Operating manual
XALIS 9000

Version of 03/25/2025

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Technical characteristics

Universal Indicator

Universal power supply

Sensor power supply

ModBus RTU

Presentation

XALIS 9000 is a digital indicator with two-color display allowing analog and digital transmission of various signals.

Flush-mount housing (IP65 48mm x 96mm x 85) equipped with plug-in connectors and a USB socket on the back.

XALIS 9000 is guaranteed for **5 years**

Range

Indicator Reference	**Input** 1 universal input	**Outputs**				**Communication**
		Number of isolated analog		Number of Relay		
		1	2	2	4	RS485 USB
XALIS 9000U0	✓					✓
XALIS 9000U1	✓	✓				✓
XALIS 9200U0	✓			✓		✓
XALIS 9200U1	✓	✓		✓		✓
XALIS 9400U1	✓	✓			✓	✓
XALIS 9400U2	✓		✓		✓	✓

Factory Settings

Input	**Output (1&2)**	**Relays (2 RT or 4T)**
4-20mA	4-20mA	Alarm: high
Display: 0.00 -100.0	Display: 0.00 -100.0	Threshold: 50

Communication speed: 9600 bauds, Slave address: n°1

Other settings on demand

Inputs - Outputs

Input gauges

Current (continuous)	Standard scales: 0-1mA ; 0-10mA ; 0-20mA ; 4-20mA ; ±1mA ; ±10mA ; ±20mA Adjustable scales: From -22mA to 22mA
Voltage (continuous)	Standard scales: 0-100mV ; 0-1V ; 0-5V ; 1-5V ; 0-10V ; 2-10V ; 0-50V ; 0-100V ; 0-250V ; 0-500V ; 0-1000V ; ±100mV ; ±1V ; ±5V ; ±10V ; ±50V ; ±100V ; ±250V ; ±500V ; ±1000V Adjustable scales: From -110mV to 110mV, de -2V to 11V
Variable resistance thermometer	Standard scales: CU50 ; CU53 ; CU100 PT10 ; PT100 ; PT1000 ; Ni100 ; Ni1000 2 or 3 wires Adjustable scales: CU50 ; CU53 ; CU100 PT10 ; PT100 ; PT1000 ; Ni100 ; Ni1000 2 or 3 wires
Resistance 2 wires	Standard scales: 1KΩ - 5KΩ - 10KΩ- 50KΩ
Thermocouple	Standard scales: J, K, R, S, T, E, B, N, W3/D, W5/C, Mo, P Adjustable scales: J, K, R, S, T, E, B, N, W3/D, W5/C, Mo, P Unit: °C or °F Cold-Junction Compensation: internal or external
Potentiometer	Adjustable scales: From 0% to 110%
Special table for NTC PTC	Adjustable scales: 1KΩ, 5KΩ, 10KΩ, 50KΩ Programmable with **IXLOG** software Unit: °C or °F
Sensor Supply	Sensor 2 or 3 wires - Sensor power supply: 24V - 26mA max

Output gauges

Output 1 & 2 Current	Standard scales: 0-10mA ; 0-20mA ; 4-20mA Adjustable scales: from 0 to 22mA
Output 1 Voltage	Standard scales: 0-10V ; 0-5V ; 1-5V ; 2-10V Adjustable scales: from 0 to 11V
Output 2 Voltage	Standard scales: 0-10V ; 0-5V ; 1-5V ; 2-10V ; ±10V Adjustable scales: from -11 to 11V
Output Relay	2 or 4 Relays 1RT: 2A-250Vac
Communication	Isolated USB in Rear Panel / isolated RS485 Modbus RTU

Characteristics

Display	
Type	Two-color digital and alphanumeric display
Color	Choice of color for the numeric or alphanumeric line
Number of characters	5 in numeric and 9 in alphanumeric
Number of lines	2
Programming keys	4 keys
Input Characteristics	
Current input impedance	5.6Ω
Voltage input impedance	U<10V and thermocouple: >10MΩ U±10V or >10V: 6MΩ
Current input CU50 ; CU53 ; CU100 ; PT10 ; PT100 ; Ni100	Current: <1mA
Current input PT1000 ; Ni1000	Current: <0.8mA
Current input Resistance 2 wires R=200Ω ; R=1kΩ	Current: <1mA
Current input Resistance 2 wires R=10kΩ	Current: <0.2mA
Output characteristics	
Permissible impedance on the current output 1	<950Ω
Permissible impedance on the current output 2	<600Ω
Permissible impedance on the voltage output 1	>700Ω
Permissible impedance on the voltage output 2	>600Ω
Isolation	
Supply / Input-Output(s)-Relay-RS485-USB	4200Vrms, 50Hz, 1mn
Input / relay / RS485 / USB-output 1	2500Vrms, 50Hz, 1mn
Output 2 / Input-relay-RS485-USB-output 1	1500Vrms, 50Hz, 1mn
USB / Output 1	Without

Auxiliary source	
Voltage supply	22-240Vdc or 90-230Vac 50/60Hz
General characteristics	
Precision class	0.1
Input analog / digital conversion	24 bits
Output analog / digital conversion	16 bits
Response time	Process input, thermocouple, 2 wires resistor: <150ms RTD input, potentiometer: <350ms
Thermal drift	<25ppm
Residual ripple on current output	<20µA
Residual ripple on voltage output	<10mV
Maximum of consumption	<11.3VA
Operating temperature	-10°C … +60°C
Storage temperature	-25°C … +80°C
Relative humidity	<80% HR (non-condensing)
Protection factor	IP65 (front Panel) Self-extinguishing ABS enclosure V0

Options listing

Option	**Device code**
Tropicalization (500h protection for 95% humidity excluding display)	XALIS 9XXXUX-T
Auxiliary source 20-60Vac	XALIS 9XX9UX
Case color	white or black

Functions

Display functions	
Display	Two-colour digital and alphanumeric display. Possibility of switching off each of the display lines independently
Color	Choice of color for the numeric or alphanumeric line
Color change	Possibility of automatic color change when a defined threshold is reached
Programming	Programming via keys on the front panel, or via USB with **IXLOG** software
Unit	Choice from a list of units
Memory Mini / Maxi	Storage of the maximum and minimum value of the measurement on each input channel
Customizing the display	Resolution, Comma, Display off
Input	
Inputs display	The display allows to visualize the input in physical value and in programmed value
Adjustable input scale	Allows to zoom on the input either in manual or automatic mode
Offset	Manual adjustment of the input offset
Taring	Taring function at process input (by validation)
Cut-off	Threshold below which the input is considered as null

Smart functions	
Sensor signal loss	Translates the sensor signal loss on: • the display, • each of the analog outputs, • the digital output, • the status of the relays
Filtering	Integration of the measurement over the defined time (in seconds)
Absolute value	The output(s) are a function of the absolute value of a bidirectional input
Pilot function/simulation	The pilot function makes it possible to act on the display value influencing the output(s), independently of the input The Pilot function is activated either by the digital link (RS485 or USB) or by keys on the front panel
Segmentation in 99 points	Linearization in 99 points (free choice for each point), allows to create an output function by segmentation of the signal of each input channel
Segmentation PTC-NTC resistive	Allows to create the PTC or NTC curve by segmentation of the input signal (programmable only by the **IXLOG** software)
CJC	Cold junction compensation by 16 bit digital sensor
Outputs	
Visualization of the outputs	The display allows to visualize the outputs, in physical value and percentage; as well as the status of the relays
Outputs assignment	Assignment of outputs to inputs or to the control function, independently for each channel
Adjustable output scale	Allows you to zoom in on the outputs
Outputs limitation	Possibility to limit the value of the outputs - High limit and Low limit
Relays assignment	Assignment of relays to inputs or to the control function, independently for each channel
Thresholds	Single or band mode, with positive or negative safety Adjustment of thresholds, hysteresis and time delay (independent on rise or fall) Direct access to the thresholds
Acknowledgement of alarms	Independently for each alarm
Storage of alarms and/or relay status	Independently for each alarm

Links and communication	
RS485 MODBUS RTU	RS485 MODBUS RTU bidirectional digital link allowing to: • recover the measurements and transmit them in digital format • configure and control the device
Digital bus	Access to the digital bus via the USB socket
USB rear	USB rear panel to connect directly to the USB port of a PC for programming via the **IXLOG** software
Mapping of Modbus addresses	Mapping of Modbus addresses, allowing you to choose your own variable address

Safety precautions

Introduction

To ensure the conditions of quality, precision and safety, the user must carefully read and comply with the rules of assembly and operation indicated in this manual.

Safety

Qualification of staff

This manual must be read by qualified and authorized personnel in charge of installation, operation, maintenance and cleaning.

Symbols on the product

	Triangle with exclamation mark : Read this user manual before operating the equipment to know the nature of the potential HAZARDS and all the measures to be taken to avoid them
	Double insulation symbol : Equipment protected everywhere by DOUBLE INSULATION
	CE symbol : indicates that the module complies with the requirements of the CE directives

General safety measures

If the commissioning of the equipment differs from that described by the manufacturer, the protection provided by the equipment may be impaired. Do not turn on the module under high Voltages until it is fixed.

Any installation that does not correspond to the installation requirements will void the warranty. Any opening of the product will immediately void the warranty.

If a high voltage is connected to the inputs/outputs of the device, respect sufficient insulation between the wires, terminal blocks and the housing with the surrounding environment to maintain protection against electric shock.

Handling and maintenance operations must be carried out only by qualified and authorized personnel.

Receipt and storage of the product

Upon receipt of the device, check that it has not been damaged during transportation

It must be stored in its packaging in a room protected from dust, moisture, and mechanical vibration.

The storage temperature must be between -25°C and 80°C

Maintenance and Repair

To clean any marking on the device, switch off the device and then use a cloth slightly moistened with distilled water.

If a device can no longer be used under optimal safety conditions, it must be taken out of service and protected against inadvertent use, then returned to JM Concept.

⚠
- Never open the case
- Repairs are only to be carried on JM Concept's premises.

⚠ **SIL Products**
In the event of a failure of the product during its operation, the device is put in a safe position: the relays return to the resting position and the analog output 1 returns the value 0 to the PLC.
This mode of operation is triggered following a defect:
- of the SIL product
- of the supplied gauge bridge power supply
- of the sensor that could cause a bad conversion value
- of the installation

Follow periodic maintenance instructions to determine if the product is the cause of being in a safe position.

Maintenance Instructions for SIL Products

In order to guarantee the safety integrity of the product, periodic maintenance must be carried out by the user. This maintenance must be carried out in 4-wire and 6-wire wiring.

Maintenance in 4-wire wiring

⚠ Maintenance periodicity: to be carried out 1 time every 2 years

- Disconnect the device from the PLC and installation
- Unlock SIL mode device by entering the set password
- Configure the device according to the following table:

Input	**Value**
Wiring (Mount)	4 threads
Scale (Scale)	±300mV
Display Range (Displ min/MX)	0.00 to 100.00
Resolution (Resol)	1 point
Offset (Offst)	0.00
Filter (Filtr)	0.00
Cut-off (Cutof)	Disabled
Function (Funct)	Linear
Output 1	**Value**
Scale	4-20mA
Display Range (Displ min/MX)	0.00 to 100.00
Relay (applicable to all relays)	**Value**
High threshold (Type and StPt1)	80

- Make the following measurements:

Input (mV)	**Expected display on the input via the display**	**Expected display on output 1 (mA) via display**	**Relay position (applicable to all relays)**
-300	-300	4,0	relay at rest
0	0	12,0	relay at rest
300	300	20,0	relay at work

The display of the input or output must be correct.

⚠ If this is not the case, put the device in the safe position in SIL mode, as this indicates the failure of a component.
The device must be returned to the premises of JM Concept for a service expertise.

Maintenance in 6-wire wiring

⚠ Maintenance periodicity: to be carried out 1 time every 2 years

- Disconnect the device from the PLC and installation
- Unlock SIL mode device by entering password
- Configure the device according to the following table:

Input	**Value**
Wiring (Mount)	6 wires
Gauge Bridge Power Supply (Alim)	10V
Scale	±300mV
Display Range (Displ min/MX)	0.00 to 100.00
Resolution (Resol)	1 point
Offset (Offst)	0.00
Filter (Filtr)	0.00
Cut-off (Cutof)	Disabled
Function (Funct)	Linear
Output 1	**Value**
Scale	4-20mA
Display Range (Displ min/MX)	0.00 to 100.00
Relay (applicable to all relays)	**Value**
High threshold (Type and StPt1)	80

- Make the following measurements:

Input (mV)	**Expected display on the input via the display**	**Expected display on output 1 (mA) via display**	**Relay position (applicable to all relays)**
-300	-300	4,0	relay at rest
0	0	12,0	relay at rest
300	300	20,0	relay at work

The display of the input or output must be correct.

⚠ If this is not the case, put the device in the safe position in SIL mode, as this indicates the failure of a component.
The device must be returned to the premises of JM Concept for a service expertise.

Operating environment

The product must be installed and used indoors, in an electrical box.

It must not be exposed to temperatures outside the limits prescribed for ambient temperatures (-10°C ... +60°C).

The product is not intended to operate at altitudes higher than 2000m.

It can be installed in an environment of pollution degree 2 and withstand transient surges of the power supply network of Category II.

It can withstand grid fluctuations of +/-10% on its voltage supply. The product is designed for a temporary voltage level between phase and earth according to EN/IEC61010.

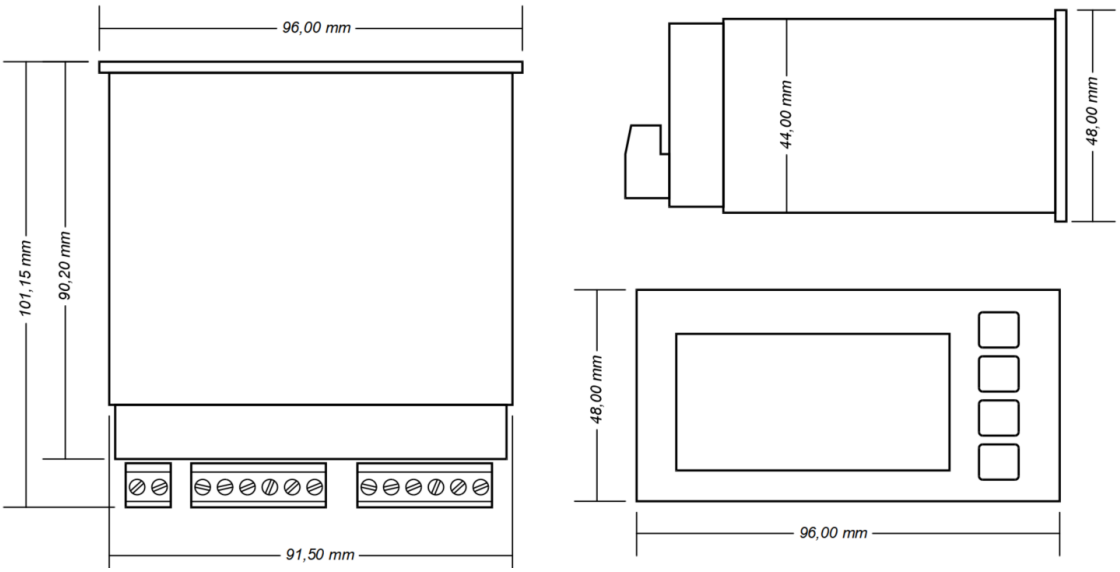
The circuits for measurements, inputs, and outputs are meant for connection to SELV (Safety extra low voltage) circuits only: 60Vdc max / 42.4V peak max / 30Vrms max).

