the lifetime.

Example of an application with external connection :

- Luminous Part : 4 indicator displays + 1 output relay.

- The «Auto» position is indicated by the LED 4. The LED 4 turned on activates the internal relay who will send information to the Control Room.

- BP1 and BP2 will enable/disable the contactor.

- Possibility to do a «Led Test» with the Stop button but only in «Manual» position.

(R = Output relay)
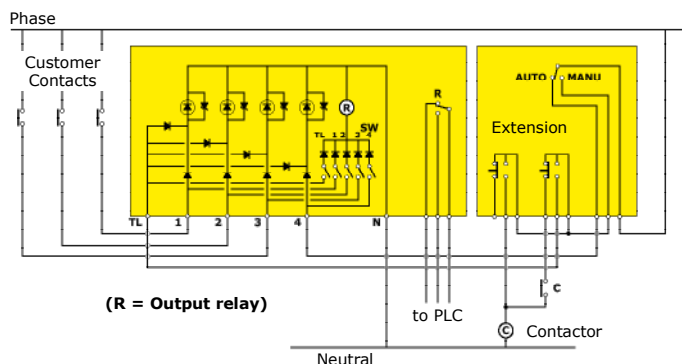
«SH» EXTENSIONS WITH VERSION RJ :

The AA models can be equipped with a coupler in front. This coupler allows to connect easily on an internal automatism in the enclosure without opening the door. Exist in RJ45, USB, optical fiber or audio.
(Other on request)

RJ45   USB   Optical Fiber   BNC   Audio

FRONT FACE : Numbering system

PAN35

1 -		ON
2 -		STOP
3 -		ALARM

48 x 48 / 48 x 48

PAN45

1 -		ON
2 -		STOP
3 -		ALARM
4 -		OUT OF ORDER
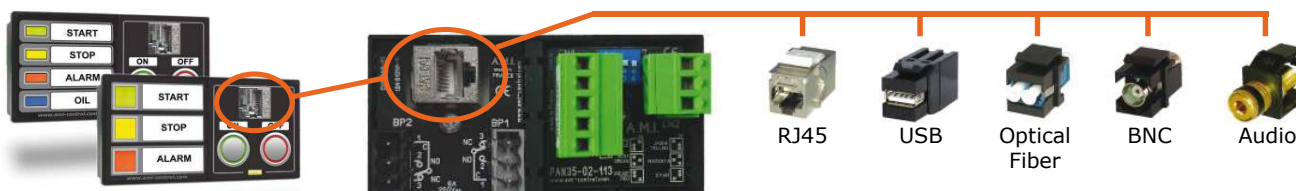
CUT-OUT :

Thickness admitted front : from 0 to 4.5mm

45 +/- 0,3 / 45 +/- 0,3

	Depth
PAN35-02-13 PAN45-02-13	31mm
PAN35-05-13 PAN35-55-13 PAN35-02-113 PAN45-04-13 PAN45-55-13 PAN45-02-113 PAN45-05-113	42mm
PAN35-05-113 PAN35-05-123	50mm
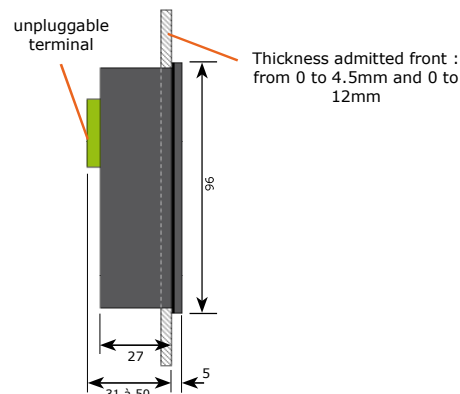
31 à 50 / 5 / 48

unpluggable terminal

Thickness admitted front : from 0 to 4.5mm and 0 to 12mm

92 +/- 0,3 / 45 +/- 0,3 / 96 / 27 / 5 / 31 à 50

DIN Format 48x96.

92 +/- 0,3 / 45 +/- 0,3

Thickness admitted front : from 0 to 4.5mm and 0 to 12mm

96 / 48 / 27 / 31 à 50 / 5

CHARACTERISTICS :

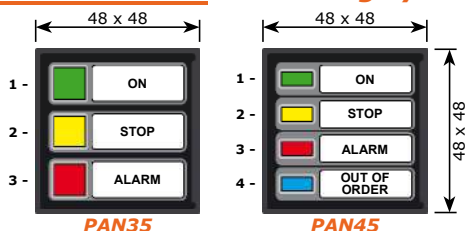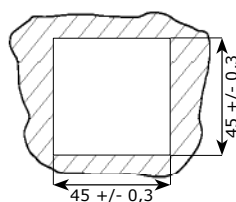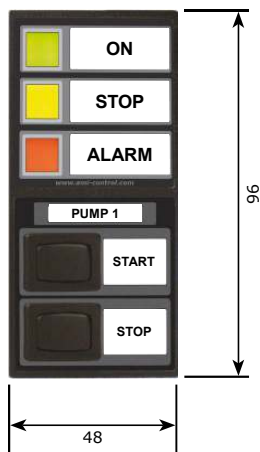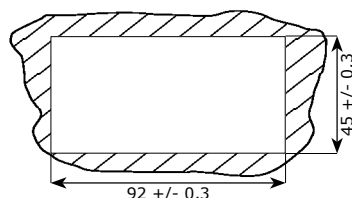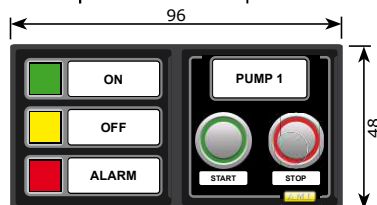| Box	Polycarbonat Front face, case of polyamide PA66 30gf.
Colour	Black
Leak tightness front face	IP65 (switch IP40/IP54)
Flame resistance	UL94 classe V2
Surface insulation	10^{15} Ohms/cm
Working / storage temperature	-20°C / +60°C / -20°C / +70°C
Working / storage Humidity	90% without condensation / 70%

Weight	45g to 90g depending on version
Push buttons	EN 61058-1 : 6A, 250Vac UL 1054 : 5A, 125-250Vac Mecanical life : without protection $15x10^6$
Switch	6A-125Vac / 4A-250Vac
Relay contact	1RT - 6A-12Vdc / 0,15A-240Vac For versions PAN45 : 1RT - 2A-30Vdc / 0,25A-250Vac

THE DIFFERENTS POWER VOLTAGE SUPPLIES OF LUMINOUS PARTS :

DC Voltage AC Singke phase

0V ac/dc / 24V ac/dc / 48V ac/dc / 70Vac / 110V dc / 127V ac/dc / 230V ac/dc / 300Vdc 250Vac / 380Vac / 500Vac

AC/DC
- 8V - 60V : 02 Version
- 15V - 60V : 02 Version + relay
- 70V - 150V : 04 Version
- 15V - 300V : 05 Version

T3/B3 / T2/B2 / T1/B1

AC
- 70V - 300V PH-N (SINGLE PHASE)
- 104V - 500V PH-PH (THREE PHASE) : 55 Version
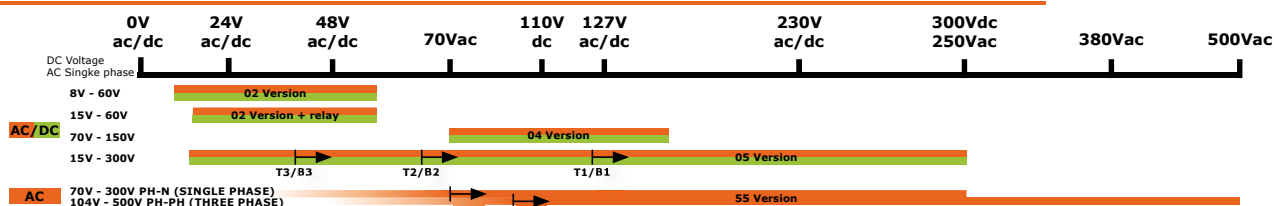
- For models with voltage greater than 48V:
Connection cables must be fitted with insulating ferrules covering the insulation of the cable.

In some countries, it is usual to meet Automatism voltage such as 110Vdc, 127Vdc or 200Vdc.
The 05 version (**from 15Vac/dc to 265Vac (Mono)/300Vdc**) is recommended for special contracts, such as those for Eastern Europe for example.
Based on an concept of energy processing associated with high shelf-life Led,
the heating is close to zero.

- Nominal power supply with extended voltage range.
- Leds Protection by constant current.

		PAN35 / PAN45		
DC	AC	Without relay	1 relay	2 relays
8V - 60V	8V - 60V	PAN35-02-13 PAN45-02-13		
15V - 60V	15V - 60V		PAN35-02-113 PAN45-02-113	
70V - 150V	70V - 150V	PAN45-04-13		
15V - 300V	15V - 265V	PAN35-05-13		
15V - 300V	17V - 265V		PAN35-05-113 PAN45-05-113	PAN35-05-123 PAN35-05-123S1
15V - 300V 15V - 265V with minimum lighting threshold		PAN35-05-13T1 PAN35-05-13T2 PAN35-05-13T3		
15V - 300V 15V - 265V with minimum lighting threshold + detection undervoltage presence		PAN35-05-13B1 PAN35-05-13B2 PAN35-05-13B3		
	70V - 300V Ph-N	PAN35-55-13 PAN45-55-13		
	104V - 500V Ph-Ph	PAN35-55-13		

AC/DC. if using AC: 50Hz to 60Hz only (can not be used with a frequency variator example : variable speed drive)

18

COMPLEMENTARY PRODUCTS :

Mounting in association with modular systems :

A adaptator plate allows to mount the PAN35/PAN45 on cabinet doors such as doors for modular switches or circuit-breakers.
it is mounted in front of the rack, behind the PAN35 panel.

Dimensions : 56x56mm.
Deliverable per bags of 10 units.

Reference : **M0817**
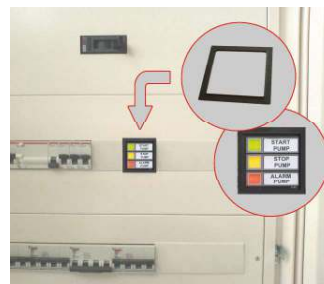
Please refer to ACCESSORIES chapter from our catalogue.

FOR LARGER SIGNALING REQUIREMENTS OR FOR YOUR TECHNICAL ALARMS :

Available in:
English / German
French / Spanish

Consult our other catalogs

Annunciator Panel
J1805, J2005, J2405
J2005RS, J2405RS

Three-Phase Network
Display and protection
PAN35-55-13
PH001 / PAN45-01-00

Alarm Annunciator Panel and
Centralization
J1905S, J3000, J3500
Alarm'Box, Panel'PC
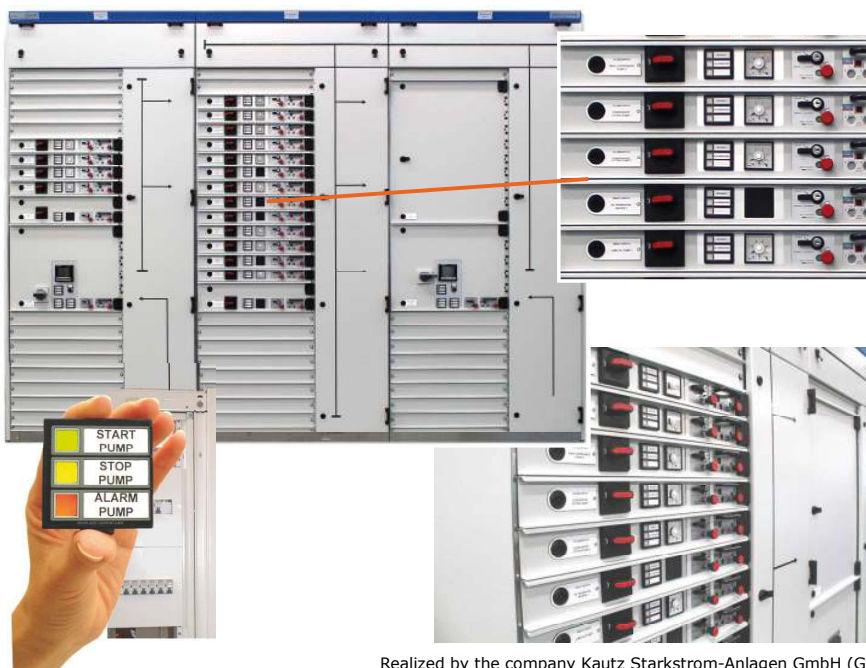
Realized by the company Kautz Starkstrom-Anlagen GmbH (Germany)

A.M.I.

A.M.I.

www.ami-control.com

BUREAU VERITAS

MADE IN **FRANCE**

warranty **2** years warranty

Multicolored LEDs

J1805, J2005, J2405
LEDS INDICATOR DISPLAY PANELS

Reduces energy consumption by 50%.
7 LEDs colours available.
15V to 60Vac/dc, 70V to 150Vac/dc,
80V to 265Vac/dc with galvanic insulation.
Included LEDs test.
Included output contact for send general information.
Interchangeable labels.
Unpluggable terminal boards.

J2405

J2005

J1805

Voltage presence LED | «LEDs Test» button | Control button

USE :

- Allows display and regrouping economic of indicators with texts.
- Indicator lights can be differentiated by seven different colours per LEDs for better visibility.
- Included «LEDs Test» button and signaling «voltage presence».
- Large supply range allows to group several models and reduce stocks.
- Possibility of sending back one information remotely concerning the presence of one or several channels (clustering).

SPECIFICATION :

On front :
- «Voltage presence» LED.
- «LEDs Test» push button.
- «AUX» impulse push button connected to rear terminal board for an user use.

At rear of unit :
- 8, 12 or 24 «dry contact» inputs.
- One input per rear terminal board for «LEDs Test» external push button.
- Rear terminals for use of «AUX» push button.
- 1 general output contact (O /C) synthesis relay.
- Channel selector to activate the synthesis relay.

Our range of signaling panels, allows in a single cutout to install and group 8, 12 or 24 multicolored LEDs with an integrated «Test LED» push button.
- Closing the contact connected to the input lights the corresponding high-luminosity LED which changes from light gray to the selected color (7 possible choices: red, green, yellow, white, blue, cyan, magenta). The synthesis relay is activated (if it has been selected).
- The opening of the contact connected to the input turns off the corresponding LED.
- A «LED test» push button is present on the front.
- A «LEDs test» terminal connected to an external push button allows all the LEDs to be lit.
With this technology, the LED consumes only 10mA, a reduction of 50% compared to the old generation (J1800, J2000, J2400) and with increased longevity.

J1805-J2x05_EN006_21-11-2022

OPERATION :

- Closing the contact connected to the input lights up the corresponding LED. If the channel was selected for sending information, synthesis relay will be activated.
- Opening the contact connected to the input turns OFF the corresponding LED. If the channel was selected for sending information, the synthesis relay may be deactivated (if no other channel activates the relay).
- If several channels are selected towards the relay, it will be deactivated only when all channels which activated it, have disappeared.
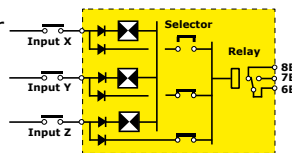
In this example, only the Y and Z inputs are selected to the relay
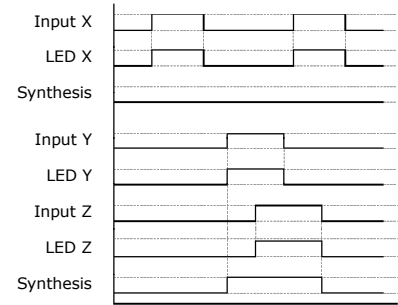
LED COLOUR SETTING :

A display choice of 7 colors per LEDs is possible. This choice is selectable using switches on the panel front face. You have a choice of the following colours :

Red, Green, Yellow, Blue, White, Cyan, Magenta.

The working lifetime of this type of component is practically unlimited. To improve reliability, the LED is piloted at 10mA assuring substantial and constant luminosity irrespective of supply voltage. This control ensures effective protection in case of over-voltage. Replace LEDs is no longer necessary.

Bleu / Blue
Vert / Green
Rouge / Red
Jaune / Yellow
Magenta
Cyan
Blanc / White
Eteint / Off
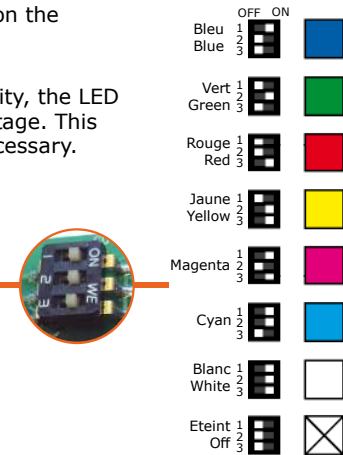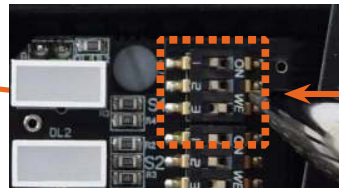
«TEST» & «AUX» BUTTONS :

A «LEDs Test» push button on the unit front allows you to carry out a general «LEDs Test». One «EL» terminal at rear of unit allows you to have an external general push button, to connect a «LEDs Test» on one or several panels.
It is possible to test the set of LEDs and the synthesis relay by pushing on the «LEDs Test» push button or by activating the «EL» terminal.

On the unit front another pushbutton is present. This «AUX» impulse push button is free of potential, this closing contact is linked to the «BP AUX» terminal at the rear of the unit and enables the remote dispatch of information (for example : call operator).

External «LEDs test» connection and «AUX» button on front

SYNTHESIS RELAY (OUTPUT RELAY) :

Jumpers are used to select the inputs that will activate the synthesis relay. The synthesis relay is used to send selective information remotely indicating that at least one selected input is present. This will remain excited as long as one of the selected inputs remains activated.
This relay delivers a dry contact (output with changeover contact).
The relay contact terminal block is located at the rear of the device (Open / Closed / Common).
- It is possible to test the relay with the «Test LEDs» function, when a jumper is present on the «S» selector.

Inputs	Input condition	Selector	Synthesis relay
Input X	Off	On or Off	Deactivated
Input X	On	Off	Deactivated
Input X	On	On	Activated
Input X + Input Y	On + On	On + On	Activated
Input X + Input Y	On + Off	On + On	Activated
Input X + Input Y	Off + Off	On + On	Deactivated

The relay is activated as long as one single selected input is present

S=Test Leds + Test Synthese
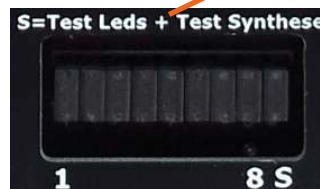
Selection jumpers
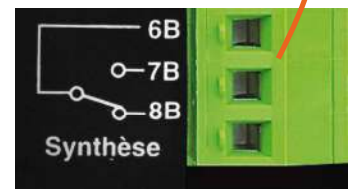
Synthesis relay output

PRODUCING LABELS :

Labels are ordinary paper sheets that can be slid into a transparent pocket included in the thickness of the front face. A blank label is supplied with each unit.
Labels can be handmade, or draw the screen of the PC and produced on a colour printer (laser or ink-jet).
The PC software allows to create labels including images, allows to save and duplicate the achievements.
This PC software is FREE. It is possible to load it on our website :

www.ami-control.com

For high humidity countries, the printing on plastic sheets is recommended.

INPUT DEFINITION :

One «+» polarity on the input, lights up LED (LEDs are connected to «-» in the panel). «Positive input» model is standard.

The input contact closure causes the lighting up of the LED and activation of the synthesis relay (if selected).

POSSIBLE CONNECTIONS :

Diagram 1 :
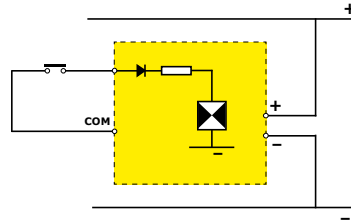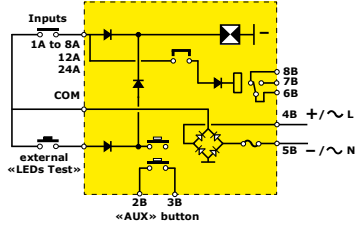Power supply by continuous voltage (DC) or alternating voltage (AC). Use of inputs with «dry contact» (the contacts are fed by an internal voltage delivered by the unit on the «COM»). This voltage supply is protected by the fuse.
Diagram for version :
15 to 60Vac/dc (02 version) and 70 to 150Vac/dc (04 version).
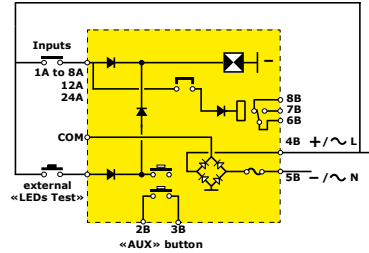
Diagram 2 :
Power supply by continuous voltage (DC) or alternating voltage (AC). Use of inputs with an external voltage (the contacts are fed with the same voltage as that of the unit and with polarity connected to terminal 4B).
In this case, the voltage supply is not protected by the fuse.
Diagram for version :
15 to 60Vac/dc (02 version) and 70 to 150Vac/dc (04 version).
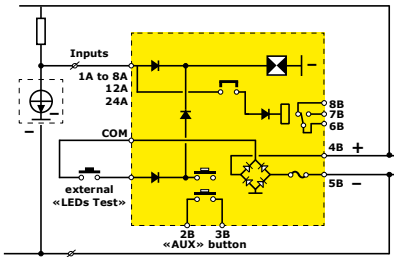
Diagram 3 :
Power supply with DC voltage and «open collector» on inputs.
A pull-up resistor to «+» is necessary.
A «-» power supply return is necessary.
The voltage supply on the inputs is not protected.
The LED lights up when the «open collector» is blocked (OFF).
Diagram for version :
15 to 60Vac/dc (02 version) and 70 to 150Vac/dc (04 version).
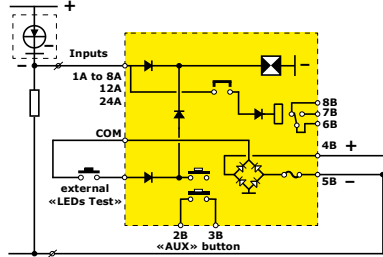
Diagram 4 :
Power supply with DC voltage and «open collector» on inputs.
A pull down resistor at «-» can be useful to compensate for leakage currents of the transistor.
A «-» power supply return is necessary.
The voltage supply on the inputs is not protected.
The LED lights up when the «open collector» conducts (ON).
Diagram for version :
15 to 60Vac/dc (02 version) and 70 to 150Vac/dc (04 version).
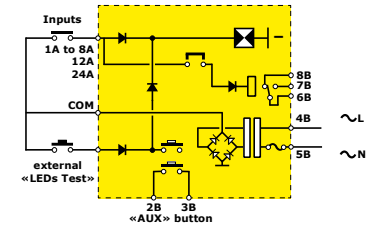
Diagram 5 :
Power supply with AC voltage with galvanic insulation.
Use of inputs with «dry contact» (the contacts are fed by an internal voltage delivered by the unit on the «COM»). This voltage supply is protected by the fuse.
Diagram for version :
80-265Vac/dc (05 version) with galvanic insulation.

FRONT FACE :

Numbering system

J1805
96 x 96 mm

J2005   144 x 144 mm

J2405   144 x 144 mm

REAR FACE :

CUT-OUT :

DIN 96x96 format

92 mm

96 x 96 mm

8 mm max.   53   14

DIN 144x144 format

138 mm

144 x 144 mm

8 mm max.   53   14
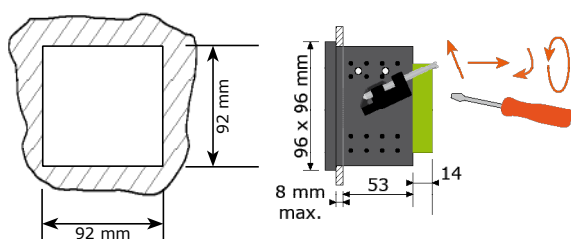
TECHNICAL SPECIFICATIONS :

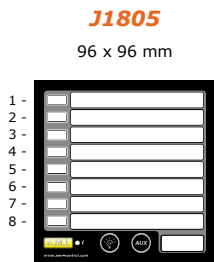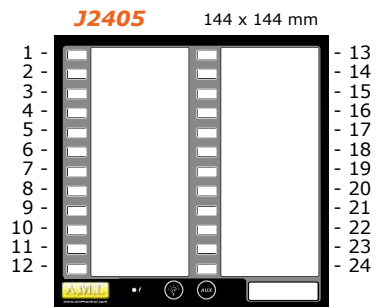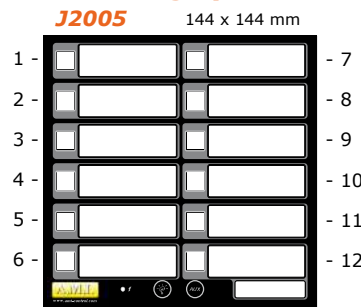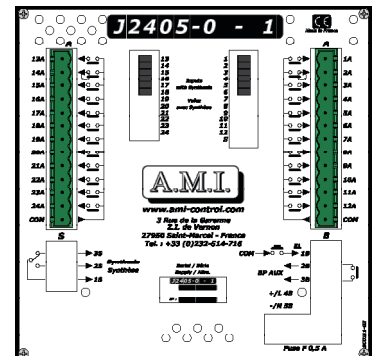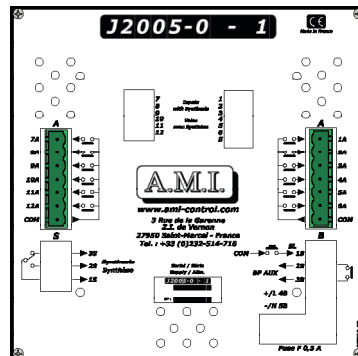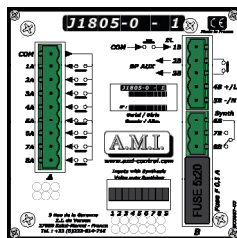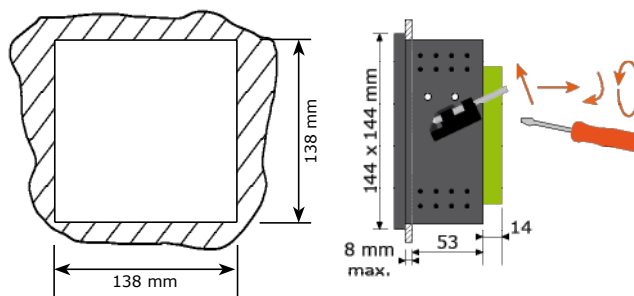|			Input voltage	Tolerance	Minimum total consumption	Maximum total consumption	Dimensions in mm L x l x p	Weight in g.
J1805								
15 - 60Vac/dc		02	15 - 60Vac/dc	15 - 60Vac/dc	5mA	95mA	96 x 96 x 75	295g
70 - 150Vac/dc		04	70 - 150Vac/dc	70 - 150Vac/dc	5mA	95mA		295g
80-265Vac/dc*		05	COM (+12Vdc)	85 - 265Vac/dc	5mA	31mA		310g
J2005								
15 - 60Vac/dc		02	15 - 60Vac/dc	15 - 60Vac/dc	5mA	135mA	144 x 144 x 75	530g
70 - 150Vac/dc		04	70 - 150Vac/dc	70 - 150Vac/dc	5mA	135mA		530g
80-265Vac/dc*		05	COM (+12Vdc)	85 - 265Vac/dc	5mA	37mA		545g
J2405								
15 - 60Vac/dc		02	15 - 60Vac/dc	15 - 60Vac/dc	5mA	255mA		560g
70 - 150Vac/dc		04	70 - 150Vac/dc	70 - 150Vac/dc	5mA	255mA	144 x 144 x 75	560g
80-265Vac/dc*		05	COM (+12Vdc)	85 - 265Vac/dc	5mA	52mA		580g

* Galvanically insulated power supply with UL506, CSA 22-1, VDE & EN60950,EN61558-1, EN61558-2-6 accreditation.

Contact on output relay :
1 O/C 6A/12Vdc - 0.15A/240Vac

«AUX» button :
6A (12Vac/dc)
0.2A (240Vac/dc)

Nominal temperature :
70 to 150Vac/dc : -20°C / +50°C
Others :   -20°C / +60°C

Storage temperature :
-20°C / +70°C

Humidity :
90% without condensation

Storage humidity :
70%

Front/Rear protection :
IP52 / IP22

Protection with cap in optional front :
IP54

ORDER REFERENCE :

Jxx05-0x-11

Panel with 8 LEDs **J1805**
Panel with 12 LEDs **J2005**
Panel with 24 LEDs **J2405**

1 Included synthesis relay

1 «Positive» input/Dry contact
2 «Negative» input/Dry contact

02 15 to 60Vac/dc
04 70 to 150Vac/dc
05 80-265Vac/dc galvanically insulated

Example :
J1805-02-11, J1805 for 15 to 60Vac/dc power supply, positive inputs with included output relay.

COMPLEMENTARY PRODUCTS :

M0720 / M0722, IP54 sealed front
IP54 sealed front that is fitted directly to product front.
An O-ring provides sealing between steel cabinet and panel.
The front is a transparent and open door.

M0720 «Quarter-turn» closing button 144x144 format
M0722 «Quarter-turn» closing button 96x96 format

M0800 19-inch brushed aluminium Ht : 4U front for bay
3 pre-drilled holes 138x138mm.

M0815 Cover mask 144x144
fitting to M0800 front.

M0810 19-inch brushed aluminium Ht : 3U front for bay
4 pre-drilled holes 92x92mm.

M0816 Cover mask 96x96
fitting to M0810 front.

M0730 Adaptator for mounting on DIN Rail profil TS35
For 144x144 format
M0731 Adaptator for mounting on DIN Rail profil TS35
For 96x96 format

Refer to ACCESSORIES chapter of our catalog.

M0722   M0720

M0800 / M0815

M0810 / M0816

M0731   M0730

A.M.I.

J1850

INDICATOR DISPLAY PANEL WITH LEDS

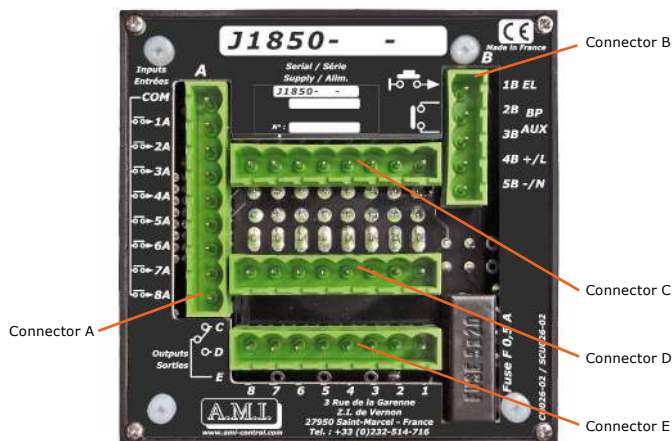**www.ami-control.com**

MADE IN **FRANCE**

DIN 96 x 96 format

**Indicator display panel
with selectable inputs**

**NO/NC selection
Fixed of blinking display
OUTPUT relay per input**

Voltage presence LED

«LEDs Test» button

«Auxiliary» button

Connector B
Connector C
Connector D
Connector E
Connector A

USE :

- Allows local display (for example in «Substation») of different information types (Run / Stop / Alert) when the acoustic alarm and the reset are not needed.
- Allows better identification of alarms (blinking LED).
- Accepts inputs in NO/NC contact (to avoid relaying).
- Allows informations clustering for processing with supervisor.
- Displays with a choice of various colours per LED :
  Green, Yellow, Red, Blue
  (easily unpluggable LEDs).

For each input :
- Selection of direction of input contact (NO = Normally Open, NC = Normally Closed).
- Selection of type of display: Blinking or fixed.
- 8 relays with 1O/C contact for remote transfer of each channel separately (depending on chosen model).

For the unit :
- 8 unpluggable LEDs for easy colour change.
- «LEDs Test» button on front + input for external button.
- Auxiliary button on front brought out to terminals.
- One green LED for supply voltage presence.
- Unpluggable screw terminals block.

OPERATION :

When the channel is selected with SEx at NC
- When the input contact is closed, the light is OFF. Output contact is closed on xD/xE terminals.
- When the input contact is open, LED lights up (ON) or blinks following its selection on SCLx, the output relay falls (relay is at safety positive). Output contact is closed on xC/xE terminals.

When the channel is selected with SEx at NO
- When the input contact is closed, LED lights up (ON) or blinks following its selection on SCLx. Output contact is closed on xD/xE terminals.
- When the input contact is open, LED is OFF, the output relay falls. Output contact is closed on xC/xE terminals.

Output relay is activated when the input contact is closed AND the supply voltage present.

MAIN DIAGRAM :

"POSITIVE Inputs" version   "NEGATIVE Inputs" version
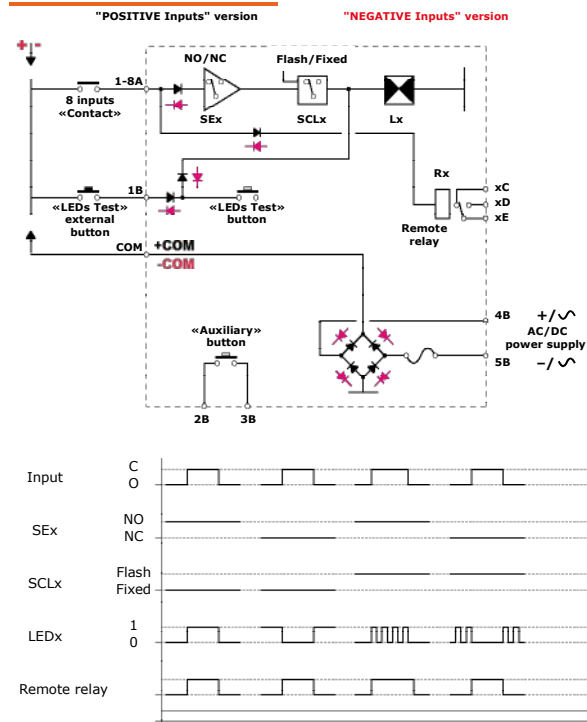
SPECIFICATIONS :

Power supply voltage	24 to 48Vac/dc +/-30%
Consumption	20mA per LED + 7mA per relay
Temperature	-20°C / +60°C
Humidity	90% noncondensing
Remote relay	1RT 6A/12Vdc - 0.15A/240Vac
Aux. push button	6A/12Vdc - 0.2A/250Vac
Weight	250g
Dimensions	96 x 96 x 67 mm
Protection without cover	IP52
Protection with cover	IP54

J1850_EN006_08-11-2022

PRODUCING LABELS :

CHANGING LED COLOUR :

FRONT VIEW :

Numbering system

Labels are ordinary paper sheets that can be slid into a transparent pocket included in the thickness of the front. A blank label is supplied with each unit. Labels can be handmade, or produced on a colour printer (laser or ink-jet). The PC software allows to create labels including images, allows to save and duplicate the achievements.
This PC software is FREE. It is possible to load it on our website :

www.ami-control.com

For high humidity countries, the printing on plastic sheets is recommended.

The LEDs are fitted on detachable sockets, enabling a change of colour.

The colours available are the following ones :

Red, Green, Yellow.

(*Blue available on request*)

The working lifetime of this component is practically unlimited. The low consumption (max 20mA per LED) and excellent luminosity contribute to the reliability of this type of panel.

REAR VIEW :

CUT-OUT :

DIN 96x96 format.

92 mm
92 mm

96 x 96 mm

8 mm max.   53   14
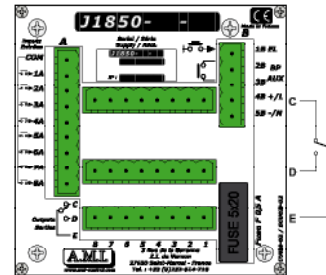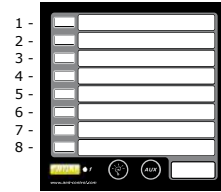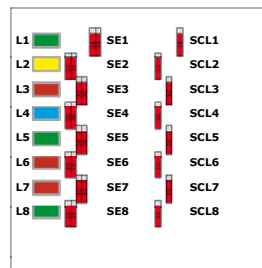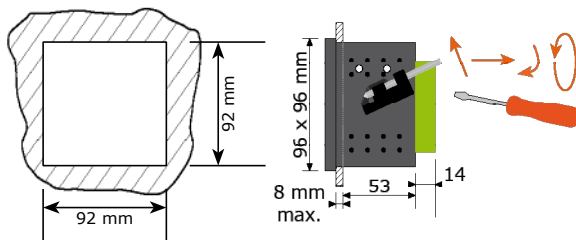
Selection made on product front :
- Lift off frame.
- Lift off the label support.

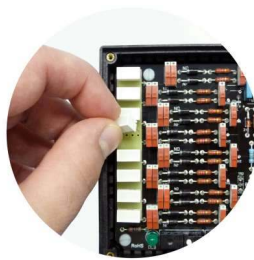| SEx (1 to 8)	SCLx (1 to 8)
NO	Blink
NC	Fixed

ORDER REFERENCE :

J1850-0x-xxR

R	Red
G	Green
Y	Yellow
B	Blue

Indicates general colour of panel LEDs.

24Vac/dc : **02**
48Vdc : **03**

«Positive» inputs / dry Contact : **1**
«Negative» inputs / Dry contact (standard) : **2**

0 no relay
H 8 output relays (ways 1 à 8)(standard)

example :
J1850-02-2HR
J1850 width 24Vac/dc power suplied, «Negative» inputs with 8 transfer relays included, 8 red LEDs equiped.

Possible complementary LEDs :
J2101-00-00   LED 5x10mm, color GREEN, code : 2500
J2101-00-10   LED 5x10mm, color YELLOW, code : 2400
J2101-00-20   LED 5x10mm, color RED, code : 2300
J2101-00-30   LED 5x10mm, color BLUE, code : 2300MBW.

To have LEDs of different colours, it is necessary to order a panel with one same colour and LEDs of desired complementary colour.
example :   J1850 with 5 green LEDs and 3 red LEDs.
Order :   1 x J1850-02-10**G** (all LEDs green)
3 x J2101-00-20 (3 LEDs 5x10 red)

COMPLEMENTARY PRODUCTS :

M0810 9-inch brushed aluminium Ht : 3U
Front for bay, 4 pre-drilled holes 92x92mm.

M0816 Cover mask 96x96
Fitting to M0810 front.

M0722 sealed front IP54
«Quarter-turn» closing button 96x96 format.
IP54 sealed front that is fitted directly to product front. An O-ring provides sealing between steel cabinet and panel.
The front is a transparent and open door.

M0810
M0816

M0722

Refer to ACCESSORIES chapter of our catalog.

A.M.I.

J2005RS, J2405RS

INDICATOR DISPLAY PANEL WITH LEDS

www.ami-control.com

Multicolored LEDs

MADE IN **FRANCE**

DIN 144 x 144 format

Indicator display panel using RS485/RS422 bus

7 LEDs colours available.
Included «LEDs Test».
Included transfer relays.
Included output for external horn.
Interchangeable labels.

Bus RS485

3A
4A
5A
«User» relay

6A
7A
8A
«Watchdog» relay

10A 11A
«LEDs Test» button

1A 2A
«Auxiliary» push button

J2405RS

Voltage presence LED

«LEDs Test» button

«Auxiliar» button

J2005RS

PRINCIPLE :

This panel allows to use indicators and informations managed by a programmable automatic unit with distance (Run/Stop information, technical alarm indicator displays, etc.).
This solution easily allows to distribute informations along the bus and allows to have information at the desired place whilst minimising wiring.
It also allows preservation of the «synoptic» function carried out by the LEDs, which is not present on a screen or text display panel.
Connection and management through a single RS485 link gives significant economy (1 single RS485 card replaces all outputs cards, whatever the number of LEDs).

MAIN CHARACTERISTICS :

Fitted in housing 144x144 that can be fitted on front of cabinet.
Front fitted with :
- 12 or 24 «LED block» 10x10mm/5x10mm LEDs, 7 colour choices can be display per channel, selectable from the front panel with switches.
- LED power supply with tricolour alarm.
- 1 «LEDs Test» front button that can be used for RESET by the operator.
- 1 «Auxiliary» front button brought out to terminals.
Panel is fitted with :
- 1 «User» relay (1RT/2A)
- 1 optional buzzer operating in parrallel with the above relay.
- 1 (1RT/2A) «Watchdog» relay with positive security.
- 1 auxiliary push button brought out to terminals that can be used by the operator.
- 1 input to external «LEDs Test» button that can be used for RESET by the operator.
- 1 input/output to synchronize panels between them.
- 1 Half Duplex RS485 link (reception and transmission are not simultaneous), (1 transmission/reception pair or 1 transmission pair + 1 reception pair).
- A micro-controller manages the interface.
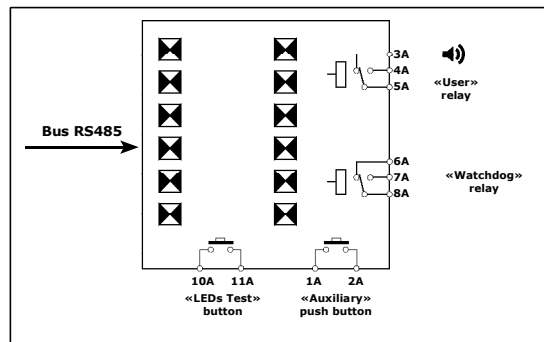
POSSIBLE FUNCTIONS :

a) Use :
   The automatic unit can send a Modbus/Jbus signal and trigger the following actions :
   - Light up one chosen LED.
   - Light up all LEDs.
   - Light up one chosen LED with slow blink.
   - Light up all LEDs with slow blink.
   - Light up one chosen LED with fast blink.
   - Light up all LEDs with fast blink.
   - Light up one chosen LED with flash.
   - Light up all LEDs with flash.
   - Turn off one chosen LED.
   - Turn off all LEDs.
   - Activate «User» relay (+ optional buzzer).
   - Deactivate (or acknowledge) user relay (+ optional buzzer).
   - Configure a channel at once (LEDs, relay).
   - Read total panel condition in one go.
b) Configuration :
   It is possible to activate a display program for the panel configuration with panel front LEDs.
   This configuration can be modified through the bus.
   - RS485 link configuration.
   - Synchronization signal reception mode.
   - Synchronization signal transmission mode.
   - Authorize or not the acknowledgment of the user relay and the optional buzzer, by the local operator from the front panel push-button or the «Test LEDs» terminal.
   - Bus control security selection with 4 possible times.

**Please ask
for protocol transmission documentation
for more information on signal frames**

**RS485 bus – 1km
64 possible devices**
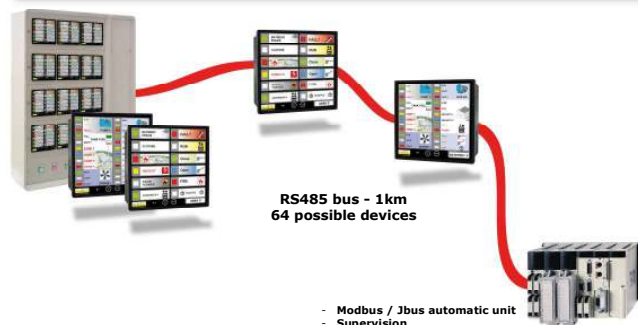
- Modbus / Jbus automatic unit
- Supervision

REPRESENTATIVE DIAGRAM :
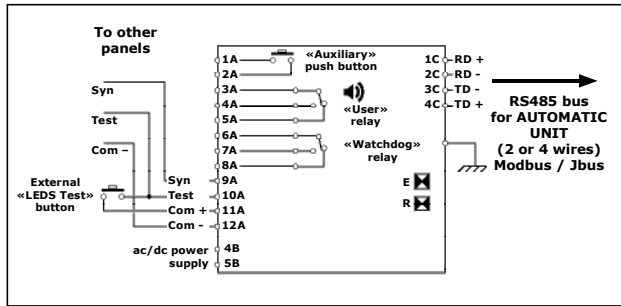
ANNEXE OPERATIONS :

- «Power supply» LED on front :
  Green in normal position. It becomes orange if there is transmission error or loss of transmission.

- RS485 connection control by J2x05RS :
  A control of presence and bus activity and control of automatic unit activity can be activated. A delay will be armed and reactivated at each transmission read by the panel. When the delaying period is completed, an alarm is generated (the voltage presence LED on the front becomes orange). Time delay values are ajustable through the RS485 link (0, 1, 5 and 10 minutes). (The 0 minute period deactivate bus control)

- J2x05RS presence control on bus by automatic unit :
  Allows the supervisor or automatic unit to control rapidly the j2x05RS presence on the bus, thus the whole installation. The automatic unit can call cyclically all J2x05RS units present on the bus, witch will answer with return signal containing their slave unit number.

- «Reset» or «Acknowledge» function :
  The panel can be calibrated «with or without acknowledgement». If the «Acknowledge» function is activated, any action on «LEDs Test» (button on front or rear terminal) will deactivate «User» relay and buzzer. This action will be saved by the panel for 30 seconds, allowing the automatic unit to monitor operator acknowledgement (for example : to change blinking light conditon to fixed condition).

- particular «Modbus» function :
  The panel send back its slave number on interrogation with the slave number 65. Take the slave number 0 into account (carries out order but does not send back response).

- «User» relay (1RT/2A) used as «Sound alarm» relay :
  This relay can be reset from the front TEST button (if authorization has been activated in panel configuration).

- Internal buzzer (as an option) :
  Operating in parallel with the above relay, this buzzer is activated or deactivated by the RS485 bus or deactivated by the operator (following the panel setting) and at the same time as the «User» relay.

- «Watchdog» relay (1RT/2A) :
  Positive security relay (module fault detection). This relay will be deactivated in case of any panel fault, or in case of exceeding the time set in the panel for bus monitoring.

- 1 «Auxiliary» button on front face + «Auxiliary» terminals (terminals 1A/2A) :
  The front «Auxiliary» push button is brought out to terminals. It is a NO type, free of potential and can serve as a remote information return function for the operator.

- 1 «LEDs Test» button on front face + terminal «LEDs Test» (terminal 10A) :
  It allows to carry out a «LEDs Test», to display panel configuration, to reset user relay and buzzer. The «LEDs Test» terminal enables the same functions as the front «LEDs Test» button and enables the function on several panels simultaneously, using an external closure button (use «COM +» terminal originating from only one panel to supply this external button).

- 1 Input/Output synchronization «Syn» terminal (terminal 9A) :
  Each panel manages the blinking of its own LEDs. When an operator is in front of several panels, blinking lights can slide between panels causing visual fatigue. You only need connect the «Syn» terminals between the different panels and then to set up one single panel as transmitter. This latter will send out «clock pips» to synchronize the other panels.
  - If external synchronization disappears, the panel will resort to its own internal clock.
  - If external synchronization re-appears, the «receiver» panel re-synchronizes itself.
  - Please note : there should be only one single parameterized panel as a synchro transmitter.
  - It is necessary to connect the «Syn» terminals together and do the same with the «COM -» terminals of the panels concerned to ensure normal functioning.

- «COM +» terminal (terminal 11A) :
  Allows to connect external button for «LEDs Test». **Never connect together one or more «COM +» terminals, or any «COM +» with a «COM -» terminal**.

- «COM -» terminal (terminal 12A) :
  Allows to connect external synchronization circuit. **Never connect together one or more «COM +» terminals, or any «COM +» with a «COM -» terminal**.

- Power supply (terminals 1B/2B) :
  Power supply can be «DC» or «AC». There is no particular polarity to be observed.

PRODUCING LABELS :

Labels are ordinary paper sheets that can be slid into a transparent pocket included in the thickness of the front face. A blank label is supplied with each unit.
Labels can be handmade, or draw the screen of the PC and produced on a colour printer (laser or ink-jet).
The PC software allows to create labels including images, allows to save and duplicate the achievements.
This PC software is FREE. It is possible to load it on our website :

www.ami-control.com

For high humidity countries, the printing on plastic sheets is recommended.

4 text lines possible
Icons can be added
2 different languages possible

RS485 TERMINAL BOARD : 2 OR 4 WIRES :

- RS485 (2 wires) : Half Duplex interface (reception and transmission are not simultaneous). Possibilty of being connected with one transmission/reception pair.
- RS422 (4 wires) : 1 transmission pair + 1 reception pair (selection by strap on terminal board). 1200, 2400, 4800, 9600 and 19200 bauds Transmission speeds, no-parity mode, 8 bits transmission, 1 bit per stop-bit, slave number from 1 to 64 configurable through serial link. Possibility of direct display of current configuration on panel front.

- Slave number 0 is recognized by all modules, but no module responds.
- Slave number 65 is used during maintenance to find a module address.
- RS485 link line end resistor of 120 Ohms are external to the interface (refer to «Programming» chapter).
- «yellow» E LED : Impulses display signal passage in Emission from panel.
- «red» R LED : Impulses display signal passage in Reception coming from bus.
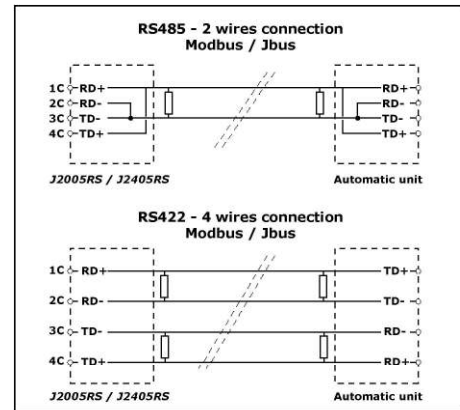
SETTING THE COLOR OF LEDS :

A display choice of 7 colors per LEDs is possible. This choice is selectable using switches on the panel front face. You have a choice of the following colours :

Red, Green, Yellow, Blue, White, Cyan, Magenta.

Changing LEDs is no longer necessary.
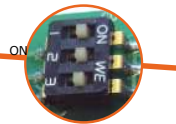
FRONT FACE :

numbering system
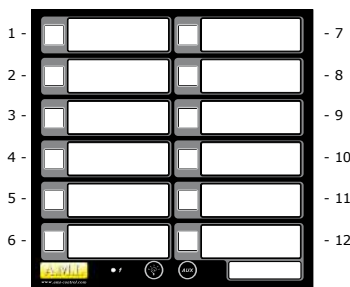
J2005RS
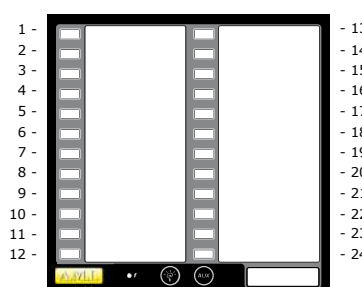
J2405RS

REAR FACE :
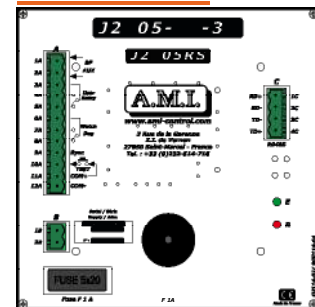
J2005RS / J2405RS

CUT-OUT :

144x144 DIN format
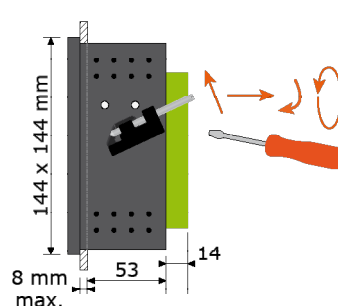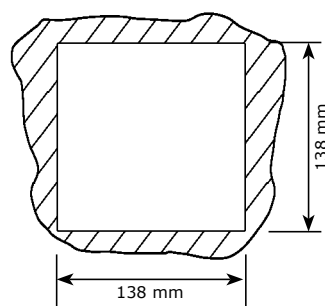
SPECIFICATIONS :

Possible voltages	24Vac/dc, 48Vdc +/-30%, 80-265Vac/dc
Consumption	10mA per LED + 7mA per relay
RS485 insulation	1500V + protection against line spikes (using CTP and Transil) and charge faults
Temperature	-20°C / +60°C (at nominal voltage)
Humidity	90% noncondensing / 70% during storage
Transfer relay	1RT 6A/12Vdc - 0.15A/240Vac
Auxiliary push button	6A/12Vdc - 0.2A/250Vac
Weight	750g
Dimensions	144 x 144 x 67 mm
Protection without cover	IP52
Protection with cover	IP54 (M0720, M0721)

ORDER REFERENCES :

J2x05-0x-3x

12 LEDs : **J2005**	
24 LEDs : **J2405**	

- **0** Without buzzer (standard)
- **2** Optional buzzer
- **3** RS485 bus, Modbus/Jbus
- **02** 24Vac/dc
- **03** 48Vdc
- **05** 80-265Vac/dc
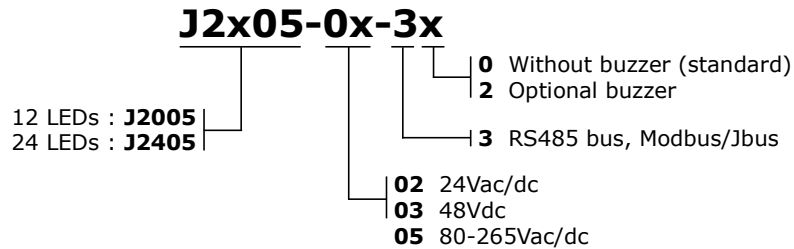
Example :
J2405-03-32, J2405 (24 LEDs), 48Vdc powered with buzzer as an option.

COMPLEMENTARY PRODUCTS :

M0800
M0815

M0720

M0800 19 inch brushed aluminium front, Ht : 4U
For bay, 3 pre-drilled holes 138x138mm.

M0815 cover mask 144x144
Fitting to M0800 front.

M0720 IP54 sealed front
«quarter-turn» closing button 144x144 format.
IP54 sealed front that is fitted directly to product front.
An O-ring provides sealing between steel cabinet and panel.
The front is a transparent and open door.

> Refer to ACCESSORIES chapter of our catalog.

COMPLETE TECHNICAL ALARM CENTRALISATION :

The PANEL'PC is an alarm centralizer on a RS485 Bus.
It can manage 64 panels with 12 alarms each.
Its touch screen allows to perform all necessary operations without additional keyboard (RESET, operator assistance display, historics, archiving).
It may refer alarms and remote information to other sub-stations.
It can be used either in a sub-station or control room :

- In local sub-station front cabinet, for monitoring alarms and local states, with historic for traceability.
- In control room with clustering by bus of local alarms panels.
- Possible transfer to other sub-stations.

> **It is very easy to realize a technical alarm management unit by BUS :**
> Possibility of using modules equally :
> - J3500/J3105/J3000 technical alarm automatic panel.
> - J2x05RS indicator display receiver panel with 12 or 24 LEDs.
> - PANEL'PC.
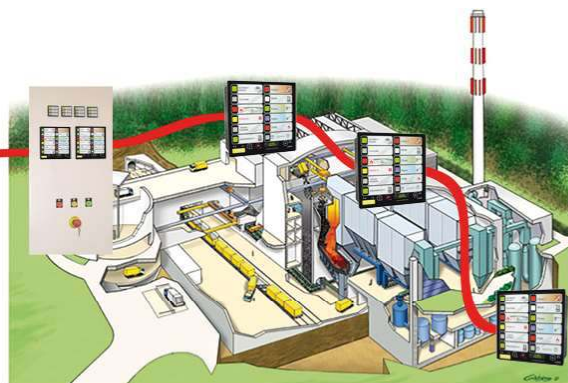
RS485 bus / 1km / fitted with 64 modules as a maximum

PANEL'PC :

The PANEL'PC integrates :
- Alarm display with «RESET» directly on the screen.
- Operator assistance or instructions for each inputs indicating to operator how to proceed depending on the alarm present.
- Display of historic periods.
- Re-display of the historic of a recorded period (10,000 pages possible).
- Printing in continuous with time stamping.
- Remote alarm reporting to one or several indicators display by BUS (for example, guard posts, technical service, control room).
- Remote outputs possible.
- Archiving on USB key.
- Login with several safety levels.

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A.M.I.

www.ami-control.com

warranty **2** years warranty

multicolored LEDs

MADE IN **FRANCE**

Each piece is tested one by one
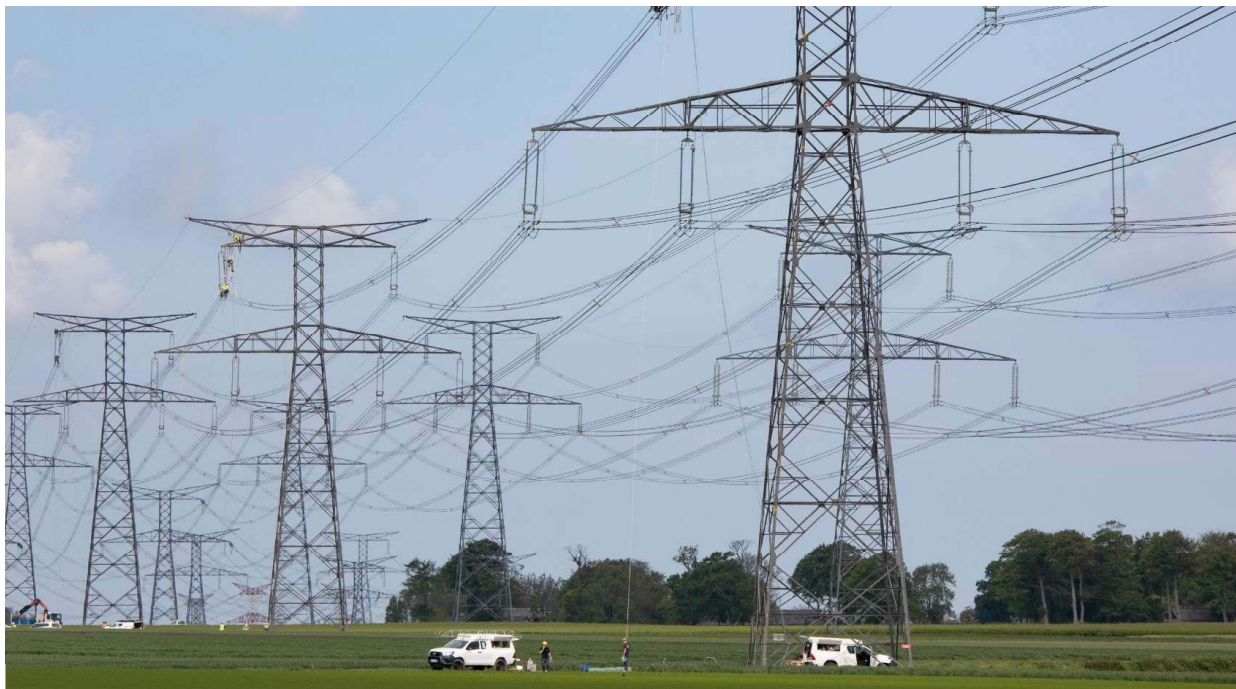
PAN35-55-13

Phase presence display for three-phase

PH1
PH2
PH3

PH001 + PAN45-01-00

Phase rotation CONTROL «Three-phase» PROTECTION

PH1
PH2
PH3
ETAT

Three-phase network
3x400V / 50Hz + N

L1
L2
L3
N

Phase presence display
for three-phase network

Phase rotation CONTROL
«Three-phase» PROTECTION

PAN35-55-13

START
STOP
ALARM

OR

PH001

PAN45-01-00

KM1

KM1

KM1

A.M.I.

www.ami-control.com

PAN35-55-13

INDICATOR PANEL DISPLAY LEDS

warranty **2** years warranty

Multicolored LEDs

MADE IN **FRANCE**

Each piece is tested one by one

PHASE PRESENCE DISPLAY
FOR THREE-PHASE

PH1
PH2
PH3
www.ami-control.com

PHASE 1
PHASE 2
PHASE 3
www.ami-control.com

PHASE PRESENCE DISPLAY FOR THREE-PHASE PAN35-55-13 :

The PAN35-55-13 is used to indicate the presence of the 3 phases on three-phase network.
In DIN 48x48 format, with bracket mounting, it is equipped with 3 high-luminosity LEDs.

- Possibility to select one color among 7 for each of the LEDs to comply with local habits.
- Removable front label that can be easily created by the user.

OPERATION :

The PAN35-55-13 is a "capacitor" technology version.
This concept of energy transformation associated with long-life LEDs, ensures high luminosity with practically zero heating.
In order to avoid electrocution during an intervention (due to the residual voltage in the capacitors), each capacitor is equipped with fast discharge resistors.

The purpose of an LED (or a light) is to indicate whether information is present or not.
- If voltage is present, the LED must be on.
- If the voltage is absent, the LED must be off.
But what if the voltage is too low?

LEDs have undeniable qualities: longevity, very low consumption, high brightness. But, on the other hand, they can bring inconvenience.
Their very high sensitivity added to their low consumption allow them to light up under a very low voltage that can mislead an operator.

It often happens that a leak or a return voltage is present on the installation, generating a residual voltage of a few volts when it should be zero.
A minimum ignition threshold ((S)) is integrated in order to avoid untimely ignition of the LEDs (low glow) in the presence of residual voltage.
The LEDs only light up if the voltage present is greater than this threshold.
On request, this threshold can be modified.
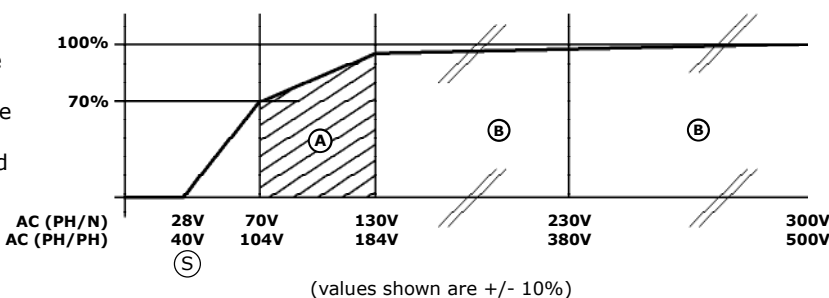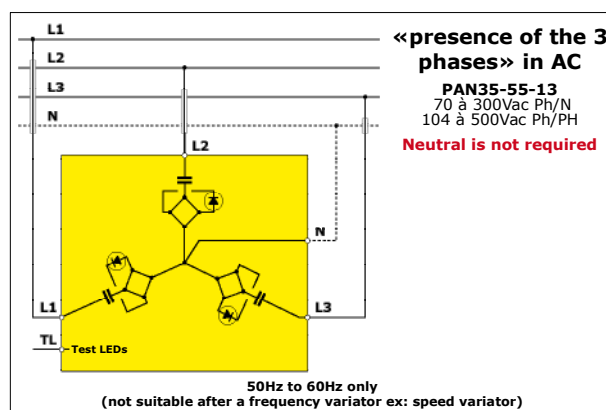
«presence of the 3 phases» in AC
PAN35-55-13
70 à 300Vac Ph/N
104 à 500Vac Ph/PH
Neutral is not required

L1
L2
L3
N
L2
N
L1
L3
TL — Test LEDs

50Hz to 60Hz only
(not suitable after a frequency variator ex: speed variator)

100%
70%

(A)   (B)   (B)

AC (PH/N)	28V	70V	130V	230V	300V
AC (PH/PH)	40V	104V	184V	380V	500V
(S)					

(values shown are +/- 10%)

On the diagram, the correct brightness (70%) will be reached at the minimum operating voltage.
- In the ignition start area ((A)), the white color may be pink. Normal luminosity is reached from 50% of the nominal voltage.
- In the area ((B)) the luminosity will be constant.
In «LED test» use and in order to limit general consumption in the case of many displays, the brightness is reduced.

PRODUCING LABELS :

Labels are ordinary paper sheets that can be slid into a transparent pocket included in the thickness of the front face.
A blank label is supplied with each unit.
Labels can be handmade, or draw on the screen of the PC and produced with a colour printer (laser or ink-jet).
The PC software allows to create labels including images, allows to save and duplicate the achievements.
This PC software is FREE. It is possible to load it on our website :
www.ami-control.com
For high humidity countries, the printing on plastic sheets is recommended.

LEDS COLOR SETTING :

PAN35

A display choice of 7 colors per LEDs is possible. This choice is selectable using swiches on the panel front face.
You have a choice of the following colours :
Red, Green, Yellow, Blue, White, Cyan, Magenta.

	OFF ON	
Bleu Blue		(Blue)
Vert Green		(Green)
Rouge Red		(Red)
Jaune Yellow		(Yellow)
Magenta		(Magenta)
Cyan		(Cyan)
Blanc White		(White)
Eteint Off		(Off)

Front view hood removed

Switch

- For safety reasons on models powered by high voltages such as the **PAN35-55-13**, the connection cables must be fitted with insulating end caps covering the cable insulation.
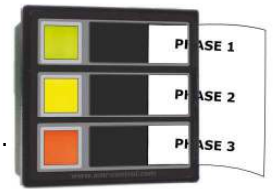- For safety, the switches are located at the front of the box. To reach them, it is necessary to remove the "printed circuit" block. Lift the screw (A) and extract the block from the rear.
- The «Test Leds» function will only be active if the phase supplying the «Test Leds» button is present.

Supply	70V - 300V PH/N 104V - 500V PH/PH
Power consumed	2VA
Frequency	50/60 Hz
Enclosure	Front in polycarbonate, housing in polyamide PA66 30gf
Color	Black
Sealing	front IP65
Flame resistance	UL94 class V2
Surface insulation	10^{15} Ohms/cm
Temperature in use / storage	-20°C / +60°C / -20°C / +70°C
Humidity in use / storage	90% non-condensing / 70%
Weight	60g

AC use: 50 Hz to 60 Hz only
(not suitable after a variable frequency drive expl: variable speed drive)

Enclosure DIN 48x48

2 clamping screws

Rear mounting bracket

Sealing ring

DIMENSIONS :

Permissible front thickness: from 0 to 4.5mm

-/~/N
1/L1
2/L2
3/L3
TL

PAN35-55-13

48
42
5
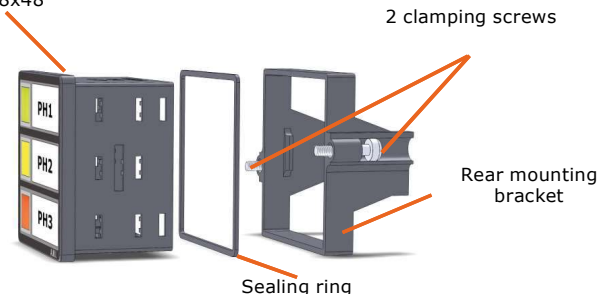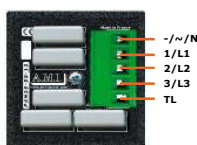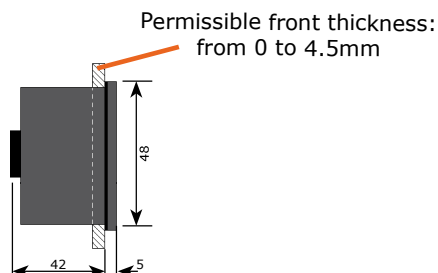
Connections :
This product is powered by high voltage.
The greatest care must be taken in the connection.
The use of ferrules with insulation on each of the wires, is essential.

CUT-OUT :

45 +/- 0,3
45 +/- 0,3

33

A.M.I.

PH001 + PAN45-01-00

PHASE ROTATION CONTROLLER
WITH SECURE DISPLAY ON THE FRONT

A.M.I.
www.ami-control.com

2 years warranty

Multicolored LEDs

MADE IN **FRANCE**

Protection against :
- reverse phase rotation.
- overvoltages and undervoltages.
- the voltage differences between phases due to loss of neutral or asymmetry.
(Over / undervoltage protection usable in a single-phase)

With last trip memory

Quick connect cable provided

Display on cabinet door in very low voltage (5V isolated)

PH1
PH2
PH3
Status
www.ami-control.com

**PAN45-01-00
48x48 DIN format**

**PH001
Box mounting at the bottom of the cabinet**

The three-phase power grid controller makes it possible to protect the installation **BEFORE** and **AFTER** starting up against an always possible failure of the power grid.

In «three-phase without neutral» use, it effectively protects the motors and all elements.
In «three-phase with neutral» use, it provides protection against loss of neutral for PH/N powered elements.

It also allows a display outside the cabinet in «very low voltage» security.

CHARACTERISTICS :

It constantly monitors :
- the presence of the 3 phases and the direction of rotation.
- the undervoltage and overvoltage of each of the phases.
- the asymmetry of each phase and loss of neutral.

He rocks :
- an adjustable delayed shutdown when exceeding the setting.
- an instantaneous shutdown in the event of an abnormally high overshoot.

The set includes :
- a box to be mounted inside the cabinet on a symmetrical DIN rail.
- a DIN 48x48 display unit equipped with 4 very high brightness LEDs.
(delivered with an extra flexible connection cord equipped with 2 RJ45 connectors).

With an intuitive display, it indicates :
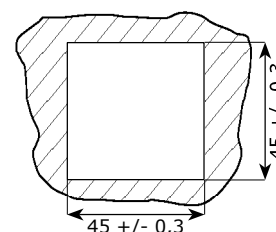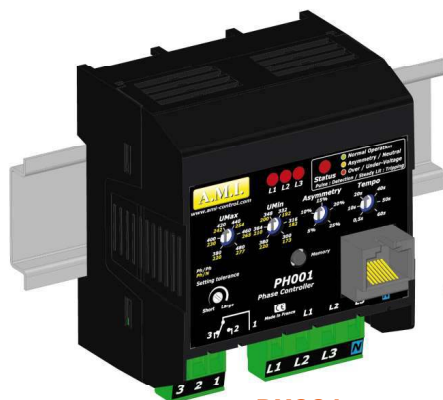- the presence of the 3 phases with the clockwise or anti-clockwise direction of rotation.
- the undervoltage and overvoltage of each of the phases.
- asymmetry or loss of neutral.
- the status of the output (possible use of the power grid or not).

PH001 PART :

The PH001 is mounted inside the cabinet on a symmetrical DIN rail.
Power supply : the box is self-powered by the inputs to be controlled Ⓒ. It checks the network as soon as any phase and neutral or any two phases are present. In the event of loss of power or insufficient power, the output relay is deactivated (positive safety).
It includes an isolated 1KV switching power supply, intended to supply the remote light box, the PAN45-01-00.
It includes :

Ⓐ - 4 LEDs for signaling the operation.
Ⓑ - 4 potentiometers for setting the limits.
Ⓒ - 1 removable 4-points terminal block for connecting the 3 phases and the optional neutral.
Ⓓ - 1 removable 3-points terminal block for connection of the positive safety relay output contact with 1RT contact.
Ⓔ - 1 RJ45 connector powered by 3kV isolated optocouplers, for connecting the LEDs to the remote PAN45-01-00.
Ⓕ - A pusch button to display the last trigger.

In front :
- 4 LEDs : the first 3 LEDs (L1, L2, L3) are used to display the state of each phase and direction of rotation.
The 4th LED (Status) displays whether the power grid is usable or not, as well as the type of fault found. (see next page, the different possible displays)
- 4 adjustment potentiometers: overvoltage, undervoltage, asymmetry / loss of phase and time delay.
- An RJ45 socket isolated by optocoupler and by internal switching power supply.
- A pusch button to display the last trigger.

Three-phase protection
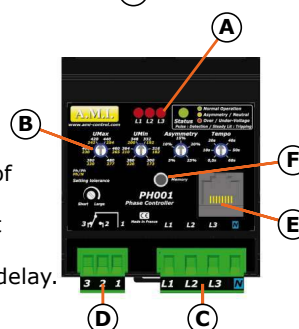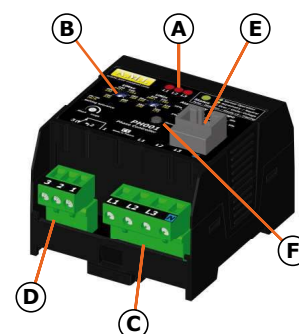
PAN45-01-00 DISPLAY BOX :

The PAN45-01-00 allows you to indicate the installation status, without having to open the cabinet door.
It is intended to report the display states on the front while ensuring galvanic separation from the power grid. The front IP65 safety box is supplied with «very low voltage» (5Vdc by 1kV isolated converter and 3kV optocouplers located in the PH001 box).

In DIN 48x48 format, with bracket mounting, it has 4 high-brightness LEDs.
The first 3 LEDs are used to display the state of each phase, as well as to indicate the direction of rotation. The 4th LED displays whether the power grid is usable or not, as well as the type of fault found. (see on the next page, the different possible displays).

- Quick connection by extra flexible RJ45 cable, supplied with the box.
- Possibility to select a color among 7 for each of the first 3 LEDs.
- Removable front label wich can be easily created by the user.

PAN45-01-00
The colors of the LEDs PH1, PH2, PH3 are selectable.
7 colors possible.

RJ45 cable
standard length : 2.00m

LEDS COLOR SETTING :

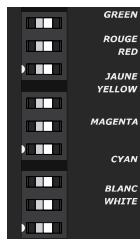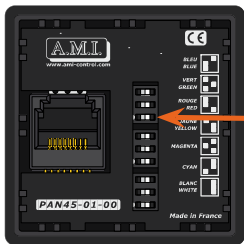The LEDs are of the CMS tri-LEDs type. For each channel, a switch located at the rear, allows you to select a display color for among 7 :
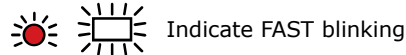
Red, Green, Yellow, Blue, White, Cyan, Magenta

Switch

	OFF ON	
Bleu / Blue		Blue
Vert / Green		Green
Rouge / Red		Red
Jaune / Yellow		Yellow
Magenta		Magenta
Cyan		Cyan
Blanc / White		White
Eteint / Off		⊠

ACHIEVEMENT OF LABELS :

The labels are simple sheets of paper which slip into a transparent pocket included in the tickness of the facade. A blank label is provided with each device.
They can be done by hand, or edited on a color printer (laser or inkjet).
PC software allows you to create them, include an image, save and duplicate the creations.
This software is free and downloadable from our website :

www.ami-control.com

Possibility of printing on plastic sheets for countries with high humidity.

OPERATION :

In the following explanations, no account is taken of the presence of induced voltage or of voltage return on the absent phase.
To simplify, the measurements and examples are made from channel 2 (L2, PH2).
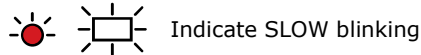
Indicate SLOW blinking   Indicate FAST blinking

The box is operational as soon as :
- a voltage of 150V Ph/Ph minimum between two phases present in three-phase assembly.
- a voltage of 120V Ph/Ph minimum between two phases present and the neutral connected in three-phase + neutral mounting.
- a voltage of 150V Ph/N between phase and neutral in single phase connection.
With a correct phase rotation and with all voltages within the adjustment limits, the signaling will be a follows :
- the phase indication LEDs (L1, L2, L3, PH1, PH2, PH3) are ON steady.
- the «Status» LED is lit in GREEN steady.
- the output relay is normally activated.
If only one phase is present and the neutral is absent, the display is off.
if only one phase and neutral are present, the display is chased.
if one or two phases, with or without neutral, are present, the display is chased.
A «voltage return» presence will display an undervoltage.
Phase rotation : As soon as the power is turned on and during the entire operating period, the system checks the presence and direction of phase rotation.
- If the detected direction is anti-clockwise (known as reverse rotation): the relay will be immediately deactivated in order to prevent incorrect rotation of the motors. The display of LEDs 1/2/3 will be in running light effect, LED 4 will be red steady. The relay will only be activated after checking the correct rotation and after carrying out the other checks.
- If the detected direction is clockwise: the rest of the complete control cycle will be carried out.
The output relay will only be activated when the entire control cycle remains correct.