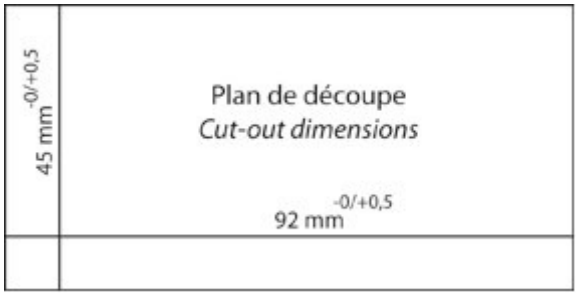
The insulation level of external circuits plugged into the inputs and outputs should be of **1500Vrms** in order to maintain the existing insulation in the device between the different interfaces.

Since the bottom of the product enclosure has openings, it is not considered a fireproof enclosure.

Dimensions and wiring

Dimensions

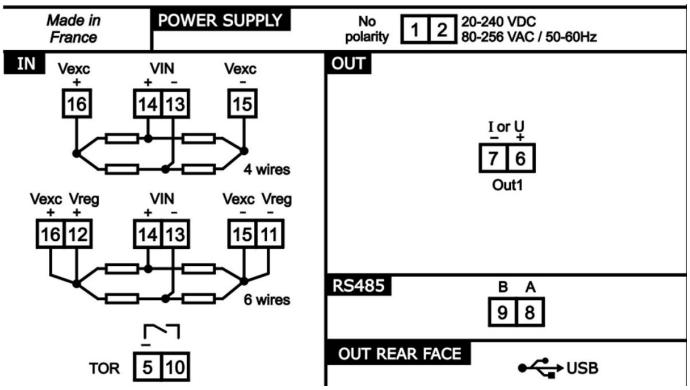




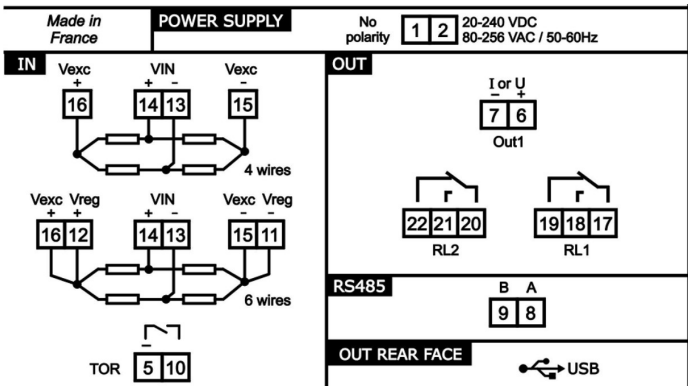
Dimensions: 48mm x 96mm x 85mm

Wiring

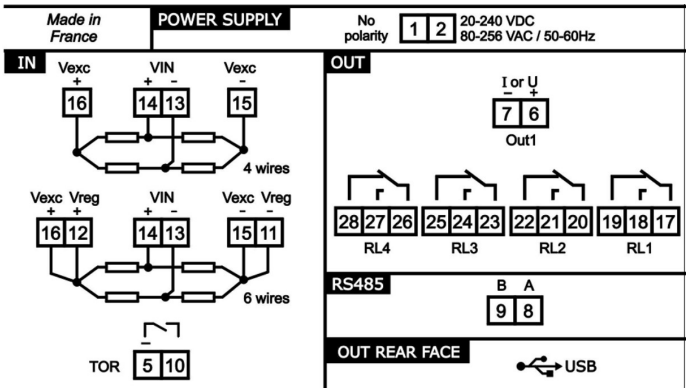
XALIS 1000U1 / XALIS 1000U1SIL



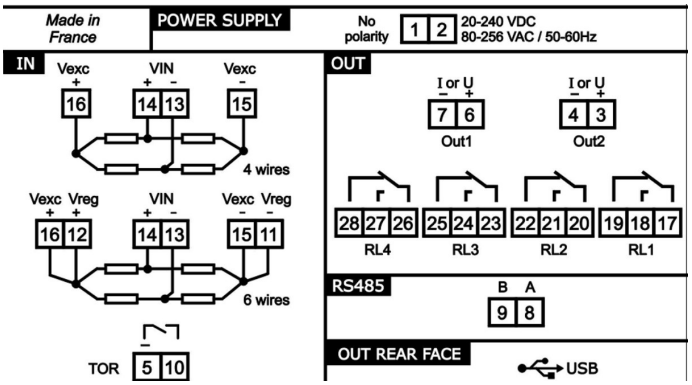
XALIS 1200U1 / XALIS 1200U1SIL



XALIS 1400U1 / XALIS 1400U1SIL



XALIS1400U2 / XALIS 1400U2SIL



Installation

Prerequisite

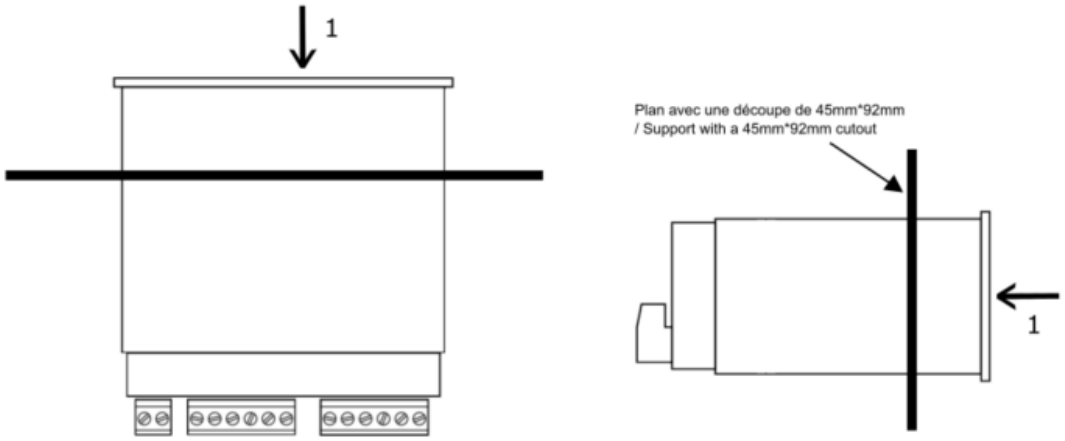
Necessary equipment:

- Support with 45mm * 92mm cutout
- Screwdriver
- Copper wire of section 2.5 mm^2 max
- Cutting pliers
- Circuit breaker or equivalent

Installing the housing

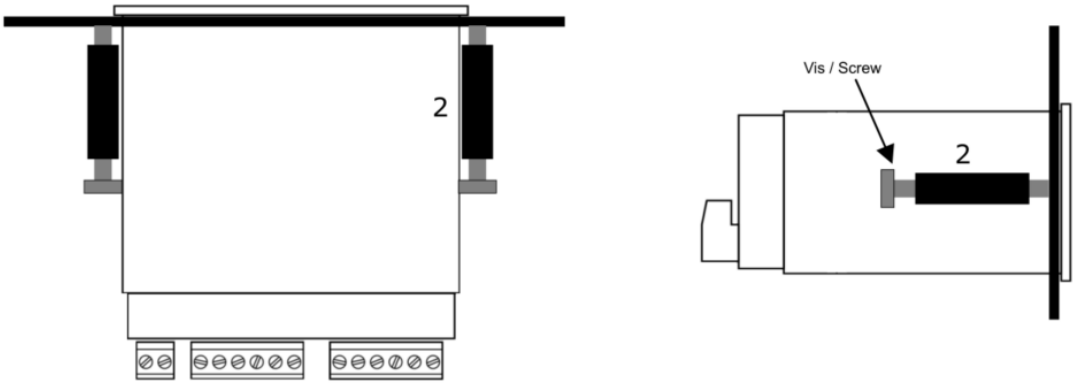
The product must be mounted horizontally.

Slide the case into an opening of a bracket placed vertically **1**, then install the hinges on each side of the device and attach the case to the support with screws **2**.



Install the product on the stand (step 1)

Fix the case to the support with the side screws.



Install the product on the stand (step 2)

A D-curve circuit breaker or equivalent must be placed close to the product and be easily accessible. This protection device must allow to cut the voltage of the power supply cables connected to the product. Once the power is cut and the cables removed, the product can be removed.

Connection of terminal blocks

The connection of the inputs, outputs, and power supply is done by means of numbered removable screw terminals.

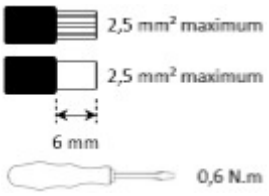
The power supply of the product is done on terminals 1 and 2 marked in red.

Use wire section 2.5 mm² for the power supply (1 and 2).

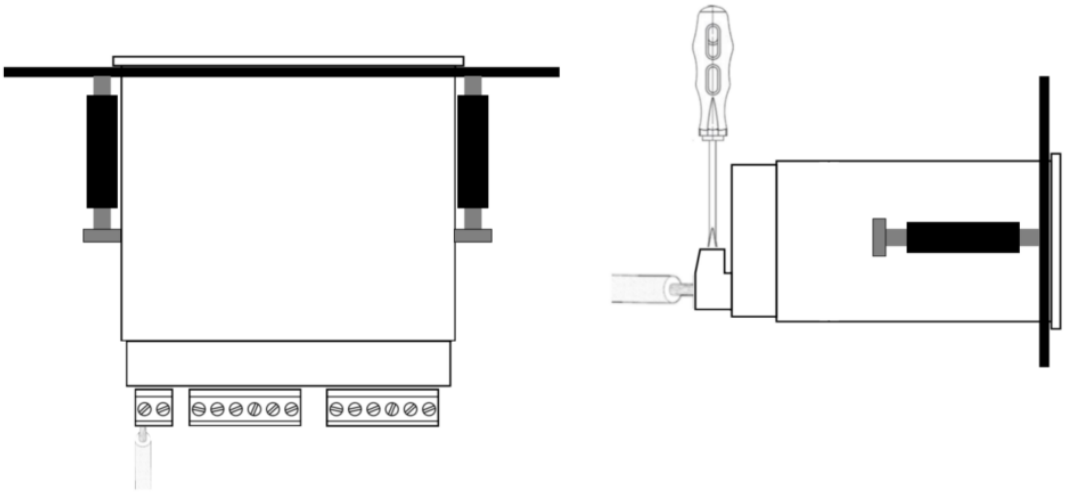
On other terminals, use a maximum of 2.5 mm² wire.

Strip cables over a length of 6mm

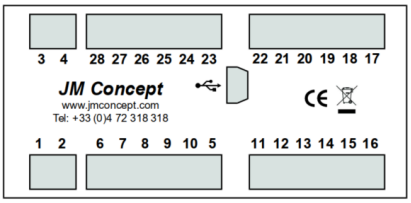
The tightening torque should be 0.6 Nm.



When connecting the power supply to the therminal, check that the power is turned off to avoid any risk to the operator.



The mini-USB socket on the back of the product allows the connection to a PC for the product's configuration software.

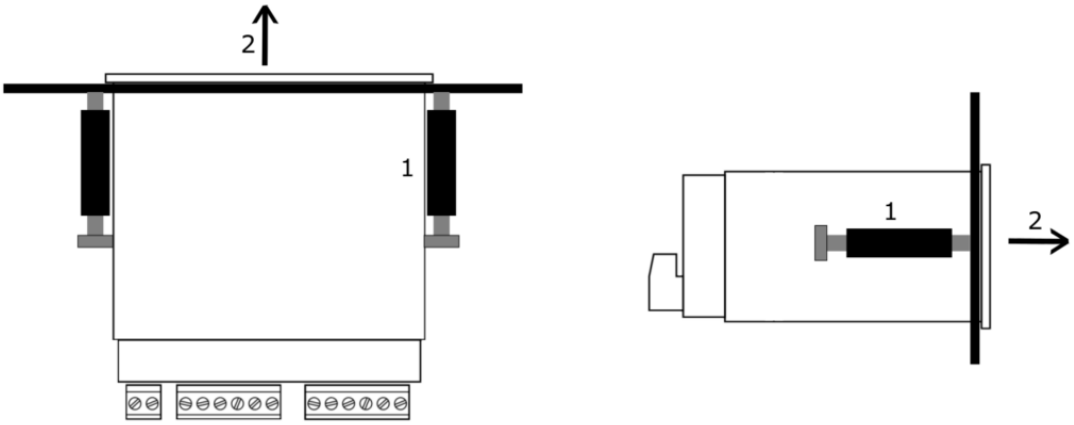


Product, rear view

Removing the indicator

⚠ Turn off the product and then disconnect the terminal blocks before removing the indicator.

To remove the product from the bracket, unscrew the 2 fixing screws and remove the hinges **1**, then pull the product from the front side where the screen **2** is located.



Power Supply

The product has its own power supply.

The power supply conditions of the product (voltage, frequency, consumption) are available in the following sections "Technical characteristics" → "Characteristics" → "Auxiliary source" → "Power Supply voltage", and "Technical characteristics" → "Characteristics" → "General characteristics" → "Maximum consumption" of this document.

Plan a protective fuse to protect the external power supply because the product is not equipped with one.
Install an external protective fuse, time-delayed of type T 500mA 250V with a high cut-off power.
The cut-off power of the protective fuse shall be greater than the short-circuit current that can be supplied by the power source.

Operating Instructions

Before operating the device, make sure you follow the steps below in order:

1. Install and wire the product, check the baseline (BL) if applicable. Refer to the "Installation" chapter of this manual.
2. Power the product. Refer to the "Installation" chapter → "Power Supply" of this manual.
3. Program the inputs/outputs of the product. Refer first to the chapter "Programming and keys functions " of this manual.
4. Configure the communications. Refer to the "Settings Menu" and "MODBUS Exchange Table" sections of this manual (depending on the product reference).

SIL Products
Once the configuration has been verified, the product can be connected to its installation. It must then be locked by entering a password (a number between 0 and 99999 or between 0 and 9999 depending on the product) via the SIL mode menu.
Locking prevents access to all configuration menus via the display, thus preventing any device configuration.
When the product is locked, the user can verify the device configuration via RS485 communication.

Programming and key functions

Introduction

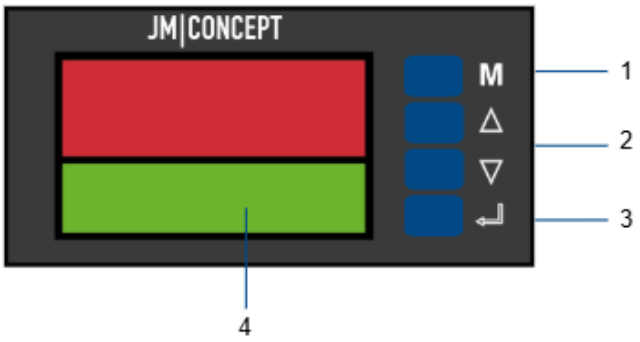
The principle of programming is that of drop-down menus in which it is enough to scroll through the available functions until the display of the one sought, and to validate this choice to proceed to the next step.
Scrolling can be done in 2 directions.
During programming, one or more presses on the button allows you to return to measure.
During programming, if no key is activated for one minute, the device returns to the measurement phase automatically.

The sequence to perform good programming is the following:

- Programming of the display and input: mode, type, scale, decimal point, resolution, function for process inputs and potentiometer, digital filter, cut-off.
- Programming of outputs:

→ analog outputs (gauge, beginning and end of scale, safety, limit)

→ relay (led, relay, alarm type, hysteresis, timing, breaking, memorization)



1	Menu key	**3**	Validation key
2	Scroll keys	**4**	Bicolor screen

Use of the function keys in measurement mode

Element	Graphical representation in the manual	Function
Menu key	**M**	Allows access to programming mode
Validation key	↵	Allows to reset the min / max and access the tare function
Scroll keys	△▽	Allows to navigate between the different measurement pages

Use of the function keys in programming mode

Element	Graphical representation in the manual	Function
Menu key	**M**	Allows to return to measurement mode (just back one step each time)
Validation key	↵	Allows to validate a menu or configuration choice
Scroll keys	△▽	Allows to choose a menu or the value of a parameter

Symbols used in the manual

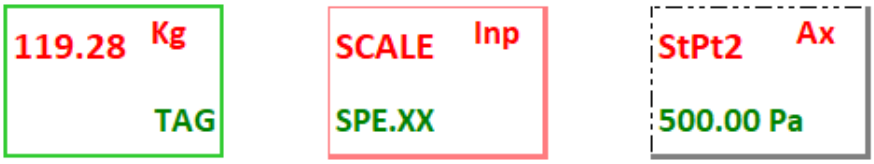
⚠ : Warning

ℹ : Information / Recommendation

: Note

In the pages presenting the different drop-down menus, the main screen is framed green, and the menus accessible, if a special caliber is selected, framed orange.

Some screens are visible only according to the chosen configuration, they are framed in dotted lines.



Main screen - Special caliber screen- Screen visible depending on the configuration

PC programming

Hardware Requirements

To be able to program the indicator with the PC, it is necessary to have a connection cable and the IXLOG software for the product.

Connecting cable

You need a USB cable between the USB socket on the front of the JM Concept indicator and the USB of the PC. JM Concept indicators can be programmed easily with our IXLOG software.

Once the indicator is programmed, it is also possible to connect and configure it via the RS485 bus.

IXLOG Software

To facilitate the configuration and programming of these products, JM Concept has designed a very advanced and user-friendly human/machine interface.
This software is free and available on our website:
http://www.jmconcept.com/

IXLOG software allows:

- Programming,
- The backup and the copy and paste of the configuration,
- The detection of devices on the network,
- Writing and reading the configuration,
- The communication with the device,
- The visualization of the measurement given by the indicator

The IXLOG software is described and explained in more detail in the document IXLOG-FAQ-en.pdf directly in the help interface of the software.

Error messages

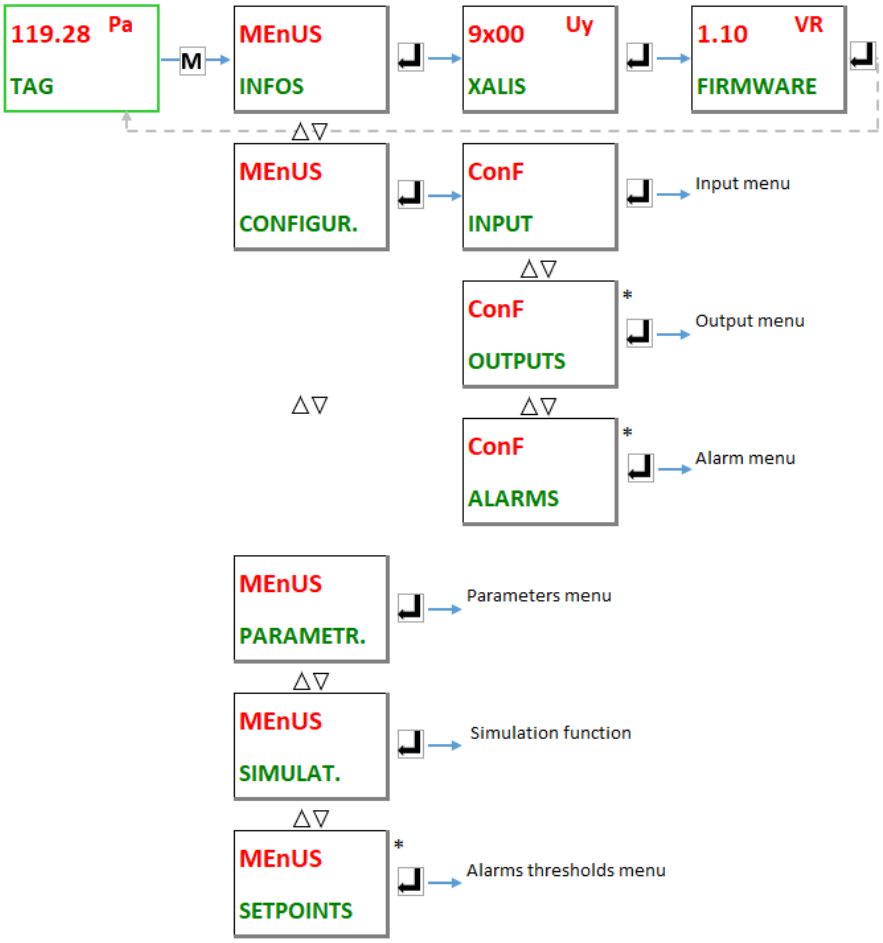
Message displayed	Description
`OF ----`	The `OF ----` (OverFLow) message is displayed for an input signal higher than the selected gauge.
`ruPt`	In the event of a sensor failure, the `ruPt` message is shown flashing. The sensor failure is displayed: • on detection of an open circuit in the current (4-20mA only), low voltage, resistance, potentiometer, thermocouple gauge. • if the measurement saturates the input.
`UF___`	The message `UF___` (UnderFLow) is displayed for an input signal below the selected gauge.

Main menu

Diagram

This menu allows you to enter the programming mode and configure the input, analog outputs, and relays.

*Menus available according to product reference



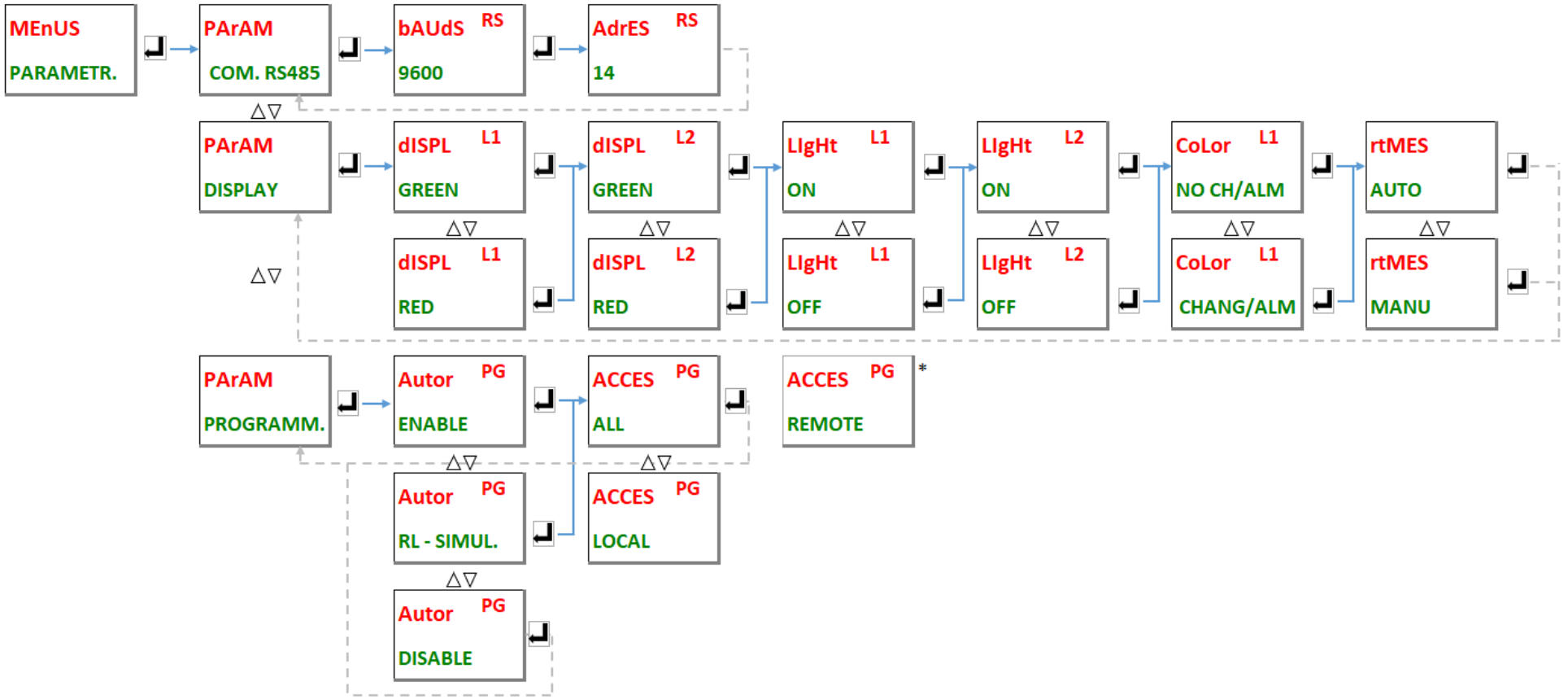
Lexicon of screens

Screen	Subscreen	Value	Description
Main screen			
		Line 1	Measurement and unit
		Line 2	TAG (TAG entry only by IXLOG software)
MEnUS	INFOS		Access to the product information
	XALIS	Line 1	Product reference (x = number of relays, y = number of analog outputs)
			Display 5 seconds
	FIRMWARE	Line 1	Software version number
			Display 5 seconds
MEnUS	CONFIGUR		Accès à la configuration
	CONF	INPUT	Access to the Input menu
	CONF	OUTPUTS	Access to the output menu
	CONF	ALARMS	Access to the Alarm menu
MEnUS	PARAMETR.		Access to the settings menu
MEnUS	SIMULAT.		Access to the simulation function
MEnUS	SETPOINTS		Access to the alarm thresholds menu

Parameters menu

Diagram

*Menu accessible only with IXLOG software



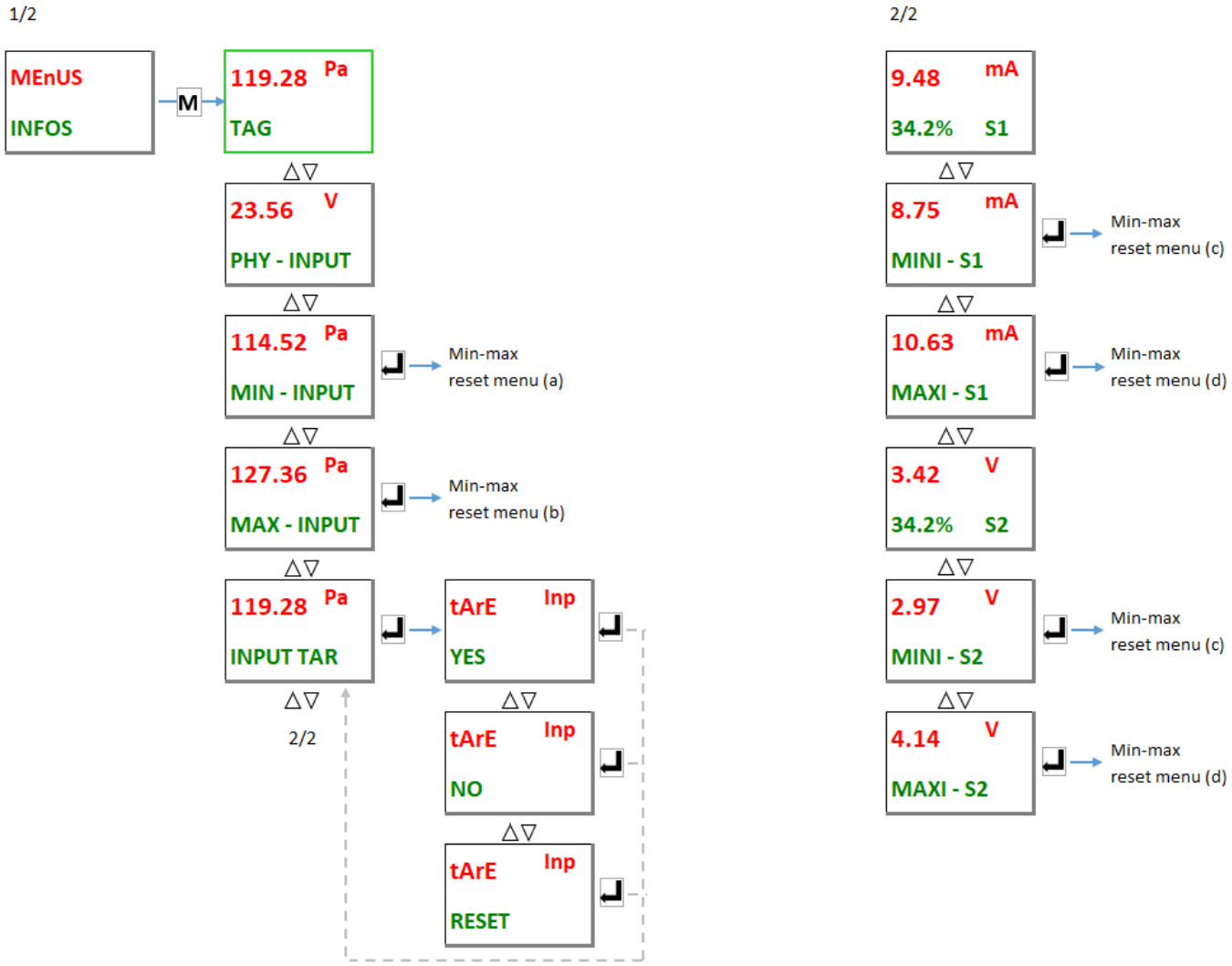
Lexicon of screens

Screen	Subscreen	Value	Description
PArAM	COM. RS485		Configuration of the RS485 Communication
	bAUdS	1200 / 2400 / 4800 / 9600 19200 / 38400 / 115200	Selection of the transmission speed
	adrES	de 1 à 254	Setting of the address of the Modbus slave
PArAM	DISPLAY		Display configuration
	dISPL L1	GREEN/RED	Choice of the color of the measurement display: green / red
	dISPL L2	GREEN/RED	Choice of alphanumeric display color: green / red
	LIgHt LX	ON/OFF	Choice of the display on hold
	CoLor	NO CH/ALM CHANG/ALM	Choice of color change if alarm
	rtMES	AUTO/MANU	Choice of return in measurement mode : automatic or manual
PArAM	PROGRAMM.		Programming Access Preferences Configuration
	Autor	ENABLE	Full access to programming
	Autor	RL - SIMUL.	Access to the programming of the thresholds and simulation mode
	Autor	DISABLE	Full lock
	ACCES	ALL	Programming with Keyboard and RS485
	ACCES	LOCAL	Programming with Keyboard only
	ACCES	REMOTE	Programming by RS485 only

Measurements menu

Diagram

Value resets and tare values are accessible in this mode.