Use	
Three-phase without neutral	The neutral terminal is not used. The PH001 uses its fictitious internal neutral.
Three-phase with Neutral	When supplying single-phase elements, the connection of Neutral is necessary. In three-phase, the connected neutral allows display in all situations, including when only one phase is present. This avoids having a display turned off while a dangerous voltage is present.
Single phase	The phase used is connected to the 3 terminals L1 / L2 / L3. The neutral terminal is connected to the neutral. Only the «safe» and «undervoltage» checks will be active

Anticlockwise   Clockwise

with correct rotation

with reverse rotation display will be in running ligh effect on PH1, PH2, PH3. The relay is instantly deactivated.

Display on the PH001 DIN box inside the cabinet

ADDITIONAL CHECK WHEN ROTATION IS CORRECT :

In the following cases, phase 2 is taken as an example, but this remains valid for phase 1 and 3.

Undervoltage detection (300V to 380V) :

As soon as the phase rotation is correct, the voltage on each phase is compared with the setpoint displayed on the Umin front potentiometer.
If a phase has a voltage lower than this setpoint:
- The corresponding LED will be displayed by blinking slowly.
- LED 4 will be displayed in RED, blinking slowly.
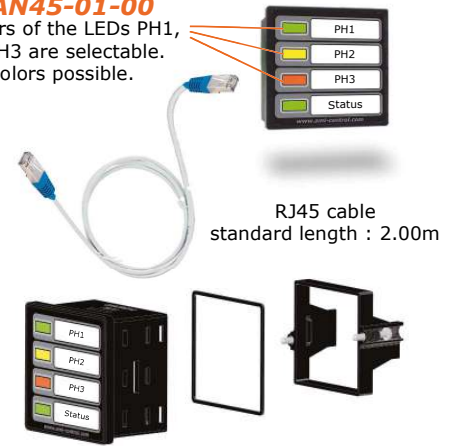If the fault is still present and after the end of the time delay, the output relay will be deactivated and LED 4 will turn RED steady.

Overvoltage detection (380V to 480V) :

The voltage on each phase is compared with the setpoint displayed on the Umax front potentiometer.
If a phase has a voltage higher than this setpoint:
- The corresponding LED will be display by rapid blinking.
- LED 4 will be displayed in RED, blinking slowly.
If the fault is still present and after the end of the time delay, the output relay will be deactivated and LED 4 will turn red steady.

If the voltage exceeds 10% of the Umax setting value, the relay will be deactivated immediately.
If the voltage of a phase is between the «undervoltage» setpoint and the «overvoltage» setpoint, the corresponding LED will be displayed steady. (LED 1 and LED 3 in the example). As a result, it is possible to see a display with the 3 states on the LEDs 1,2,3, namely: one LED steady, one LED blinking slowly and one LED blinking fast.

Loss of neutral / phase asymmetry (5% to 25%) :

Risks such as undervoltage and overvoltage can cause destruction of the equipment.
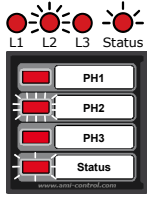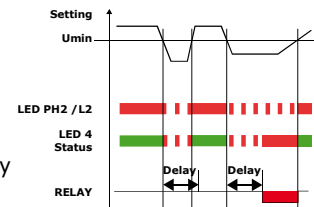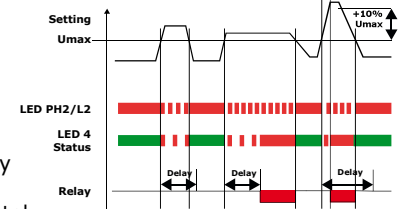The PH001 makes it possible to constantly check that the voltages remain within acceptable limits. But while remaining within the minimum / maximum limits, the voltage of one phase can become too high and another too low. This can be caused by:

- loss of neutral in «Three-phase + neutral» mode : Neutral allows the same Phase / neutral voltage to be maintained whatever the consumption, even unbalanced.
In the event of neutral cut-off and if the installation remains balanced, the phase / neutral voltage remains stable. But in the event of loss of neutral and unbalanced installation, the neutral seen by the user is re-supplied through the other consumers present. In this case, the voltage of one phase relative to the neutral decreases while the voltage of another phase increases relative to neutral. This situation can be detrimental or even destructive for single-phase consumers. The loss of the neutral is only prejudicial from the moment when the single-phase voltage becomes abnormal (outside the defined thresholds).

Loss of neutral, unbalanced power grid
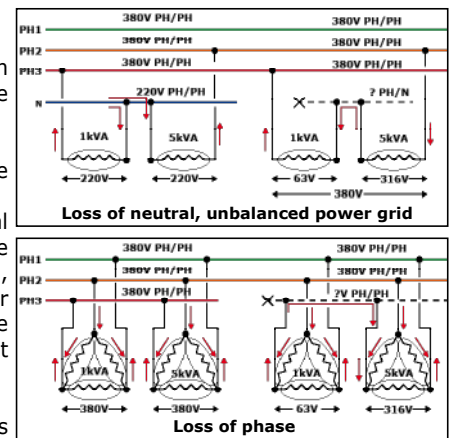
Loss of phase

- Phase loss : the loss of a phase is difficult to detect because the other consumers present return a voltage by induction or by voltage return on the missing phase.
As a result, the voltage of the missing phase is not zero.
In any case, the damage is caused by the voltage difference between each of the phases.
- The PH001 controls the voltage difference between each of the phases compared to an internal dummy neutral.
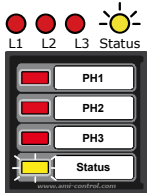
This voltage difference must remain below the setpoint displayed on the «Asymmetry» front potentiometer.
When all the phase voltages are correct, (i.e. between the under and overvoltage thresholds), the PH001 compares the voltage of each phase with respect to the others in %.
- If the voltage of one phase compared to another, goes outside the limits defined in «asymmetry»: LED 4 will be displayed in yellow, blinking slowly.
- If the fault is still present and after the end of the time delay, the output relay will be deactivated and LED 4 will turn yellow steady.

Note that a general voltage drop over the three phases (following a three-phase start-up by a large consumer) will have no impact as long as this drop remains within the limits of the undervoltage setting.In addition, if the voltage of one of the phases goes beyond the under or overvoltage limits, the corresponding LED (L1, L2 or L3) will be displayed blinking slowly or fast.

Instant trigger :

The output relay is deactivated instantly in the event of :
- loss of phase rotation.
- exceeding the overvoltage setting by more than 10%.
- exceeding the maximum of the asymmetry / loss of neutral, i.e. +25%.
- voltage higher than 277v PH/N or 480v PH/PH.

Time delay (0,5s to 60s) :

The output delay is deactivated after a delay in the event of :
- exceeding the overvoltage / under voltage setting between 0 and 10%.
- exceeding the asymmetry setting or loss of neutral less than 25%.
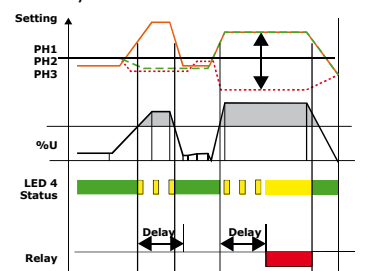
Trip memory operation :

When triggered, the PH001 memorizes the display status of each indicator.
- Pressing the front panel button will display this status again.
- Releasing the button within the next 10s returns to normal function without deletion.
- Pressing for more than 10s causes a warning by rapid flashing of the LEDs, indicating that the memory will be erased.
After clearing, the flashing changes to slow, indicating the possibility of releasing the button.

CONNECTIONS :

Three-phase connection with or without neutral
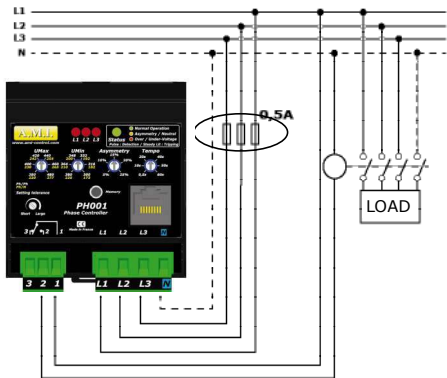
Protection by 3 fuses is compulsory.

Crossing neutral with a phase can destroy the device.

If the neutral is used in the installation protected by the PH001, connection of the neutral is **compulsory**.

The voltage indication is indicated PH / PH

Can be used with a switch or circuit breaker equipped with an undervoltage trip coil.

Single-phase connection
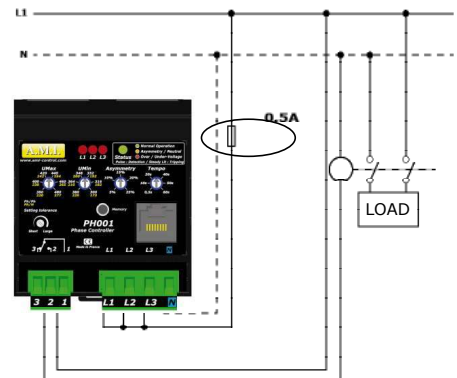
Commissioning :
- Position the settings by turning all potentiometers fully clockwise.
- Apply the voltage setting and check the phase rotation display.
- Since this is correct, reduce the Umax detection threshold by turning the potentiometer anti-clockwise.
As soon as the detection is displayed, bring the setting a few degrees clockwise.
- Do the same for the other Umin and asymmetry settings.
- Adjust the timing as needed.

In single-phase, the «overvoltage» and «undervoltage» as well as «time delay» detections are active.
Phase rotation and asymmetry / loss of neutral are inactive.

DIMENSIONS :

Quick connection between the PAN45-01-00 front display unit and the DIN PH001 unit (cable supplied with the PAN45-01-00).

PAN45-01-00

PAN45-01-00

CARACTERISTICS :

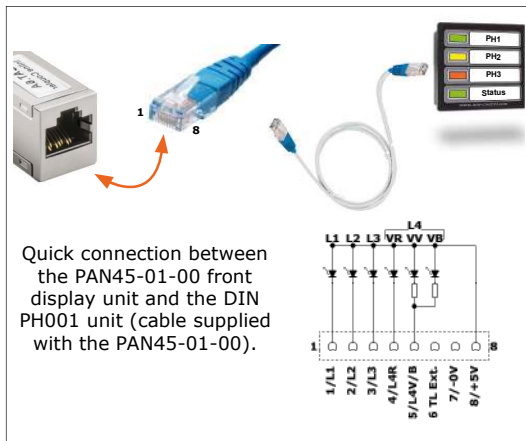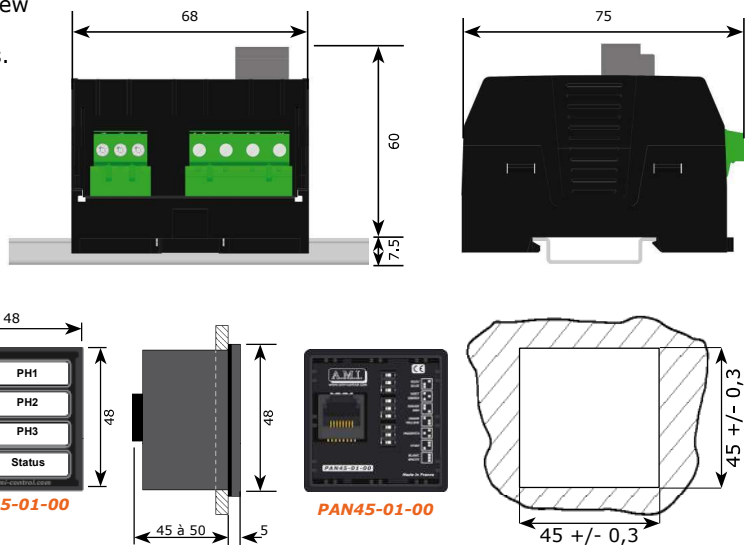|		PH001		PAN45-01-00
		Three phase PH / PH	Single phase PH / N	
Supply				
Nominal :		150V- 480V	150V-280V	Powered by the PH001 box in 5V through the RJ45 cable
Minimum :		150V	150V	
Consumed strength :		2VA		
Frequency :		45-55Hz		
Settings :				
Under pressure :		300V - 380V	173V - 220V	
On voltage :		380V - 480V	220V - 277V	
Asymmetry % :		5% - 25%		
Time delay :		1s		
Start-up times :		<1s		
Instant protection				
Loss of rotation :		Yes	No	
On voltage :		Umax > +10% of the setting or > 277v PH/N or 480v PH/PH		
Asymmetry % :		Asymmetry > +25%	No	
Time delay :		0,5s		
Output contact :		1RT		
Rated / Max intensity :		8A / 10A		
Rated / Max cut-off voltage :		250Vac / 400Vac		
Max cut-off power :		2500VA / 300W		
Number of operations :		1×10^7		
Contact material :		AgSnO2		
Insulation between power supply and contacts :		5KV / 1mn		
Enclosures				
Protection :		IP20		IP65 on front polyamide PA66 30gf
Material :		UL94 V2 class		UL94 V2 class
Resistance to flame :				
Humidity in use / storage :		90% non-condensing / 70%		90% non-condensing / 70%
Operating temperature :		-20°C / +60°C		-20°C / +60°C
Storage temperature :		-20°C / +70°C		-20°C / +70°C
Surface insulation :		10^{15} Ohms/cm		10^{15} Ohms/cm

ASSEMBLY / DISASSEMBLY :
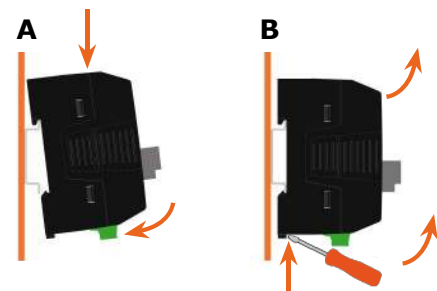
Assembly (A) of the housing on the profile and disassembly (B)

ORDER :

- PH001 : Phase rotation controller in 380V or 220v single phase, DIN box.

- PAN45-01-00 : 4 LEDs display, 48x48, 5V voltage, mounting on the front of the cabinet, supplied with RJ45 cable L = 2.00m (other length on request).

A.M.I.

ANNUNCIATORS Range

www.ami-control.com

2 years warranty

Multicolored LEDs

MADE IN FRANCE

J3500

J1905S

J1905S Wall version

Panels 96 x 96

Panels 144 x 144

Centralization

J3000/J3105

ALARM'BOX

PANEL'PC Bus Alarms Centralization

Realized by the company «TIME» (France)

Realized by the company «Kautz Starkstrom-Anlagen GmbH» (Germany)

A.M.I.

J1905S

Alarm and signaling panel
Built-in version and wall box
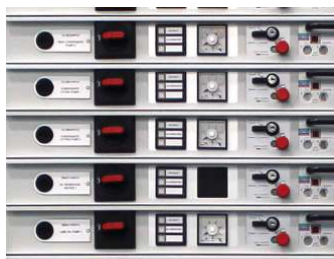
**Displays all information
with or without memorization and acknowledgment,
with or without audible alarm.
Positive and negative inputs
With simple power supply or
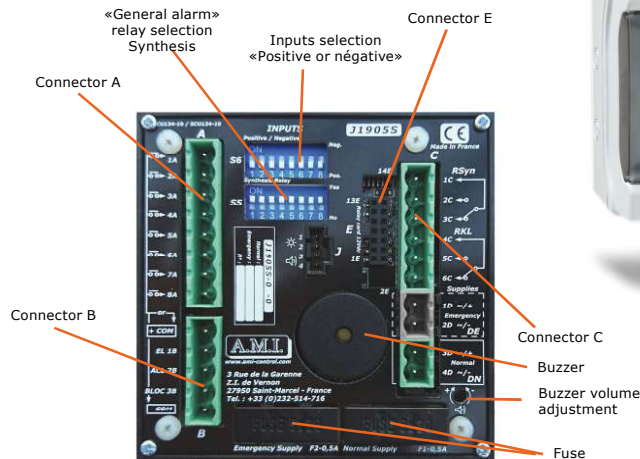redundant power supply**

A.M.I.
www.ami-control.com

warranty 2 years warranty

Multicolored LEDs

MADE IN FRANCE

DIN 96 x 96 format

FRONT VIEW

- Voltage presence LED
- «LEDs test» button
- «Reset» button

- «General alarm» relay selection Synthesis
- Connector A
- Inputs selection «Positive or négative»
- Connector E
- Connector B
- Connector C
- Buzzer
- Buzzer volume adjustment
- Fuse

REAR VIEW

Available in wall version

This panel is designed for installations with «high security».
It integrates all the possibilities of the J1905, plus options:
- **Single** or **double permanent power supply**, with automatic switching from one to the other in case of failure.
- Inputs can be activated by a contact connected to the «+» or to «-» (open collector contact or contact connected to ground).

Double Redundant power supply :

The panel can be powered continuously with 2 different voltages (example: 24Vdc and 230Vac). In case of failure of one or the other voltage, the panel will continue to operate with the presence of the other voltage . An information of the loss voltage is indicated and available on the watchdog contact.
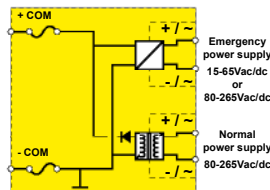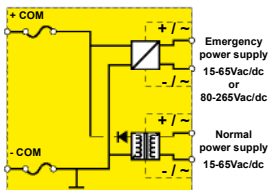
Regrouping of the supply voltages 24V and 48V :
The low-voltage range is expanded and goes at 15 to 65Vac/dc (the models for 24V and 48V voltages are grouped in one single model).

Inputs selection in «positive or negative» type is possible for each channels :
The input contacts are usually powered by the «+ COM» of the panel that delivers a low voltage. It's an use for «dry contact» type.
But it can happen that the input contacts are connected to the «-» (sensors screwed on the chassis on some generators) or from an automaton output «open collector» type. In this case, the information received will be : «no voltage» (open contact) or «-» (closed contact). With its selection by switches, the J1905S allows the use of both modes, channel by channel.

MAIN CHARACTERISTICS :

- 8 inputs and 8 LEDs indicator displays, with large label.
- Selection of type of display : simple indicator or alarm (blinking then fixed after reset).
- Selection of the direction of input contact (NO = Normally Open, NC = Normally Closed).
- Delay time on input from 0 to 1min. and from 1min. to 10min. (per channel, including on channels used as «simple indicator»).
- Alarm information memorized until operator reset.
- «Sound alarm» relay output with positive security (+ internal buzzer) (RKL).
- «General alarm» relay output (synthesis relay) with positive security for report (selectable channel by channel) used in «Watchdog» protection (RSyn).
- 8 «open collector» separate outputs for individual reports.
- «Inhibition» input with selection of channels to be inhibited (BLOC).
- Luminosity adjustment possible by external potentiometer with connector (J).
- «LEDs test» and «Reset» buttons on front face + terminals for external buttons (EL and ACL).
- 7 colours of display possible per LEDs for easier colour change (selection by switches).
- Detachable screw-in terminals.
- Simple Supply : 15 to 65Vac/dc or 80-265Vac/dc with 4KV galvanic insulation.
- Double Supply : 15 to 65Vac/dc and 80-265Vac/dc with different choices.

J1905S_EN004_15-11-2022

MAIN DIAGRAM :
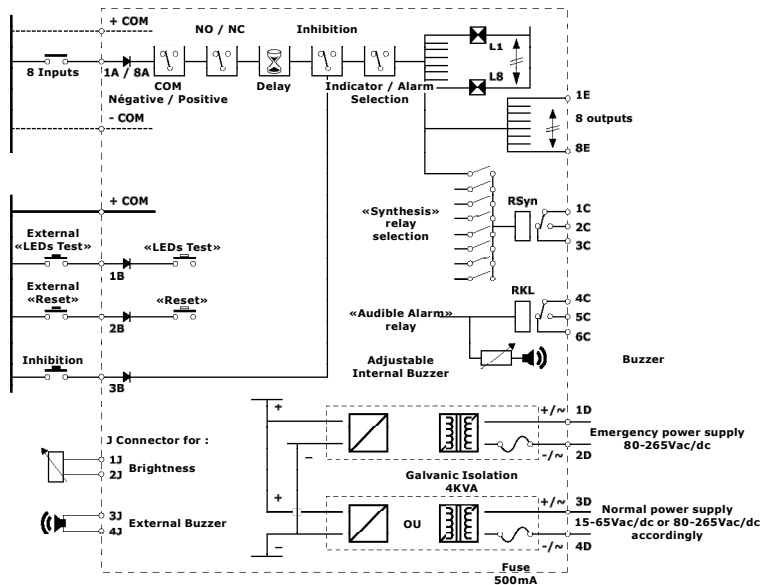
A channel can be «positive input» or «negative input».
The selection is made with S6 at the back of the panel.
Contact direction: the direction of contact (NO / NC) is selected with the S3 switch.
Caution : in case of a channel selected by S6 in negative input, the S3 selection becomes reversed.

The microprocessor is provided with a «**Watchdog**» that disables the «Synthesis» relay and «Sound alarm» relay in case of system shut-down. In the event of loss of one of the power supplies, the «Synthesis» relay will disable. If the 2 power supplies are lost, the «Synthesis» relay and the «Sound alarm» relay will disable.
The «Sound alarm» and «Synthesis» relay are with positive security (in our diagrams, and at the back of the product, the relay contacts are shown at the position when the J1905S is without voltage supply. In normal operation, the position of this switch is inverted).

The internal buzzer is adjustable in sound power. A jumper allows to put it out of service.

OPERATION :
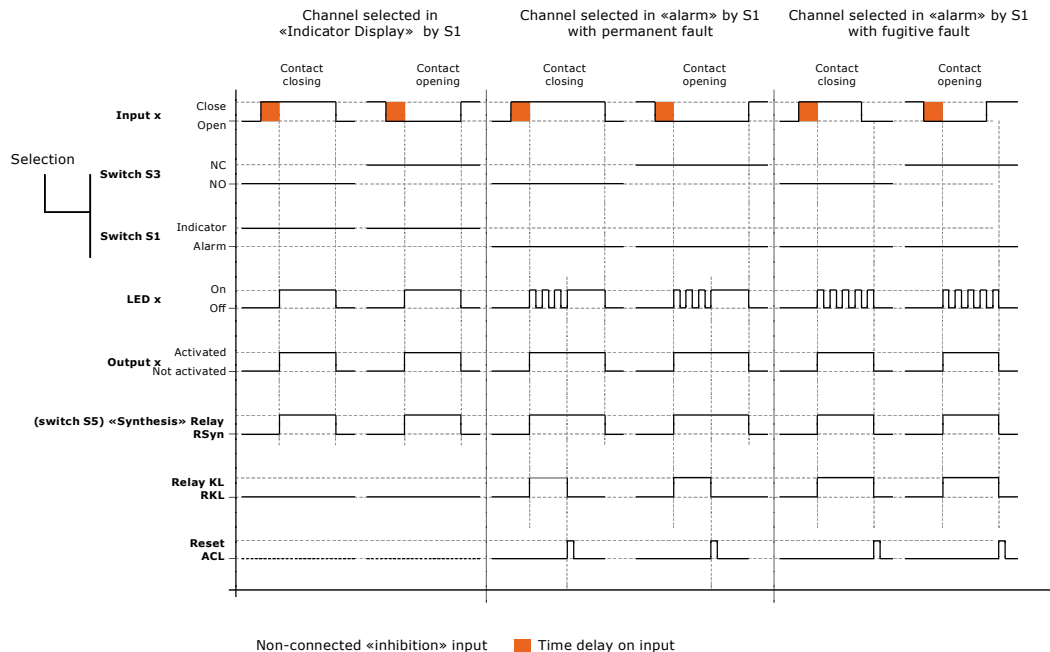
Switch	Selection
S1	«Signaling»/«Alarm» input
S2	Input with "blocking" authorization
S3	Contact input NO/NC
S4	Temporisation 0 à 1mn / 1 à 10mn
S5	Forwarding to the Synthesis relay YES / NO
S6	Voltage input type Positive/negative

Channel selected as «Simple-indicator» treatment :
(Led is lit without blinking, without memory, without Horn, without RESET).

 - The «x» channel must be selected in «simple indicator» with S1 (INDICATOR) :
 - Depending of the sense of the input contact «x» selected with S3 (Normally Open / Normally Closed) and after the end of the input delay time Tx (filter on input), the LED lights up in fixed mode (it also possible to light up a LED by opening the contact if the selection is NO).
 - The corresponding «x» output is activated (output is «open collector» type and delivers a 0V).
 - RSyn «Synthesis» relay is deactivated if the S5 selection is programmed.
 - The RKL «Sound alarm» does not change state.
 - When the input contact returns to its normal position, the LED goes off.
 - If the «inhibition» input BLOC is activated before the LED is lit and if the channel was selected by S2 (inhibition authorization), the display will be cancelled.

Channel selected as «Alarm treatment» :
(Led is lit flashing, memorized, with sound alarm, and with RESET necessary).

 - The «x» channel must be selected in alarm with S1 (ALARM) :
 - Depending of the sense of the input contact «x» selected with S3 (Normally Open / Normally Closed) and after the end of the input delay time Tx (filter on input), the arrival of the alarm will be taken into consideration and memorized.
 - the LED will light up in blinking mode.
 - The corresponding «x» output is activated (open collector type output delivers a 0V).
 - RSyn «Synthesis» relay is deactivated if the S5 selection is programmed. (positive safety relay)
 - The RKL «Sound alarm» relay is deactivated (along with the buzzer). (positive safety relay)
 - Pressing the «Acquit» button on the front panel (or activating the acknowledgment via the rear terminal) stops the buzzer and switches the LED on if the alarm is still present or turns off the LED dice the return to the normal. The «open collector» output will remain activated and the «Synthesis» relay (if the latter is selected by S5) will remain deactivated until the LED goes out.

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INPUTS CONNECTIONS :

**Connection diagram for J1905S
with S6 Selection in positive inputs**

«Dry contact» connection usable
with any type of power supply

**Possible connection for the
J1905S-02-00 (LV power supply)**

**Connection diagram for J1905S
with S6 Selection in negative inputs
(contacts connected to the «-»)**

The «Leds Test» EL, «RESET» ACL, «Inhibition» BLOC Inputs
must always be connected
to the «+ COM».
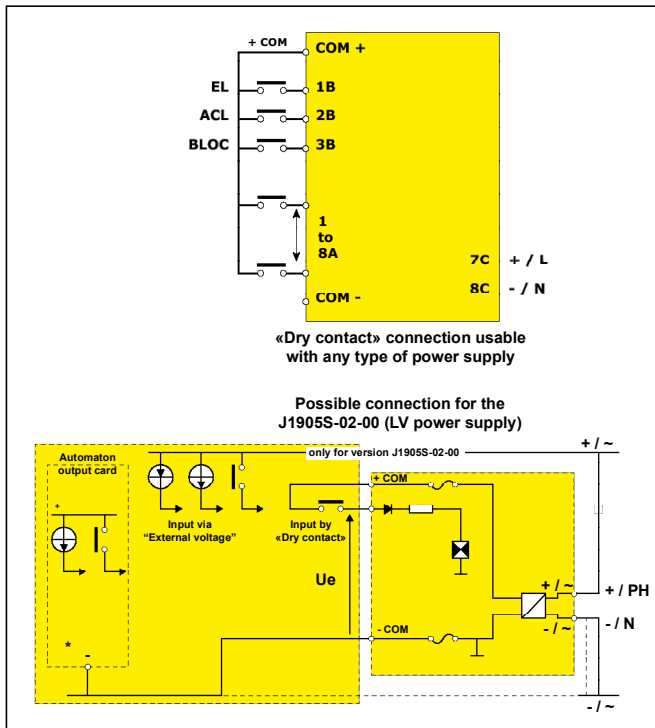
Input by «External Voltage» :

Maximum voltage on input: 65 Vac / dc. In other cases, use the diagram «dry contact input.»

In case where the input is powered by an external voltage (e.g. open collector controller card) it is necessary to interconnect the «-» of external electronic with the J1905S terminal «- COM».

«Dry contact» input :

The contact voltage must be provided by the «+ COM» of the panel. (The voltage supplied on the «+ COM» is 24Vdc /max 100mA). This supply is internally protected against over current.

When using the model J1905S with power supply type «05» (80-265Vac/dc) with galvanic isolation, the voltage «+ COM» (as well as the internal electronics) of the J1905S is isolated from the main power supply (to 4KV).

«Positive» input :

The input is activated from the «+COM» terminal. It is possible to use an external positive voltage (maximum 65Vac/dc). In this case, It is necessary to interconnect the «-» outer with the J1905S «- COM» terminal to ensure the return of the negative.

«Inhibition» input BLOC :

It cancels the «recognition» of selected channel by the switch S2. Some information can be considered as alarms at certain time and be normal at another time. example:
- Control if the door is open the night, but no control the day.
- During technical intervention.
This function also allows managing start cycles with no active safety.
- Oil pressure of a generator during shutdown or during the startup phase.
This function is active for the channels selected in simple signaling and the channels in alarm.
This cancellation will begin when the external input contact «Blocking» is closed (connected to «+ COM»). The function is only active if the input «Blocking» is activated before lighting an LED (flashing or fixed). Blocking will operate after turning off the LED (next input activation).
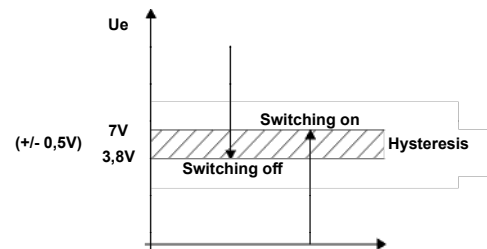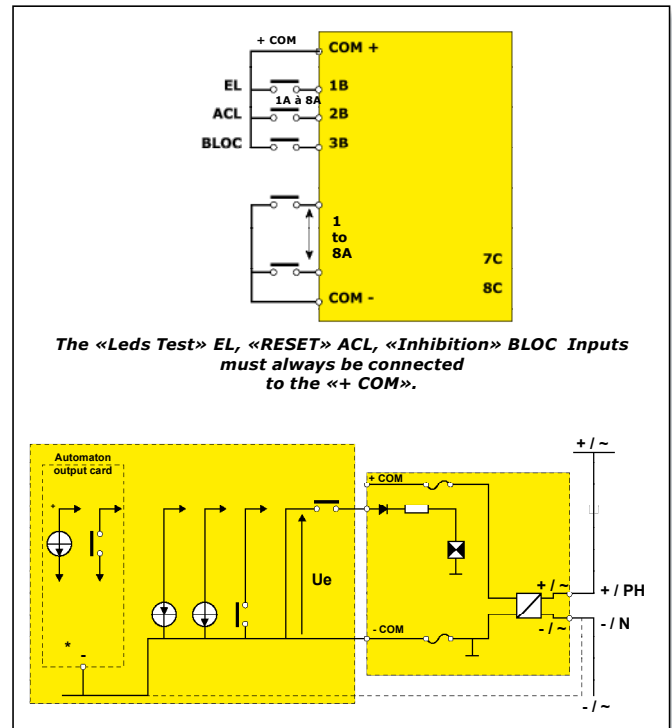
If the input «Blocking» is activated, the LED «voltage presence» on the front lights up orange. In the «double power supply» version, with the loss of power supply and the presence of «Blocking», the «voltage presence» LED will be lit in fixed red.
To inhibit a channel, it is necessary :
- That the channel had been selected «YES» using S2.
- That the inhibiting contact is closed BLOC.

«Negative» input :

It may happen that the input contacts are connected the «-» (connection to the chassis on certain generators) or actived by «open collector» output card type automaton.
In this case, the information received will be :
- No voltage = open contact)
- connection to a «-» = closed contact.
With the S6 switch, the J1905S allows the use of "negative" inputs.

With the J1905S equipped with a type "05" power supply (80-265Vac/dc) with galvanic isolation, the "- COM" voltage (as well as the internal electronics of the J1905S) is isolated from the supply voltage. (at 4KV).

«LED TEST» input EL :
A rear terminal allow to connect an external button (closing contact, to be connected to the «+ COM»). the closure will ensure a led test on several panels simultaneously.

«RESET» input or «Acknowledgement» ACL :
A rear terminal allows to connect an external button (closing contact, to be connected to the «+COM») which will provide a RESET on several panels at once.
An activation of the button connected to RESET terminal stops the audible alarm and the flashing LED which goes into fixed mode. A new alarm on another channel will be displayed in flashing mode and will reactivate the audible alarm.

J1905S FRONT FACE :

«Voltage presence» indicator :

A "voltage presence" indicator is present on the front panel.

It lights green when all the power supplies present are active.In case of:

- Blocking activated, the LED is fixed orange.

In the «double power supply» version, the loss of one of the power supplies will be displayed by :

- flashing red.

- fixed red if the «blocking» terminal is also activated.

«LED Test» button :

A «led test» button is available on the front.

A rear terminal is used to connect an external button (closing, to be connected to the «+ COM»). the closure will ensure a led test on several panels simultaneously.

THE J1905S OUTPUTS :

«General alarm» contact outputs or «synthesis» (RSyn) :

1O/C output with galvanic isolation. The relay is "positive security", i.e. "normally energized". The relay will be deactivated by each of the channels selected with S5 whether the channels are selected in simple signaling or in alarm. The relay will be reactivated when all the contacts of the selected inputs are in normal position.

If the device is equipped with two redundant power supplies, the absence of one of them will be signaled by deactivation of the synthesis relay.

Voltage presence LED   LEDs Test button   RESET button

RESET or Acknowledge button :

A «RESET» button is available on the front face.Pressing RESET stops the audible alarm and lights up the LEDs in fixed mode if the fault is permanent (if the fault is no longer present the LED will go out automatically).

If a new alarm arrive on another channel it will appear in flashing mode with audible alarm.

A rear terminal allow to connect an external button (closing button, it must be connected to the «+ COM» terminal). Closing will activate a RESET on several panels simultaneously.

Output Contact «Audible Alarm» (RKL) :

1 (O/C) output with galvanic isolation. The relay is with «Positive Security», ie «normally activated». The relay will be deactivated by each one of the channels selected ALARM mode by S1. The relay will be reactivated when the operator will press on RESET (switching the LED in fixe).

If a new alarm appears, the relay RKL will be deactivated once again.

Warning: in our diagram, and at the back of the product, the contact is shown when the panel is not powered.

For a powered device without alarms present, the position of contact with a fail-safe relay will be reversed.

8 «OPEN COLLECTOR» OUTPUTS :

The J1905S has 8 electronic outputs 150mA.

These outputs are present on the connector for flat cable E.

These outputs deliver a «-» (open collector).
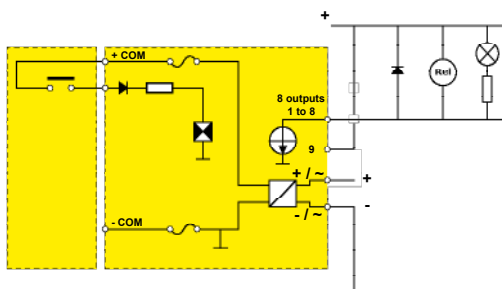
The output will be activated when the corresponding LED will be activated.

It will be deactivated when the Led will switch OFF.

The outputs are active in both modes (Channel configured in mode «simple indicator» or in mode «alarm»).

In some cases, it is appropriate to protect the output against extra current (relay coil), as well as against over current (cold filament with electric bulb) by adding a low resistance in series.
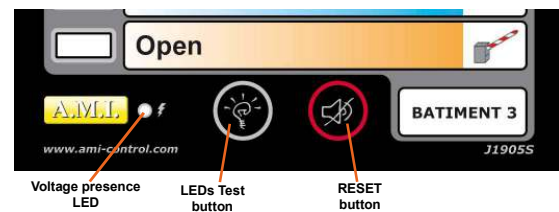
The outputs delivering a «-», it is necessary to connect external parts (relays, lamps, ...) to a «+».

A voltage of + 12Vdc / 200mA is available on the E connector in terminal block 9.

Possibility to use a positive external voltage max. : + 48Vdc.

There are different output interfaces with relay (in option) with a galvanic isolation. They clip onto DIN rail on the bottom of cabinet and quickly connect thanks to a flat cable.

The supply of relays is provided by the J1905S. This relays provide a rapid and optimal mounting and they protect the electronic outputs of a risk of destruction (Refer to our leaflet «Accessories»).

OUTPUTS CONNECTIONS :

Connector E

13	14
11	12
9	10
7	8
5	6
3	4
1	2

14	«Synthesis» output
13	«Audible Alarm» output
12	0V
11	Not connected
10	0V
9	Supply voltage for «External Relays» 12V/200mA
1 to 8	channels outputs (150mA)

1 = channel 8
2 = channel 7
.../...
7 = channel 2
8 = channel 1
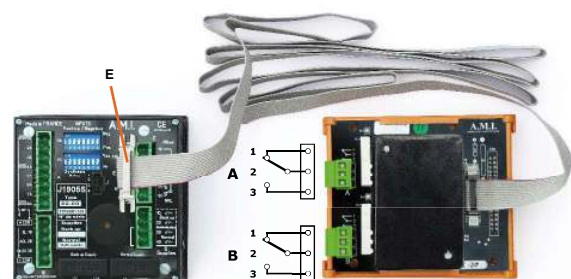
M901 Card « report relay» type DIN connected to the panel J1905S
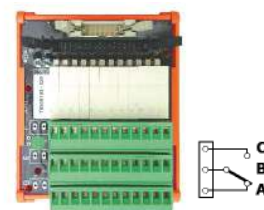
M0901-01-01

LED LUMINOSITY ADJUSTMENT :

- LED luminosity can be adjusted using a connected external potentiometer between terminals 1 and 2 of J rear connector.
- No potentiometer => maximum luminosity.
- With potentiometer 1 Kohm to 5 Kohms => adjustments.