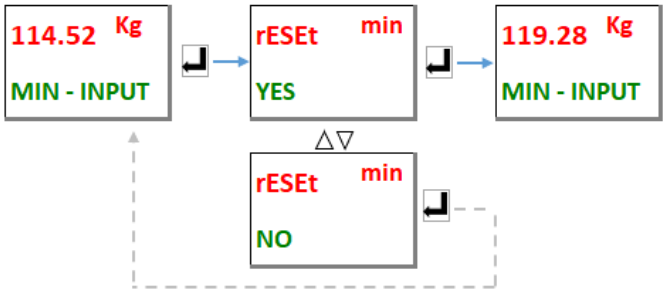
Lexicon of screens

Screen	Subscreen	Value	Description
Main screen			
		Line 1	Measurement and unit
		Line 2	TAG (TAG entry only by IXLOG software)
	PHY - INPUT		Display of the physical measurement
	MIN - INPUT		Display of the min measured value
	MAX - INPUT		Display of the max measured value
	INPUT TAR		Access to tare configuration
	XX% Sx		Display of the Output Level n°x
	MINI - Sx		Display of the mini output n°x value
	MAXI - Sx		Display of the max value output n°x
INPUT TAR	tArE		Choice of use of tare
	tArE	YES/NO	
	tArE	RESET	Reset

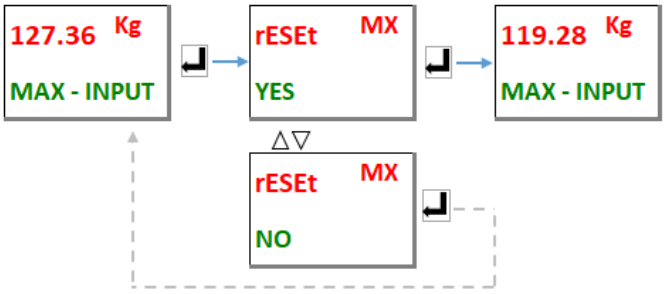
Min-max reset menu

Diagram

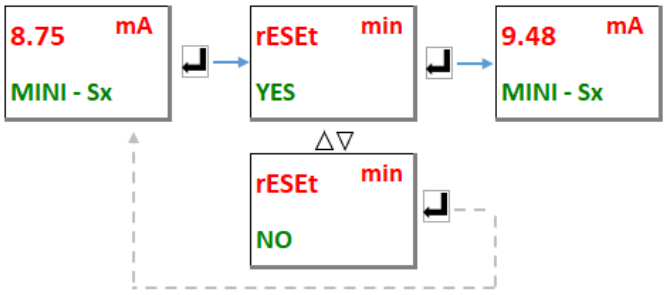
Mini measurement (a)



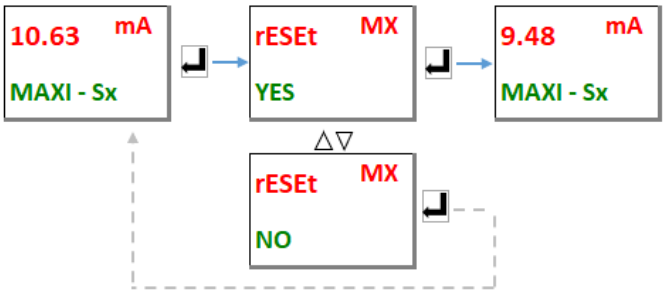
Maxi measurement (b)



Maxi output (c)



Maxi output (d)



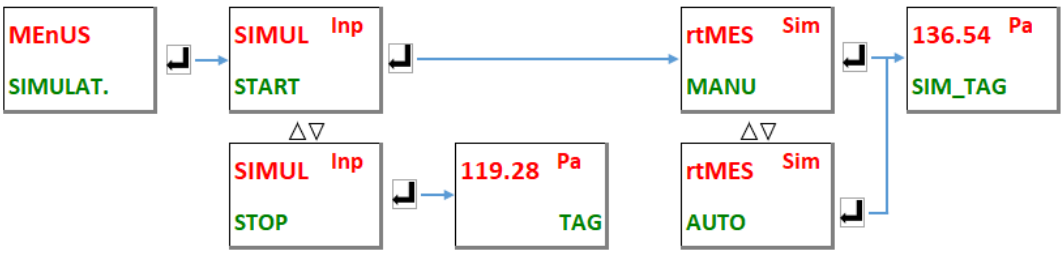
Lexicon of screens

Screen	Subscreen	Value	Description
MIN - INPUT			Display of the min measured value
MAX - INPUT			Display of the max measured value
MINI - SX			Display of the mini output n°x value
MAXI - SX			Display of the max value output n°x
rESEt			Choice of reset
		YES/NO	

Simulation function

Operating the simulation function

This function allows you to vary the simulation value (with the up/down arrows from the SIM_"TAG" screen) to change the analog output value and relays statuses.

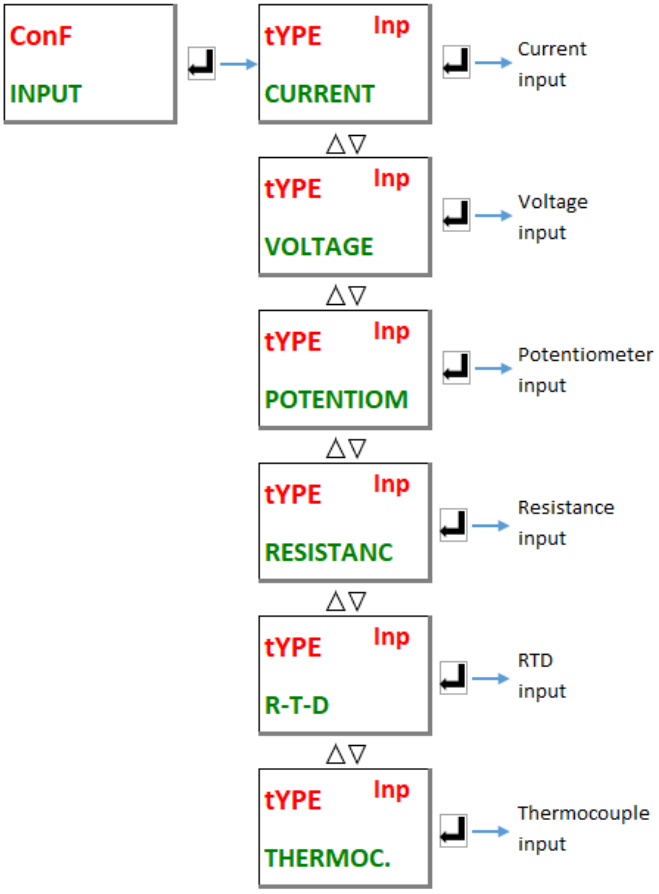


Lexicon of screens

Screen	Subscreen	Value	Description
SIMUL			Simulation function
		START	Starting the simulation mode. Back to the main screen in simulation mode
		STOP	Stop the simulation mode. Return to the main screen in measurement mode
rtMES			Selection of the return to measurement mode
		MANU	Return to manual measurement mode
		AUTO	Return to measurement mode after 10 minutes

Input menu

Diagram

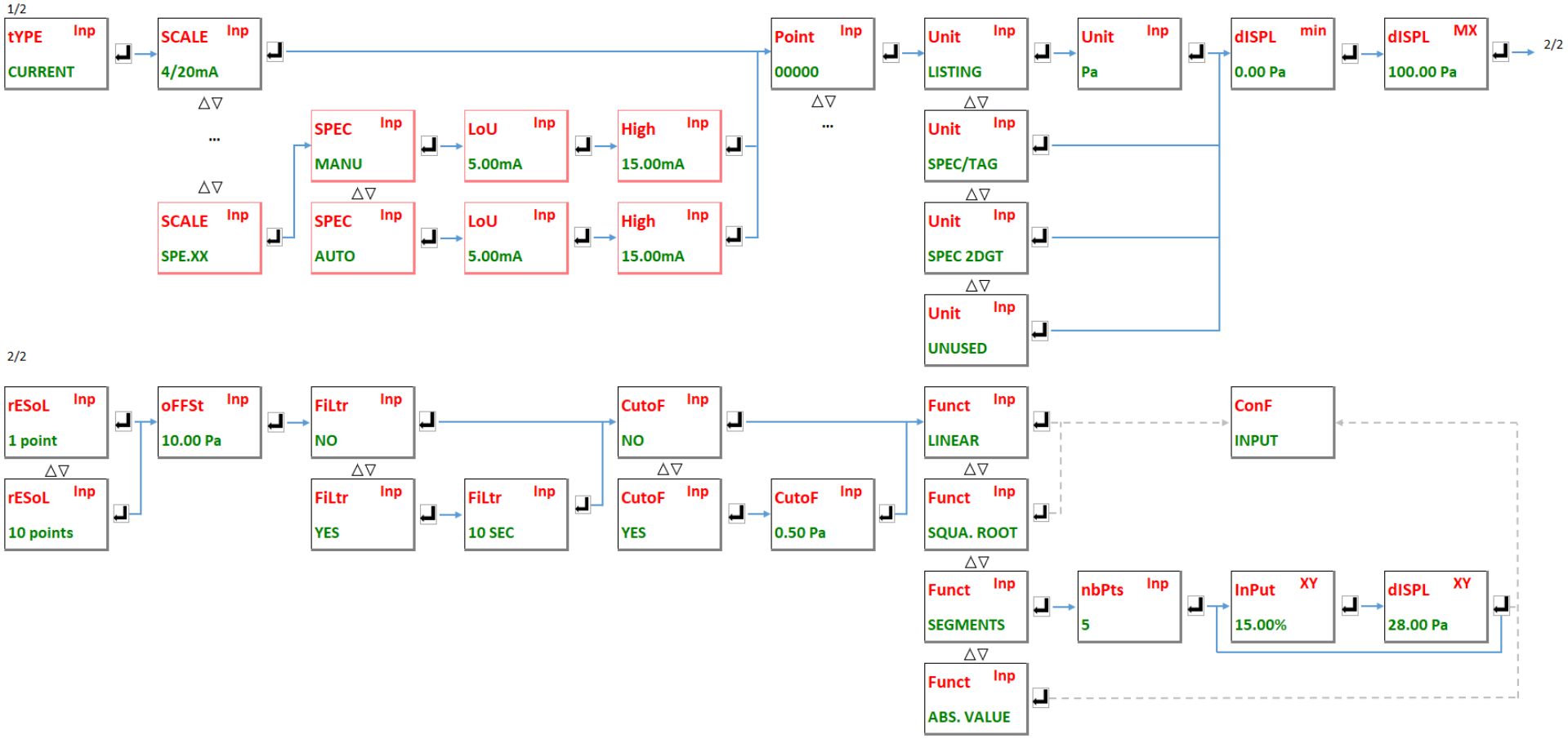


Lexicon of screens

Screen	Subscreen	Value	Description
tYPE			Access to the choice of input type
tYPE	CURRENT		Current input
tYPE	VOLTAGE		Voltage input
tYPE	POTENTIOM		Potentiometer input
tYPE	RESISTANC		Resistance input
tYPE	R-T-D		RTD input
tYPE	THERMOC.		Thermocouple input

Current input configuration

Diagram



Lexicon of screens

Screen	Subscreen	Value	Description
SCALE			Gauges Selection
		XX	Standard gauges
		SPE.XX	Special gauges
SPEC	MANU		Manual Setting of the special gauges
MANU	LoU		Manual Setting of the minimum value
MANU	LoU	from -22 to 22	
MANU	High		Manual Setting of the maximum value
MANU	High	from -22 to 22	
SPEC	AUTO		Automatic Setting for special gauges
AUTO	LoU		Setting of the minimum value of the input signal with a connected sensor
AUTO	High		Setting of the maximum value of the input signal with a connected sensor
Point			Selection of the position of the comma
		x.xxxx	Comma position
Unit	LISTING		Access to special units
	SPEC/TAG		Configuration of the special unit in “TAG” with the IXLOG software. Displayed in 2nd line.
	SPEC 2DGT		Configuration of the special 2-digit unit with the IXLOG software. Displayed in the 1st line.
	UNUSED		No special unit
Unit			Access to the list of the 57 units
		Unit with 1 or 2 letters	Display of 2-digits unit on the 1st line
		Unit with 3 or 4 letters	Display on the 2nd line
dISPL min			Setting of the minimum value of the display scale
		from -19999 to 99999	
dISPL MX			Setting of the maximum value of the display scale
		from -19999 to 99999	

Screen	Subscreen	Value	Description
rESoL			Selection of the display resolution
		XPt(s)	Number of points
oFFSt			Offset Setting
		from -19999 to 99999	
FiLtr			Choice of use of filtering
		YES/NO	
	YES	from 0 to 250	
CutoF			Choice of use of the cut-off
		YES/NO	
	YES	from -19999 to 99999	
Funct			Function Selection
	LINEAR		Linear function
	SQUA. ROOT		Square root function
	SEGMENTS		Segment function access
SEGMENTS	nbPts	from 1 to 99	Setting of the number of points
SEGMENTS	InPut	from 0 to 100%	Setting of the percentage of the point input scale
SEGMENTS	dISPL	from -19999 to 99999	Setting of the point display value
	ABS. VALUE		Absolute value function

Definition of functions

Square root

The output(s) are function of the square root of the input

Segment Function

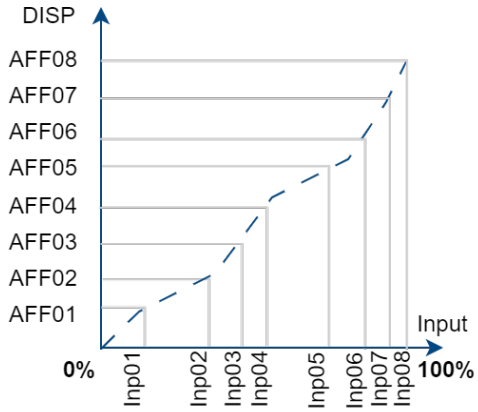
Linearization in 99 points (free choice for each point), allows to create an output function by segmentation of the signal of each input channel.

0% = _Display ; 100% = ¯Display

AFF01, AFF02, … = Display value

INP01, INP02, … = % of the input value

In the example opposite, 8 points (+0% & 100%) correspond to 9 segments



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Absolute value

The output(s) are a function of the absolute value of a bidirectional input

Offset

Manual adjustment of the input offset

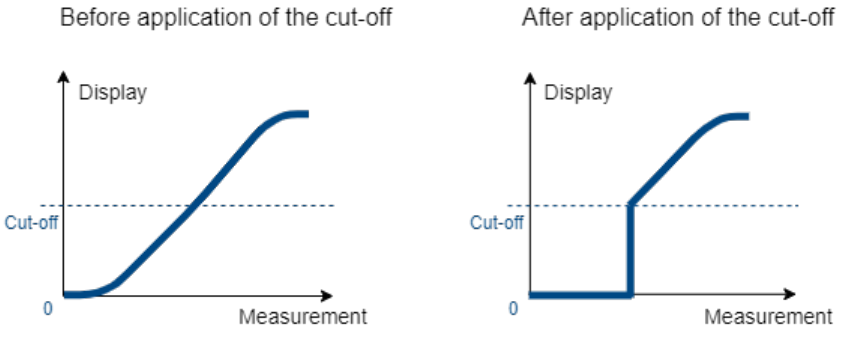
Filtering

Integration of the measurement over the defined time (in seconds)

Cut-off

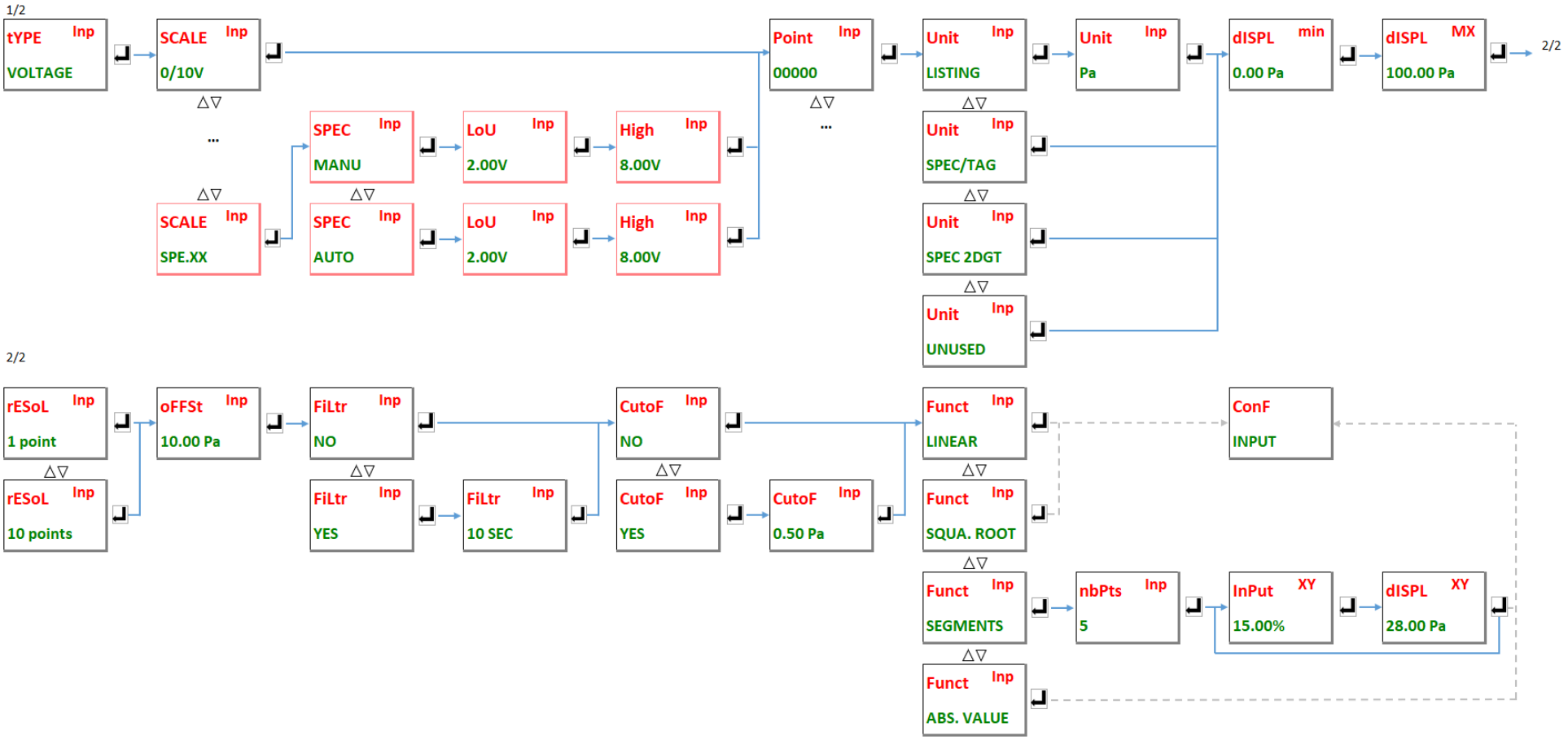
Threshold below which the input is considered as null

If Display value < Cut-off value, then Display value = Minimum display



Voltage input configuration

Diagram



Lexicon of screens

Screen	Subscreen	Value	Description
SCALE			Gauges Selection
		XX	Standard gauges
		SPE.XX / SPEC.XX	Special gauges
SPEC	MANU		Manual Setting of the special gauges
MANU	LoU		Manual Setting of the minimum value
MANU	LoU	from -110mV to 110mV ; from -2V to 11V ; from -1000V to 1000V	
MANU	High		Manual Setting of the maximum value
MANU	High	from -110mV to 110mV ; from -2V to 11V ; from -1000V to 1000V	
SPEC	AUTO		Automatic Setting for special gauges
AUTO	LoU		Setting of the minimum value of the input signal with a connected sensor
AUTO	High		Setting of the maximum value of the input signal with a connected sensor
Point			Selection of the position of the comma
		x.xxxx	Comma position
Unit	LISTING		Access to special units
	SPEC/TAG		Configuration of the special unit in “TAG” with the IXLOG software. Displayed in 2nd line.
	SPEC 2DGT		Configuration of the special 2-digit unit with the IXLOG software. Displayed in the 1st line.
	UNUSED		No special unit
Unit			Access to the list of the 57 units
		Unit with 1 or 2 letters	Display of 2-digits unit on the 1st line
		Unit with 3 or 4 letters	Display on the 2nd line
dISPL min			Setting of the minimum value of the display scale
		from -19999 to 99999	
dISPL MX			Setting of the maximum value of the display scale
		from -19999 to 99999	

Screen	Subscreen	Value	Description
rESoL			Selection of the display resolution
		XPt(s)	Number of points
oFFSt			Offset Setting
		from -19999 to 99999	
FiLtr			Choice of use of filtering
		YES/NO	
	YES	from 0 to 250	
CutoF			Choice of use of the cut-off
		YES/NO	
	YES	from -19999 to 99999	
Funct			Function Selection
	LINEAR		Linear function
	SQUA. ROOT		Square root function
	SEGMENTS		Segment function access
SEGMENTS	nbPts	from 1 to 99	Setting of the number of points
SEGMENTS	InPut	from 0 to 100%	Setting of the percentage of the point input scale
SEGMENTS	dISPL	from -19999 to 99999	Setting of the point display value
	ABS. VALUE		Absolute value function

Definition of functions

Square root

The output(s) are function of the square root of the input

Segment Function

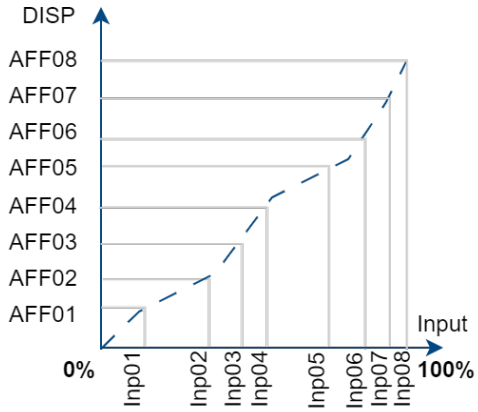
Linearization in 99 points (free choice for each point), allows to create an output function by segmentation of the signal of each input channel.

0% = _Display ; 100% = ¯Display

AFF01, AFF02, … = Display value

INP01, INP02, … = % of the input value

In the example opposite, 8 points (+0% & 100%) correspond to 9 segments



.

Absolute value

The output(s) are a function of the absolute value of a bidirectional input

Offset

Manual adjustment of the input offset

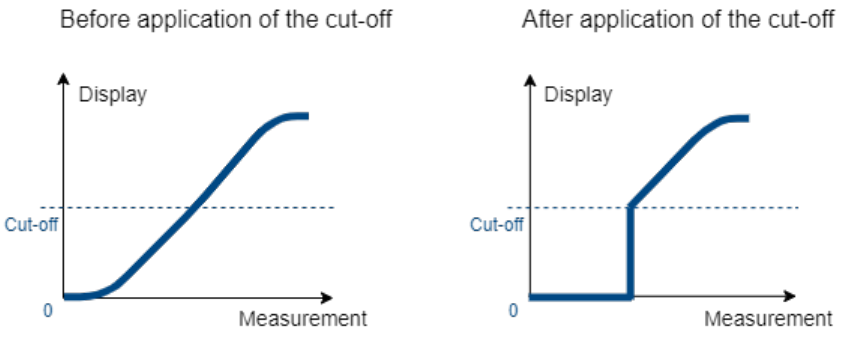
Filtering

Integration of the measurement over the defined time (in seconds)

Cut-off

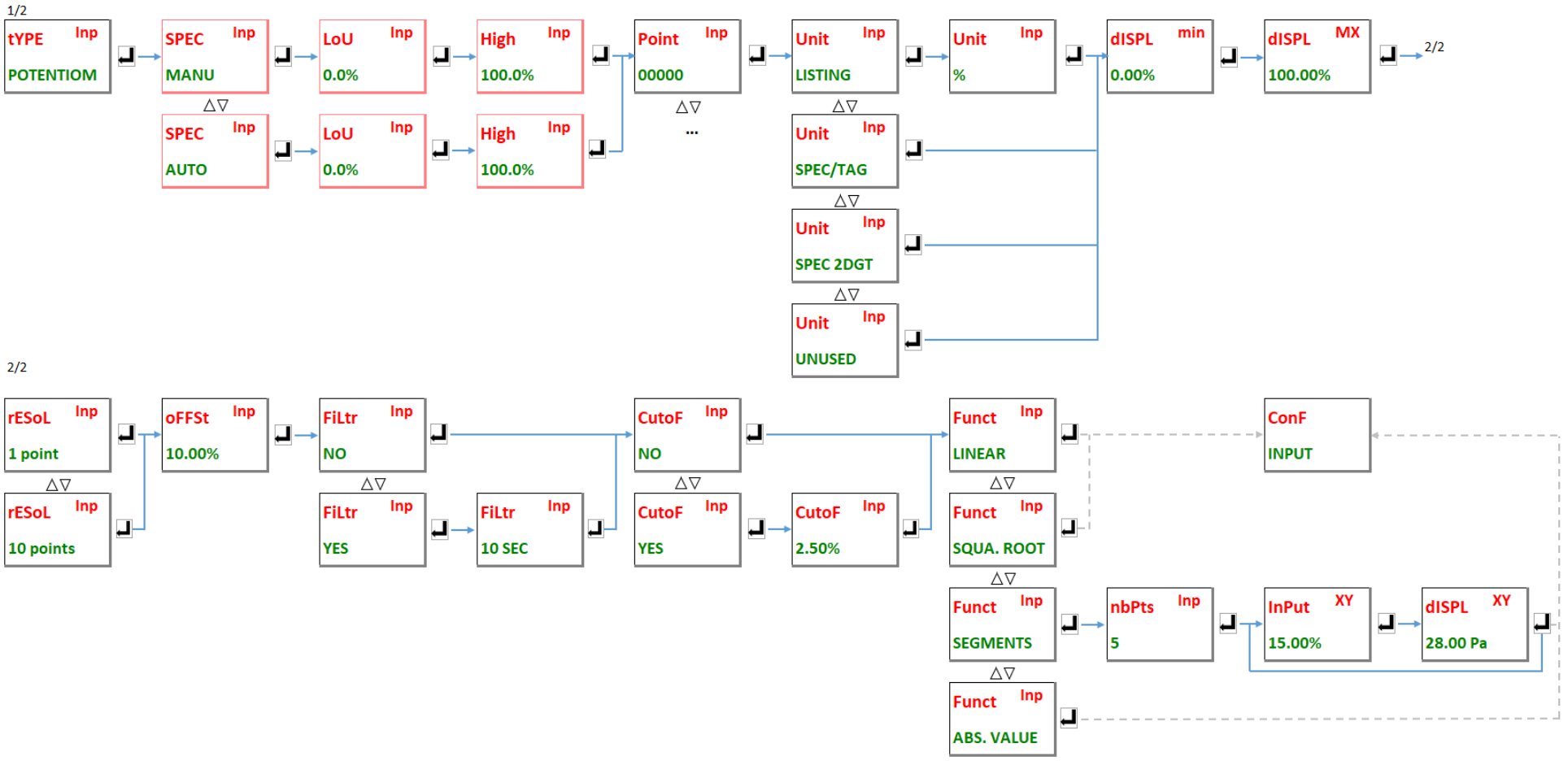
Threshold below which the input is considered as null

If Display value < Cut-off value, then Display value = Minimum display



Potentiometer input configuration

Diagram



Lexicon of screens

Screen	Subscreen	Value	Description
SPEC	MANU		Manual Setting of the special gauges
MANU	LoU		Manual Setting of the minimum value
MANU	LoU	from 0 to 110	
MANU	High		Manual Setting of the maximum value
MANU	High	from 0 to 110	
SPEC	AUTO		Automatic Setting for special gauges
AUTO	LoU		Setting of the minimum value of the input signal with a connected sensor
AUTO	High		Setting of the maximum value of the input signal with a connected sensor
Point			Selection of the position of the comma
		x.xxxx	Comma position
Unit	LISTING		Access to special units
	SPEC/TAG		Configuration of the special unit in “TAG” with the IXLOG software. Displayed in 2nd line.
	SPEC 2DGT		Configuration of the special 2-digit unit with the IXLOG software. Displayed in the 1st line.
	UNUSED		No special unit
Unit			Access to the list of the 57 units
		Unit with 1 or 2 letters	Display of 2-digits unit on the 1st line
		Unit with 3 or 4 letters	Display on the 2nd line
dISPL min			Setting of the minimum value of the display scale
		from -19999 to 99999	
dISPL MX			Setting of the maximum value of the display scale
		from -19999 to 99999	

Screen	Subscreen	Value	Description
rESoL			Selection of the display resolution
		XPt(s)	Number of points
oFFSt			Offset Setting
		from -19999 to 99999	
FiLtr			Choice of use of filtering
		YES/NO	
	YES	from 0 to 250	
CutoF			Choice of use of the cut-off
		YES/NO	
	YES	from -19999 to 99999	
Funct			Function Selection
	LINEAR		Linear function
	SQUA. ROOT		Square root function
	SEGMENTS		Segment function access
SEGMENTS	nbPts	from 1 to 99	Setting of the number of points
SEGMENTS	InPut	from 0 to 100%	Setting of the percentage of the point input scale
SEGMENTS	dISPL	from -19999 to 99999	Setting of the point display value
	ABS. VALUE		Absolute value function

Definition of functions

Square root

The output(s) are function of the square root of the input

Segment Function

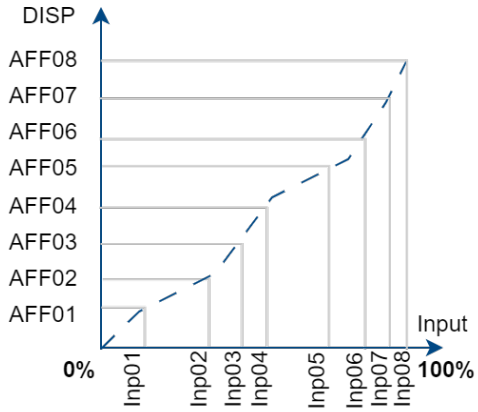
Linearization in 99 points (free choice for each point), allows to create an output function by segmentation of the signal of each input channel.

0% = _Display ; 100% = ¯Display

AFF01, AFF02, … = Display value

INP01, INP02, … = % of the input value

In the example opposite, 8 points (+0% & 100%) correspond to 9 segments



.