OUTPUT FOR EXTERNAL BUZZER :

An external buzzer (10mA maximum, Voltage 12Vdc) can be connected to terminal 3 and 4 of J connector respecting polarity «+» on terminal 3. (But it is better to use the contact of RKL relay).

INTERNAL BUZZER :

The J1905S has an internal buzzer, using the potentiometer it is possible to lower or increase the volume. A jumper located under the DN connector allows to completely disable the internal buzzer.
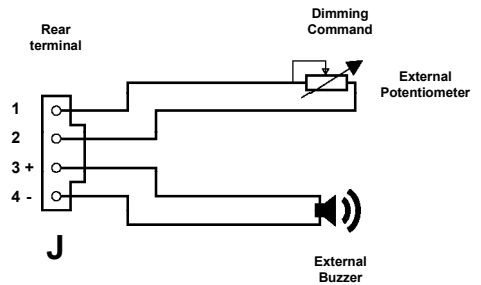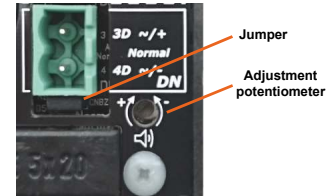Note that these parameters do not affect the external buzzer output.
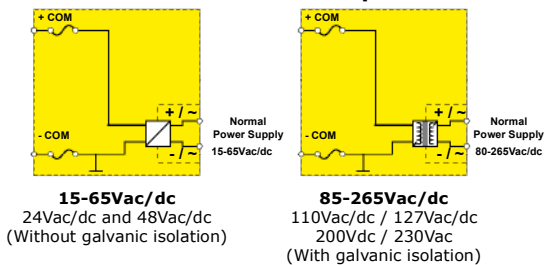

SINGLE POWER SUPPLY / DUAL POWER SUPPLY :

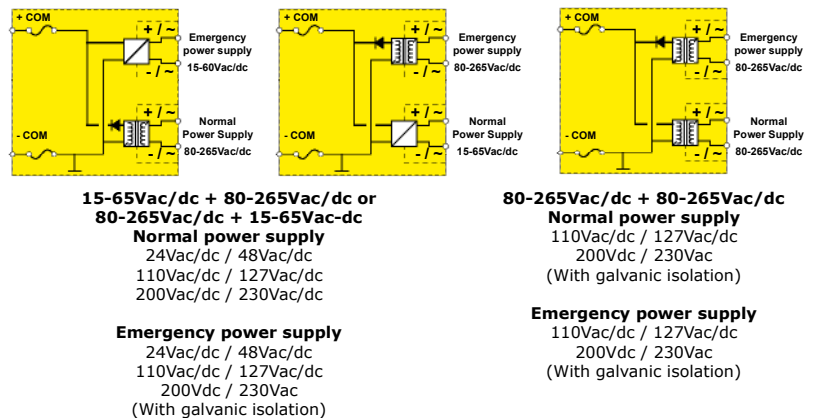Depending on the option chosen, the panel can be equipped with a single or two power supplies.
The panel can be permanently powered by 2 different voltages (example: 24Vdc and 230Vac). If either voltage fails, the panel will continue to operate due to the presence of the other.
The disappearance of one of the voltages will be signaled on the «voltage presence» indicator which will become flashing red or fixed red if the blocking terminal is activated. The synthesis relay will be deactivated in the event of loss of the normal power supply and the J1905S will continue to operate. If the normal power supply and the emergency power supply disappear, the synthesis relay and the RKL relay will be deactivated.

Alimentation Simple

15-65Vac/dc
24Vac/dc and 48Vac/dc
(Without galvanic isolation)

85-265Vac/dc
110Vac/dc / 127Vac/dc
200Vdc / 230Vac
(With galvanic isolation)

Double Alimentation

15-65Vac/dc + 80-265Vac/dc or 80-265Vac/dc + 15-65Vac-dc
Normal power supply
24Vac/dc / 48Vac/dc
110Vac/dc / 127Vac/dc
200Vac/dc / 230Vac/dc

Emergency power supply
24Vac/dc / 48Vac/dc
110Vac/dc / 127Vac/dc
200Vdc / 230Vac
(With galvanic isolation)

80-265Vac/dc + 80-265Vac/dc
Normal power supply
110Vac/dc / 127Vac/dc
200Vdc / 230Vac
(With galvanic isolation)

Emergency power supply
110Vac/dc / 127Vac/dc
200Vdc / 230Vac
(With galvanic isolation)

In the case of a model equipped with 2 power supplies, consumption will be via the so-called «normal» power supply, consumption on the «emergency» power supply remaining practically nil. It will only be used in the event of an abnormal voltage drop or failure of the normal power supply. The emergency power supply may consume 10 mA.

Each of the power supplies is protected by a 5x20mm 0.5A fuse.

| Model	Normal Supply	Emergency Supply
J1905S-02-00	15-65Vac/dc	Unassembled
J1905S-05-00	80-265Vac/dc	Unassembled
J1905S-02-05	15-65Vac/dc	80-265Vac/dc
J1905S-05-02	80-265Vac/dc	15-60Vac/dc
J1905S-05-05	80-265Vac/dc	80-265Vac/dc

☐ : power supply with galvanic isolation

LED COLOUR SETTING :

A display choice of 7 colors per LEDs is possible. This choice is selectable using switches on the panel front face. You have a choice of the following colours :

Red, Green, Yellow, Blue, White, Cyan, Magenta.

Changing LEDs is no longer necessary.
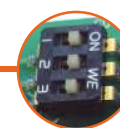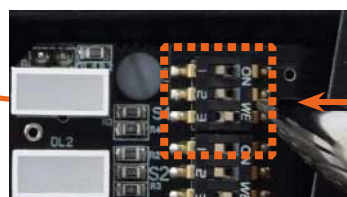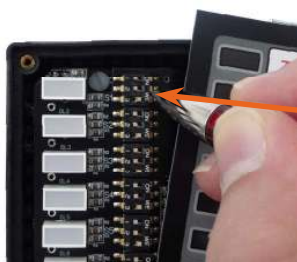
PRODUCING LABELS :

Labels are ordinary paper sheets that can be slid into a transparent pocket included in the thickness of the front face.

Labels can be handmade, or draw the screen of the PC and produced on a colour printer (laser or ink-jet).

A .pdf file (Acrobat) allows to create, save and duplicate the achievements.

This file is free and downloadable on our site :

www.ami-control.com

For high humidity countries, the printing on plastic sheets is recommended.

SETTINGS :

The selection is made from the front face :
- Remove the frame
- Remove the front face «label holder»

From the front face

S1
INDICATOR / ALARM
Indicator/Alarm selection

Indicator

Alarm

S2
INHIBIT
«Inhibition» selection

Inhibit

Normal

S3
NO/NC
NO/NC selection
(according to the position of S6)

Negative Inputs NC / NO

OR

Positive Inputs NO / NC

At the back

S6
Positive / Negative
Polarity of input selection

Negative

Positive

S5
Synthesis Relay
To synthesis relay selection

yes

no

Caution: The direction of S3 (selection NO / NC) is reversed according to the S6 configuration (positive or negative inputs)
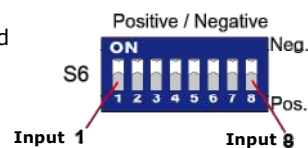
CUTTING :

DIN Format 96x96.

92 mm

92 mm

96 x 96 mm

8 mm max.

53

14

MAIN CHARACTERISTICS :

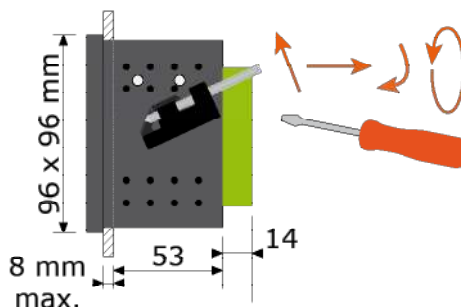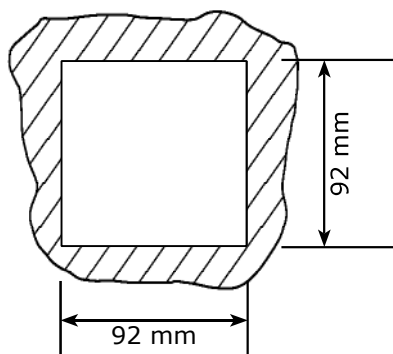|	02 Version 15-65Vac/dc			05 Version 80-265Vac/dc
	at 15Vdc	at 24Vdc	at 48Vdc	
Used in « Positive Inputs» : (Positive Inputs, Open contacts)				
- Consumption min.	80mA	50mA	30mA	22mA
- Consumption max. (8 channels active)	150mA	110mA	60mA	40mA
- Consumption 1 card 8 output relays	+70mA	+50mA	+30mA	+10mA
- Consumption on input	1mA	1,6mA	3,3mA	1,6mA
- High Threshold	>=7V			
- Low Threshold	<=3,8V			
Used in « Negative Inputs» : (Negative Inputs, Closed contacts)				
- Consumption min.	80mA	60mA	40mA	22mA
- Consumption max. (8 channels active)	150mA	110mA	60mA	40mA
- Consumption 1 card 8 output relays	+70mA	+50mA	+30mA	+10mA
- High Threshold	>=7V			
- Low Threshold	<=3,8V			
Voltage «+ COM»	+24Vdc			
Max Voltage on Inputs	«+ COM» or 65Vdc max.			
Line resistance allowed on contact input (with «+ COM»)	10Kohms max.			
Protection	Timed fuse 5x20 0,5A			

Temperature	-20°C / +60°C
Relay «General Alarm»	1 RT 6A/12Vdc - 0,15A/240Vac
«Sound Alarm» Relay	1 RT 6A/12Vdc - 0,15A/240Vac
Buzzer output	10mA / 12Vdc
Weight	250 to 320gr depending on version
Dimensions	96 x 96 x 67 mm
Protection without front cover M0722	Front: IP52 / Rear: IP22
Protection with front cover M0722	Front: IP54 / Rear: IP22

REFERENCES FOR ORDERING :

Reference to be added for the wall box version.

J1905S-0x-0x*S-00*

Normal Power Supply
15-65Vac/dc : **02**
80-265Vac/dc : **05**

Emergency Power Supply
00 : Not mounted
02 : 15-65Vac/dc
05 : 80-265Vac/dc
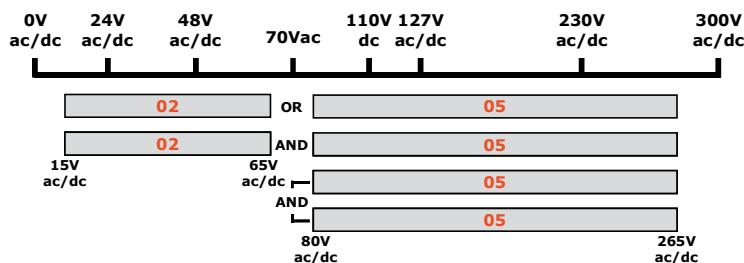
| 0V ac/dc | 24V ac/dc | 48V ac/dc | 70Vac | 110V dc | 127V ac/dc | 230V ac/dc | 300V ac/dc |

Model	Normal Supply	Emergency Supply
J1905S-02-00	15-65Vac/dc	Unassembled
J1905S-05-00	80-265Vac/dc	Unassembled
J1905S-02-05	15-65Vac/dc	80-265Vac/dc
J1905S-05-02	80-265Vac/dc	15-60Vac/dc
J1905S-05-05	80-265Vac/dc	80-265Vac/dc

▢ : **power supply with galvanic isolation**

example :
J1905S-02-05, J1905S, powered by :
- Normal Power supply : 15-65Vac/dc
- Emergency power supply : 80-265Vac/dc.
With integrated buzzer, synthesis relay and Audible Alarm relay.

WALL VERSION:

The IP65 wall box version is equipped with the chosen J1905S and a pre-wired external buzzer (located below the box).

215mm
205mm
220mm
15mm
Buzzer

105mm

124mm
130mm
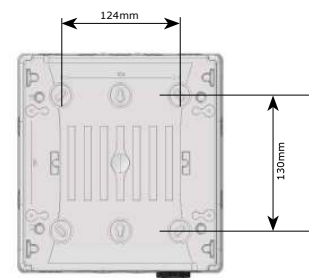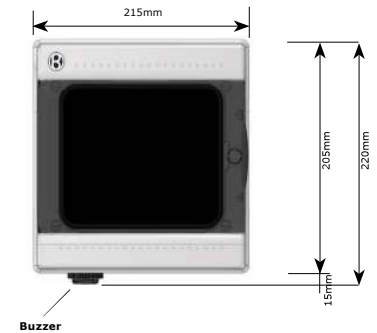
Enclosure	High Impact Polystyrene (HIPS) halogen free and lead free
Colour	Grey RAL 7035
Ingress Protection	IP65 / IK09
Flame resistance	UL746C 5V
Surface insulation	Totally insulated
Working / storage temperature	-20°C / +60°C / -20°C / +70°C

Technical Alarm

ADDITIONAL PRODUCTS :

M0810 Front plate 19-inch, brushed aluminium Ht : 3U
Front for bay 4 pre-drilled holes 92x92mm.

M0816 Closing cover
Closing cover for mounting on M0810 front plate.

M0810 / M0816

M0722, IP54 sealed front
«Quarter-turn» closing button
DIN format 96x96.
IP54 sealed front that is fitted directly to product front. An O-ring provides sealing between steel cabinet and panel.
The front is a transparent openning door.

M0731 Adapter to mount on DIN Rail profil TS35. 96x96 format.
This kit allows to mount panels with 96x96 format on a DIN rail TS35 retaining the display towards the operator.

M0800-00-20 Empty predrilled wall cabinet
1 96x96 panel, for surface mounting, depth (lxhxp) : 215x205x105mm.

M0722   *M0731*

J1905S-0X-0XS-00 Wall cabinet equipped with the chosen J1905S and an external buzzer
for surface mounting.
Dimensions (WxHxD): 215x220x105mm.

- **M0800-00-20**   *pre-drilled, empty*
- **J1905S-0X-0XS-00** *equipped with the J1905S+ Buzzer external*

EXTENSION RELAY CARDS WITH GALVANIC ISOLATION :

They are fitted On DIN rail bracket at the bottom of cabinet and are directly connected to the panel rear extension connector by a flat ribbon cable (E). They can be used on 8 inputs and 12 inputs alarm panels.
- The relays are powered directly through the panel.
- A LED on each relay displays its state.
- A removable terminal block allows the connection «inverters outputs contact».
- Dry output contact : 1RT 6A/12Vdc or 24Vdc - 0,15A/240Vac (3 terminals each)

Card with 12 relays, galvanic isolation
Equiped with 12 outputs type «dry contact 1RT + 1 separate common». It allows to use the outputs «open collector» by a switches off 1RT contact.
(For the 8 inputs alarm panels, only the first 8 relays will be usable).
M0901-01-01 : 12 relays 12V
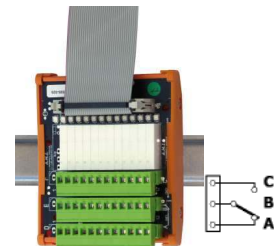
M0901-01-01

Card with 2 synthesis relays (1RT + 1 separate common), selectable with galvanic isolation.
It allows to realise 2 different synthesis (sort the outputs in 2 families, for example the «high risk » and « minor risk » alarms.
A selector allows the allocation of the channel on the relays. Each relay can be activated by one or several outputs of the panel.
An output can also activate the 2 relays. The relays can of positive security (activated on the card starting).
(For the 8 inputs alarm panels, only the first 8 channels of the selector will be usable).
M0901-01-20 : 2 relays 12V

M0901-01-20

Don't forget the cable connection :
M0901-02-53 Ribbon cable L=1.5m fitted for one relay card.
M0901-02-54 Ribbon cable L=1.75m fitted for two relay cards.
M0901-02-56 Ribbon cable L=2m fitted for three relay cards.
M0901-02-55 Additional length L=0,5m.

M0901 Card «report relay»
DIN type
connected to the J1905S panel

Refer to ACCESSORIES chapter of our catalog.

A.M.I.

J3105, J3105RS
Alarm and signaling controller

www.ami-control.com

Multicolored LEDs

MADE IN **FRANCE**

Sequence panel for TECHNICAL ALARM CENTRALIZATION «LED block» model

DIN 144 x 144 format

Voltage presence LED

«LEDs Test» button

«Reset» button

**Ideal for use in «local» mode.
Allows remote centralization
by Bus or wired.**

The J3105 and J3105RS are the evolution of the old J3000/J3000RS in which the possibility of changing the colors of the front LEDs has been added using switches. The choice of color of the LEDs makes it possible to process information according to a color code, danger levels and easier visual grouping.
The dimensions and characteristics are identical.
The notice is common.

FUNCTION :

The J3105 is an automaton of technical alarms treatment, integrating all the functions required for local or deported signaling :

- Memorization, flashing and acknowledgment.

- Modular, the installation can be extended to an infinite number of inputs.

- Directly built-in, it can be mounted in a bay, on a desk or in a cabinet.

Its climatic environment tolerances (-10°C / +50°C), and its supply voltage tolerances (- 40% / +30%) make it the essential component of any high-risk installation.

MAIN CHARACTERISTICS :

- 12 "high luminosity" LEDs, with a large 10x10mm surface, visible even in undimmed light.
- Color change of the LEDs by switches mounted on the front.
- Very long life of the LEDs (eliminating the disadvantages of the short circuit on the filament lamps).
- Great readability and ease of making paper labels (typewriter, laser transfer printer) slipping behind a transparent window.
- Quick and compact grouping of indications on the front of the cabinet.
- 138x138mm hole according to DIN 144x144 standard.
- Quick fixing by clips.
- Very low consumption.
- Voltage presence LED.
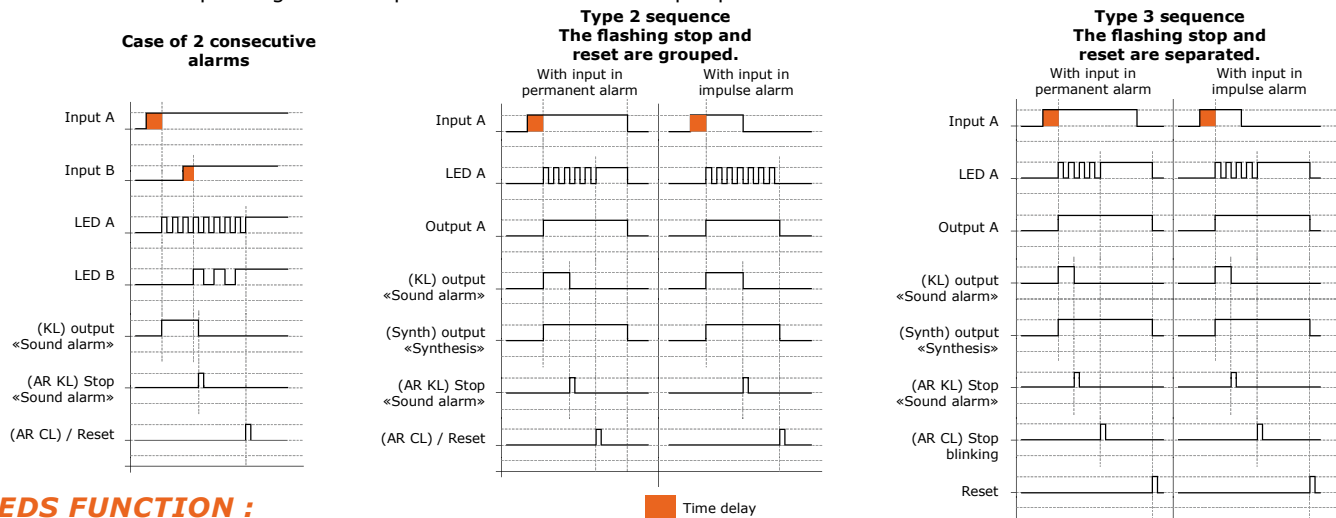- Delayed ignition box.

The parameter setting is done by selection of switches on rear (no PC programming required) :
- 12 contact inputs NO/NC + 12 remote reports (24V). Relay output card possible.
- 12 alarm LEDs on the front («LED block» type for effective contrast).
- 2 buttons on front («LEDs Test», «Reset»).
- 3 inputs/outputs for process (Inhibition input, 1st fault, external synchronization).
- 4 push button inputs (Test, Sound Alarm Stop, Blinking Stop, Reset).
- 2 output relays 1OC («Sound alarm», «Synthesis»).
- 1 RS422 / RS485 port (option) allowing connection to a BUS supervisor, or retrieving the last 64 events.
- 64 events buffer with date counter (only accessible by Bus)
- Selectable temporization on input (20ms, 750ms, 3s, 10s).
- Control of cable continuity on each input (loop control).
- 1st fault sequence, with rapid blinking.
- Storing fugitive information + blink + activated sound output + activated synthesis output + cancel.
- Storage of fleeting information + blinking.
- + acoustic output activated + synthesis output activated + acknowledgement.
- 2 types of sequence possible.
- Remote transfer (channel by channel + one general).
- Outputs can be in «blinking» mode for use on mimic panel.
- Analog monitoring of power supply voltage.

J3105_EN005_14-11-2022
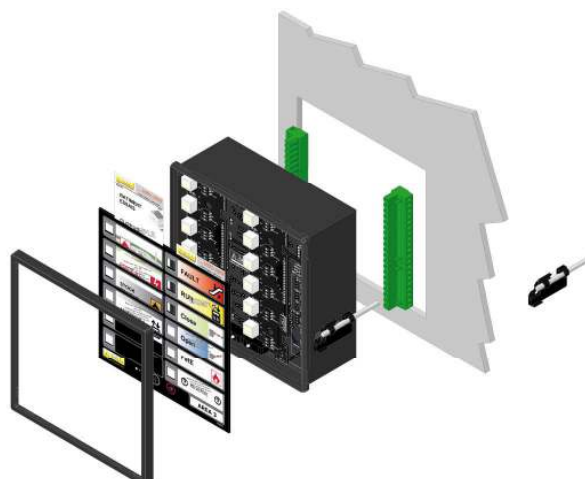
OPERATING PRINCIPLE :

The changement of input state, after filtering by the timer, causes LED blinking and the activation of sonorous output and synthesis output. This action will be stored even if the input disappears. The reset will be done step by step, after pressing the push buttons and depending of the sequence selected and the input position.

Case of 2 consecutive alarms

Type 2 sequence — The flashing stop and reset are grouped.
With input in permanent alarm / With input in impulse alarm

Type 3 sequence — The flashing stop and reset are separated.
With input in permanent alarm / With input in impulse alarm

Time delay

LEDS FUNCTION :

With the «LED pad» type, they have a very high contrast between the «on» or «off» state. The LEDs are mounted on a plug-in card with a switch allowing the selection of 7 colors for each of them.
The first channel activated will cause a "fast flashing" display. The following pathways cause "slow blinking". This makes it possible to differentiate the first alarm. In the «Sequence type 2» and «Sequence type 3» diagrams, the flashes are represented as «rapid».

a) Fault avalanche : The avalanche is an arrival of several consecutive alarms.
   It is very important to know the first alarm, as this enables rapid intervention in troubleshooting.
   The differentiation between the 1st fault (first alarm) and the 2nd is done by flash and slow blink (1st fault is displayed in fast flashing mode; the following alarms are displayed in slow blink mode).
   The avalanche begins with the arrival of the first alarm until operator cancellation. After cancellation by operator (all flashing LEDs are become fixed), a new alarm will be considered as a first fault. Discrimination time: 10ms.
   The various light states on the LEDs :
   Fast blink = 1st alarm   **Slow blink** = following alarm in avalanche   **light out (OFF)** = return to normal state
   Fixed light (ON) = alarm present, memorized after acknowledgement
   Very fast Flashing = cable fault (this luminous signal is not cancellable)

b) Simple indicator display function : The S22/S23 switches allow "simple indicator mode" type processing and display on certain channels ("all or nothing" status display). Selected channels will pass directly to fixed light (ON), without sound alarm or synthesis output. Input storage is inoperable.
   The settings NO/NC and delay time on input are still active.

FUNCTION OF FRONT FACE BUTTONS : (see also the *FUNCTION OF REAR TERMINALS*)

- The front is equipped with two buttons : «LEDs Test» and «RESET».
- If the «TEST LED» button is pressed for more than 10s, the J3105 activates the RS485 BUS setting mode and all the LEDs flash (even if the BUS option is not present, see transmission manual). To exit this mode, just wait 5 seconds, the return will be automatic.
- The RESET button has several functions:
- 1st press => Stop Horn / 2nd press => Flashing off / 3rd press => Erase
  The flash off (switching to fixed lights) will be processed only if the alarm has been stopped.

PARAMETERING :

Switches S1 to S24

The rear switches can select a program choice. It is necessary to shut off the power supply before this operation.

One switch is positioned at :
- 0 when it is down.
- 1 when it is up.

S1 to S4 : Allows the channel or channels to be selected as normally open or normally closed input. In the "Negative Input" model, the back marking and the switches are reversed.

S5 to S12 : Adjusts the delaying time of input validation (filtering).

S13 : Ensures the control of cable continuity for each input (monitoring of short-circuit and wire cut) (need for resistors on each input).

S14 : To synchronize the blinking from several panels. With this switch, the panel will be pulse transmitter or pulse receiver.

Inputs		NO	NC
S1	1, 2, 3, 4, 5	0	1
S2	6, 7, 8, 9	0	1
S3	10, 11	0	1
S4	12	0	1

Time delay		20 ms	750 ms	3s	10s
S5 S6	1, 2, 3, 4, 5	0 0	1 0	0 1	1 1
S7 S8	6, 7, 8, 9	0 0	1 0	0 1	1 1
S9 S10	10, 11	0 0	1 0	0 1	1 1
S11 S12	12	0 0	1 0	0 1	1 1

	Selection				
S13	Loop control : without=0 / with=1				
S14	Synchronization : transmitter=0 / receiver=1				
S15	Sound alarm relay :	Normally activated=1 Normally deactivated=0			
	Selection	**A**	**B**	**C**	**D**
S16 S17	Sound alarm relay — A=> Fixed / B=> 1 pulse / C=> Fl 1s/1s / D=> Fl 1s/2s	0 0	1 0	0 1	1 1
S18 S19	Inhibit — A=> V1 / B=> V1 à V3 / C=> V1 à V7 / D=> V1 à V12	0 0	1 0	0 1	1 1
S20	Normal outputs=0	Blinking=1			
S21	Type 2 sequence=0	type 3=1			
S22 S23	Simple indicator Mode — A=> none / B=> V10 à V12 / C=> V7 à V12 / D=> V1 à V12	0 0	1 0	0 1	1 1
S24	Synthesis=0	watchdog=1			

S15 : KL Relay normally activated or not. «Sound alarm» KL relay can be used in «watchdog» mode (normally activated or not). Selected «normally activated» and contact output being fed with a different voltage, it can inform by falling in case of internal breakdown, loss supply or input activated.

S16/S17 : «Sound alarm» relay. Allows changing sound alarm modulation.
Fixed : S16=0 / S17=0   1 pulse : S16=1 / S17=0
Flash 1s/1s : S16=0 / S17=1   Flash 1s/2s : S16=1 / S17=1

S18/S19 : Inhibit. It is possible to inhibit out information's arriving on certain inputs (if inhibit input is at 0 => none way inhibited).

channel 1 : S18=0 / S19=0   channels 1 to 3 : S18=1 / S19=0
channels 1 to 7 : S18=0 / S19=1   channels 1 to 12 : S18=1 / S19=1

S20 : blinking outputs. Activates the outputs like the façade LEDs. (Used for pilot external LED on mimic).

S21 : Sequence type 2 or type 3.Selects 2 different types of sequences. (see diagram).
- Type 2 : The functions AR CL and RESET are grouped.
- Type 3 : AR CL and RESET are separated.

S22/S23 : «Simple indicator» type. Some inputs can be treated in simple indicator (ON/OFF) and not in alarm (Blinking and fixed light, memory, sonorous alarm, Reset).

none : S22=0 / S23=0   channels 10 to 12 : S22=1/S23=0
channels 7 to 12 : S22=0/S23=1   channels 1 to 12 : S22=1/S23=1

S24 : Synthesis. The «Synthesis» relay will be deactivated (will fall down) if :
- an alarm is present or if the internal «Watchdog» is activated.
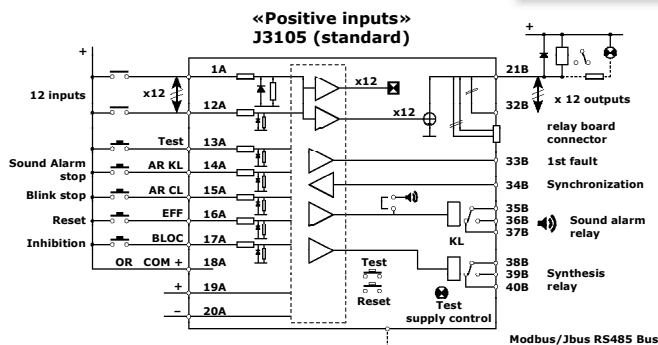- Only if the internal «Watchdog» is activated.

Alarm present or watchdog activated : SW24 to 0
Watchdog only : SW24 to 1

Example of setting : To obtain channel 12 in NC, with a 3s time delay, with synchronization coming from outside, sound alarm activated and type sequence 3, the switches will be :

S4 on 1   S11 on 0   S12 on 1   S14 on 1
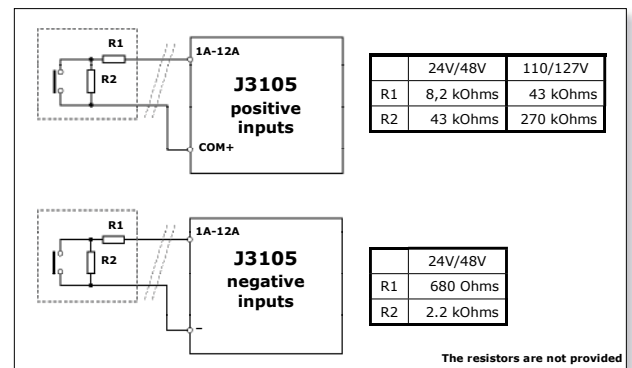S15 on 1   S21 on 1

REPRESENTATIVE DIAGRAM :

- The inputs are called «positive» or «positive common», when the common feeding the alarm contacts is connected to the «+» or «+ COM».
- The inputs are called «negative» or «negative common», when the common feeding the alarm contacts is connected to the «0v».

The contacts are represented with the J3105 off

«Positive inputs» J3105 (standard)

«Negatives inputs» J3105
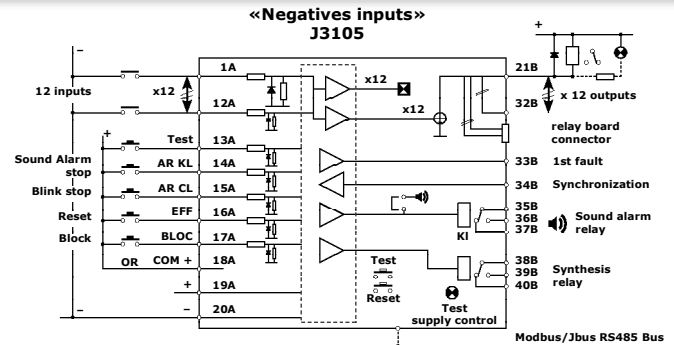
INPUT FUNCTION :

- Terminal 1A/12A : Depending on the model selected J3105, the 12 contact inputs can be : «Positive common» (powered by a positive voltage or «+ COM» terminal) or «Negative common» (powered by a negative voltage or «19A» terminal). The NO/NC input selection will be done with the switches S1, S2, S3 and S4. (Note that, on the «negative common» model, the selection is reversed. The rear label is also different).

- A delaying time can be associated with chosen inputs. (S5/6, 7/8, 9/10, 11/12 selection switches). Channel validation is effective only if the channel remains in alarm mode for duration greater than the selected delaying time.

- «Cable monitoring» function :
This function (switch 13) detects short-circuits and cable cut between each contacts and the inputs terminal.
It only needs to put two resistors (one in series and the other in parallel) directly on the contact to monitor permanently line current. The cable fault will be indicated by a rapid «flashing» + sound alarm.
Only «Sound alarm» is cancellable. The output will not be activated.
It is not possible to cancel the flash before installation repair.

	24V/48V	110/127V
R1	8,2 kOhms	43 kOhms
R2	43 kOhms	270 kOhms

J3105 positive inputs

	24V/48V
R1	680 Ohms
R2	2.2 kOhms

J3105 negative inputs

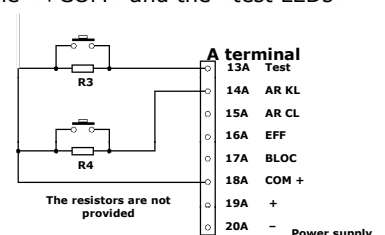**The resistors are not provided**

FUNCTION OF REAR TERMINALS :

a) TEST terminal 13A :
- An external button connected to the «+COM» will activate an «LED test» driven by the microcontroller (Can be used to do an «LED test» on several panels simultaneously). By adding a resistor R3 between the «+COM» and the «test LEDs» terminal, the front panel button or the 13A rear terminal will activate the front panel LEDs and the outputs
- For 24Vdc supply: R3=43 kOhms (1/2W).
- For 48Vdc or 110/127Vdc supply: R3=270 kOhms (1/2W).

For the use of the following 3 terminals, an order of action must be respected.
The AR CL and EFF terminals are inactive if the audible alarm is present.
It is compulsory to activate the horn stop first.
In type 3 sequence, the EFF terminal is inactive as long as a light is flashing (impossible to delete before the flashing stop).

A terminal
13A Test
14A AR KL
15A AR CL
16A EFF
17A BLOC
18A COM +
19A +
20A − Power supply

The resistors are not provided

b) AR KL terminal 14A (Sound alarm stop) or button front face «RESET/Horn Stop » first impulse :
- Standard function: An input activation stops the alarm until the return to normal.
- With a R2 resistor connected between AR KL (14A terminal) and «+COM», an input activation stops the sound alarm but if the channel remains in alarm mode, the audible and flashing indications will be reactivated after 1 minute or 15 minutes. (Prevents a forgetting if an alarm is still present). (See the scheme of the external buttons).
- For 1 minute reactivation : 24Vdc or 48Vdc : R4=22 kOhms (1/2W) - 110Vdc R4=100 kOhm (1/2W).
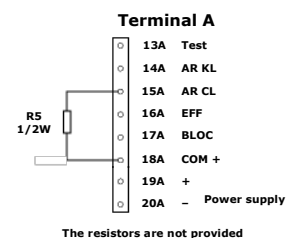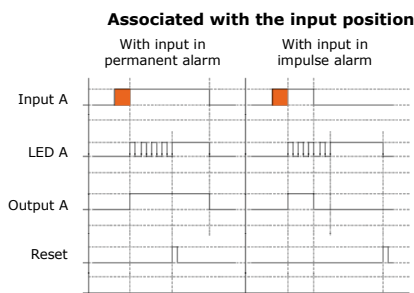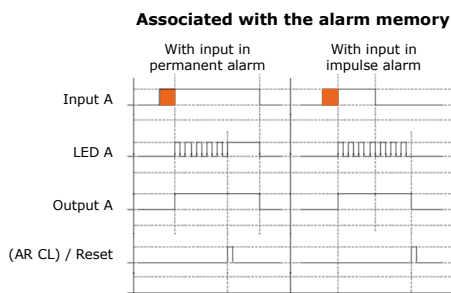- For 15 minutes reactivation : 24Vdc or 48Vdc : R4=4,7 kOhms (1/2W) - 110Vdc R4=22 kOhm (1/2W).
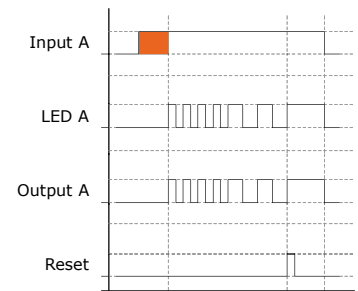
c) AR CL terminal 15A (blinking stop) and the button front face «RESET/Horn Stop » : One activation changes the flashing mode to fixed mode (only after you have stopped the alarm sound). With the button front face «RESET/Horn Stop »: first impulse => Sound alarm stop / 2nd impulse => Blinking stop.
Functioning type 2 sequence :
When alarm will disappear, LEDs in fixed mode (ON) will turn OFF (After an activation on AR CL, if an input returns to normal, the blinking LED goes to fixed and quickly turns OFF.
Functioning type 3 sequence :
With this sequence, activation on AR CL terminal also turns ON the LED (fixe). But when the alarm will disappear, it will be necessary to use the EFF terminal to cancel the fixed light (turn OFF) or press the RESET button on the front panel again (3rd pulse).
A resistor can be connected to the AR CL terminal, allowing a different output process function (see «outputs» chapter).

d) RESET/EFF terminal 16A (RESET) or button front face «RESET/Horn Stop » third impulse :
Type 2 sequence operation : RESET/EFF this terminal is not used.
Type 3 sequence operation : The LEDs will turn OFF only after switching to fixed mode and after the input will be returned to normal and after activation of RESET/EFF terminal .(or after the third impulse on the RESET front button).

e) Self-test sequence : (TEST + AR CL terminals or by front panel push buttons simultaneously).
This is of the «chase» type.
Pressing the 2 push buttons or validating the 2 terminals simultaneously activates the test cycle by panel program, i.e.: test of the «voltage presence» LED, test of the LEDs one by one + 2s + «audible alarm» relay test + 2s + «synthesis» relay test + activation of the outputs one by one.

f) Bloc terminal 17A : The channel inhibition is activated by connecting a «+COM» on «Inhibition» input and with S18 + S19 switches.
The selected inputs by S18+S19 will no longer be recognized as long as the inhibition input is activated.
One selected input is active only if the inhibit input is inactivated. If a selected channel inhibited (with S18 + S19) is already displayed before the activation of the terminal block (17A), the display management will continue until its extinction (return to normal of the input). For inhibition, the channel must be selected with S18+S19 AND the terminal 17A must be activated before the input change. This function is an indefinite delay equal to the duration of activation of the terminal 17A.

g) «+Com» Bloc terminal 18A : The «+COM» terminal is internally protected and provides power to the input contacts.
The supplied voltage varies depending on the model used.
These inputs can be powered directly from the "+" of the J3105 supply voltage (terminal 19A).
The use of «+Com» is mandatory for the 80-265Vac/dc version.