Absolute value

The output(s) are a function of the absolute value of a bidirectional input

Offset

Manual adjustment of the input offset

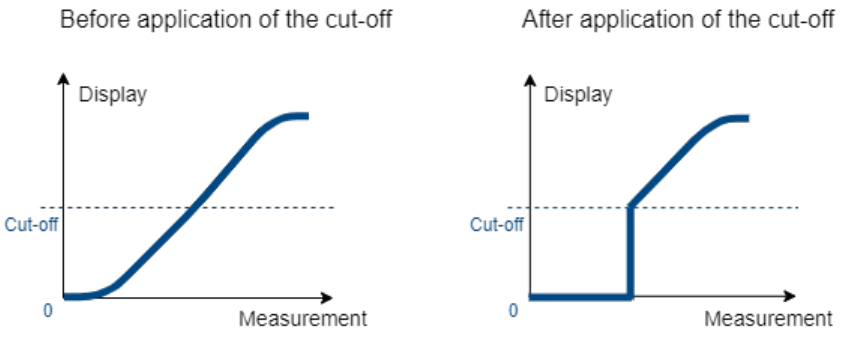
Filtering

Integration of the measurement over the defined time (in seconds)

Cut-off

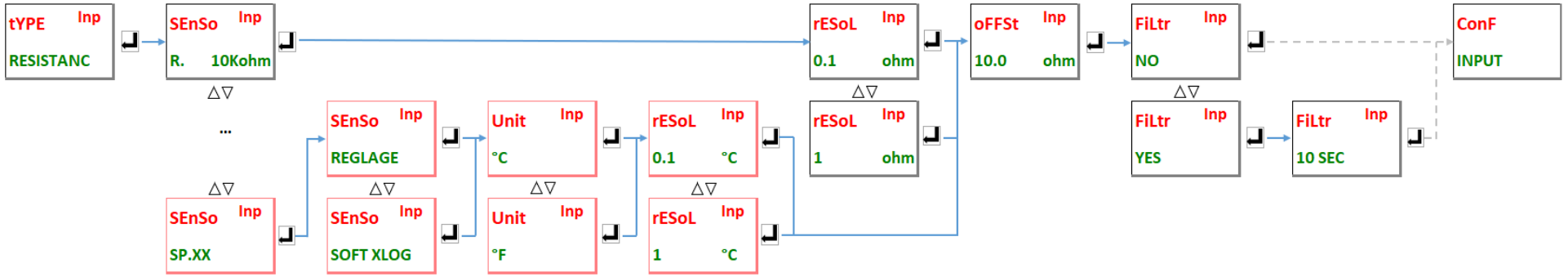
Threshold below which the input is considered as null

If Display value < Cut-off value, then Display value = Minimum display



Resistance input configuration

Diagram



Lexicon of screens

Screen	Subscreen	Value	Description
SEnSo			Gauges Selection
		XX	Standard gauges
		SP.XX	Special gauges
SEnSo			Access to the special gauge setting
REGLAGE			Manual Setting
SOFT XLOG			Special curve Setting with the IXLOG software
Unit		°C/°F	Unit Selection
rESoL		0.1/1	Selection of the display resolution
rESoL			Selection of the display resolution
rESoL		0.1/1	
oFFSt			Offset Setting
		from -19999 to 99999	
FiLtr			Choice of use of filtering
		YES/NO	
	YES	from 0 to 250	

Definition of functions

Offset

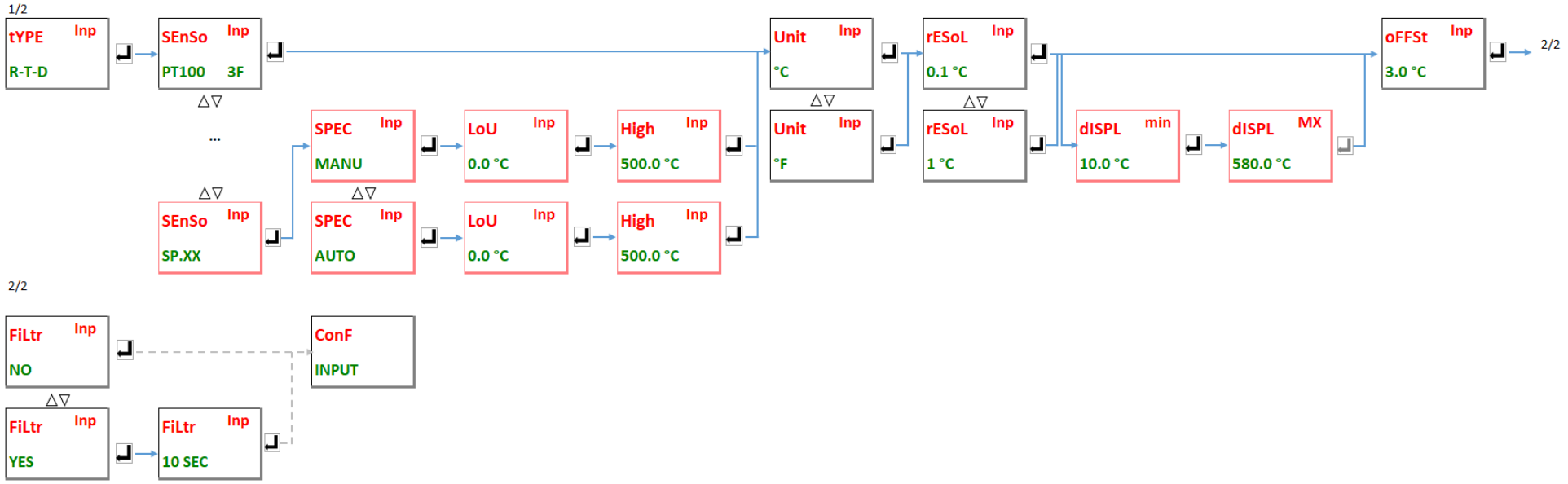
Manual adjustment of the input offset

Filtering

Integration of the measurement over the defined time (in seconds)

RTD input configuration

Diagram



Lexicon of screens

Screen	Subscreen	Value	Description
SEnSo			Gauges Selection
		XX	Standard gauges
		SP.XX	Special gauges
SPEC	MANU		Manual Setting of the special gauges
MANU	LoU		Manual Setting of the minimum value
MANU	LoU	from -19999 to 99999	
MANU	High		Manual Setting of the maximum value
MANU	High	from -19999 to 99999	
SPEC	AUTO		Automatic Setting for special gauges
AUTO	LoU		Setting of the minimum value of the input signal with a connected sensor
AUTO	High		Setting of the maximum value of the input signal with a connected sensor
Unit			Unit Selection
		°C/°F	
rESoL			Selection of the display resolution
		0.1/1	
dISPL min			Setting of the minimum value of the display scale
		from -19999 to 99999	
dISPL MX			Setting of the maximum value of the display scale
		from -19999 to 99999	
oFFSt			Offset Setting
		from -19999 to 99999	
FiLtr			Choice of use of filtering
		YES/NO	
	YES	from 0 to 250	

Definition of functions

Offset

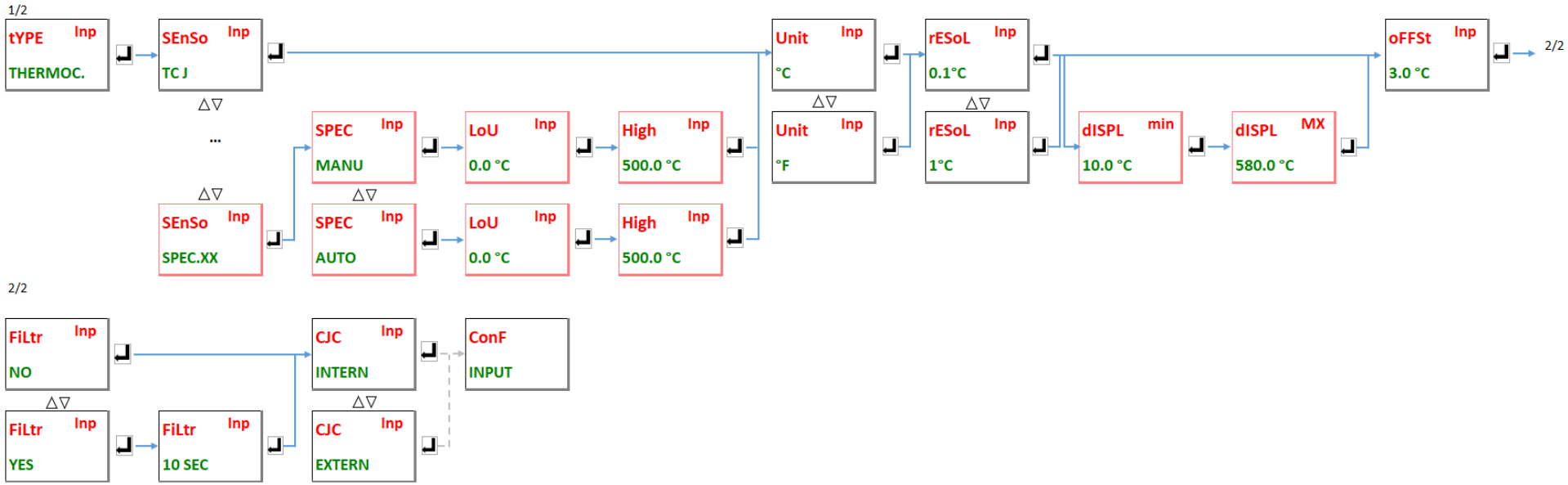
Manual adjustment of the input offset

Filtering

Integration of the measurement over the defined time (in seconds)

Thermocouple input configuration

Diagram



Lexicon of screens

Screen	Subscreen	Value	Description
SEnSo			Gauges Selection
		XX	Standard gauges
		SPEC.XX	Special gauges
SPEC	MANU		Manual Setting of the special gauges
MANU	LoU		Manual Setting of the minimum value
MANU	LoU	from -19999 to 99999	
MANU	High		Manual Setting of the maximum value
MANU	High	from -19999 to 99999	
SPEC	AUTO		Automatic Setting for special gauges
	AUTO	LoU	Setting of the minimum value of the input signal with a connected sensor
	AUTO	High	Setting of the maximum value of the input signal with a connected sensor
Unit			Unit Selection
		°C/°F	
rESoL			Selection of the display resolution
		0.1/1	
dISPL min			Setting of the minimum value of the display scale
		from -19999 to 99999	
dISPL MX			Setting of the maximum value of the display scale
		from -19999 to 99999	
oFFSt			Offset Setting
		from -19999 to 99999	
FiLtr			Choice of use of filtering
		YES/NO	
	YES	from 0 to 250	
CJC			CJC type selection
		INTERN	Internal
		EXTERN	External

Definition of functions

Offset

Manual adjustment of the input offset

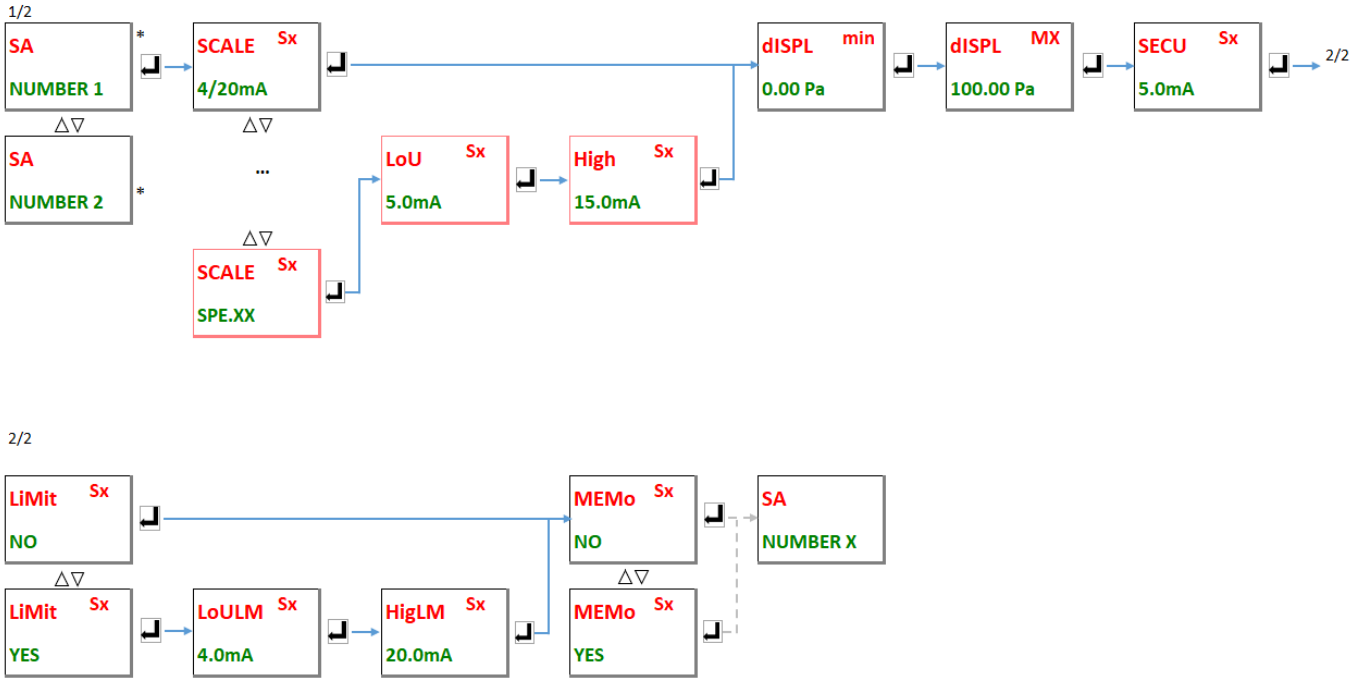
Filtering

Integration of the measurement over the defined time (in seconds)

Output menu

Diagram

*Menus available according to product reference



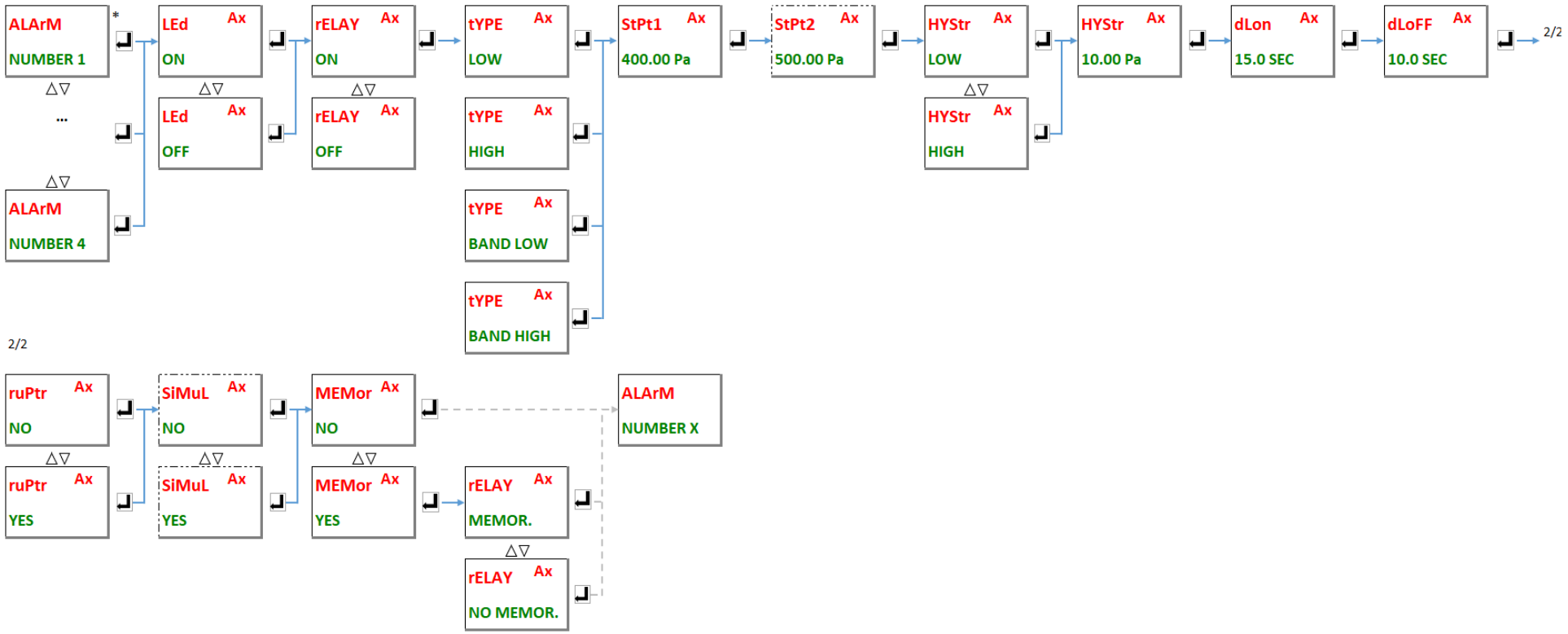
Lexicon of screens

Screen	Subscreen	Value	Description
SA			Output Selection
		NUMBER x	Output n°x
SCALE			Gauges Selection
		XX	Standard gauges
		SPE.XX	Special gauges
LoU			Setting of the minimum value
		from 0 to 22mA ; from 0 to 11V for output 1 ; from -11 to 11V for output 2	
High			Setting of the maximum value
		from 0 to 22mA ; from 0 to 11V for output 1 ; from -11 to 11V for output 2	
dISPL min			Setting of the minimum value of the display scale
		from -19999 to 99999	
dISPL MX			Setting of the maximum value of the display scale
		from -19999 to 99999	
SECU			Setting of the sensor safety value
		from 0 to 22mA ; from 0 to 11V for output 1 ; from -11 to 11V for output 2	
LiMit			Choice of use of the limitation
		YES/NO	
LiMit	LoULM		Setting of the minimum value of the limitation
		from 0 to 22mA ; from 0 to 11V for output 1 ; from -11 to 11V for output 2	
LiMit	HigLM		Setting of the maximum limitation value
		from 0 to 22mA ; from 0 to 11V for output 1 ; from -11 to 11V for output 2	
MEMO			Choice of use of memorization
		YES/NO	

Alarm menu

Diagram

*Menu available according to product reference



Lexicon of screens

Screen	Subscreen	Value	Description
ALArM			Alarm selection
	NUMBER x		Alarm n°x (the number of relays available depends on the product reference)
LEd			Choice of LED lighting
		ON/OFF	
rELAY			Choice of relay activation
		ON/OFF	
tYPE			Selection of the type of alarm
		LOW	Low threshold alarm
		HIGH	High threshold alarm
		BAND LOW	Low band alarm
		BAND HIGH	High band alarm
StPt1			Setting alarm of threshold 1
		from -19999 to 99999	
StPt2			Setting alarm of threshold 2 (if band alarm selected)
		from -19999 to 99999	
HYStr			Selection of the hysteresis type
		LOW	Low hysteresis
		HIGH	High hysteresis
HYStr			Setting of the hysteresis value
		from 0 to 99999	
dLon			Setting of the timer delay when the alarm is activated
		from 0 to 250	
dLoFF			Setting of the timer delay when the alarm is deactivated
		from 0 to 250	
ruPtr			Choice of use of the sensor break-up
		YES/NO	
SiMul			Choice of use of relays simulation
		YES/NO	
MEMor			Choice of use of memorization
		YES/NO	
MeMOR	reLAY		Choice of use of the relay status memorization
		MEMOR.	Memorization enabled
		NO MEMOR.	Memorization disabled

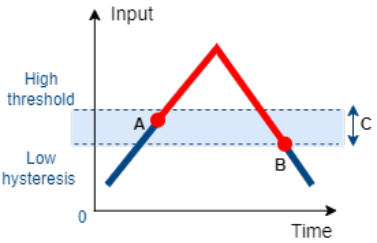
Definition of functions

Hysteresis makes it possible to define, near a certain threshold, an area in which the alarm is insensitive to variations of the input and does not change state.

This makes it possible to limit changes of the alarm state when the input undergoes variations in value is close to the alarm threshold.

The defined hysteresis value is a value relative to the threshold value.

- High type: the insensitive area extends from the alarm threshold to the higher values
- Low type: the insensitive area extends from the alarm threshold to the lower values

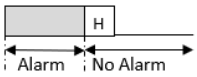


A: Start of alarm

B: End of alarm

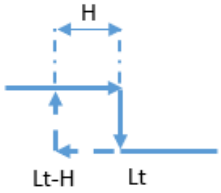
C: Insensitive area

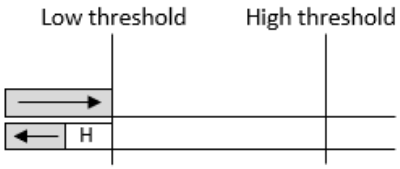
Low hysteresis



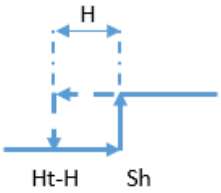
H: Hysteresis

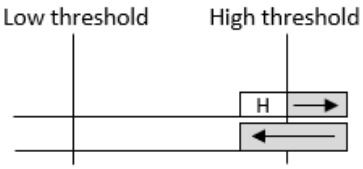
- Low threshold (Lt) alarm



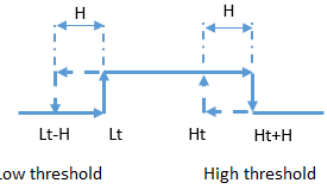


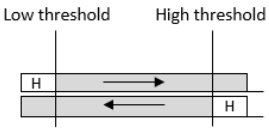
- High threshold (Ht) alarm



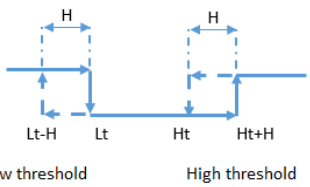


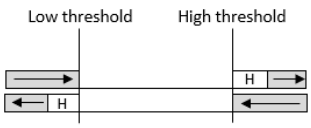
- Low band alarm



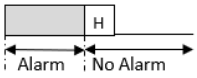


- High band alarm



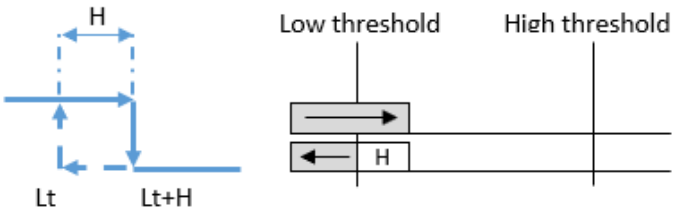


High hysteresis

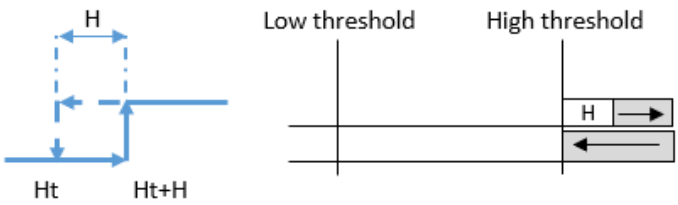


H: Hysteresis

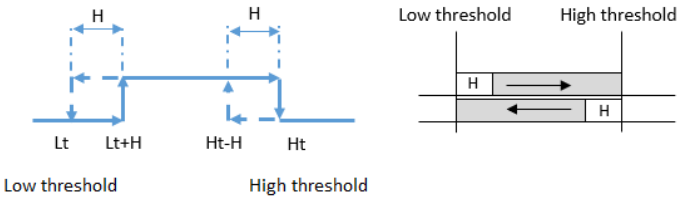
- Low threshold (Lt) alarm
- High threshold (Ht) alarm

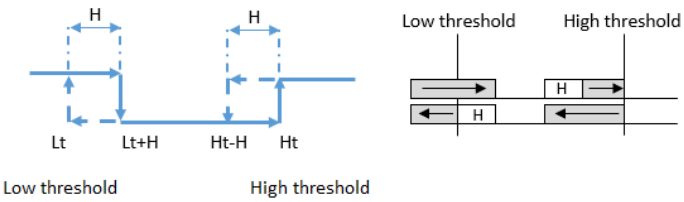


- Low band alarm



- High band alarm



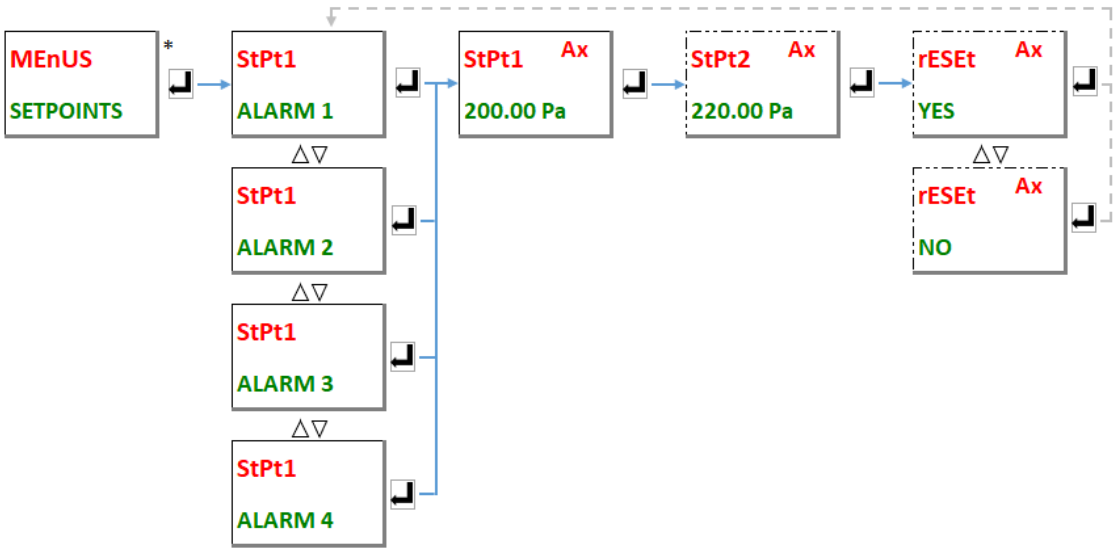


Alarms thresholds menu

Diagram

This menu is a shortcut allowing the configuration of the alarms threshold, which can also be carried out in the alarm menu.

*Menu available according to product reference



Lexicon of screens

Screen	Subscreen	Value	Description
StPt1			Alarm selection
		ALARM x	Alarm n°x (Ax)
StPt1			Setting threshold 1
		from -19999 to 99999	
StPt2			Setting threshold 2 (if band alarm selected)
		from -19999 to 99999	
rESEt			Choice of alarm acknowledgment (if memorization selected)
		YES/NO	

MODBUS Protocol

Introduction

The products developed by JM Concept use the MODBUS RTU communication protocol on their backplane bus, to exchange information between different devices. The physical link used for this communication is the RS485 link.

JM Concept devices are generally considered slave devices on the MODBUS RTU line, responding only to queries. Some JM Concept devices allow to interface on the MODBUS RTU line (LINE, WK 6000IS, WK 6000MUX, UHLIS 3000TCP, UHLIS 3000MUX), they are considered master devices, generating queries on the bus.

A PLC communicating in MODBUS RTU can be directly interfaced on the MODBUS RTU as a master.

For PLCs communicating with other protocols such as Profinet, Ethernet IP, MODBUS TCP, Profibus, there are protocol conversion solutions.

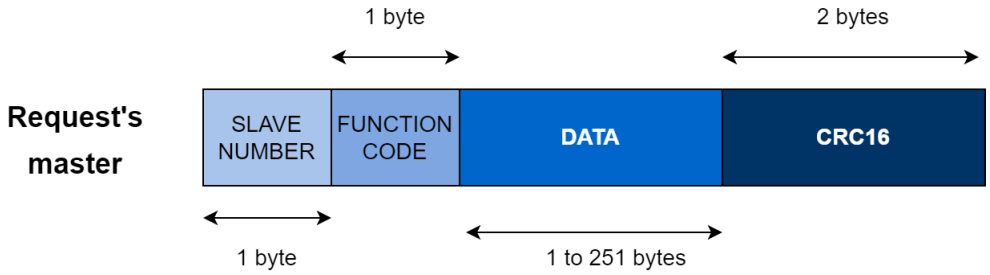
- The LINE product is a communication hub. It retrieves all the information of the JM Concept devices present on the MODBUS RTU line and makes them available to PLC via the Profinet, Ethernet IP, Modbus TCP, Profibus or MODBUS RTU protocols.
- The WK 6000IS WK 6000MUX, UHLIS 3000TCP and UHLIS 3000MUX products act as MODBUS TCP gateways to MODBUS RTU. They therefore allow a PLC communicating in MODBUS TCP to interact directly with a JM Concept device on the MODBUS RTU line.

The Modbus protocol is a communication protocol based on a hierarchical structure between a master and several slaves. The master can only talk to one slave at a time and waits for its response.

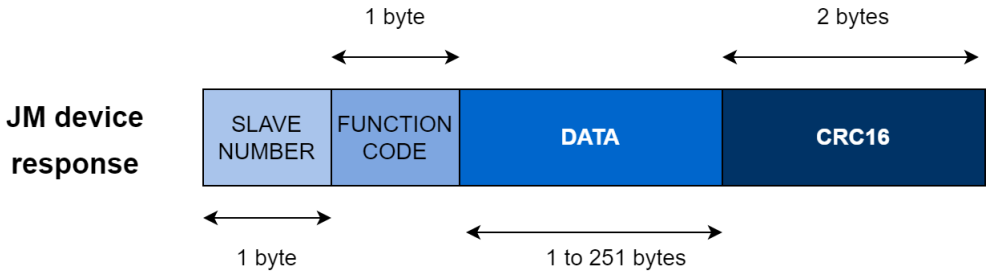
RS485 communication settings	Description
Configurable slave number	1 to 247
Communication speed (bauds)	1200, 2400, 4800, 9600,19200, 38400,115200
Type of transmission	RTU mode
Type of data transmitted	8-bit encoded characters
Bit of controls verifying the integrity of MODBUS frames	• 1 start bit and 1 stop bit • No control of the frame according to the parity criterion (except MRSLINE even parity)
Number of slave devices (maximum) connected to 1 master device	• 32 (maximum number of devices) • 24 (maximum number of devices connected to a product of the LINE range)
Maximum line length	1200m
Link type	Multipoint link

MODBUS Messages - Structures and Data Types

The master begins the communication by sending a request to the desired slave in the following frame format:



Following the receipt of a request sent by a master device, JM devices return the requested information in the same frame format:

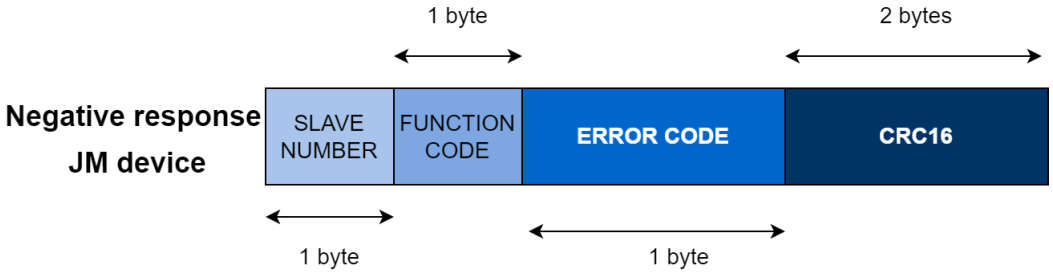


- Slave number: The slave number of the JM Concept device queried (1 to 247)
- Function code: Action requested from the slave, read, or write. JM Concept products support 4 codes depending on the MODBUS protocol:

Function codes	Description
Function code: 1	N-bit playback (access per 1-byte multiple)
Function code: 3	Reading n 16-bit words (2-byte multiple access)
Function code: 15	Writing n bits (access by multiple of 1 byte)
Function code: 16	Writing n 16-bit words (access by multiple of 4 bytes)

- Data: Contains data relative to the function
  - Request:
    - For a read: address and number of data to read.
    - For a write: address, number of values, and values to write.
  - Answer:
    - For a read: Number of data and data read.
    - For a write: address and number of data written.
- CRC16: Control Field

In the event of an error in communication, JM devices will return an error message, following the following frame format:



- The function code returned is the function code of the last program command executed, with the MSB (most significant Bit) forced to 1 if an error was detected at runtime.
- An error code is sent to the master device specifying the detected error:

Error code	Description
Error code: 1	Unknown function code
Error code: 2	Incorrect
Error code: 3	Incorrect data
Error code: 4	Slave device not ready

The data available for reading and writing are referenced in the "MODBUS exchange table" section below.