Model Voltage	24Vdc	48Vdc	110Vdc	80-265Vac/dc
Voltage +Com	24Vdc	48Vdc	110Vdc	24Vdc
Maximum input voltage	70Vdc	70Vdc	127Vdc	+Com

OUTPUTS FUNCTION :

a) Terminal 21B/32B : 12 outputs
The panel is equipped with 12 electronic outputs of the «open collector» type with a maximum intensity of 150mA. These outputs are enabled or disabled at the onset of input activation or the LED. This is depending on the setup. This output transmits a «0V» (collector open). The external receiver should be connected to «+» (maximun voltage : +48Vdc). In certain cases it needs to be protected against break surges, and against cold start currents (bulb with filament) by the use of a serial low resistor.
These terminals are doubled by a connector allowing the use of «relay output» cards (optional) with galvanic isolation. They ensure optimal and rapid operation without risk of destruction (refer to the "accessories" chapter).

b) «Blinking outputs» switch S20 =1 : The outputs will become in flashing mode, so, the same type of the front LEDs (flash, fast or slow blinking, ON, OFF). This function can be used to pilot an external mimic. With this setting, the test function will activate the outputs (as for the front LEDs).

Input A
LED A
Output A
Reset

■ Temporisation

c) Association of outputs at the alarm memory or at the input position :
The output can be controlled by the presence of the corresponding LEDs or by the corresponding input which makes it possible to know if the alarm disappears and returns.

Associated with the alarm memory

With input in permanent alarm / With input in impulse alarm

Input A
LED A
Output A
(AR CL) / Reset

Associated with the input position

With input in permanent alarm / With input in impulse alarm

Input A
LED A
Output A
Reset

Terminal A

13A	Test
14A	AR KL
15A	AR CL
16A	EFF
17A	BLOC
18A	COM +
19A	+
20A	− Power supply

R5 1/2W

The resistors are not provided

Reminder : in standard function, the output activates when the input is activated and after a delaying time.
The output will be deactivated when LEDs will be OFF and after the REST by operator. And this is true even if the input returns before to its normal position.
The output is associated to <u>the memory of alarm.</u>

=> With R5 resistor connected : The output will be associated with the presence of alarm on input :
- If the input is activated, the associated output will be activated after time delayed on input.
- If the input returns to its normal position, the associated output turns OFF immediately.
The LEDs will remain activated until RESET by the operator.
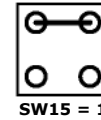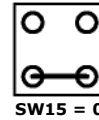The output is associated to <u>the input.</u>

	24V/48V 80-265V	110/127V
R5	22 kOhms	100 kOhms

This function is activated by the presence of resistor connected between the 18A terminal and the AR CL terminal.

d) KL output Terminal 35B/37B : By 1RT relay, selectable with the S15 switch in positive security mode or not. A new alarm, an analog detection on electrical supply or the check of the bus will deactivate this output until operator cancellation.
It is possible to obtain various «Sound alarm» output types (S16/S17) :
- Fixed output (permanent up to cancellation).
- 1 pulse output (relay contact is deactivated for 1 second, and then goes back to its initial position. Sound cancellation is no longer useful on this selection).
- Blinking output 1s+1s => fast blinking (output relay blinks at rhythm 1 second every 1 second and is cancellable).
- Blinking output 1s+2s => slow blinking (output relay blinks at rhythm 1 second every 2 seconds and is cancellable).

e) Synthesis output Terminal 38B/40B : By 1RT relay with positive safety. It will be deactivated by the following cases :
- If an alarm is displayed.
- If the watchdog function is activated (analog voltage supply detection, cable monitoring function on one channel or internal fault present).
It will go back to its initial position when the display of the phenomenon involved disappears. The synthesis relay is not deactivated by channels used as simple indicator (switches S22 and S23). The S24 switch allows use of the synthesis relay only as Watchdog. In this case, the relay will no longer be activated by inputs.

PROCESS TERMINAL OPERATION :

a) Synchro terminal 34B : (Terminal in Input/Output mode). It synchronizes the blinking between all panels connected. If several flashing alarms are present on various panels, this can lead to visual fatigue for the operator.
With this function, all the flashes of the panels will synchronize with the signal arriving at this terminal.
- If synchronization is not selected on the panel (S14=0, transmitter), it is master and transmits timing clock pulses to the other users (it synchronizes itself on its own pulses).
- If synchronization is selected on this panel (S14=1, receiver), it receives pulses coming from outside and synchronizes on them. In the unlikely event of connection failure, the panel would resume it own synchronization. The power supply of this terminal is specific to this panel (**never connect other function than the «Synchro» terminal of another**).

b) 1st fault terminal 33B : (Terminal in Input/Output mode). Used to group multiple panels to get the 1st fault sequence on all channels.
If a panel has a first alarm displayed, it changes the status of its terminal 33B which will be received by the other connected panels. When the other panels will receive an alarm, they will display in slow blinking mode.
The power supply of this terminal is specific to this panel. By connecting this terminal to the «+ COM» terminal, the 1st fault sequence will not be displayed. (**never connect another function as the «1st fault» terminal of another panel or the «+COM».**).

f) Buzzer Included (Option) : It works as the KL output relay. If the KL relay is selected in positive security (normally activated)(S15), do not forget to move the connector jumper. Open the box, the jumper is next the KL relay.

SW15 = 0   SW15 = 1

View in position SW15 = 0

INTERNAL PROCESS FUNCTION :

Analog monitoring of power supply voltage :
A ten-turn potentiometer at the back of the apparatus allows the setting of automatic detection of supply voltage faults.
- In the case of overvoltage, the green supply LED on the front turns to blinking red (tricolor LED).
- In the case of under-voltage, the green supply LED turns to blinking orange (tricolor LED). The panel remains operational.
- If the voltage drops and reachs : the light goes on with fixed orange and in order to avoid random operations, the panel

Version	24V	48V	110/127V
Voltage	13,5V	37,5V	85V

is blocked. In the 80-265V version, the control is done on the output voltage of the internal switching power supply and is similar to the 24V version.
The alarm detection on the supply voltage is memorized on the front . the power supply LED turns to blinking mode.
The synthesis relays and the sound alarm are triggered. It is necessary to cancel the sound alarm. After acknowledgement, the LED will turn fixed light (ON). As soon as the fault disappears and after cancellation, the power supply LED and the synthesis relay return to normal.
By turning in «anti-clockwise» (view from the rear), the detection range increases. (green zone authorized).
By turning in «clockwise» (view from the rear), the detection range decreases. (green zone authorized).
The tolerance zone around the supply voltage reduces in a «clockwise» (view from the rear). One turn corresponds to an increase or a decrease the adjustment range of about 5.5V (for the model with 110/125V power supply, this variation is +/-10%).

PRODUCING LABELS :

4 text lines possible
Icons can be added
2 different languages possible

Labels are ordinary paper sheets that can be slid into a transparent pocket included in the thickness of the front. A blank label is supplied with each unit.
Labels can be handmade, or produced on a colour printer (laser or ink-jet).
The PC software allows to create labels including images, allows to save and duplicate the achievements.
This PC software is FREE. It is possible to load it on our website :
www.ami-control.com
For high humidity countries, the printing on plastic sheets is recommended.
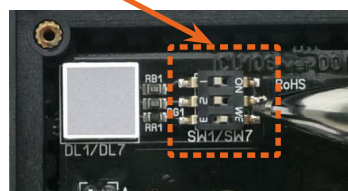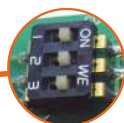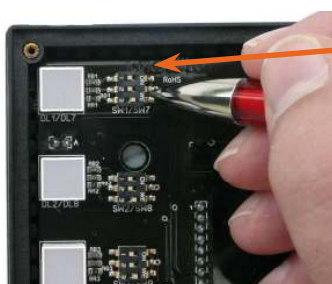
CHANGING LEDS COLOUR :

Version J3105 : 7 possible display colors per channel, selectable from the front panel by switches.
Depending on the setting, the choice of colors is :
Red, Green, Yellow, Blue, White, Cyan, Magenta.
The change of the LED is no longer necessary.
Consumption by LEDS : 10mA maximum

CONNECTIONS :

Application example :
- The Panel «1» can be connected with 11 contacts in NO mode and one in NC mode (connected on input 12 with selection S4 active).
- The Panel «2» can be connected with 9 contacts in NO mode (connected on inputs 1 to 9) and three in NC mode (connected on inputs 10 to 12 with selection S3/S4 active).
- The Panel «3» can be connected with 5 contacts in NO mode (connected on inputs 1 to 5) and seven in NC mode (connected on inputs 6 to 12 with selection S2/S3/S4 active).
  But other configurations are possible.
- The «Test», «AR KL», «AR CL» and «EFF/Reset» are centralized for the three panels.
- Contacts «Synthesis» of each panel are connected in series to send remote information. Synthesis relays are parameterized in positive safety (relays normally activated).

- Sound alarm relays are selected in positive safety(S15 = 1). Contacts are connected in parallel to an external general sound alarm.
- The blinking of the LEDs of this three panels is synchronized by the connection of the terminal 34B. (S14s on panels «1» and «2» is active and panels are used as receiver, S14 on panel «3» is inactive, the panel «3» is used as transmitter).
- Panels «1» and «2» are grouped to obtain the 1st fault among 24 inputs.
- The panel «3» uses its outputs directly to activate relays or external lamps.(terminals 21B and 32B).
  A diode or resistor has been fitted as protection.
  The maximum voltage on outputs is 48Vdc only.

The Alarm Reminder function (reactivation) is used (resistor connected between the «+» and terminal 14A.

Connection diagram for 24Vdc / 48Vdc / 110-127Vdc models
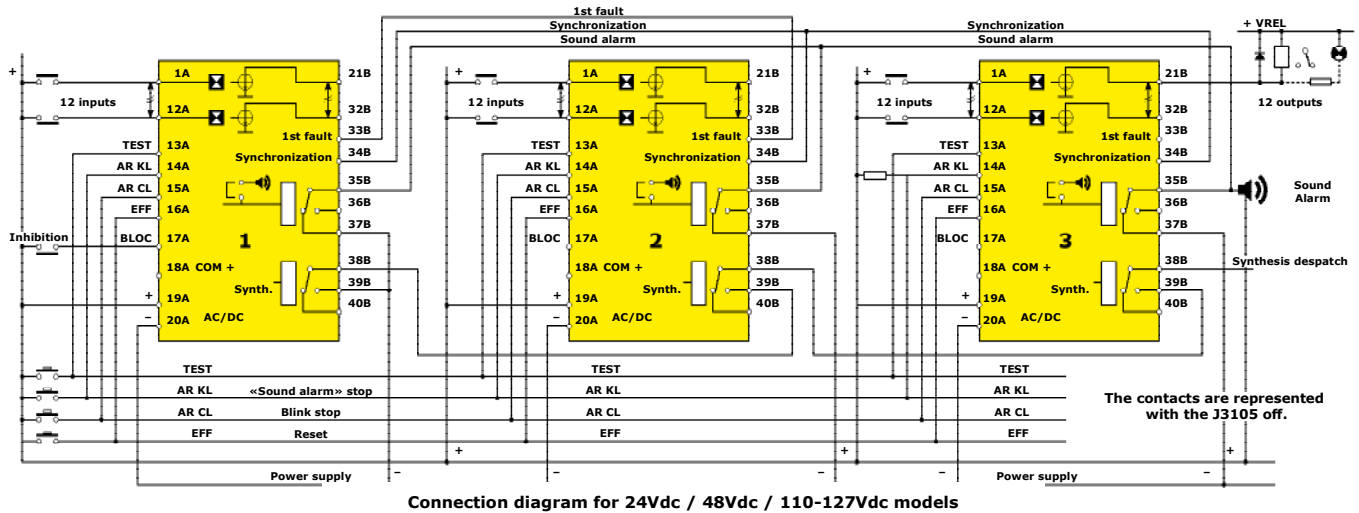
The «+COM» is to be used to power the input contacts.
The inputs can be powered directly from the "+" of the J3105 supply voltage (Terminal 19A). **The use of «+Com» is mandatory for the 80-265Vac/dc version.**
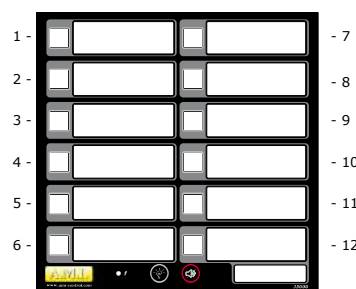
+VREL : supply voltage on the outputs. This external voltage (+48Vdc max.) is useful only for particular connection. it is much safer to use the AMI relay cards. (Our relay cards are supplied directly by the panel with 24Vdc).
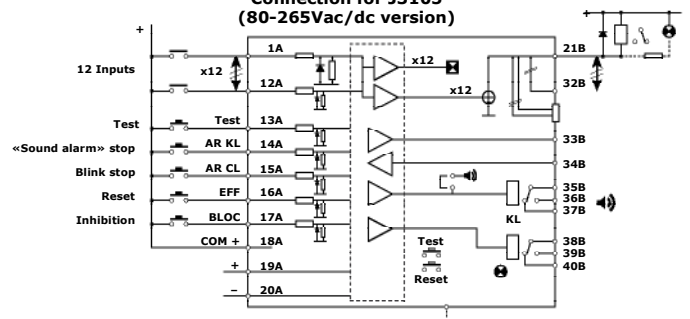
Connection for J3105 (80-265Vac/dc version)

CUT-OUT :

DIN 144x144 format
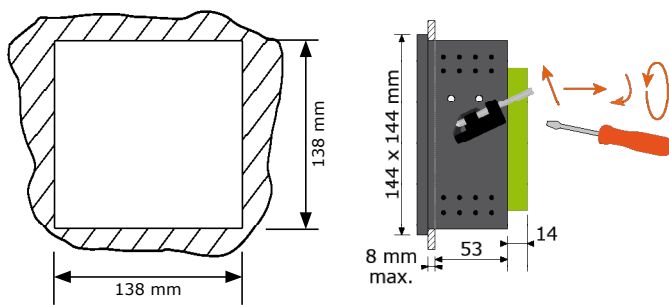
Numbering system

J3105

Rear view :

The contacts are represented with the J3105 off.
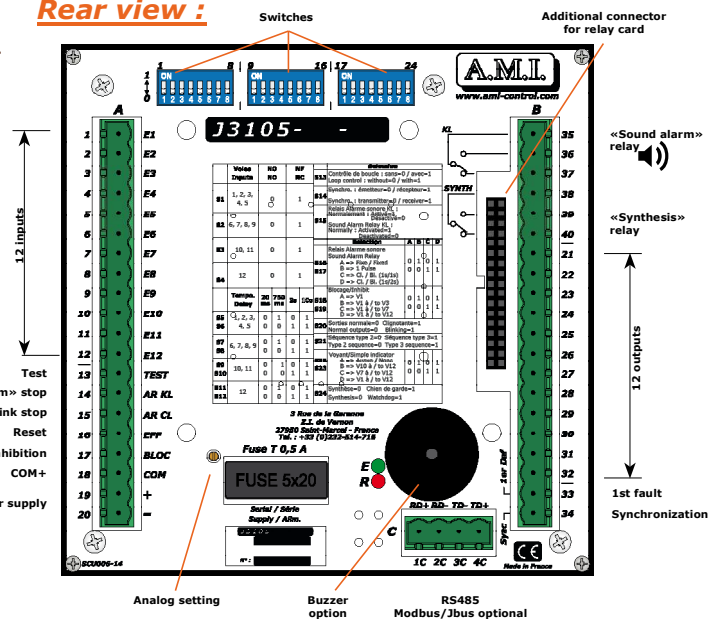
SPECIFICATIONS :

Possible voltages	24Vdc, 48Vdc or 110/127Vdc 80-265Vac/dc		Time delay accuracy	+/- 20%
Voltage supply tolerance	at 24V : -40% to +30% 48Vdc, 110Vdc : +/- 30% 80-265Vac/dc		Discrimination between 1st and 2nd fault	10ms
			Temperature (at nominal voltage)	-10°C / +60°C
Minimum consumption	100mA/24V		Voltage on outputs	24Vdc on all models (see output interface)
Maximum consumption	395mA (300mA for 110Vdc)			
Input current (input supplied by +COM)	2.4mA		Current by output	150mA max.
Permitted line resistance on contact input	2 kOhms		Protection	Front IP52 / Rear IP22
			With A.M.I. relay card	
Maximum voltage on contact input	24Vdc, 48Vdc : 70V 110/127Vdc : 127V 80-265Vac/dc: 24V supplied by the +Com terminal		Minimum voltage supply (when using relay cards)	17Vdc
			Consumption by ouput	9mA per relay
			Relay contact	1RT 6A/12Vdc - 0.15A/240Vac

ORDER REFERENCES :

J3105-0x-x XX

24Vdc : **02**
48Vdc : **03**
110/127Vdc : **04**
80-265Vac/dc : **05**

Standard : **1**
negatives inputs : **2**

0 Standard
2 Buzzer as option
3
4 Bus RS485 as option
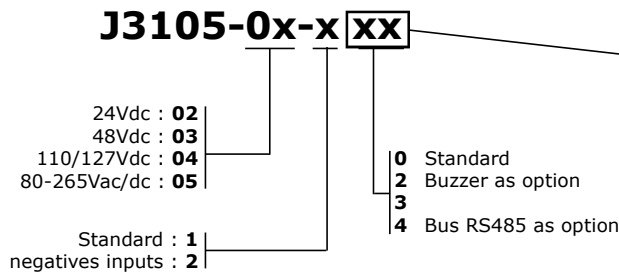
The possible options are :

J3105-0X-10	J3105-0X-20
J3105-0X-12	J3105-0X-22
J3105-0X-14	J3105-0X-24
J3105-0X-124	J3105-0X-224

ADDITIONAL PRODUCTS :

*M0800
M0815*

M0800 Front plate 19-inch, brushed aluminium Ht : 4U
Front for bay 3 pre-drilled holes 138x138mm.

M0815 Closing cover 144x144
Closing cover for mounting on M0800 front plate.

EXTENSION RELAY CARDS WITH GALVANIC ISOLATION :

Equipped with relays these cards deliver a dry changeover contact (without voltage) with galvanic isolation for each output. These cards allow secure use of «open collector» outputs with maximum safety. The relays are powered directly through the panel.
Characteristic of contacts : 1RT 6A/24Vdc - 0.15A/240Vac.
- A LED on each relay displays its status.
- 3 removable terminal blocks are available (one for contacts «O», one for contacts «F», the last for common).

Two possible presentations :
- Pluggable to the rear panel.
- On DIN rail bracket at the bottom of cabinet. With quick connection to the panel by ribbon cable. They avoid too many wires on the cabinet door.

These cards are available in versions :
- Complete (there are as many relays as there are outputs)
- 2 relays 1RT type with selectors, it allows you to sort the outputs in two directions: electrician / mechanic or Alarm high risk / Alarm ordinary.
M0900-02-01 Card 12 relays to plug at J3105 rear.
M0901-02-01 Card 12 relays to fit to DIN rail.

M0900-02-20 Card 2-synthesis-relays to plug at J3000 rear.
M0901-02-20 Card 2-synthesis-relays to fit to DIN rail.
Panel supply minimum voltage : 17Vdc.

Don't forget the cable connection :
M0901-02-50 Ribbon cable L=1.5m fitted for one relay card.
M0901-02-51 Ribbon cable L=1.75m fitted for two relay cards.
M0901-02-55 Additional length L=0,5m.

KJ3000-1 Demonstration kit, please refer to «Accessories» chapter.
Only for J3105-02, 24Vdc version.

M0720

M0720, IP54 sealed front
«Quarter-turn» closing button
DIN format 144x144.
IP54 sealed front that is fitted directly to product front. An O-ring provides sealing between steel cabinet and panel. The front is a transparent openning door.

M0730 Adapter to mount on DIN Rail profil TS35. 144x144 format
This kit allows to mount panels with 144x144 format on a DIN rail TS35 retaining the display towards the operator.

DIN relay card

DIN relay card with flat ribbon

Demonstration kit

Plug-in relay card

Please refer to ACCESSORIES chapter from our catalogue.

THE "HISTORICAL" MEMORY :

The J3105 can be equipped with the Bus RS422 / RS485 option (2 wires or 4 wires),
it becomes possible with a PC or an automaton, to retrieve the «history» buffer, to print it or to archive it.
A free software is available on our website.

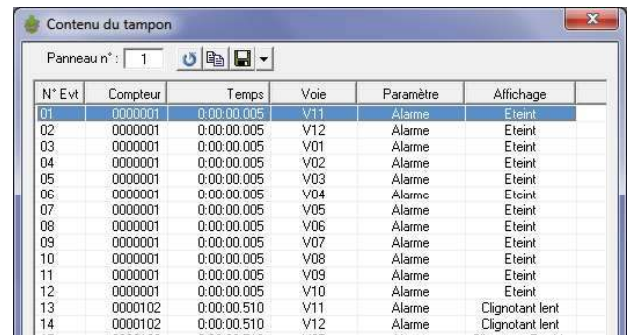**The «history» buffer :** A history buffer memorises the last 64 events occurring on the panel :
event appearance with the type of display of the front LED (fast or slow blinking, fixed, off), the operator acknowledgement,
and disappearance. The display types are :
- Fast blinking => arrival of a 1st fault.
- Slow blinking => arrival of next faults.
- Fixed light => arrival of simple signal (like states) or fixed light
after an acknowledgement.
- LED off => return to normal.
The buffer is of the «FIFO» type, not memorised.
(A power cut resets its buffer).
The stored information includes :
number of events stored, channel and panel number, type of
hardware installed, type of channel setting, type of front panel
display, J3105 internal counter value, allowing dating.

USE AS AN INTELLIGENT INTERFACE FOR CENTRALIZATION ON A SUPERVISOR :

BUS option : product reference : J3105-xx-x4
RS485 / MODBUS / JBUS protocol

*For more information on frames, please request the
transmission protocol documentation*

**With the internal functions of the J3105 and using a PC
or automaton, it becomes very easy to create your own
centralization.
Just write a simple program using the language you
know**

The J3105 panel is a technical alarm controller which can be
equipped with an RS485 type bus (2 or 4 wires).
It is a smart multitasking device. It works in degraded mode.
In the event of a bus failure or when the supervisor shuts
down, the panels will continue monitoring and display alarms
locally.
It is possible to use 64 panels on the same bus. The bus is
bi-directional :
- The supervisor can retrieve local process information stored
in the panel (States, alarms, history).
- The supervisor can also send visual and sound information
to a remote operator by activating the channels of a J3105
or J3500 panel through the bus. This information can come
from the supervisor (from his internal management system)
but it can also come from another panel and be sent to a
"receiver" panel.

The PANEL'PC is an alarm centralizer on a RS485 Bus.
It can manage 64 panels with 12 alarms each.
Its touch screen allows to perform all necessary operations
without additional keyboard (RESET, operator assistance
display, historics, archiving).
It may refer alarms and remote information to other
sub-stations.
It can be used either in a sub-station or control room :
- In local sub-station front cabinet, for monitoring alarms and
local states, with historic for traceability.
- In control room with clustering by bus of local alarms panels.
- Possible transfer to other sub-stations.

**It is very easy to realize
a technical alarm management unit by BUS :**
Possibility of using modules equally :
- J3500/J3105 technical alarm automatic panel.
- J2x05RS indicator display receiver panel with 12 or 24
LEDs.
- PANEL'PC.

PANEL'PC :

RS485 Bus / 1 km / fitted with 64 modules as a maximum

The PANEL'PC integrates :
- Alarm display with «RESET» directly on the screen.
- Operator assistance or instructions for each inputs
indicating to operator how to proceed depending on the
alarm present.
- Display of historic periods.
- Re-display of the historic of a recorded period (10,000
pages possible).
- Printing in continuous with time stamping.
- Remote alarm reporting to one or several indicators display
by BUS
(for example, guard posts, technical service, control room).
- Remote outputs possible.
- Archiving on USB key
- Login with several safety levels

A.M.I.

A.M.I.

www.ami-control.com

Multicolored LEDs

warranty 2 years warranty

MADE IN **FRANCE**

- «LEDs test» button
- «Reset» button
- Text screen
- Setup

J3500, J3500RS
VERSION PROM V1.03H & V1.05I

PLC CENTRALIZATION
TECHNICAL ALARMS
with text display

DIN 144 x 144 format

The J3500 is a PLC of technical alarms treatment, integrating all the functions required for local or deported signaling. It has been designed for easy adaptation to all possible figure configurations likely to be encountered.

Numerous complementary functions have been added to those already present on the J3000/J3105. The multilingual text screen (3 languages) allows easy the setting of each channel and can displaying the historic of alarms. A luminosity adjustment system is available.
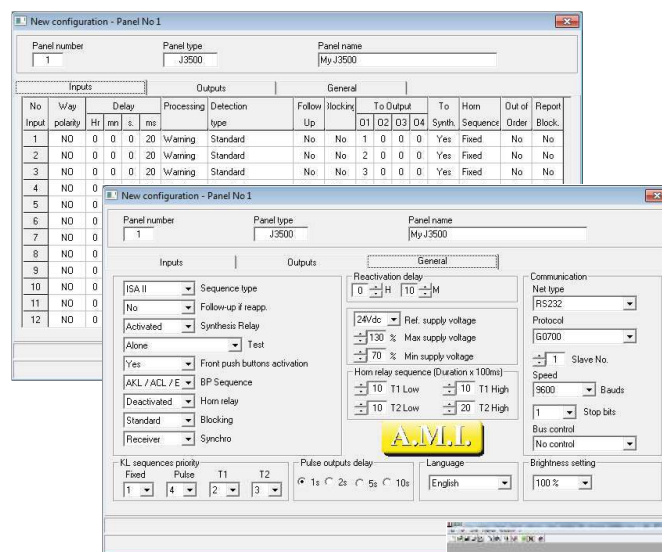
Free PC parametering software with recovery of the last 64 events

FUNCTION :

The setting can be done from the front with the text screen, or by PC with free software in several languages. Parameters are storable on hard drive, printable and duplicable.

The RESET is possible «channel by channel» with an external push button on each input (see manual start-up).

- Indicator (simple light) or Alarm treatment.
- Multiple types of sequences.
- Relaunch Alarm.
- Reactivation depending on input state.
- Global cancellation or per channel .
- Multiple types of sequences on RESET buttons and terminals.

12 «open collector» outputs
- «Contact outputs» possible.
- Association of 4 outputs possible on each input.
- Output synthesis selectable channel by channel.

12 «contact» inputs
- NO/NC contact input.
- Input time delay.
- Channel inhibit.
- Continuity monitoring.

AC/DC

Modbus/Jbus RS485 Bus

Power supply
- Direct or alternating voltage.
- Continuous monitoring on power supply (max/min thresholds).

Texte screen
- setting on front face.
- Alarm history display.
- Particular alarm display.
- 3 languages possible.
- Battery back-up.

It includes the management of memorizations, blinkings and acknowledgement systems.
- Modular, installation can be extended to an infinite number of inputs.
- Flush mounting, it can be immediately integrate on the front of bay, on console or cabinet.

Its climate ambience tolerances (-10°C/+50°C) and its extended power supply range (direct and alternating current supply) makes it an essential component for any high-risk installation.

*Technical Alarm*

FRONT VIEW :

1. 12 unpluggable LEDs 10x10mm , high-luminosity . It's possible to change colours (red as standard, yellow, green, blue).
2. Large label with 4 lines of text possible.
3. LED indicator of «Power supply presence».
4. LED «Alarm» indicator: BUS alarm / alarm of power supply level.
5. «LEDs Test»/«Next» pushbutton.
6. «Reset»/«Previous» pushbutton.
7. Screen of 2 lines of 16 characters to show: History Alarms/Program. It allows to easily perform the settings with the front panel keys.
8. Program/History pushbutton.
9/10. LED indicator Transmission / Reception Bus.
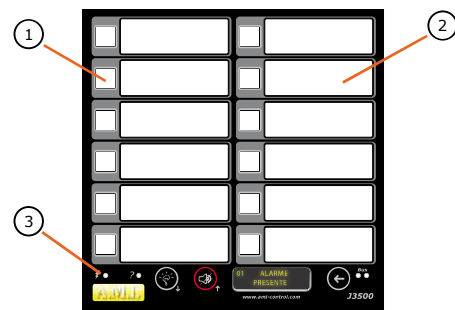
Language : The language used for menu texts can be selected in English, French or Spanish.

History : In normal mode the display panel can recall the previous 64 events. It shows the channel number and the type of event. This information are numbered and classified in arrival order. It is possible to delete the historic.

Brightness adjustment : For some special cases, it is possible to adjust the brightness of the LEDS and of the screen. This adjustment can be done from the front panel or by bus in program mode. (Example: navy applications).
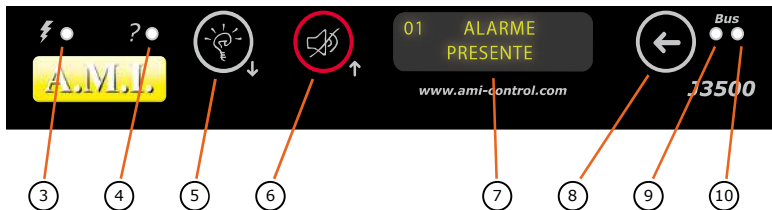
The J3500 is an alarm processing controller with 12 inputs, 12 LEDs and 12 outputs and an optional RS485 Bus.
It is modular, this allows :
- Just use the desired number of identical panels for performing an installation. Whatever of the number of entries or configuration, each local sub stations will be equipped with the same model of product. (Decrease in inventory, easier maintenance).
- Reduce the overall processing time (each panel manages its own inputs)
- Ability of create families of panels to obtain the first alarm on a subset.
- Security: in case of failure of one of them, the other panels will continue their control.

PARAMETERING :

The different settings can be made :
- Directly from the front of the J3500 through a luminous display and user friendly menus..
  Changes are made using the three buttons present. An access code is provided.
- On the screen of the PC, with free software. It allows you to prepare settings, and then load them into the J3500.

Configuration from the front :
Since the front of the J3500, it is possible to set the entire J3500. A drop down menu appears on the text display for changing all parameters. Access to programming menu is protected by a changeable password.
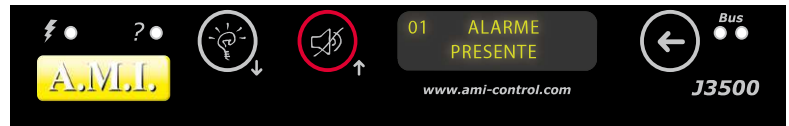
3 buttons on front panel allows moving the dropdown menu, displaying options and validating the choice.

Language: You can select the language on the text display: French, English, and Spanish.

Although simple to use, this setting is used for changes in local mode. The setting by PC offering many others advantages.

Configuration from the software :
The software is free and available on our website.
It allows quick setup by selecting values on the screen.
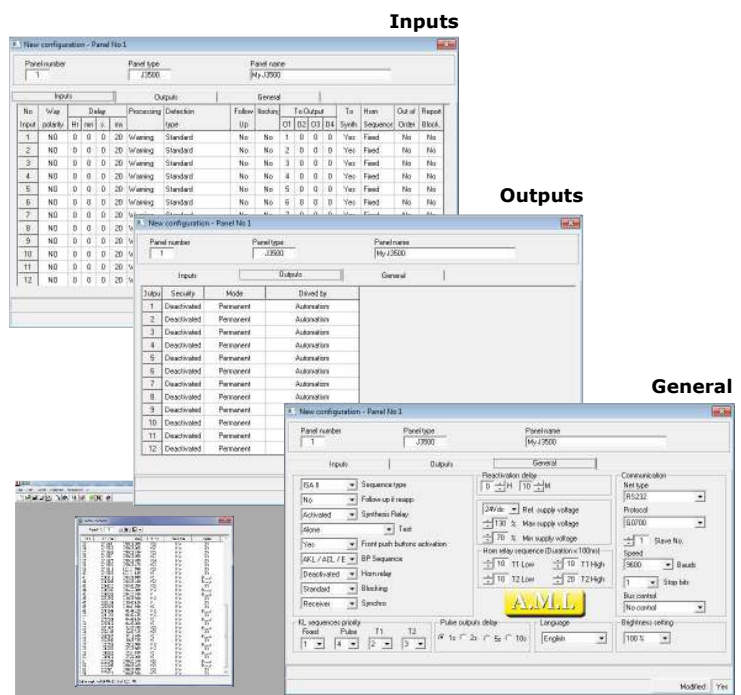The program consists of 3 different menus tabular form :
- The Inputs.
- The Outputs.
- The General parameters of the J3500.

This software allows you to create settings, store them on hard disk and print them. It also allows you to copy the settings present in an existing panel to modify and then reconfigure another panel.

Inputs

Outputs

General

For details of operation,
thank you to refer to the Getting started manual

A History function has been added. This configuration software also can recover the «Buffer events» in a J3500, sort events recovered, see recurrences, safeguard PC, print them.

```
Panel n° : 1
Buffer captured on 05/07/2016 at 11:37:21
Evt N°      Counter      Time         Channel   Parameter   Display
01          0000102      0:00:00.510  V03       Alarm       Blink Slow
02          0001543      0:00:07.715  ACK       Info        CL Acknoledge
03          0001543      0:00:07.715  V02       Alarm       Steady
04          0001544      0:00:07.720  V03       Alarm       Steady
05          0001545      0:00:07.725  ACK       Info        Clear
06          0001646      0:00:08.230  V02       Alarm       Off
```

PRODUCING LABELS :

Labels are ordinary paper sheets that can be slid into a transparent pocket included in the thickness of the front. A blank label is supplied with each unit.
Labels can be handmade, or produced on a color printer (Laser or ink-jet).
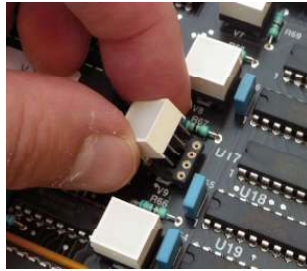The PC software allows to create labels including images, allows to save and duplicate the achievements.
This PC software is FREE. It is possible to load it on our website :

www.ami-control.com

For high humidity countries, the printing on plastic sheets is recommended.

4 text lines possible
Icons can be added
2 different languages possible
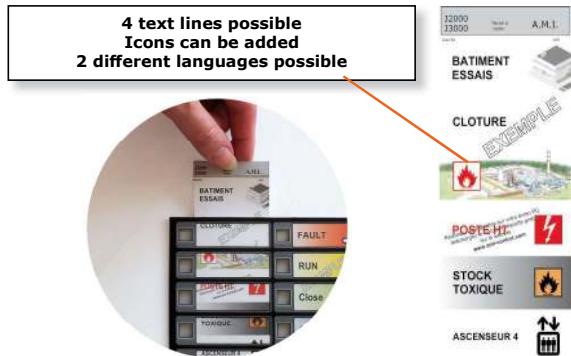
CHANGING LEDS COLOUR :

The LEDs are fitted on detachable sockets, enabling a change of colour. The colours available are the following ones :
Red, Green, Yellow, Blue, White.
The working lifetime of this component is practically unlimited. The low consumption (max 20mA per LED) and excellent luminosity contribute to the J3500 reliability.

OPERATING PRINCIPLE :

The J3500 allows optimized information management. Each input can be treated in simple visualization (ON/OFF) or with alarm treatment. Each input contact (also those with simple visualization) can be selected normally open or normally closed. A filter on input by temporization (delay time) is present.

Simple visualization or simple display (ON/OFF) :

Processing for stable information but minor as On, Off, level, temperature, ...
One input in «simple visualization» is displayed in fixe (ON) long as input remains present without audible alarm, without RESET.
This input can activate one or more outputs and relay «Synthesis».
The loop control on the continuity of the input and the filtering time are possible.

Alarm :

Processing for dangerous information with emergency.
Used in situation where it is necessary to call the operator (level and too high temperature, fire, trigger, ...).
The operator can be absent, information will be displayed blinking, memorized and the display will remain present until acknowledged by the operator.
This input can activate one or more outputs, relay «audible alarm» and «Synthesis» relay.
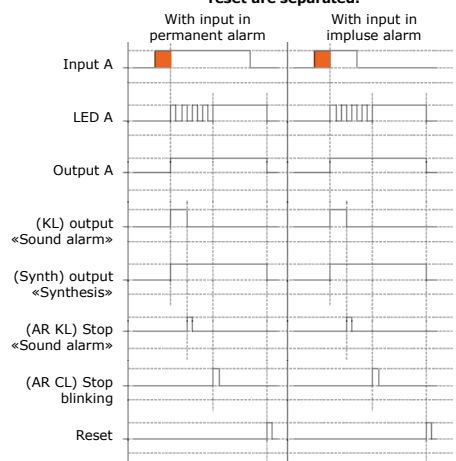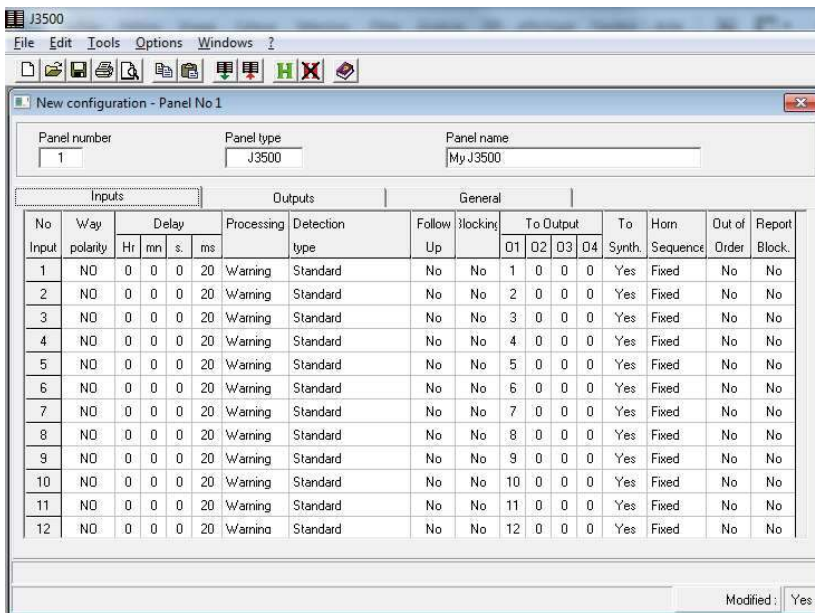The loop control on the continuity of the input is possible.
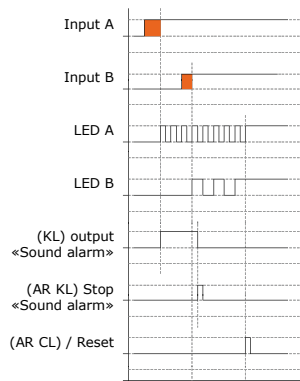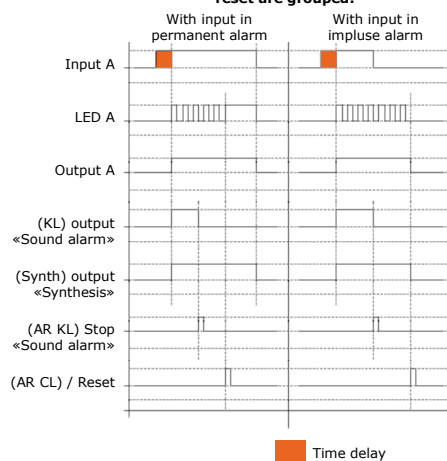
In diagram «Type 2 sequence» and «Type 3 sequence», the LEDs are represented in «fast blinking» mode.

The change of input state, after filtering time, causes LED blinking and the activation of sonorous output and synthesis output. This action will be stored even if the input disappears. The reset will be done step by step, after pressing the push buttons and depending of the sequence selected and the input position.

The first incoming alarm causes a display by a «rapid blink». The following lanes cause a «slow blink». This allows differentiating the first alarm among the followings. The cable defect will be displayed in «flash». The audible output is activated on each incoming alarm.

For details of operation,
thank you to refer to the Getting started manual

Temporization delay to filter this input: 20ms to 24h

Reactivation of alarm in case of operator's forgetfulness

Selecting input type (NO / NC)

Input processing :
- simple signaling or indicator
- alarm

Detection on input
- Loop control (connection cut or shorted)
- With RESET per channel

Setting each input separately :
- **Direction of inputs** (Normally Open or Normally Closed).

- **Filter Delay on input** from 100ms to 23h 59mn 59s 900ms with 100ms increments.

- **Input treatment type** : Alarm or signaling (indicator).
  - An input configured in alarm mode will be memorized, will activate the LED flashing, will activate the audible alarm and will wait for an RESET.
  - A signaling input (Indicator) is simply displayed (ON / OFF).
  The corresponding LED will be switched off with the disappearance of the input.

- **Input detection type** : Standard/Control loop.
  - «Standard» is the normal configuration.
  - «Loop control» Ensures effective control of the wire continuity on each input. Controls the short circuit or the cut of the cable between the J3500 and the contacts. Just put two resistors (one series and one in parallel) directly to the contact. This allows to continuously monitor the line current. A cable fault will be displayed blinking «flash» + audible alarm.
  Only the «Audible alarm» will be acknowledged.
  The output will not be activated.

	24V/48V
R1	8,2 kOhms
R2	43 kOhms
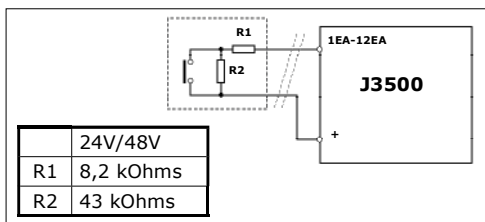
- **Reactivation of alarm** : Allows avoiding alarm information is forgotten by operator, allows the channel to be reactivated in alarm (audible and visual) after a certain time.

- **Blocking the channel (Inhibition)** : Inhibits temporarily the channel if the contact of inhibition input «Bloc» has been activated.

- **Outputs allocation** : Each input can activate up to 4 possible outputs that will be activated by the presence of this channel. Allows groups of specific inputs for sending remote syntheses. An input can control up to 4 outputs. This allows you to group remote information according to many levels. The output will remain activated as long as one of the causes having generated will remain present (the equivalent of an «OR»).
Example :
- The outputs «high risk».
- Alarms for the mechanic and alarms to the electrician.
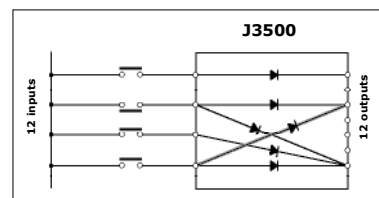
- **Enable to the synthesis relay :** The Way activate or not the synthesis relay.

- **Type audible sequence :** Selects 1 from 4 audible sequences which will be activated to the appearance of this channel. Allows better auditory discrimination according to the danger level of the incoming alarm.
  - «Without» : The audible alarm is disabled.
  - «Fixed» : The audio alarm is activated continuously until acknowledged.
  - «One pulse» : The audible alarm is activated for 1s only making unnecessary audible acknowledgement.
  - «T1/T2» : 2 types of sequences defined by the user.
Example : Indicator 1s / 1s and flashing 1s / 2s.
These two sequences require an audible acknowledgment.

- **Out of order :** Allows you to block (inhibit) a channel when the contact is incorrect operation.
It will always be displayed on the LED but not audio alarm.
When the contact will return to normal position, the LED will flash «Very Slow» to indicate this particular setting.

- **Blocking on out of order :** Allows to stop or not the activating of outputs when the channel is parametized on «out of order».

**For details of operation,
thank you to refer to the Getting started manual**
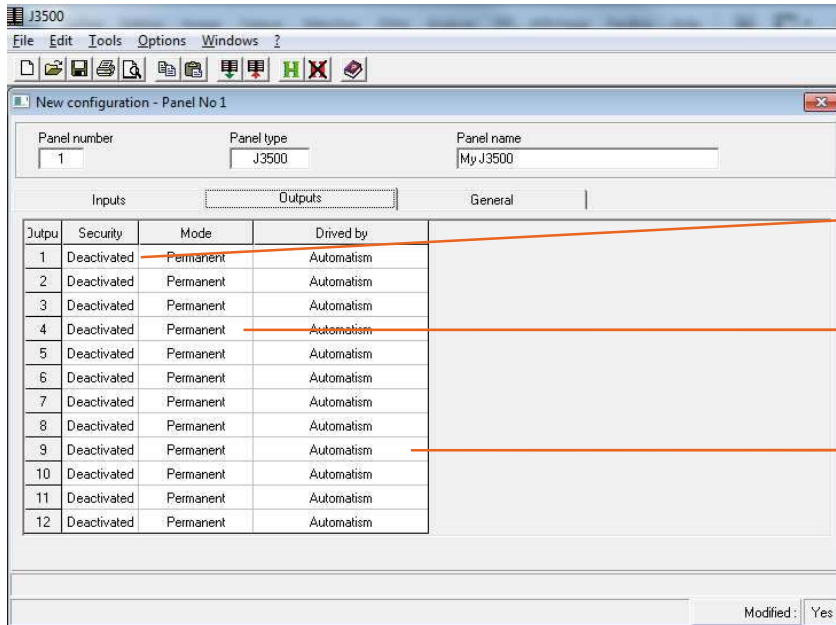
Setting each output separately :
- **Direction :** Outputs can be negative or positive safety.
- **Controlled by :** An output can be activated by :
  - The appearance of the input and follow the movements of this input.
  - The memorization of the input. (Up erasing the Led).
 - The Led state (and blink fast or slow like this one).

The outputs will become «blinking», i.e., with the same state as the Led on the front (flash, fast or slow flashing, OFF). Can be used to pilot an external mimic. The «Led Test» function can activate the outputs directly (as on front LEDs).
- If intput is a first fault.
- Special software for remote monitoring.

- **Software Version Prom V1.05I (on request):** This version adds the pulse output function. The output will issue a pulse to the appearance of the way. This function is used to inform remote the arrival of a new alarm or the presence of an ever existing alarm.

Technical Alarm

Output controlled by :
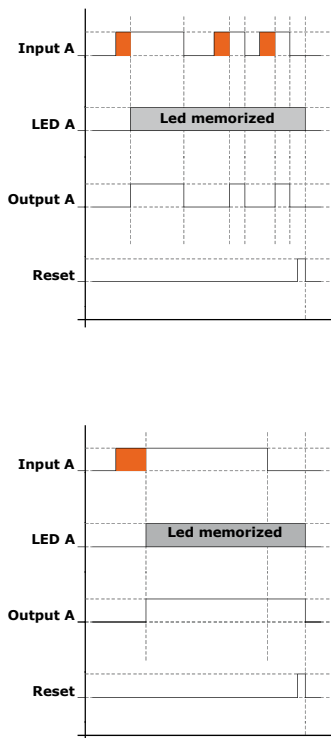
«Input» : This function is intended for remote maintenance. It allows a remote operator to know the return to normal and the arrival of a new alarm on an unacknowledged channel and to determine the level of intervention necessary.
If the input is still present after the time delay, the output will be activated.
If the input is impulsive and disappears, even if the channel is not acknowledged, the output will disappear. It will be reactivated if the input reappears (and after a timeout).

«Input with Revival» : An output can be activated by several inputs. This function allows reactivating the output to the appearance of a new input assigned to the same output. In this case, the output is switched off for 1s, and then reactivated.

«Input Memory» or «Automatism» : The output is activated after filter time delay (when the LED is displayed) and will remain activated so long as the LED will remain visible on the front (the output follows the input memory).
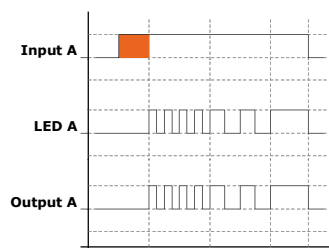
«Front panel LED» or «Blinking»: The output will be the exact image of LEDs of the facade with a rapid blinking, slow, fixed and OFF. This function is intended to control external lamps or external mimic (synoptic).

«1st fault» : The output will only be activated if the input channel is a first default.
Remote watching : function used in the case of remote monitoring station.
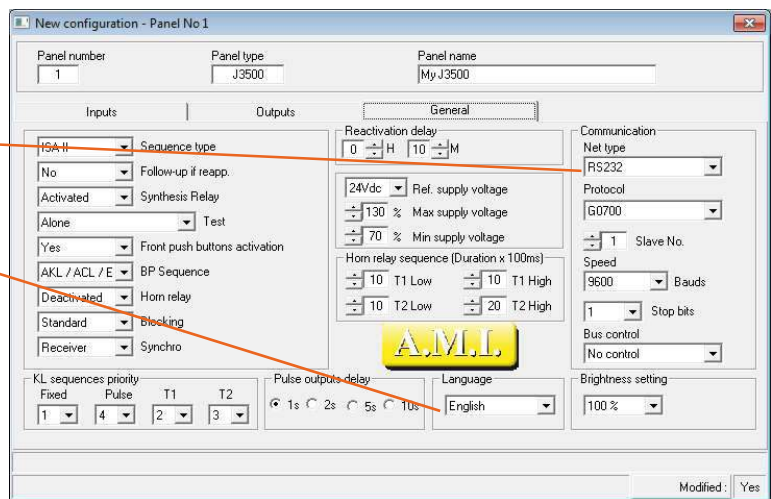
■ Time delay

For details of operation, thank you to refer to the Getting started manual

GENERAL SETTING :

These settings affect the entire panel :

Communication by BUS
RS485/RS232
ModBus / Jbus

Different
languages possible

- **Type sequence : ISA2 / ISA3 / Slow Blink**
  - «ISA2» : Standard sequence. It is necessary to stop the audible alarm first. The LED will always be in blinking. After acknowledgment, the LED will become fixed (ON). Then the LED will turn off automatically return to normal of the input.
  - «ISA3» : Similar with the precedent but after switching to LEDs fixed (ON), it will remain present after the return to normal of the input. Intentional RESET per operator will be needed to switch OFF the LED. (First possible defect, possible loop control).
  - «Slow Blink» : Sequence similar to ISA3. On arrival of the alarm, the display is done by flashing (fast or slow). After the stop «audible alarm», LED becomes fixed. When the input returns to the normal state, the LED will flash slowly indicating to the operator that it can erase. Displaying the «loop control» possible, impossible to display the «first fault».

- **Follow-up if reappearance** : A channel can be in alarm, displayed «acknowledged» or not and waiting to return to normal and waiting to operator «RESET». In the case of an alarm that would disappear and reappearing, the signaling and audible alarm will be reactivated.

- **Synthesis relay :** It can be activated normally (positive safety) or not.

- **«LED Test» Mode :** The «LEDs Test» button can have several actions :
  - «Alone» performs a «LED test» only on the front panel LEDs.
  - «LEDs With Output» tests the LEDs on front panel and outputs (used when the outputs animate a mimic in flashing mode).
  - «LEDs With KL» tests the LEDs on front panel and audible alarm.
  - «LEDs + Output + KL» : tests the LEDs on front panel, outputs and audible alarm.

- **Front push buttons :** (YES/NO). Allows the inhibition of the front push buttons when using external buttons connected on rear terminals.

- **BP sequence :** Regrouping functions «audible alarm OFF» and «blinking Off».
  - «AKL/ACL/EFF» : Separation of functions «Audible alarm», Acknowledgement (blinking off), Erase (reset).
    Front panel buttons : two successive presses in ISA2, 3 successive presses in ISA3.
    Buttons deported : 2 external buttons in ISA2, 3 external buttons in ISA3.
  - «AKL+ACL/EFF» : Regrouping functions «Audible alarm» and acknowledgment (blinking Off).
    Front panel buttons: 1 single press in ISA2, 2 successive presses in ISA3.
    Buttons deported : 1 single external button in ISA2, 2 external buttons ISA3.

- **Horn Relay :** Audible alarm relay can be activated normally (positive safety) or not.

- **Blocking :** Defines how the inhibition function will be realized when an alarm is present in display.

- **Synchro :** Allows you to set the panel in transmitter or receiver of sync tops. The synchronization of the blinks of LEDs of several J3500 facing an operator, increases visual comfort.

- **KL sequences priority :** Assign an order priority to the 4 types of sound alarms. This priority allows define what type of sound sequence will be executed first. If two alarms occur simultaneously, the audible output will be activated with the smallest priority level. This function allows you to manage the degree of urgency by a audible discrimination.

- **Reactivation delay :** 0 to 23h. Adjusts the time to reactivate the display if an acknowledged alarm is still present.

- **Supply voltage :** The panel is equipped with a voltage level control . Adjusts the under voltage and overvoltage threshold level in % of the specified voltage.
  Possible values: 24Vdc, 24Vac, 48Vdc.
  If the threshold is exceeded, an alarm will be displayed in the text screen and the red LED on the front (item 4 on the Front view).
  The J3500-04-xx version (80-260Vac /dc) is equipped with a stabilized switching power supply. The control is not possible for the values (110Vac, 125Vdc, 200VDC, 220Vac).

- **Horn relay sequence T1/T2 :** You can adjust the duration ON / OFF of flasher relay audible alarm. 2 possible flashing types (one fast and one slow).

- **Language :** Allows language selection on the J3500 screen.

- **Network Type :** Selects connection type on port «BUS»: RS232 / RS485 with 4 wires / RS485 with 2 wires.

- **Protocol** / number slave / Baud Rate / Stop bits.

- **BUS control :** Active and adjusts the temporization of presence control security on the bus.

- **Brightness :** Adjusts by program the LEDs brightness.

- **Prom V1.05I Version :** This version adds the following parameter :
- Adjusting the length of the pulses on the outputs.

LEDS FUNCTION :

«Pavers LEDs» type, they have very high contrast between «ON» and «OFF» position. Being unpluggable, it is possible to change the color.

Fault avalanche :
The differentiation between the 1st fault (first alarm) and the 2nd is done by flash and slow blink (1st fault is displayed in fast flashing mode; the following alarms are displayed in slow blink mode).
The avalanche is an arrival of several consecutive alarms.
It is very important to know the first alarm, as this enables rapid intervention in troubleshooting.
The avalanche begins with the arrival of the first alarm until operator cancellation. After cancellation by operator (all flashing LEDs are become fixed), a new alarm will be considered as a first fault.
Discrimination time: 10ms.

The various light states on the LEDs :
Fast blink = 1st alarm.
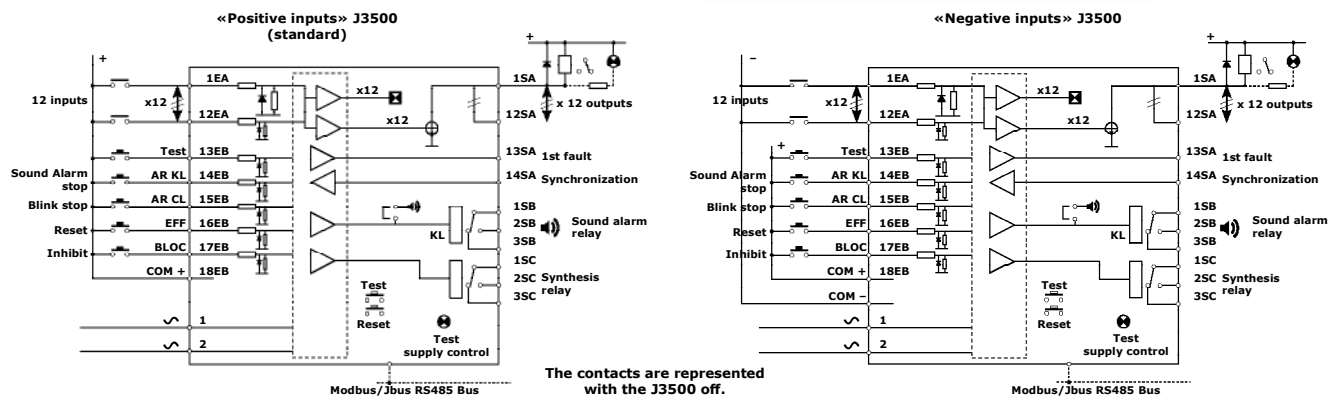**Slow blink** = following alarm in avalanche.
Very Slow blink = return to normal position of contact in «Out of order» mode.
Fixed light (ON) = alarm present, memorized after acknowledgement.
OFF = return to normal state
Very fast Flashing = cable fault (this luminous signal is not cancellable).

REPRESENTATIVE DIAGRAM :

«Positive inputs» J3500 (standard)

«Negative inputs» J3500

The contacts are represented with the J3500 off.

TEXT DISPLAY FUNCTION :

Display of 2 lines of 16 characters, it displays :
- The operating status of the panel and these alarms with No. of input and type alarm, supply voltage control alarms, continuity of control over inputs.
- The historical ranked in order of arrival of the 64 last states informations with number of the channel. It also allows erase the history buffer.
- The various configuration settings.
3 front panel buttons are used to select various functions and to access the setup menu via an access code.

FUNCTION OF FRONT FACE BUTTONS :

The front is equipped with three buttons : «Test leds», «RESET» et «Paramétrage».

RESET combines several functions :
1st press => Stop Horn / 2nd press => Flashing off / 3rd press => Erase
The flash off (switching to fixed lights) will be processed only if the alarm has been stopped.
The «program» button is used in combination with the «test» button or the «Reset» button only in the program mode.
      (See also the «*FUNCTION OF REAR TERMINALS* » and the start-up instructions of the J3500).

INPUT FUNCTION :

Terminals 1A / 12A : The 12 contact inputs can be «Positive common» or «Negative common».
A direction of operation (NO/NC) and a delaying time may be associated to each input.
Channel validation is effective only if the channel remains in alarm state for duration greater than the selected delaying time.

FUNCTION OF REAR TERMINALS AND FRONT FACE BUTTONS :

The terminals (TEST + KL + AR CL + RESET/EFF + BLOC) will always be connected to external contacts supplied with a positive polarity. (Preferably the «+Com» terminal).

TEST terminal 13EB : This is a «LEDs Test» program activated by the micro-controller.
Ability to perform the test to : LEDs, outputs / Relay «Audible alarm».
This terminal also can remotely set the luminosity.
This input (with terminal 15EB) also allows the activation of the self-test (see «special functions»).

The order of use of the 3 following terminals must be respected. The terminals AR CL and EFF are inactive if the audible alarm is present. In sequence type 3, the EFF terminal is inactive if a LED blinks (no RESET possible before stop blink).

AR KL terminal 14EB (Audible alarm stop) or button front face «RESET/Horn Stop » first impulse :
Standard function: An input activation on 14EB stops the audible alarm until the return to normal state of input.
By program, it is possible to group the terminal AR KL and AR CL, In this case, a single external button connected to terminal AR CL, will stop the audible alarm and stop the blinking on the LED.

AR CL terminal 15EB (blinking stop) or button front face «RESET/Horn Stop » second impulse : One activation changes the flashing mode to fixed mode (only after you have stopped the alarm sound).
Functioning type 2 sequence : When alarm will disappear, LEDs in fixed mode (ON) will switch OFF (After an activation on AR CL, if an input returns to normal, the blinking LED goes to fixed and quickly turns OFF.
Functioning type 3 sequence : With this sequence, activation on AR CL terminal also turns ON the LED (fixe). But when the alarm will disappear, it will be necessary to use the EFF terminal to cancel the fixed light (turn OFF).

Auto-test sequence: (TEST + AR CL terminals or the 2 front push buttons).
If an operator presses and maintains the 2 push buttons or if the 2 terminals are activated simultaneously, the internal test cycle starts (LEDs Test + 2s + horn relay test + 2s + synthesis relay test + activation of all outputs). This test is an «incremental» type which activates the each channel, each output, one after the other, and the selected outputs («Synthesis» relay, «Sound alarm» relay).
This is a chaser lights type. it activates the LEDs , one after the other, and selected outputs (outputs, relay «Synthesis», relay «audible alarm»).

RESET/EFF terminal 16EB (RESET) or button front face «RESET/Horn Stop » third impulse :
- Functioning type 2 sequence: RESET/EFF this terminal is not used.
- Functioning type 3 sequence: The LEDs will turn OFF only after switching to fixed mode and after the input will be returned to normal, when the RESET/EFF terminal (or after the third impulse on the RESET front button) will be activated.

Bloc or Inhibition terminal 17EB : The channel inhibition is activated by connecting a «+» on «Inhibition» input. The selected inputs in "Blocking" will no longer be recognized as long as the inhibition input is activated. One selected input is active only if the inhibit input is inactivated.
If a selected channel inhibited is already displayed before the activation of the terminal block (17EB), the display management will continue until its extinction (return to normal of the channel input).
For inhibition, the channel must be selected in parameters AND the terminal 17EB must be activated BEFORE the input change.
This function is an indefinite temporization equal to the duration of activation of the terminal 17EB.

«+COM» terminal 18EB : the «COM+» terminal allows supplying the input contacts with correct voltage and with internal protection. However, these inputs can be supplied with the «+» of the supply voltage only for J3500-02 -xx version.

OUTPUTS FUNCTION :

Terminal 1SA/12SA : 12 outputs
The panel has 12 electronic outputs 150mA. This output transmits a «0V» (collector open). The external receiver should be connected to «+» (maximum voltage: +48Vdc). In certain cases it needs to be protected against break surges and against cold start currents (bulb with filament) by the use of a serial low resistor. These outputs are enabled or disabled at the onset of input activation or the LED. This is depending on the setup.
There are different relay output interfaces with galvanic isolation (optional). They ensure optimum and fast operation without the risk of destruction. (Refer to chapter «Accessories»).
For all possible functions with outputs, refer to § output settings and start-up instructions).

1st fault terminal 13SA : (Terminal in Input/Output mode).
Used to group multiple panels to get the 1st fault sequence on all channels.
If a panel has a first alarm displayed, it changes the status of its terminal 13SA which will be received by the other connected panels.
When the other panels will receive an alarm, they will display in slow blinking mode.
The power supply of this terminal is specific to this panel (never connect other function than the «1st fault » terminal of another panel).

Synchro terminal 14SA : (Terminal in Input/Output mode).
It synchronizes the blinking between all panels connected.
If several flashing alarms are present on various panels, this can lead to visual fatigue for the operator.
All panels with flashing LEDs will be synchronized on the signal coming from this terminal.
- If synchronization is not selected on the panel (transmitter), it is master and transmits timing clock pulses to the other users (it synchronizes itself on its own pulses).
- If synchronization is selected on this panel (receiver), it receives pulses coming from outside and synchronizes on them. In the unlikely event of connection failure, the panel would resume it own synchronization.
The power supply of this terminal is specific to this panel (never connect other function than the «Synchro» terminal of another panel).

1SB/2SB/3SB terminals : Outputs inverter contacts of audible relay.

1SC/2SC/3SC terminals : Outputs inverter contacts of synthesis relay (general alarm relay).

CONNECTIONS :

Application example :
- Panels «1», «2», «3» are connected with contacts on their inputs which can be NO or NC selection.
- The «Test», «AR KL», «AR CL» and «EFF/Reset» are centralized for the three panels.
- Contacts «Synthesis» of each panel are connected in series to send remote information. Synthesis relays are parameterized in positive safety (relays normally activated).
- Audible alarm relays are selected in positive safety. Contacts are connected in parallel to an external general sound alarm).

- The blinking of the LEDs of this three panels is synchronized by the connection of the terminal 14SA. One of the panels has been set in «Transmitter», the others in «receiver» mode.
- Panels «1» and «2» are grouped to obtain the 1st fault among 24 inputs.
- The panel «3» uses its outputs directly to activate relays or external lamps. (Terminals 1SA and 12SA). A diode or resistor has been fitted as protection.
The maximum voltage on outputs is 48Vdc only.

But other configurations are possible.
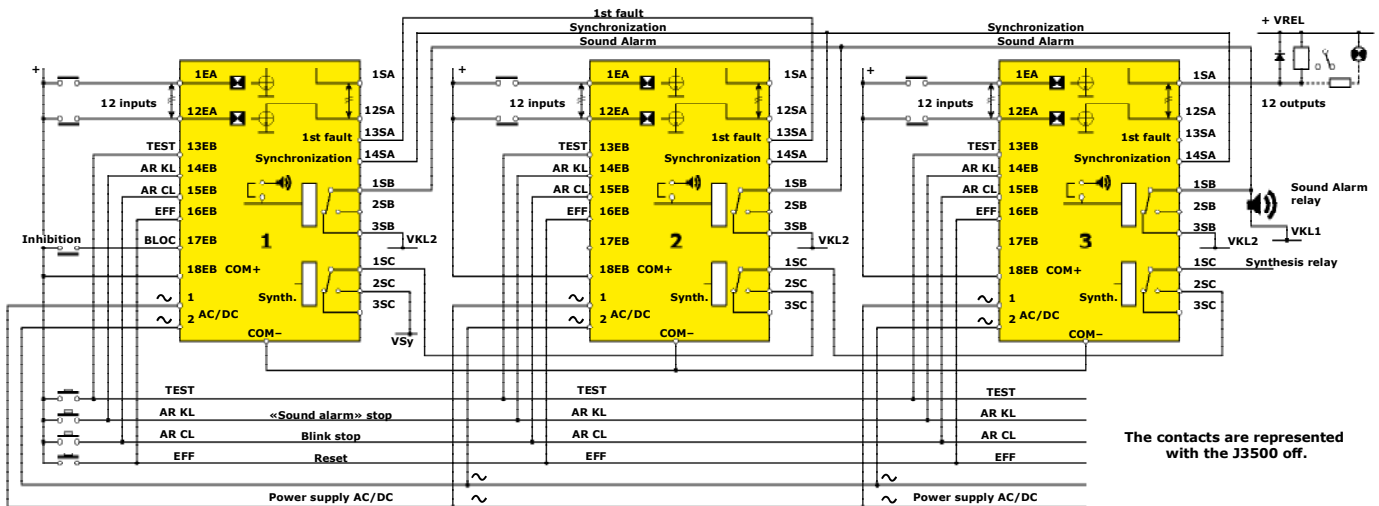
+VREL : supply voltage on the outputs. This external voltage (+48Vdc max.) is useful only for particular connection. (Our relay cards are supplied directly by the panel).

VKL : May be voltage independent of J3500 for supply the external «horn» with galvanic isolation. For example: 230Vac.

VSy : May be voltage independent of J3500 for supply the relay Synthesis contact with galvanic isolation. For example: 230Vac.
- «COM+» terminal (18EB) is used to supply the input contacts.
- With the 14-65Vac/dc, it is possible to use the use the polarity «+» of the J3500 power to supply all input contacts of several J3000.
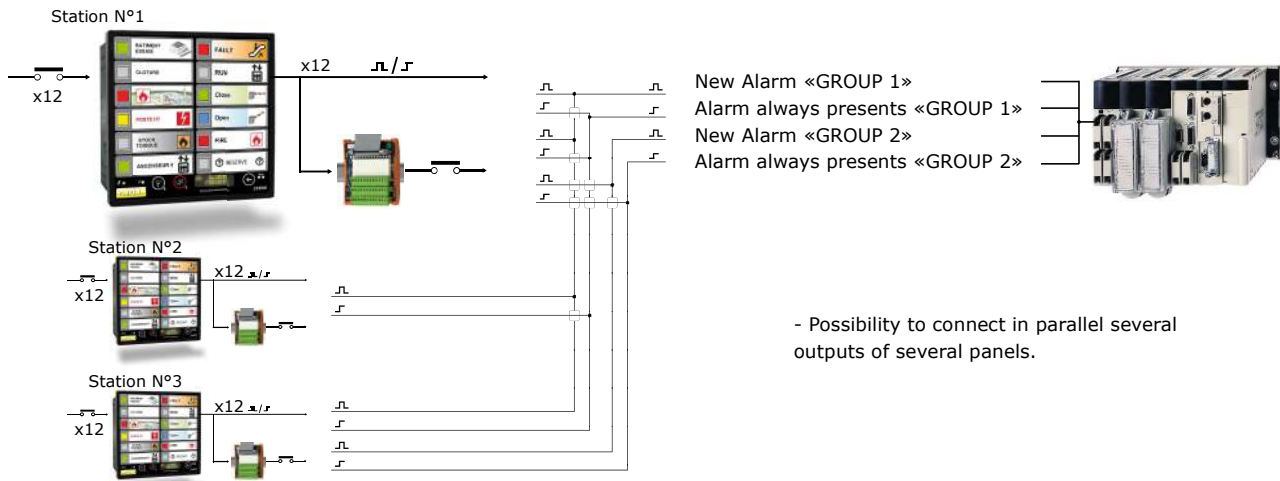**In this case, DO NOT CONNECT the «COM+»**

PROGRAM EXTENSION : VERSION 1.05I PROM (ON REQUEST)

New software can be added to J3500, allowing the setting in adjustable pulse on outputs.
This new function associated with the possibilities of the J3500 allows multiple possibilities.

To manage remote installations, it is often necessary to know :
- If an alarm is present,
- If a new alarm occurs,
- What is the danger level of the alarm present or incoming ?
But it is also necessary to limit the number of wired connections.

This function will help to decide whether an intervention is immediately necessary or whether it can be postponed.

Station N°1

x12

x12 ⊓/⌐

New Alarm «GROUP 1»
Alarm always presents «GROUP 1»
New Alarm «GROUP 2»
Alarm always presents «GROUP 2»

Station N°2
x12
x12

Station N°3
x12
x12

- Possibility to connect in parallel several outputs of several panels.

SEND ALARM INFORMATION TO PLC REMOTED :

- Several levels of alarms: the J3500 allows creating different levels of alarms and group outings per family depending on their level of alarm.
- «New alarm» output delivering a pulse each new arrival on a change in a family input.
- «Alarms always present» output delivering a permanent state as long as inputs related to the family are present.

Regrouping outputs from different inputs :
It is possible with the J3500 to sort and regroup each of alarms present on 4 different outputs among 12 as desired.
This allows categorize them by families and / or by danger level.
It becomes possible with an external PLC to know the arrival of a new alarm or family of alarms (output pulsed), whether an alarm or family of alarms is still present and with what level of alarm (permanent output).
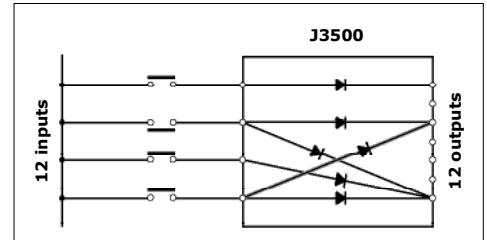
Example : To supervise : Electrical alarms, gas alarms and temperatures alarms.
Each with several degrees of emergencies.
Many other combinations are possible.

J3500

12 inputs

12 outputs

PERMANENT OUTPUT :

Automatism   Input

Input A
LED A
Audible alarm
Output
Output A
Reset
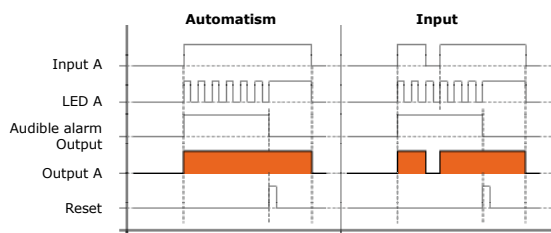
Allows to remote signaling the presence of an ever existing Alarm.
- Ability to set outputs «permanent» (alarm always present).
  They will issue a permanent state as long as one of the associated inputs is present.
  They issue a Permanent state as long as one of the associated entries is present.
- Ability to set the operation of the output:
  - «INPUT» mode (depending on the physical input). The output is activated if the input is present.
  - In «AUTOMATISM» mode (depending on the LED). The output is activated by the presence of the display of LED (input present or not).

ADJUSTABLE PULSE ON OUTPUT :

Automatism   Input

Input A
LED A
Audible alarm
Output
Output A
Reset
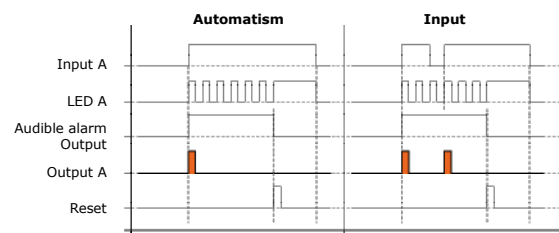
Allows to remote signaling the arrival of a new Alarm.
- Ability to define outputs «impulse» (new alarm) with adjustable pulse length.
  They will issue either one single pulse, or 1 pulse to each input arrival associated with this output.
- Ability to set the functioning output with «INPUT» mode (depending on the physical input) or «AUTOMATIC» mode (depending on the display present or not).
  This pulse can be generated by :
- The presence of the LED display (1 single pulse until the next RESET, even if the input disappears and then returns)
- The presence of the input (more pulses if the input disappears and returns).

**All these features make the J3500 a very powerful local alarm display**

SPECIFICATIONS :

Minimum voltage supply (when using relay cards)	17Vdc
Maximum consumption	500mA/24Vdc, 256mA/48Vdc 116mA/110Vdc, 130mA/230Vac
Minimum consumption	100mA/24V
Temperature (at nominal voltage)	-10°C / +50°C
Relay contact	1RT 6A/12Vdc - 0,15A/240Vac
weight	750g
Dimensions	144 x 144 x 65 mm
Without protection cover	IP52
With protection cover	IP54

Possible voltages	14Vdc-65Vdc, 14Vac-49Vac, 80Vac/dc-260Vac/dc
12 «open collector» outputs	according to supply voltage (see output interface)
Current by output	150mA
Input current	2,4mA
Permitted line resistance on input	2 kOhms
Time delay accuracy	+/- 20%
Discrimination between 1st and 2nd fault	10ms

CUT-OUT :

DIN 144x144 format

138 mm — 138 mm — 144 x 144 mm — 8 mm max. — 53 — 14
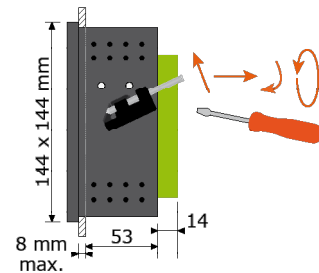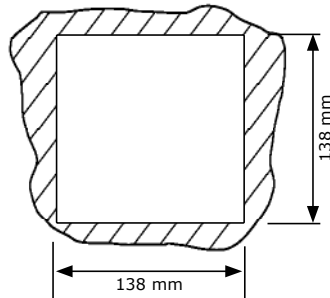
Numbering system
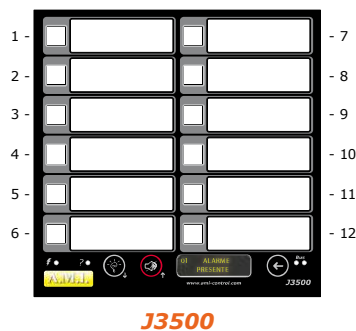
J3500

REAR VIEW :
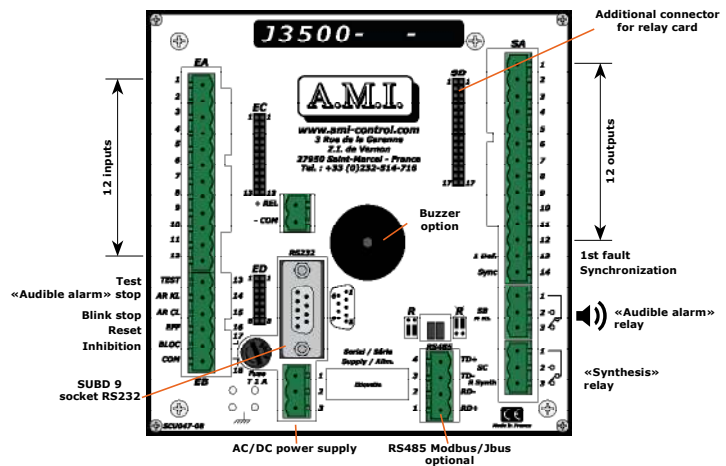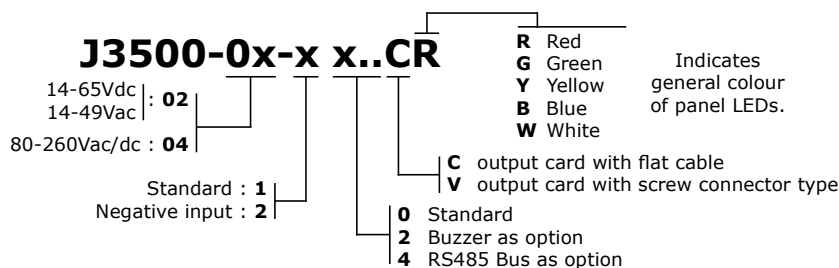
Output ports :
- The RS232 port subD / 9 pins type for setting with PC is present as standard.
Ask the RS232 / USB adapter.
- Option: Port RS485 / 422 Bus connection with MODBUS / JBUS .

ORDER REFERENCES :

J3500-0x-x x..CR

14-65Vdc / 14-49Vac : **02**
80-260Vac/dc : **04**

Standard : **1**
Negative input : **2**

R Red
G Green
Y Yellow
B Blue
W White

Indicates general colour of panel LEDs.

C output card with flat cable
V output card with screw connector type

0 Standard
2 Buzzer as option
4 RS485 Bus as option

If multiple options, indices are placed in ascending order.
Example :
J3500-02-124CR
J3500-04-10VR

Type «C» **Type «V»**

12 outputs
1st fault
Synchronization
SC Synthesis
SB KL
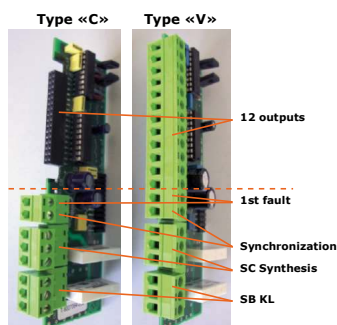
Output Card : 2 models :
- Type «C» : With ribbon SD connector to connect a DIN additional card.
- Type «V» : With screw connector on the 12 outputs.
All other connectors are «screw-pluggable»..

Delivered with red LEDs as standard
(Other models on request).

Possible complementary LEDs :
J2001-00-00   LED 10x10mm colour GREEN, code : 2855
J2001-00-10   LED 10x10mm colour YELLOW, code : 2755
J2001-00-20   LED 10x10mm colour RED, code : 2655
J2001-00-30   LED 10x10mm colour BLUE, code : 2655MBW
J2001-00-40   LED 10x10mm colour WHITE.

ADDITIONAL PRODUCTS :

M0800 Front plate 19-inch, brushed aluminium Ht : 4U
Front for bay 3 pre-drilled holes 138x138mm.

M0815 Closing cover
Closing cover for mounting on M0800 front plate.

M0800
M0815

M0720, IP54 sealed front
«Quarter-turn» closing button
DIN format 144x144.
IP54 sealed front that is fitted directly to product front.
An O-ring provides sealing between steel cabinet and panel.
The front is a transparent openning door..

M0720

EXTENSION RELAY CARDS WITH GALVANIC ISOLATION :

Equipped with relays these cards deliver a dry changeover contact (without voltage) with galvanic isolation for each output. These cards allow secure use of «open collector» outputs with maximum safety.
The relays are powered directly through the panel.

Contacts feature: 1RT 6A/24Vdc or 48Vdc - 0,15A/240Vac
- A LED on each relay displays its state.
- 3 removable terminal blocks are available (one for contacts «O», one for contacts «F», the last for common).
- DIN rail bracket at the bottom of cabinet. With quick connection to the panel by ribbon cable.
  They avoid too many wires on the cabinet door.
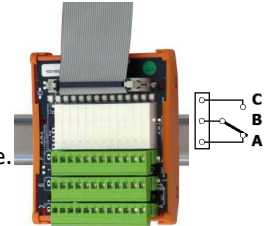
These cards are available in versions :
- 12 relays changeover contact each (there are as many relays as there are outputs).
  M0901-02-01 Card 12 relays 24Vdc to fit to DIN rail (For J3500 supplied with any voltage except 48Vac/dc).
  M0901-03-01 Card 12 relays 48Vdc to fit to DIN rail. (For J3500 supplied with 48Vac/dc).

- 2 relays 1RT type with selectors; it allows you to sort the outputs in two directions :
  Electrician / mechanic or Alarm high risk / Alarm ordinary.
  M0901-02-20 Card 2-synthesis-relays 24Vdc to fit to DIN rail.
  Panel supply minimum voltage: 17Vdc

Don't forget the cable connection :
M0901-02-50 Ribbon cable L=1.5m fitted for one relay card.
M0901-02-51 Ribbon cable L=1.75m fitted for two relay cards.
M0901-02-52 Ribbon cable L=2m fitted for three relay cards.
M0901-02-55 Additional length L=0,5m.
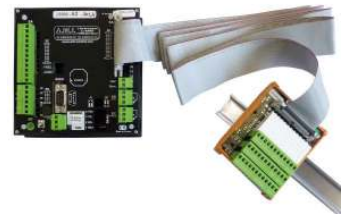
M0730 Adapter to mount on DIN Rail profil TS35.
144x144 format
This kit allows to mount panels with 144x144 format on a DIN rail TS35 retaining the display towards the operator.

G0100-05-30 RS232 / USB adapter for setting with PC
This adapter enables the connection between the J3500 and a PC equipped with a USB plug. it connects directly to the RS232 cable supplied with the J3500.

KJ3500-1 Demo Kit,
includes :
- 1 card equipped with 12 inputs contact by switches, 4 push buttons («Test LEDs», «stop horn», «Flashing Off / Reset», «Erase»), 1 switch «Blocking» 1 Jack diet.
- 2 cards Output (one with screw connector, the other with flat cable connector) equipped with 12 LEDs for outputs, 2 LEDs for output «Synchro» and «first Fault «, 2 LEDs for output contact «Synthesis», 2 LEDs the contact output «Audible alarm» 1 Buzzer.
- 1 adaptator supply 230Vac / 24Vdc power supply output jack.
- 1 operating manual connection and using.

The test kit do not understand the product itself
only J3500-02, version 24V.

Demonstration kit

Refer to chapter ACCESSORIES from our catalog

Technical
Alarm

THE "HISTORICAL" MEMORY :

By using the RS232 port or the RS422/485 port (if the option is present),
it is possible with a PC or an automaton, to recover the «history» buffer, to print it or to archive it.
Free software is available on our site.
The «history» buffer : A history buffer memorises the last 64 events occurring on the panel :
event appearance with the type of display of the front LED (fast or slow blinking, fixed, off), the operator acknowledgement,
and disappearance. The display types are :
- Fast blinking => arrival of a 1st fault.
- Slow blinking => arrival of next faults.
- Fixed light => arrival of simple signal (like states) or fixed light after an acknowledgement.
- LED off => return to normal.
The buffer is of the «FIFO» type, memorized by internal battery.
The stored information includes :
number of events stored, channel and panel number, type of hardware installed, type of channel setting, type of front panel display, J3105 internal counter value, allowing dating.
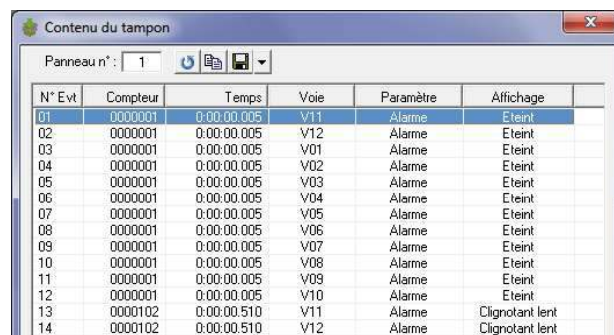
N° Evt	Compteur	Temps	Voie	Paramètre	Affichage
01	0000001	0:00:00.005	V11	Alarme	Eteint
02	0000001	0:00:00.005	V12	Alarme	Eteint
03	0000001	0:00:00.005	V01	Alarme	Eteint
04	0000001	0:00:00.005	V02	Alarme	Eteint
05	0000001	0:00:00.005	V03	Alarme	Eteint
06	0000001	0:00:00.005	V04	Alarme	Eteint
07	0000001	0:00:00.005	V05	Alarme	Eteint
08	0000001	0:00:00.005	V06	Alarme	Eteint
09	0000001	0:00:00.005	V07	Alarme	Eteint
10	0000001	0:00:00.005	V08	Alarme	Eteint
11	0000001	0:00:00.005	V09	Alarme	Eteint
12	0000001	0:00:00.005	V10	Alarme	Eteint
13	0000102	0:00:00.510	V11	Alarme	Clignotant lent
14	0000102	0:00:00.510	V12	Alarme	Clignotant lent

J3000 RS485 BUS VERSION, PROTOCOL MODBUS/JBUS :

BUS option: product reference: J3500-xx-x4

> **Please, ask us.**
> **the protocol transmission documentation**
> **for more information on signal frames.**

With the internal functions of the J3500 and by using a PC or a PLC, it becomes very easy to create your own centralization.
Just write a simple program using the language you know

The J3500 panel is a controller to technical alarm that can be fitted with an RS485 type BUS link (2 or 4 wires).

It is a multi-task intelligent peripheral. It is working in degraded mode. In case of bus failure or when stopping the supervisor, the panels will continue their control and will display alarms.
It is possible to connect 64 panels on the same Bus.
- The supervisor can recover the local process information stored in the panel (status, alarms, histories).
- The supervisor can also send an sound and visual information to a remote operator by activating a channel through the Bus on a J3000/J3105 or J3500 panel. This information can come from the supervisor (from its internal management system) but it can also come from another panel and be sent to a «receiver» panel.

COMPLETE TECHNICAL ALARM CENTRALISATION :

The PANEL'PC is an alarm centralizer on a RS485 Bus.
It can manage 64 panels with 12 alarms each.
Its touch screen allows to perform all necessary operations without additional keyboard (RESET, operator assistance display, historics, archiving).
It may refer alarms and remote information to other sub-stations.
It can be used either in a sub-station or control room :
- In local sub-station front cabinet, for monitoring alarms and local states, with historic for traceability.
- In control room with clustering by bus of local alarms panels.
- Possible transfer to other sub-stations.

> **It is possible to very simply constitute a bus assembly for the management of technical alarms.**
>
> - Possibility of using modules interchangeably:
> - J3500/J3000/J3105 Automated technical alarm panel.
> - J2x05RS signaling receiver panel with 12 or 24 LEDs.
> - PANEL'PC.

PANEL'PC :

RS485 Bus / 1 km / fitted with 64 modules as a maximum

The PANEL'PC integrates :
- Alarm display with «RESET» directly on the screen.
- Operator assistance or instructions for each inputs indicating to operator how to proceed depending on the alarm present.
- Display of historic periods.
- Re-display of the historic of a recorded period (10,000 pages possible).
- Printing in continuous with time stamping.
- Remote alarm reporting to one or several indicators display by BUS(for example, guard posts, technical service, control room).
- Remote outputs possible.
- Archiving on USB key.
- Login with several safety levels.

A.M.I.

ALARM'BOX

A.M.I.

www.ami-control.com

warranty **2** years warranty

Multicolored LEDs

MADE IN **FRANCE**

Indicator Display and Alarm Unit with Battery

The ALARM'BOX allows clustering in single point for effective protection and easy maintenance for industrial and administrative sites :
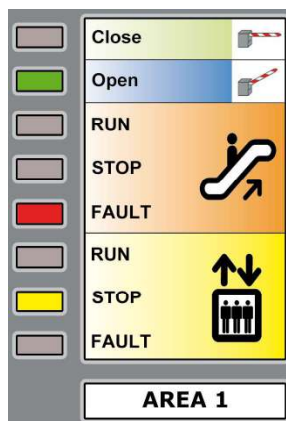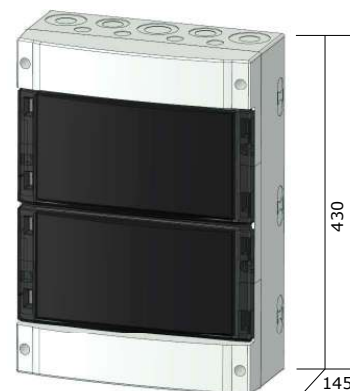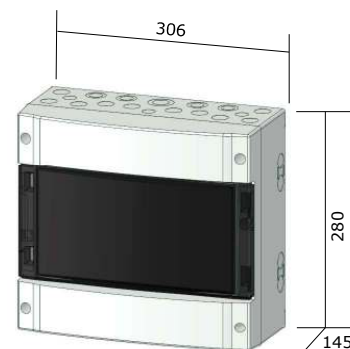- Important indicator displays : Including In service/Out of service, Run/Stop, and levels, ...
- Technical alarms : Including trip-outs, temperature alarms, levels, and overspeeds, ...

- Each way can be shown on simple indicator displays or in alarm mode.
- High luminosity, long life 5x10mm LED display.
- Choice of 7 colours by LEDs with settings by switch.
- LEDs can be clustered according to the monitoring elements.

example : 3 ways for Run/Stop/Fault.

The ALARM'BOX was developed according to the strictest industrial standards.

8 to 96 channels modulation (1 to 3 stages)

For each channel :
- Data storage, blinking, operator acknowledgement on selected «Alarm» ways.
- Fixed simple display on selected simple indicator display ways.
- Selection of 7 colors for each input by switch.
- NO/NC selection.
- 0-1min and 1-10min time delay (filtering input processing).
- Remote input inhibiting.
- Selection of ways to «synthesis» output (general alarm) for remote reporting.

One cabinet includes :
- 1 to 3 stages IP65 wall-fixed cabinet with double insulation.
- Front buttons for «Test» and «operator acknowledge».
- A certain number of 8 inputs cards.
- 1 internal buzzer and one output contact for external sound alarm.
- 1 «General alarm» output contact.
- 1 «power supply alarm» output contact.
- 1 x 230Vac power supply.
- Charged with battery for autonomous operation.

Wiring to be done :
It is fully pre-wired. You only need to connect up :
- Two leads for 230Vac power supply.
- Two leads per «contact» input.

Close
Open
RUN
STOP
FAULT
RUN
STOP
FAULT

AREA 1

MODELS :

Number of ways	Type	230Vac with battery	Autonomy standard *
8 inputs	1 stage	AJ1900-05-11BT	85 h
16 inputs		AJ1900-05-12BT	76 h
24 inputs		AJ1900-05-13BT	67 h
32 inputs		AJ1900-05-14BT	60 h
40 inputs	2 stages	AJ1900-05-21BT	45 h
48 inputs		AJ1900-05-22BT	42.5 h
56 inputs		AJ1900-05-23BT	40 h
64 inputs		AJ1900-05-24BT	37.5 h
72 inputs	3 stages	AJ1900-05-31BT	31 h
80 inputs		AJ1900-05-32BT	30 h
88 inputs		AJ1900-05-33BT	29 h
96 inputs		AJ1900-05-34BT	28 h
8 inputs	additionnal card	AJ1905-01-10C	

Additional 8 inputs card with connector for relay card : AJ1905-01-10CA
* standard autonomy : ALARM'BOX with batteries are delivered with a 12V/7Ah battery as standard.
The autonomous time is the one that allows the following test, after 24h battery charge (mains supply present) :
- Unit running on standby (no mains supply), with indicator displays or alarms.
- Detection and noting alarm for maximum 1 minute at the end of autonomous time.

Centralization

306
280
145

430
145

580
145

AlarmBox_EN007_25-01-2021

PRESENTATION :

Labels:
- LEDs
- Detachable front
- Label for font
- Hinged and padlockable transparent door
- «Reset» button
- Power supply LED
- «Alarm battery» LED
- «inhibition» LED
- «LEDs Test» button

Labels:
- Battery
- Unpluggable 8 inputs card
- Terminal board

Front cover is easily removable and includes :
- One «LED test», and a «Reset» or «Acknowlege» button.
- One «Mains presence» green light that changes to orange in the case of any activated track shut-down.
- One «Battery alarm» light that shows red in case of a too high battery discharge.
- An «inhibit» LED, normally off, which will light orange when inhibition input is activated.
- The «Contact» input terminal board is fitted with two terminals per way (4 terminal boards each with 2x8 terminals, corresponding to each the 4 input cards).
- One auxiliary terminal board with :
  - One input to connect an external contact to enable inhibiting certain ways (also called Day/Night). Possibility of inhibition ways per separate stage.
  - One inverter contact for external siren.
  - One inverter contact for general alarm (for sending out «alarm present» information to the outside).
  - one terminal board with a «Battery supply» alarm contact, as well as 230Vac general power supply.

All relays are set at positive security.

POSSIBLES SETTINGS :

Possible settings for each way :
- NO/NC contact input.
- 0-1min or 1-10min confirmation time delay.
- «Simple display» or «Alarm» type process selection.
- Selection to General Alarm relay or Not.
- Selection to inhibit ways.

General adjustments possible :
- To inhibit all ways.
- Delay of buzzer.

Detection :
- Mains power loss / low voltage battery.

Labels:
- Selection switch
- «Times delay» adjustement
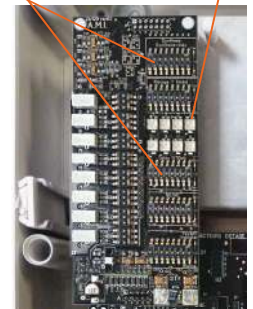
8 inputs card (4 possible cards per stage)

The delay of buzzer allows when an alarm appears, not to leave the buzzer ring out permanently.
When an alarm appears, the buzzer rings, if this one is not acknowledged, with the timer option on, the buzzer will switch off after the programmed delay.
It has to be noted that when a new alarm appears the buzzer will not ring.
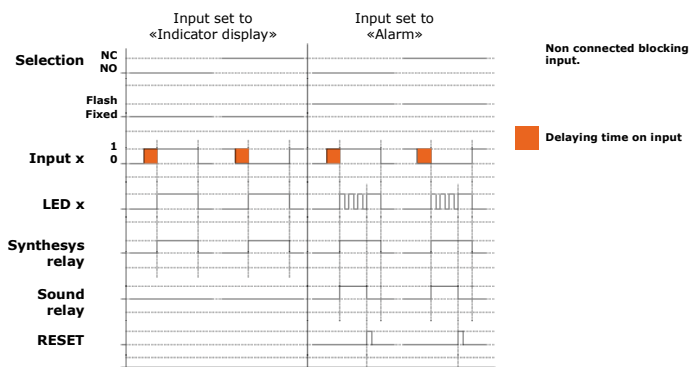
SPECIFICATIONS :

Possible voltages	230Vac
Supply tolerance	-30/+30%
Consumption : without path card through track card (standby) through track card (max.)	0.2A 9mA 230mA

Consumption per input	2.4mA
Permitted line resistance on contact	2kOhms
Time delay accuracy	+/- 20%
Protection with cover	IP65
Temperature (at nominal voltage)	-10°C / +50°C
Relay contact (positive security)	1RT 6A/12Vdc - 0.15A/240Vac
Weight (with battery)	1 stage : 7kg 2 stages : 8.5kg 3 stages : 10kg

PRODUCING LABELS :

Labels are ordinary paper sheets that can be slid into a transparent pocket included in the thickness of the front face. A blank label is supplied with each unit.
Labels can be handmade, or draw the screen of the PC and produced on a colour printer (laser or ink-jet).
The PC software allows to create labels including images, allows to save and duplicate the achievements.
This PC software is FREE. It is possible to load it on our website : **www.ami-control.com**
For high humidity countries, the printing on plastic sheets is recommended.

A.M.I.

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A.M.I.

PANEL'PC
BUS ALARM CENTRALIZATION

2 years warranty

Multicolored LEDs

MADE IN FRANCE
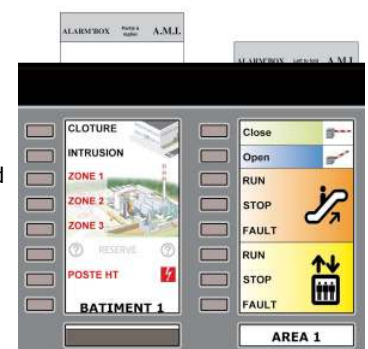
PANEL'PC is a TECHNICAL ALARM management system using a BUS that integrates operator-assisted capacities and history with file storage on a USB key.

PANEL'PC

The PANEL'PC is the logical evolution of an installation equipped of panels alarms of type J3000/J3105 or J3500 in local area. It allows centralization and management of remote alarms, using the J3000/J3105 and J3500 as intelligent interfaces.
Security : The PANEL'PC only repatriate alarm information present in the J3000/J3105/J3500 interfaces. In case of communication loss, the local panels will continue to perform their function and thus manage alarms locally.
Speed : The detections and alarm treatments are performed by each of the J3000/J3105/J3500 present on the BUS.
The PANEL'PC makes a statement cyclical of new states in each of them.
It is a multitasking system. This results in a minimum time of treatment.

COMPLETE CENTRALIZATION OF TECHNICAL FAULTS :

- PANEL'PC is an alarm centralizing system on a RS485 BUS. It can manage 64 12-alarm offset modules or input/output modules. Its touch screen facilitates the carrying out of all operations with an additional keyboard (operator assistance, history and filing). It sends despatches or transfers to other sub-stations). It can be used either in a sub-station or control room.
- In the front of a local cabinet for monitoring alarms and local conditions, with history for traceability.
- In a control room with clustering by offset local alarm bus from local alarm panels.
- Using the facility for transfer to other possible sub-stations.

64 possible modules

Centralization

SPECIFICATIONS :

PANEL'PC integrates:
- Alarm display with screen cancellation.
- Operator assistance or instructions for each track indicating to the operator the procedure to follow in relation to the present alarm.
- Display of history periods.
- Re-display of histories of a recorded period (possible 10 000 pages).
- Printing in continuous with time stamping.
- Remote alarm reporting to one or several subscribers by BUS (for example, guard post, technical service, control room).
- Possible remote control outputs.
- Archiving on USB key.
- Several security levels.

PANEL'PC_EN004_25-01-2021

OPERATORS MENUS :

PANEL'PC has a touch screen and thus does not need a keyboard.

Automatic display of alarm page. It is possible to display operator assistance that gives information on how to proceed according to displayed track.

Consultable history on PANEL'PC screen or at another station.

Hierarchical access code system to protect some functions.
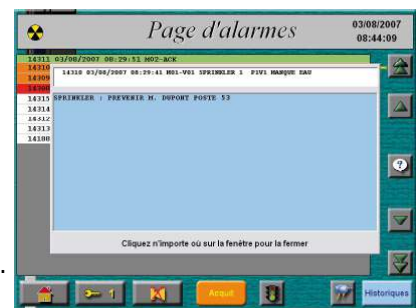
SETUP MENUS :

All menus are intuitive using easy-to-use touch screens. A «General Menu» page gives access to the other sub-menus.

«Access code» screen :
 Various hierarchical levels, with operator name and personal code.

Alarm screen :
 Each channel in input mode can be parameterized in multiple ways :
 - With screen appearance.
 - With cancellation.
 - By printing.
 - With history storage.
 It is possible to associate specific operator assistance or INSTRUCTIONS with each channel.

The «Mirror» function or report despatches alarms, including in synthesis mode, to post clusters (including guard posts, local technical services or technical surveillance and control rooms). Instructions or «operator assistance» modes can be created at any time.

It is possible to carry out parameterization on another station and load it subsequently to the PANEL'PC.

Upgrading :
 A software upgrading system is included. From any new start-up, the PANEL'PC will load any new program in the USB key.

Included maintenance menu :
 The USB key uses data or parameterization on another station, without stopping current PANEL'PC use.
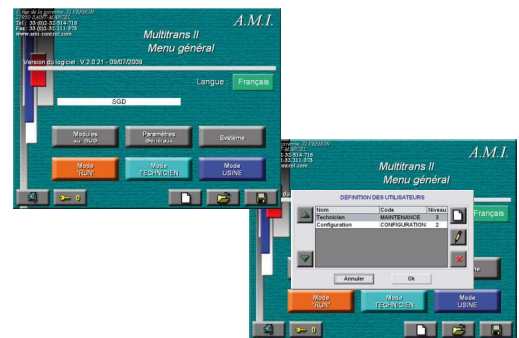
CHARACTERISTICS :

Power supply	24Vdc ou 230Vac
Temperature rated	0°C / +50°C
Temperature storage	-20°C / +60°C
Humidity	20% à 90%
Front protection	IP65
Rear protection	IP22
Dimensions :	
L x l x p	317 x 243 x 76 mm
cut-out	229 x 303 mm
Weight	5,5kg
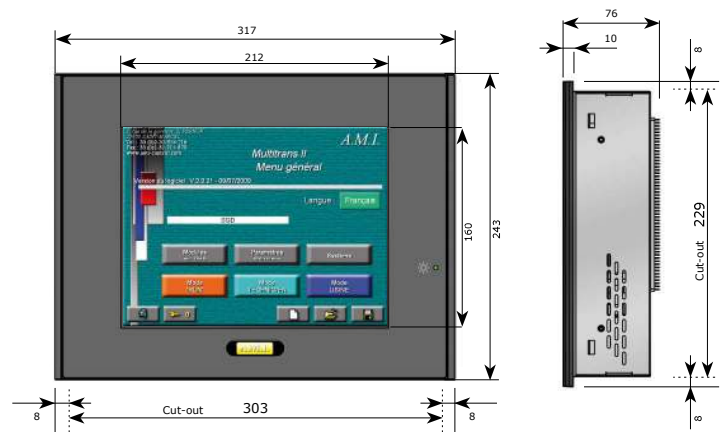
Equipment supplied :

- PANEL'PC with factory settings.
- USB key with program.
- Additional loudspeaker.

Option :
The AUDIO AMPLI KIT allows you to add a sound option to your alarms of PANEL'PC, the PANEL'PC does not have a speaker.
The AUDIO AMPLI KIT consists of two parts, an amplifier that can be mounted on a DIN rail, and a waterproof loudspeaker that fits into a cabinet or control panel.
The amplifier allows you to modulate the sound volume according to your environment.
Réf. : G0500-02-05

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4U to 19'' standard Bay

3U to 19'' standard Bay
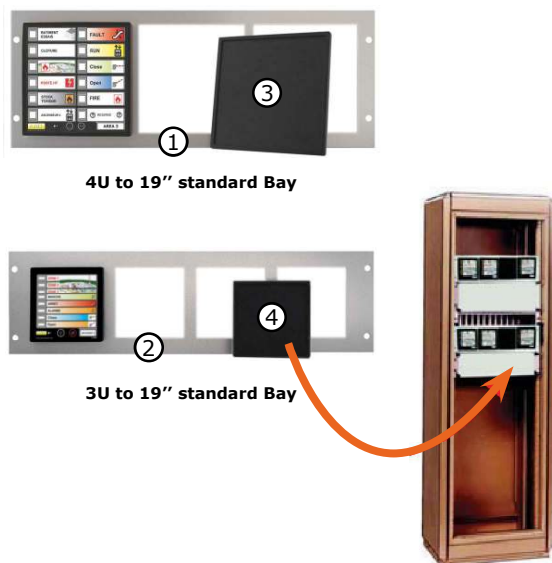
1U = 44.55mm
Height : 3U = 132mm
Width = 484mm

Height : 4U = 178mm
Width = 484mm

PRE-DRILLED MOUNTING FRONT FACE :

Fig	Product	
1	J2005-J2405 J2005RS J2405RS J3000-J3105 J3500	**M0800** : Aluminium front face for 19 inches bay, pre-drilled 3 holes 138x138mm for panel fitting 144x144 and drilled with 4 holes for fixing to bay vertical rails. Satinised finish.
2	J1805-J1850 J1905S	**M0810** : Aluminium front face for 19 inches bay, pre-drilled 4 holes 92x92mm for panel fitting 96x96 and drilled with 4 holes for fixing to bay vertical rails. Satinised finish.
3	J2005-J2405 J2005RS J2405RS J3000-J3105 J3500	**M0815** : Cover mask format 144x144 : covers cut-outs waiting for any future extension. Clips directly to sheeting : cut-out 138x138mm.
4	J1805-J1850 J1905S	**M0816** : Cover mask format 96x96 : covers cut-outs waiting for any future extension. Clips directly to sheeting : cut-out 92x92mm.
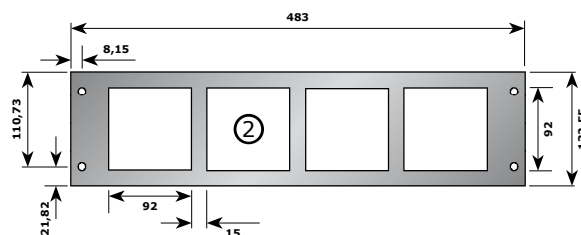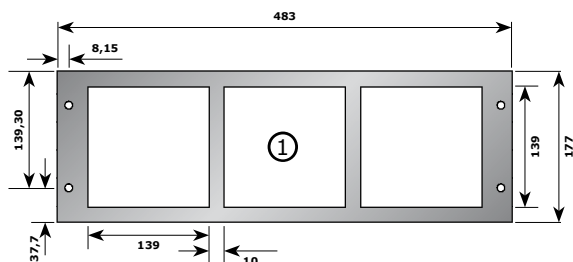
CABINETS :

Empty wall cabinet predrilled 1 96x96 panel for mounting.
Dimensions (lxhxp):
215x210x105mm
Référence : **M0800-00-20**
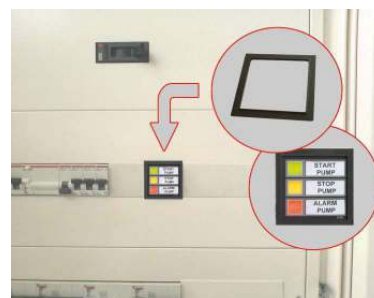
Assembly together with modular systems :

One separator plate allows the PAN35 to be mounted on cabinet door for modular switches or circuit-breakers. It is mounted with a flange ring like a simple spacer.

Dimensions : 56x56mm.
Delivered in 10 unit bags.

Reference : **M0817**

EXTENSION CARDS :

Our panels have «open collector» type outputs.
These outputs can handle 150mA currents.
Extension cards increase output power and provide galvanic insulation for the unit with the rest of the installation.
They save significant assembly and wiring time.
The panel itself ensures relay power supply.
Red LEDs indicate when each relay is activated.
Screw-in detachable terminal boards ensure relay «inverter contact» output connection.

Output contacts : 1RT 6A/24Vdc - 0.15A/240Vac.
Potential free per output.

PLUG-IN CARDS :
Only for the J3000/J3105 :

They are mounted directly to the back of the J3000.
DIN cards are preferable since they limit the number of cables on the cabinet door.
They exist in version :

M0900-02-01 : 12 relays 24Vdc.
M0900-02-20 : 2 relays 24Vdc with selector.

DIN CARDS :

They are fitted to a DIN rail at cabinet bottom and connected to the panel by a ribbon cable.

Prod : ①③⑤⑥   Prod : ②④
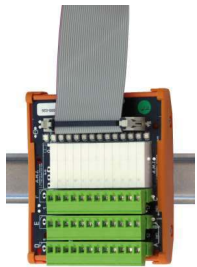
- **Complete relay card :**
  It comes as a standard with 12 relays and can be used 8 outputs panels as well as those with 12 output.

  There is also a model with two additional relays which can be used with the «1st fault» outputs and «Synchronization».
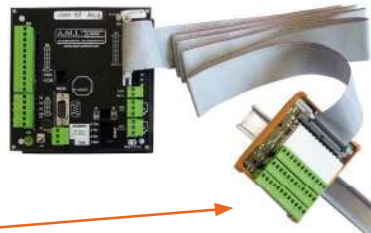
- **Card with 2 relay outputs with selectors :**
  It allows you to sort the panel outputs towards 2 synthesis relays. The allocation of the chanels on each relay is done through micro switches that can direct the output on one OR the other relays or on one AND the other. Relays can be selected «with positive security» or not.

  Use : To direct alarms to the «electrical» or «mechanical» staff, separate alarms «high risk» / «lower risk» or «Act / Act urgently».

Fig	Product			l.
1	J1905S	**M0901-01-01**	12 relays 12Vdc DIN card. (Only the first 8 relays will be usable)	90
2	J1905S	**M0901-01-20**	2 relays 12Vdc DIN card with selectors. (Only the first 8 channels of the selector will be usable)	90
3	J3000/J3105 J3500 (except 48Vdc)	**M0901-02-01**	12 relays 24Vdc DIN card.	90
4	J3000/J3105 J3500 (except 48Vdc)	**M0901-02-20**	2 relays 24Vdc DIN card with selectors.	90
5	J3500 (with 48Vdc)	**M0901-03-01**	12 relays 48Vdc DIN card. The J3500 powered in 48Vdc has outputs powered in 48Vdc	90
7	ALARM'BOX	**M0901-01-02**	8 Relays DIN card 12Vdc for remote postponement (cable included).	

RIBBON CABLE :

Ribbon cable with 2 keyway connectors makes the link between panel rear and relay card. It also provides power supply to the relay coils. There are cables for 1, 2 or 3 cards (maximum).
The standard length is 1.5m. supplementary 50cm sections can extend this up to 3 meters maximum.

Cable for J1905S :

M0901-02-53 Ribbon cable fitted up for 1 additional card.
M0901-02-54 Ribbon cable fitted up for 2 additional cards.
M0901-02-56 Ribbon cable fitted up for 3 additional cards.

Cable for J3000/J3105 and J3500 :

M0901-02-50 Ribbon cable fitted up for 1 additional card.
M0901-02-51 Ribbon cable fitted up for 2 additional cards.
M0901-02-52 Ribbon cable fitted up for 3 additional cards.

Panel   Card 1   Card 2   Card 3

1,5m   0,25m   0,25m
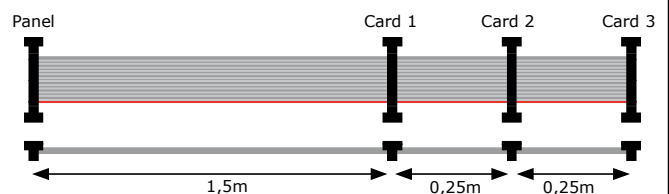
M0901-02-55   0.5 meter additionnal length.

CONNECTIONS :

12 relays card
Ribbon cable fitted up

12 Relays

1 ----------------- 8 ------ 12

2 relays card
Ribbon cable fitted up

1st Default   NA/ND*

NA/ND* : Normally Activated / Normally Deactivated
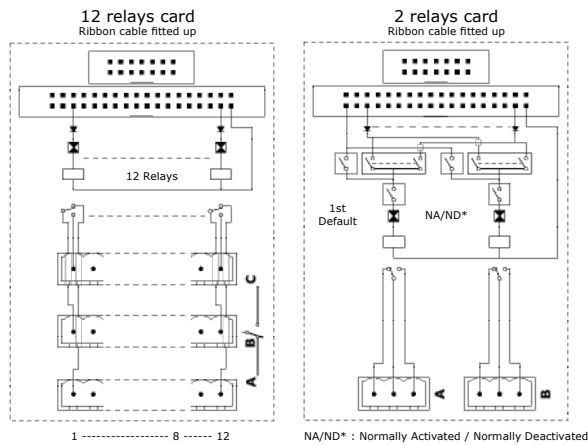
DIMENSIONS :

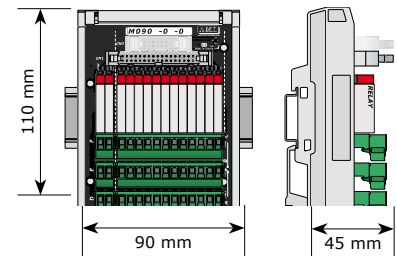### PLUG-IN CARDS

144 x 144 mm

14
53
100
8 mm max.

DIN CARDS

110 mm
90 mm
45 mm
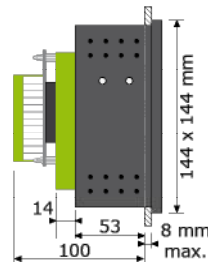
OPEN FRONT FACE, IP54 SEALING :

IP54 sealed front panel is delivered with an o-ring seal. The sealed facade is clipped in place of the original banding holding the facade in place. The front is a transparent opening door.

Fig	Product	
1	J2005-J2405 J2005RS-J2405RS J3000-J3105 J3500	**M0720** : Quarter-turn closing button model. DIN format 144x144.
2	J1805-J1850 J1905S	**M0722** : Quarter-turn closing button model. DIN format 96x96.

①

②

① ②
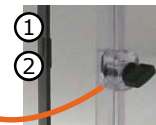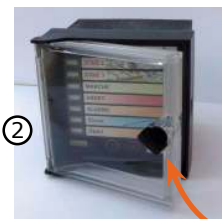
«Button» closure

INSTALLATION ON DIN RAIL KIT :

This kit allows the installation of the panels to 96x96 size and 144x144 on a DIN rail profile TS35 all keeping the display toward the operator.

M0730 Adapter for 144x144 panel.
M0731 Adapter for 96X96 panel.

TEST AND DEMONSTRATION KITS :

Comprising 2 cards with connectors, they attach directly to rear panel connectors.
Input contacts can be simulated through the micro-switch that is on the Kit.
Push buttons in the Kit are used for cancellations and resets.
The sound alarm output is audible through a buzzer in the Kit and is visible through LEDs.
Outputs are visible through LEDs.
A 230Vac power supply is provided.
Use only with products on version «02» (24V supply).
For other voltages, thank you contact us.
A connection instruction sheet is included.

FOR J3000/J3105 IN 24V VERSION :

Ref. : KJ3000-1
Comprising :
- 1 input card with 12-contact switchs, 4 push buttons (LED test, Horn stop, Blink Stop/Reset, Delete), 1 «Inhibit» switch, 1 power supply jack.
- 1 output card with 12 LEDs for outputs, 2 LEDs for «Synchro» and «1st Fault» outputs, 2 LEDs for «Synthesis» output contact, 2 LEDs for «Sound Alarm» output contact, 1 Buzzer.
- 1 230Vac/24Vdc power supply with jack output.
- 1 connection and use instruction datasheet.

demonstration kit not include the panel.
(Use only on panels with 24V supply voltage.
For other, please contact us.)

FOR J3500 IN 24V VERSION :

Ref. : KJ3500-1
Comprising :
- 1 input card with 12-contact switchs, 4 push buttons (LED test, Horn stop, Blink Stop/Reset, Delete), 1 «Inhibit» switch, 1 power supply jack.
- 1 output card with 12 LEDs for outputs, 2 LEDs for «Synchro» and «1st Fault» outputs, 2 LEDs for «Synthesis» output contact, 2 LEDs for «Sound Alarm» output contact, 1 Buzzer.
- 1 230Vac/24Vdc power supply with jack output.
- 1 connection and use instruction datasheet.

CHOICE OF SUPPLEMENTARY LEDS :

Normal LEDs have only one single colour.
It is necessary to change the LED to change the colour.
Our previous version products use this solution and are unpluggable from the front face, allowing the user to choose the desired colour.
Technology development means that we can use the CMS tri-LED unit giving us 7 different colours per LED with the same component.

All our products will be modified to use this new technology as we go along.

Fig	Product	Preceding version of the product detachable from the facade		
1	J1850	🟩	J2101-00-00	5x10mm GREEN colour LED, code 2500
		🟨	J2101-00-10	5x10mm YELLOW colour LED, code 2400
		🟥	J2101-00-20	5x10mm RED colour LED, code 2300
		🟦	J2101-00-30	5x10mm BLUE colour LED, code 230 MBW
		(exists as J2101-xx-x5 => 12 LEDs pack)		
2	J3000 J3500	🟩	J2001-00-00	10x10mm GREEN colour LED, code 2855
		🟨	J2001-00-10	10x10mm YELLOW colour LED, code 2755
		🟥	J2001-00-20	10x10mm RED colour LED, code 2655
		🟦	J2001-00-30	10x10mm BLUE colour LED, code 2655 MBW (assembly possible in factory only)
		⬜	J2001-00-40	10x10mm WHITE colour LED
		(exists as J2001-xx-x5 => 12 LEDs pack)		
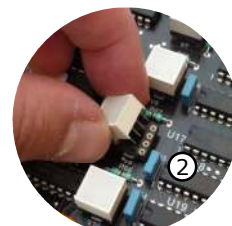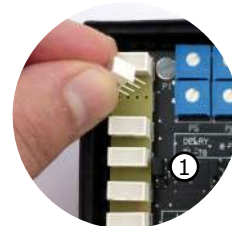
The new version with 7 colours selectable from the front

A display choice of 7 colors per LEDs is possible. This choice is selectable using switches on the panel front face. You have a choice of the following colours :

Red, Green, Yellow, Blue, White, Cyan, Magenta.

Changing LEDs is no longer necessary.

Already possible on :

PAN35
PAN35VB
PAN35SH
PAN45
PAN45VB
PAN45SH
J1805
J2005
J2405
J2005RS
J2405RS
J1905S
J3105
ALARM'BOX
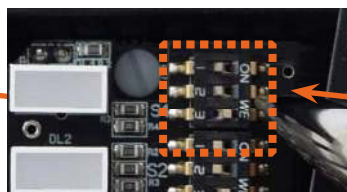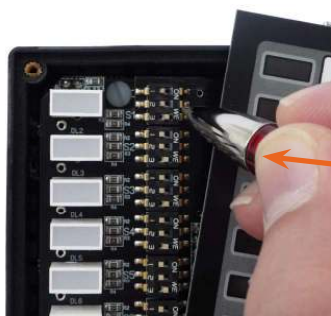
J0500-00-00 LABEL PRODUCTION :

Software developed under EXCEL™ (Microsoft Company) easily produces front face labels for all A.M.I. products. After on screen creation, you only need to print them on a laser printer, and store them on disk for later modification as needed.

You select the A.M.I. product for which you want to produce labels, using a PC with EXCEL™ software.
You type in your text in the predefined templates for the exact dimensions of the desired product.
Depending on the capability of your printer you can choose :
- Basic colours or text colours to attract the eye for certain significant tracks,
- The normal or plastic paper type depending on the environmental ambience of the product destination.

This software can be downloaded for free on our website :

www.ami-control.com

A.M.I.

A.M.I.

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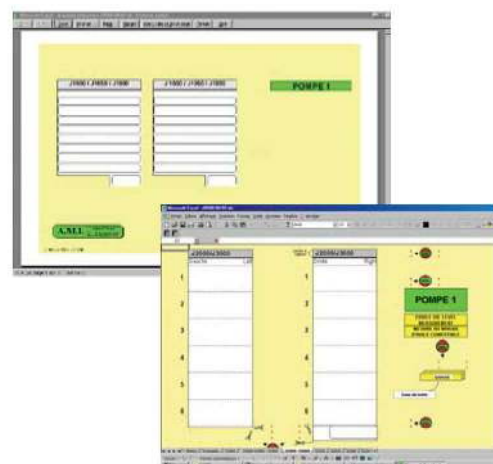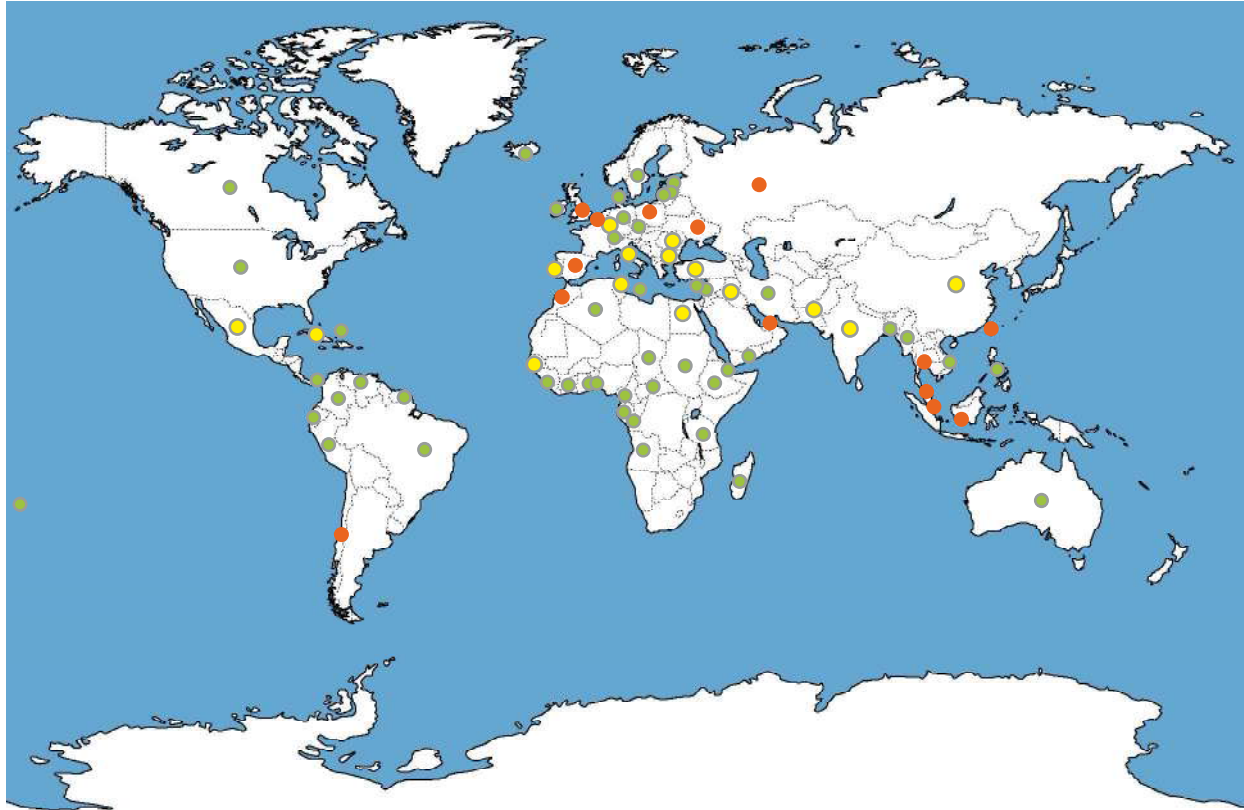
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References

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Customers references

TECHNICAL ALARMS FOR INDUSTRIAL, NUCLEAR, PETRO CHEMICAL, NAVY, AND GENERAL APPLICATIONS

If your logo is not present, please excuse us. Space is limited.

OUR REFERENCES IN THE WORLD

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Customers references
TECHNICAL ALARMS FOR INDUSTRIAL, NUCLEAR, PETRO CHEMICAL, NAVY, AND GENERAL APPLICATIONS

If your logo is not present, please excuse us. Space is limited.

OUR REFERENCES IN EUROPE

Logos: ABB, PARIS AÉROPORT, AIRBUS, Air Liquide, ACTEMIUM, AIR PRODUCTS, ALSTOM, ALCAN, Altadis, arjowiggins, ARMÉE DE L'AIR & DE L'ESPACE, ArcelorMittal, AREVA, ARKEMA INNOVATIVE CHEMISTRY, BASF We create chemistry, BOREALIS Keep Discovering, BOUYGUES ENERGIES & SERVICES, bp, Cegelec, CEA, Chevron, BNP PARIBAS, EIFFAGE CLEMESSY, cnrs, Continental, dalkia GROUPE eDF, DCNS STRENGTH at sea, suez environnement Degrémont, dgac, DSM BRIGHT SCIENCE. BRIGHTER LIVING., DUNLOP, DANONE, eDF, ENGIE, ENGIE Electrabel, Esso, GE, EIFFAGE ÉNERGIE SYSTÈMES, ExxonMobil, HAZEMEYER L'énergie sur mesure depuis 1930, HERMÈS PARIS, INEOS NOVA, NEUTRONS FOR SOCIETY, ENGIE Ineo, suez environnement Lyonnaise des Eaux, LAFARGE, Nestlé, MICHELIN, Pfizer, RATP, RENAULT, RHODIA SOLVAY GROUP, SAINT-GOBAIN, OMEXOM, SAIPEM, PEUGEOT, KOHLER, SOREEL, SANOFI, Schindler, Schneider Electric, SIEMENS, SOLVAY, SPIE, stx Europe, SNCF, GROUPE SNEF, smart, Shell, Valeo, Smurfit Kappa, syngenta, Technip, thyssenkrupp, TOTAL, vallourec, vnf Voies navigables de France

References

Details of some installations fitted with our products

ARKEMA GROUP

Arkema - Plant at Balan (01)
Arkema - Plant at Carling/Saint-Avold (57)
Arkema - Plant at Chauny (02)
Arkema - Plant at Fos-sur-Mer (13)
Arkema - Plant at Jarrie (38)
Arkema - Plant at La Chambre (73)
Arkema - Plant at Lacq/Mourenx (64)
Arkema - Plant at Lannemezan (65)
Arkema - Plant at Lavéra-Sud (13)
Arkema - Plant at Mont (64)
Arkema - Plant at Pierre-Bénite (69)
Arkema - Plant at Saint Fons (69)
Arkema - Plant at Serquigny (27)
Arkema - Plant at Vauvert (30)

Arkema R&D - CERDATO - Serquigny (27)
Arkema R&D - CRDE - Saint Avold (57)
Arkema R&D - CRRA - Pierre-Bénite (69)
Arkema R&D - GRL - Lacq (64)
Arkema - CETIA - Pierre-Bénite (69)

Altuglas - Plant at Bernouville - Bezu St Eloi (27)
Altuglas - Plant at Saint Avold - Saint Avold (57)

Ceca - Honfleur (14)
Ceca - Chateauroux (36)
Ceca - Saint Laurent Blangy (62)

TOTAL

Total Petrochemicals France - Plant at Gonfreville l'Orcher (76)
Total Petrochemicals France - Plant at Carling Saint Avold (57)
Total Petrochemicals France - Plant at Lavera (13)
Total Petrochemicals France - Plant at Feyzin (69)
Total Petrochemicals France - Saint Priest (69)
Total Petrochemicals - Plant at Feluy (Belgique)

Total Refinery at Flandres - Dunkerque (62)
Total Refinery at GrandPuits (77)
Total Refinery at Normandie (76)
Total Refinery at Donge (44)
Total Refinery at Feyzin (69)
Total Refinery at Provence - La Mède (13)

Total Fluides - Plant at Oudalle (76)

Total oil depot at Gennevilliers (95)
Total oil depot at Gargenville (78)

Total Cray Valley - Drocourt (62)
Total CERT - Harfleur (76)
Total E&P - Vert Le Grand (91)
Total GPN - Grand-Quevilly (76)
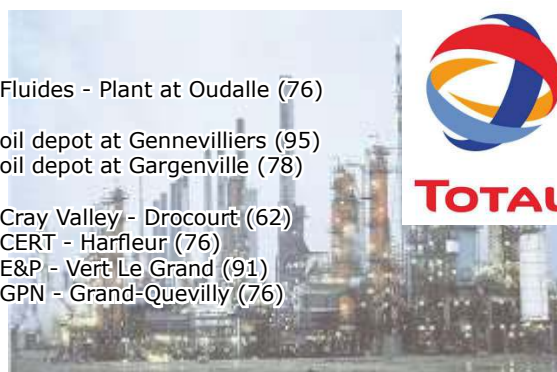
OTHER SITES :

Colas - Refinery at Dunkerque SRD ex ExxonMobil (62)

Exxon Mobil Esso - Refinery at Fos (13)
Exxon Mobil Esso - Refinery at Port-Jérôme-Gravenchon (76)

Ineos - Refinery at Lavéra (13)
Ineos - Ribecourt (60)
Ineos - Wingles ex BP (62)
Ineos - Mazingarbe (62)
Ineos - Sarralbe (57)

LyondellBasell - Refinery at Berre l'Etang ex SCHELL (13)

Petroplus - Refinery at Petit-Couronne (76)
Petroplus - Refinery at Reichstett ex SHELL (67)

Solvay Rhodia - Clamecy (58)
Solvay Rhodia - Melle (79)
Solvay Rhodia - La Rochelle (17)
Solvay Rhodia - Pont of Claix (38)
Solvay Rhodia - Chalampé (68)
Solvay Rhodia - Saint-Fons (69)
Solvay Rhodia - Belle Etoile (69)

Basf - Gravelines (59)
Basf - Meaux (77)
Basf - Elbeuf (76)
Basf - Clermont (60)

Chevron Oronite - Le Havre (76)

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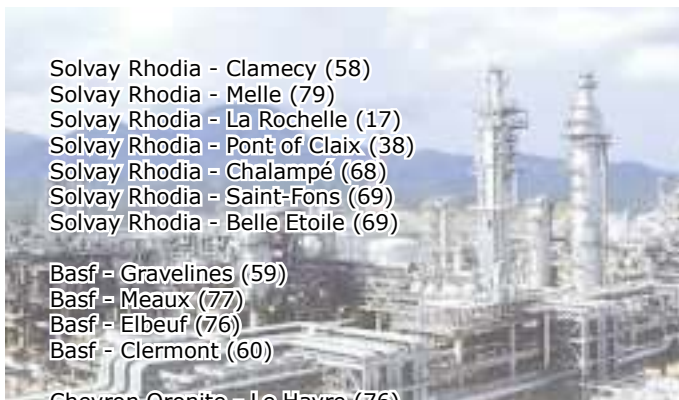
Details of some installations fitted with our products

NUCLEAR CENTER FOR ELECTRICITY PRODUCTION

EDF CNPE of BLAYAIS
EDF CNPE of BUGEY
EDF CNPE of CATTENOM
EDF CNPE of CHINON
EDF CNPE of CREYS-MALVILLE
EDF CNPE of CRUAS
EDF CNPE of DAMPIERRE
EDF CNPE of FESSENHEIM
EDF CNPE of FLAMANVILLE
EDF CNPE of GRAVELINES
EDF CNPE of PENLY
EDF CNPE of SAINT- LAURENT
EDF CNPE of TRICASTIN

NUCLEAR FIELD

CEA at Cadarache
CEA at Marcoule
AREVA NC at Marcoule
AREVA NC at Beaumont la Hague
AREVA NC COMURHEX at Pierrelatte
AREVA NC EUROFDIF at Pierrelatte
AREVA NP CERCA FBFC at Romans sur Isère
ILL Institute Laue Langevin at Grenoble
George Besse

ENERGY PRODUCTION

EDF Thermal BLENOD
EDF Thermal BORGO
EDF Thermal LE HAVRE
EDF Thermal PORCHEVILLE
EDF Thermal VAIRES SUR MARNE
EDF Thermal VITRY SUR SEINE
EDF Hydraulic COUESQUE (Plant at LARDIT)
EDF Hydraulic FESSENHEIM
EDF Hydraulic GERSTHEIM
EDF Hydraulic KEMBS
EDF Hydraulic MARCKOLSHEIM
EDF Hydraulic OTTMARSHEIM
EDF Hydraulic REVIN
EDF Hydraulic RHINAU
EDF Hydraulic VOGELGRUN

Alstom Power Hydraulic NEROUE (SOUDAN)
Alstom Power Hydraulic KARUN 5(TURQUIE)
Alstom Power Hydraulic UPPER VON GAND (TURQUIE)
Alstom Power Hydraulic DA-NHIM (VIETNAM)
Alstom Power Hydraulic KARIBA (ZAMBIE)

References

A.M.I.

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Details of some installations fitted with our products

CIVIL AIRPORTS

Aéroport de Paris ADP	Roissy Charles of Gaulle
	Orly
DGAC DAC West	Rennes - Saint-Jacques
	Deauville - Saint-Gatien
	Dinard, Pleurtuit, Saint-Malo, Lannion, Saint-Brieuc, Morlaix
DGAC DAC Southeast	Bastia, Poretta
DGAC DSNA	Sainte-Baume

MILITARY AIR BASES

BA 106	Bordeaux / Mérignac		BA 125	Istres / Le Tubé
BA 112	Reims / Champagne		BA 128	Metz / Frescaty
BA 113	Saint-Dizier / Robinson		BA 132	Colmar / Meyenheim
BA 118	Mont-de-Marsan		BA 217	Brétigny-Sur-Orge
BA 120	Cazaux		BA 702	Avord
BA 123	Orléans / Bricy		BA 705	Tours

OTHER AERONAUTICAL REFERENCES

Airbus	Méaulte
	Nantes
	Saint-Nazaire
Eurocopter	Marignane
MBDA	Bourges
Socata	Tarbes
Sogerma	Merignac
	Rochefort

AIRBUS

PARIS HOSPITALS

Hospital Armand-Trousseau
Hospital Cochin
Hospital Foch
Hospital Saint-Antoine

HOSPITALS

CH of Béthune (62)	Hospital of Tournon (07)
CHU of Nice (06)	Hospital of Vierzon (18)
CHU of Nîmes (30)	Hospital of La Loupe (28)
CHU of Rouen (76)	Hospital of La Ferté Bernard (72)
CHI of Créteil (94)	Hospital of Elbeuf (76)
CHI of Meulan - Les Mureaux (78)	Hospital of Remiremont (88)
CHS of Dole - Saint Ylie (39)	

OTHER REFERENCES

Air Liquide
Air Products

Air Liquide **AIR PRODUCTS**

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DEFINITION OF THE VARIOUS TYPES OF INPUTS AND CONNECTIONS :

- *Input by dry contact*
- *Positive Input*
- *Negative Input*
- *Input by RS485 BUS*
- *Input by dry contact AND by RS485 BUS*
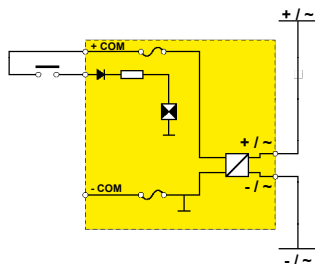
Input by dry contact :
The voltage supply of the contacts is generated by the «+COM» or the «-COM» on terminal block of the A.M.I. panel (generally the supply voltage provided is direct current. This output voltage is internally protected against over currents).

Depending on the model choice, this voltage can be or not be with galvanic isolation with the A.M.I. panel supply.
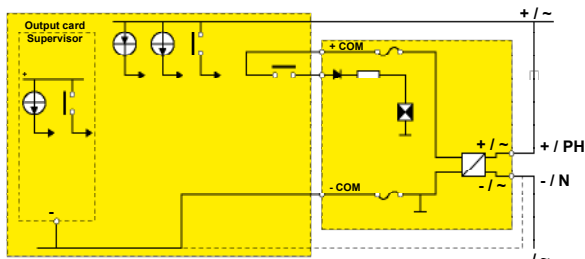
Positive input :
The input contact is powered by a «+» or by an «AC voltage» which will have the same reference as the «+/Ph» terminal block.
In case of Input voltage by external positive voltage, it is necessary to bring back the external negative polarity to the «-/N» or «-Com» terminal block of the panel.

Check for the «-COM» terminal on the selected product.
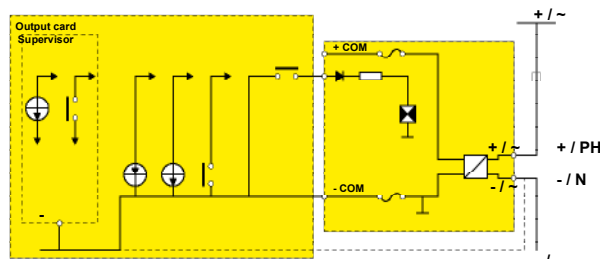
Negative input :
The input contact is powered by a «-» that must be connected to the «-COM» terminal block if it is present.
In case of power supply in DC voltage, the «-/N» terminal block can be used.
The input can accept the connection of an open collector type transistor.

Check for the «-COM» terminal on the selected product.
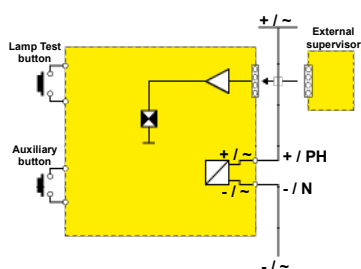
Input by RS485 BUS :
This input is a RS422/485 BUS with MODBUS protocol.
An external supervisor sends orders to pilot the display panel.

But, the input contacts are not necessarily present (case of J2005RS and J2405RS).

Case of the J3000, J3500 :
Inputs "contact" are present and the bus is bidirectional. It becomes possible to read the state of the panel but also to activate the channels by the bus **AND** by the inputs «contacts».
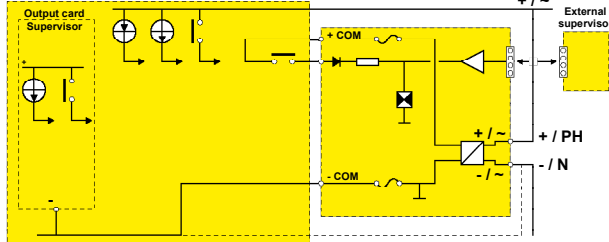
Input by contact AND input by RS485 BUS + centralisation by BUS :
Case of the J3000RS and J3500RS :
The panels are equiped with contact inputs. A RS422/485 BUS with a MODBUS protocol allows a centralisation by an external supervisor.
The BUS is bi-directional.
- The external supervisor can collect the historic and the state of the panel inside the memory panel.
- The panel channels can be activated by the input contacts AND by the BUS (the supervisor can send information to the display panel and also to outputs panels).
- The panel stays autonomous and manages its own alarms (blinking, reset,...).

Check for the «-COM» terminal on the selected product.

References

Schema_EN002_21-11-2022

DEFINITION OF THE VARIOUS TYPES OF INPUTS AND CONNECTIONS :

- « Open collector » output
- «Dry contact» output
- Relay / Output with positive security
- Power supply with galvanic isolation
- Isolated input with galvanic isolation supply
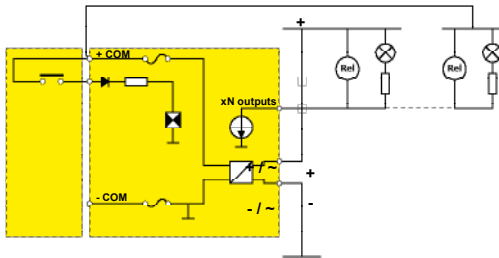
« Open collector » output :
- When the panel is supplied by 24Vdc/48Vdc, the output provides a «-». A relay or an external Led indicator can be connected to external positive polarity from an external power. For any other type of panel power supply (AC or DC), must be used the «+COM» terminal.
- In DC hight voltage power supply or AC voltage, the relay or the Led indicators must be connected to the «+COM» terminal.
Remember to use a resistance to limit the current peak on the bulb filament or a diode with the relay coil.
Output current is limited to 150mA.
The best security is to use the A.M.I. interface relay card with fast connection.
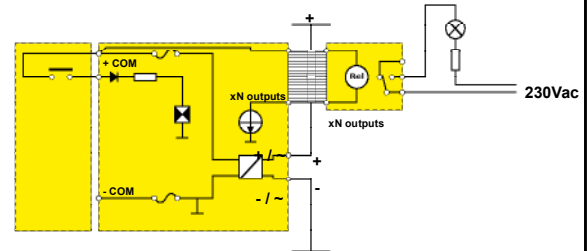
«Dry contact» Output :
An A.M.I. interface relay card can be connected to the output.
The output activates the relays which are directly powered by the panel. These relays have an 5A/230V dry contact (open-close), assuring the electrical separation (galvanic isolation) between the panel voltages and the use.
- Functioning safety is reinforced.
- Easy connection.
- Fast assembling.
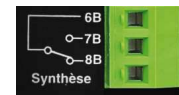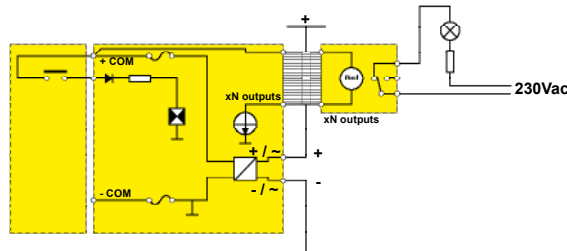
Relay / Output with positive security :
To get a reinforced security, the «open collector» output or the relay output must be permanently activated. It will be deactivated to transmit the information. This allows a permanent control of the functioning of the output or of the relay.
All diagrams and schema represent the position of the output when the panel is NON powered. So in case of relay output (Refer to picture example underneath), the connection must be made between the terminal 6B and 8B.
A.M.I. has developed a relay card allowing a fast connection by flat cable with mounting in the bottom of the cabinet.
The relays supply is provided by the panel.
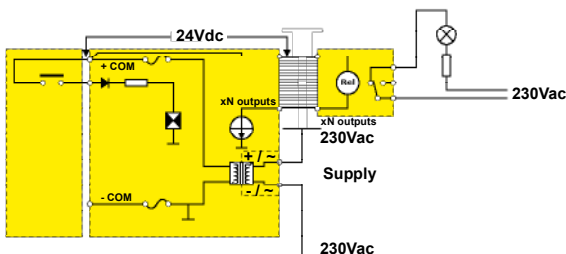
Isolated input referred «galvanic isolation» :

It is only possible when the panel is with a galvanic isolation.
In this case, the inputs are with dry contact and must be powered by the «+COM» of the panel.

Power supply with galvanic insulation :

The power supply of the panel can be of two different types :

- Direct Power supply : in this case the inputs, the outputs and the inside electronics are directly connected to the supply voltage. This can bring risks voltage return, short circuit, electric shock. (and in general, higher consumption, over heat and lower tolerance around the nominal voltage).
- Power supply with Galvanic Isolation : The supply voltage of the panel is generated by a insulating transformer or by a switching mode power supply (converter). No link is existing between the voltage supplied and the rest of the unit. Even with a high voltage power supply, inputs, outputs and all electronic components inside the panel stay in low voltage.

Interest : Increased safety, reduced disturbances (unwanted electrical returns), short-circuit, the risk of electrocution, lower consumption. Reduction of the internal temperature and general tolerances are increased.

Reference	Note	Page
AJ1900-01-10C	replaced by AJ1905-01-10C	
AJ1900-01-10CA	replaced by AJ1905-01-10CA	
AJ1905-01-10C		**p62**
AJ1905-01-10CA		**p62**
AJ1900-05-11B	replaced by AJ1900-05-11BT	
AJ1900-05-12B	replaced by AJ1900-05-12BT	
AJ1900-05-13B	replaced by AJ1900-05-13BT	
AJ1900-05-14B	replaced by AJ1900-05-14BT	
AJ1900-05-20B	replaced by AJ1900-05-20BT	
AJ1900-05-21B	replaced by AJ1900-05-21BT	
AJ1900-05-22B	replaced by AJ1900-05-22BT	
AJ1900-05-23B	replaced by AJ1900-05-23BT	
AJ1900-05-24B	replaced by AJ1900-05-24BT	
AJ1900-05-31B	replaced by AJ1900-05-31BT	
AJ1900-05-32B	replaced by AJ1900-05-32BT	
AJ1900-05-33B	replaced by AJ1900-05-33BT	
AJ1900-05-34B	replaced by AJ1900-05-34BT	
AJ1900-05-11BT		**p62**
AJ1900-05-12BT		**p62**
AJ1900-05-13BT		**p62**
AJ1900-05-14BT		**p62**
AJ1900-05-20BT		**p62**
AJ1900-05-21BT		**p62**
AJ1900-05-22BT		**p62**
AJ1900-05-23BT		**p62**
AJ1900-05-24BT		**p62**
AJ1900-05-31BT		**p62**
AJ1900-05-32BT		**p62**
AJ1900-05-33BT		**p62**
AJ1900-05-34BT		**p62**
AJ1900-0x-20	on demand	
B0001-10-00	please, contact us	
B0001-10-10	please, contact us	
B0001-10-20	please, contact us	
B0001-12-00	please, contact us	
B0001-12-10	please, contact us	
B0001-12-20	please, contact us	
B0001-13-00	please, contact us	
B0001-13-10	please, contact us	
B0001-13-20	please, contact us	
B0001-20-30		**p15**
B0001-20-31		**p15**
B0001-20-32		**p15**
B0001-30-30		**p15**
B0001-30-31		**p15**
B0001-30-32		**p15**
B0001-40-00	please, contact us	
B0001-40-10	please, contact us	
B0001-40-20	please, contact us	
B0001-40-30	please, contact us	
B1201	please, contact us	
B1202	please, contact us	
B1203	please, contact us	
G0100-05-00	please, contact us	
G0100-05-10	please, contact us	
G0200	please, contact us	
G0700-02-30	please, contact us	
H3000	please, contact us	
H3600	please, contact us	
I1024	please, contact us	
I2124	please, contact us	
J0500-00-00		**p69**
J1003	please, contact us	
J1800-01-10	replaced by J1805-02-11	
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J1800-02-11	replaced by J1805-02-11	
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J1800-03-11	replaced by J1805-02-11	
J1800-04-10	please, contact us	
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J1800-04-11T	replaced by J1805-05-11	
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J1800-05-10T	replaced by J1805-05-11	
J1800-05-11T	replaced by J1805-05-11	
J1800-05-20T	please, contact us	
J1800-14-10	please, contact us	
J1805-02-11		**p20**
J1805-04-11		**p20**
J1805-04-11T	replaced by J1805-05-11	
J1805-05-11		**p20**
J1805-05-11C	replaced by J1805-05-11	
J1805-05-11T	replaced by J1805-05-11	
J1850-02-10		**p24**
J1850-02-1H		**p24**
J1850-02-20		**p24**
J1850-02-2H		**p24**
J1850-03-10		**p24**
J1850-03-1H		**p24**

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J1900-02-12	replaced by J1905S-02-00	
J1900-02-12MAT	product reserved	
J1900-02-20	replaced by J1905S-02-00	
J1900-02-22	replaced by J1905S-02-00	
J1900-03-10C	replaced by J1905S-02-00	
J1900-03-12C	replaced by J1905S-02-00	
J1900-03-20C	replaced by J1905S-02-00	
J1900-03-22C	replaced by J1905S-02-00	
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J1905-02-10S-00	replaced by J1905S-02-00S-00	
J1905-02-12	replaced by J1905S-02-00	
J1905-02-20	replaced by J1905S-02-00	
J1905-02-22	replaced by J1905S-02-00	
J1905-03-10C	replaced by J1905S-02-00	
J1905-03-12C	replaced by J1905S-02-00	
J1905-03-20C	replaced by J1905S-02-00	
J1905-03-22C	replaced by J1905S-02-00	
J1905-05-10C	replaced by J1905S-05-00	
J1905-05-10S-00	replaced by J1905S-05-00S-00	
J1905-05-12C	replaced by J1905S-05-00	
J1905S-02-20		**p32**
J1905S-02-00S-00		**p40**
J1905S-02-05		**p32**
J1905S-02-05S-00		**p40**
J1905S-05-00		**p32**
J1905S-05-00S-00		**p40**
J1905S-05-05		**p32**
J1905S-05-05S-00		**p40**
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J2000-02-21	please, contact us	
J2000-02-30	replaced by J2005-02-30	
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J2000-03-32	replaced by J2005-03-32	
J2000-04-10	please, contact us	
J2000-04-10C	please, contact us	
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J2000-04-20	please, contact us	
J2000-05-10C	please, contact us	
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J2000-05-11T	replaced by J2005-05-11	
J2001-00-00		**p69**
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J2001-00-10		**p69**
J2001-00-15		**p69**
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J2005-02-32		**p26**
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J2005-04-11		**p20**
J2005-04-11T	replaced by J2005-05-11	
J2005-05-11C		**p20**
J2005-05-11C	replaced by J2005-05-11	
J2005-05-11T	replaced by J2005-05-11	
J2101-00-00		**p69**
J2101-00-05		**p69**
J2101-00-10		**p69**
J2101-00-15		**p69**
J2101-00-20		**p69**
J2101-00-25		**p69**
J2101-00-30		**p69**
J2101-00-35		**p69**
J2400-01-11	replaced by J2405-02-11	
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J2400-04-10T	replaced by J2405-05-11	
J2400-04-11C	please, contact us	
J2400-05-10T	replaced by J2405-05-11	
J2400-05-11T	replaced by J2405-05-11	
J2400-05-20T	replaced by J2405-05-11	
J2400-14-10	please, contact us	

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Certificate number: 09168/E0 BV
File number: AP 3251
Product code: 3991I

This certificate is not valid when presented without the full attached schedule composed of 7 sections

Marine & Offshore

BUREAU VERITAS

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

A.M.I. Automatisme Micro Informatique Industriels
Saint Marcel - FRANCE

for the type of product

MAIN ALARM SYSTEMS
Machinery Alarm Panel
Type J1905S, J3000, J3105, J3500

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships.

EC Code: 33.

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Certificate number: 09169/E0 BV
File number: AP 3250
Product code: 4161D

This certificate is not valid when presented without the full attached schedule composed of 7 sections

Marine & Offshore

BUREAU VERITAS

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

A.M.I. Automatisme Micro Informatique Industriels
Saint Marcel - FRANCE

for the type of product

MISCELLANEOUS SWITCHBOARD INSTRUMENTS
Series J1805, J2005, J2405

Requirements:
Bureau Veritas Rules for the Classification of Steel Ships.

...ke the relevant approval procedures for the product identified

08 Nov 2026

...the conditions indicated in the subsequent page(s) are complied ...nt makes any changes or modifications to the approved product, ...hould the specified regulations or standards be amended during ...on board vessels to which the amended regulations or standards ...arine & Offshore available on the internet site www.veristar.com. ...ssert a claim against Bureau Veritas Marine & Offshore for any ...of judgement, fault or negligence committed by personnel of the ...y activities for which it may provide.

...PublicPdfTypec.jsp?id=czgwzo8vb2
This certificate consists of 3 page(s)

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 04 Jan 2027

For Bureau Veritas Marine & Offshore,
At BV SAINT QUENTIN-EN-YVELINES, on 04 Jan 2022,
William PIC

This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

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BV Mod. Ad.E 530 June 2017   This certificate consists of 2 page(s)