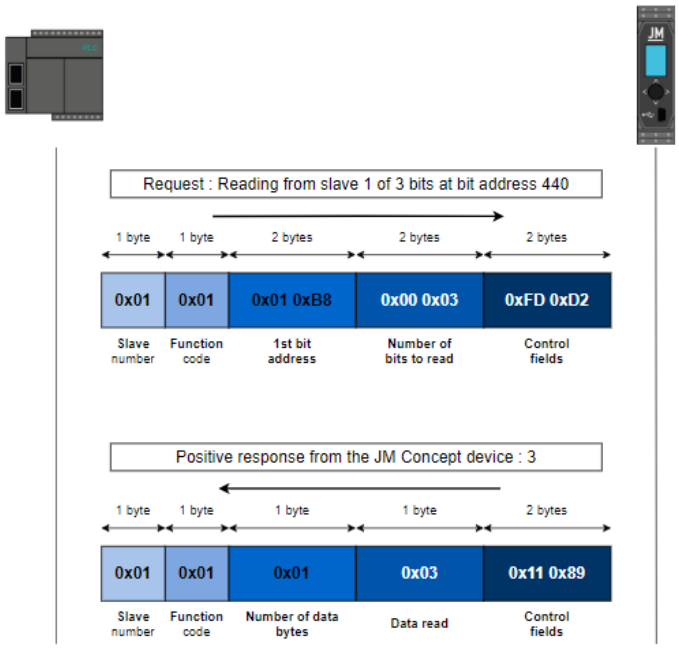
The data is stored in the product's memory in big-endian format, the most significant bytes are placed in the lead and therefore occupy memory locations with smaller addresses. Depending on the devices interfaced with JM Concept products, it may be necessary to reverse the 2 words of 16 bits when reading a float.

Example of in-memory storage of the float 10000 :

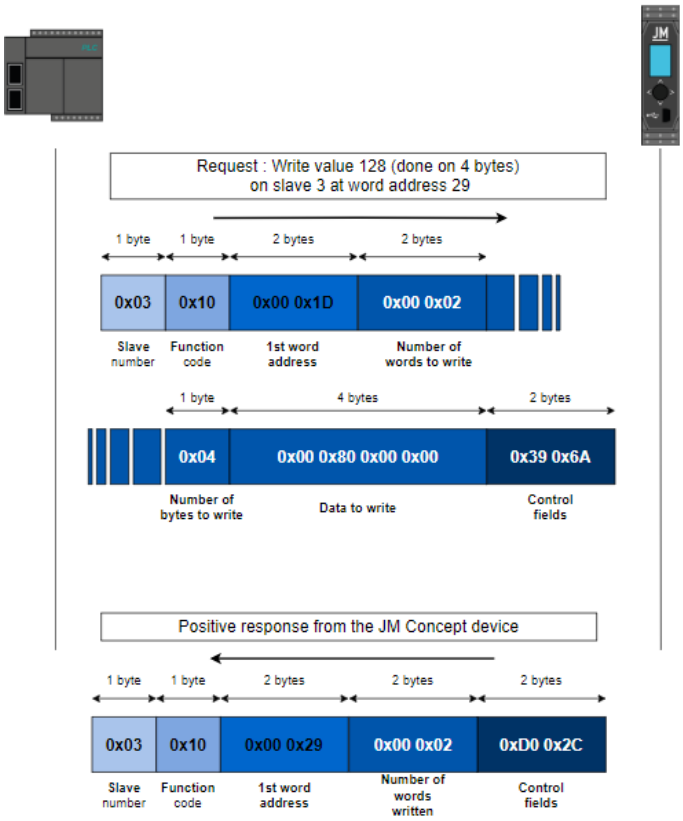
16-bit word memory address	Memory address in byte	Data	MSB and LSB arrangement
0	0	0x47	Most significant MSB
	1	0xC3	
2	2	0050	
	3	0x00	Least significant LSB

Some use cases

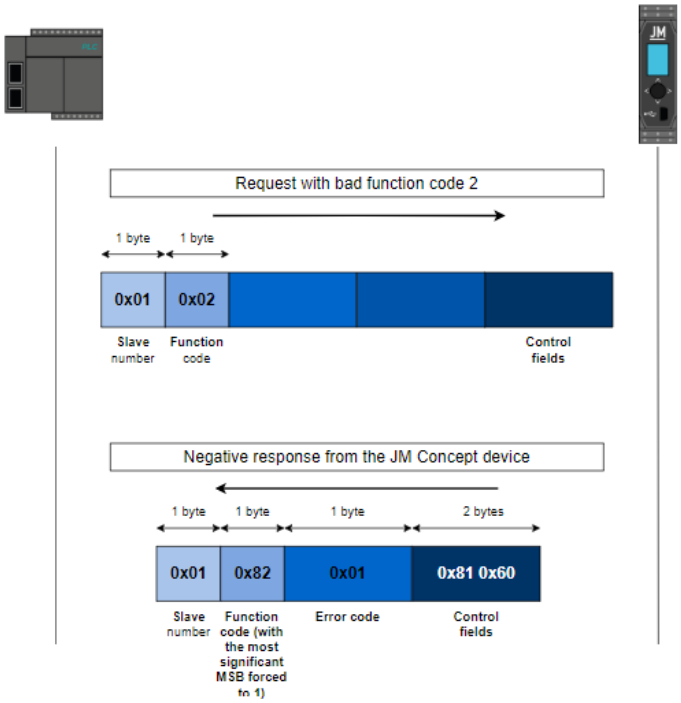
Reading n bits - Positive response



Writing n words - Positive response



Function code error - Negative response



MODBUS exchange table

The “P” column (for Permissions) indicates the type of access that can be performed on each variable. R=read ; W=write ; R/W=read and write.

Measurement values

@Jbus word	@Jbus bit	Variable designation	Format	P
0		Instant measurement	Float	R
2		Min measurement	Float	
4		Max measurement	Float	
6		Physical measurement	Float	
8		Simulated/Remote-controlled measurement	Float	R/W
10				
11				
12				
13				
14				
15				
16				
17				
18	288	Relay RL1 status	Byte	R
	296	Relay RL2 status	Byte	
19	304	Relay RL3 status	Byte	
	312	Relay RL4 status	Byte	
20	320	Acknowledgment of alarms and reset of min / max	Byte	R/W
21	336	Instant alarms status	Byte	R

Device identification

@Jbus word	@Jbus bit	Variable designation	Format	P
22	352	Serial number, current year	Byte	R
	360	Serial number, current month	Byte	
23		Serial number, rank in the month	Int	
24		Device type	Int	
25	400	Options installed	Byte	
	408	Software version	Byte	

Modbus settings

@Jbus word	@Jbus bit	Variable designation	Format	P
27	432	Modbus network n° slave	Byte	R/W
	440	Baud rate	Byte	

Protection Configuration

@Jbus word	@Jbus bit	Variable designation	Format	P
28	448	Configuration lock	Byte	R/W
	456	Access to configuration	Byte	

Display settings

@Jbus word	@Jbus bit	Variable designation	Format	P
29	464	Measurement display color	Byte	R/W
	472	Alphanumeric display color	Byte	
30	480	Maintaining the measurement display	Byte	
	488	Maintaining the alphanumeric display	Byte	
31	496	Change of color of the measurement display if the alarm is triggered	Byte	
	504	Character digit 1 of the alphanumeric display (TAG)	Byte	
32	512	Character digit 2 of the alphanumeric display (TAG)	Byte	
	520	Character digit 3 of the alphanumeric display (TAG)	Byte	
33	528	Character digit 4 of the alphanumeric display (TAG)	Byte	
	536	Character digit 5 of the alphanumeric display (TAG)	Byte	
34	544	Character digit 6 of the alphanumeric display (TAG)	Byte	
	552	Character digit 7 of the alphanumeric display (TAG)	Byte	
35	560	Character digit 8 of the alphanumeric display (TAG)	Byte	
	568	Character digit 9 of the alphanumeric display (TAG)	Byte	

Simulation/remote-control settings

@Jbus word	@Jbus bit	Variable designation	Format	P
36	576	Simulation/Remote-control mode	Byte	R/W
	584	Return to measurement after simulation/Remote-control	Byte	

Input configuration

@Jbus word	@Jbus bit	Variable designation	Format	P
37	592	Unit type	Byte	R/W
	600	Input type	Byte	
38	608	Current input gauge	Byte	
	616	Voltage input gauge	Byte	
39	624	Sensor for resistance input	Byte	
	632	Sensor for RTD input	Byte	
40	640	Sensor for thermocouple input	Byte	
	648	Function for input	Byte	
41	656	Display resolution	Byte	
	664	Comma position	Byte	
42	672	Unit display	Byte	
	680	C.J.C type (if thermocouple input)	Byte	
43	688	Use of digital filter	Byte	
	696	Digital filter value	Byte	
44	704	Use of the cut-off	Byte	
	712	Return from menus to measurement display	Byte	
45	720	Digit 1 of the unit of your 2 choice letters	Byte	
	728	Digit 2 of the unit of your 2 choice letters	Byte	
46		Minimum gauge value	Float	
48		Maximum gauge value	Float	
50		Minimum display value	Float	
52		Maximum display value	Float	
54		Cut-off value	Float	
56		Offset value	Float	

Relay RL1 configuration

@Jbus word	@Jbus bit	Variable designation	Format	P
58	928	Alarm AL1 memorization	Byte	R/W
	936	Memorization of the state of relay RL1	Byte	
59	944	Visualization of the alarm AL1	Byte	
	952	Relay RL1 status in alarm	Byte	
60	960	AL1 operating mode	Byte	
	968	AL1 hysteresis direction	Byte	
61	976	Time delay "on" on AL1	Byte	
	984	Time delay "off" on AL1	Byte	
62	992	Use of AL1 if input break-up	Byte	
	1000	Use of alarm AL1 if simulation/remote-control is activated	Byte	
63				
64		Threshold 1 value of AL1	Float	R/W
66		Threshold 2 value of AL1	Float	
68		AL1 hysteresis value	Float	

Relay RL2 configuration

@Jbus word	@Jbus bit	Variable designation	Format	P
70	1120	Alarm AL2 memorization	Byte	R/W
	1128	Memorization of the state of relay RL2	Byte	
71	1136	Visualization of the alarm AL2	Byte	
	1144	Relay RL2 status in alarm	Byte	
72	1152	AL2 operating mode	Byte	
	1160	AL2 hysteresis direction	Byte	
73	1168	Time delay "on" on AL2	Byte	
	1176	Time delay "off" on AL2	Byte	
74	1184	Use of AL2 if input break-up	Byte	
	1192	Use of alarm AL2 if simulation/remote-control is activated	Byte	
75				
76		Threshold 1 value of AL2	Float	R/W
78		Threshold 2 value of AL2	Float	
80		AL2 hysteresis value	Float	

Relay RL3 configuration

@Jbus word	@Jbus bit	Variable designation	Format	P
82	1312	Alarm AL3 memorization	Byte	R/W
	1320	Memorization of the state of relay RL3	Byte	
83	1328	Visualization of the alarm AL3	Byte	
	1336	Relay RL3 status in alarm	Byte	
84	1344	AL3 operating mode	Byte	
	1352	AL3 hysteresis direction	Byte	
85	1360	Time delay "on" on AL3	Byte	
	1368	Time delay "off" on AL3	Byte	
86	1376	Use of AL3 if input break-up	Byte	
	1384	Use of alarm AL3 if simulation/remote-control is activated	Byte	
87				
88		Threshold 1 value of AL3	Float	R/W
90		Threshold 2 value of AL3	Float	
92		AL3 hysteresis value	Float	

Relay RL4 configuration

@Jbus word	@Jbus bit	Variable designation	Format	P
94	1504	Alarm AL4 memorization	Byte	R/W
	1512	Memorization of the state of relay RL4	Byte	
95	1520	Visualization of the alarm AL4	Byte	
	1528	Relay RL4 status in alarm	Byte	
96	1536	AL4 operating mode	Byte	
	1544	AL4 hysteresis direction	Byte	
97	1552	Time delay "on" on AL4	Byte	
	1560	Time delay "off" on AL4	Byte	
98	1568	Use of AL4 if input break-up	Byte	
	1576	Use of alarm AL4 if simulation/remote-control is activated	Byte	
99				
100		Threshold 1 value of AL4	Float	R/W
102		Threshold 2 value of AL4	Float	
104		AL4 hysteresis value	Float	

Output S.A1 configuration

@Jbus word	@Jbus bit	Variable designation	Format	P
106	1696	Gauge	Byte	R/W
107				
108		Minimum gauge value	Float	
110		Maximum gauge value	Float	
112		Minimum display value	Float	
114		Maximum display value	Float	
116	1856	Use of the output limitation	Byte	
	1864	Last value memorization (anomaly)	Byte	
117		Output safety value (input break-up)	Int	R/W
118		Low limitation	Float	
120		High limitation	Float	

Output S.A2 configuration

@Jbus word	@Jbus bit	Variable designation	Format	P
122	1952	Gauge	Byte	R/W
123				
124		Minimum gauge value	Float	
126		Maximum gauge value	Float	
128		Minimum display value	Float	
130		Maximum display value	Float	
132	2112	Use of the output limitation	Byte	
	2120	Last value memorization (anomaly)	Byte	
133		Output safety value (input break-up)	Int	R/W
134		Low limitation	Float	
136		High limitation	Float	

Output S.A1 value

@Jbus word	@Jbus bit	Variable designation	Format	P
138		Instant output level	Float	R
140		Minimum output level	Float	
142		Maximum output level	Float	
144		Output level memorization	Float	

Output S.A2 value

@Jbus word	@Jbus bit	Variable designation	Format	P
146		Instant output level	Float	R
148		Minimum output level	Float	
150		Maximum output level	Float	
152		Output level memorization	Float	

Segments function

@Jbus word	@Jbus bit	Variable designation	Format	P
172	2752	Number of linearization points	Byte	R/W
174		% Input point 1	Float	R/W
176		Display of point 1	Float	
…		…	…	
170+4N		% Input point N	Float	
172+4N		Display of point N	Float	
…		…	…	
566		% Input point 99	Float	
568		Display of point 99	Float	

Customer mapping zone

@Jbus word	@Jbus bit	Variable designation	Format	P
6 000		154 bytes of client mapping	Byte	R/W
			Byte	
…			…	
6 076			Byte	
			Byte	

Device comments zone

@Jbus word	@Jbus bit	Variable designation	Format	P
6 100		100 bytes comment	Byte	R/W
			Byte	
…			…	
6 149			Byte	
			Byte	

Special resistances table

@Jbus word	@Jbus bit	Variable designation	Format	P
7021		Number of points	Byte	R/W
7023		Coordinate X of point 1	Float	
7025		Coordinate Y of point 1	Float	
…		…	…	
7421		Coordinate X of point 100	Float	
7423		Coordinate Y of point 100	Float	

Guarantee certificate

CERTIFICAT DE GARANTIE - 5 ans

GUARANTEE CERTIFICATE - 5 years

GAMME XALIS / XALIS RANGE

Nous vous garantissons que ce produit est conforme aux règlementations en vigueur, et qu'il ne présente aucun défaut de conception et de fabrication au moment du contrôle individuel.

We guarantee that this product complies with the regulations in force, and that it has no design defect and workmanship at the time of individual control.

CONDITIONS D'APPLICATION

Les opérations de manutention et de maintenance devront être effectuées uniquement par du personnel qualifié et autorisé.

Toute ouverture de produit entraîne immédiatement l'annulation de la garantie.

Si un appareil ne peut plus être utilisé dans les conditions de sécurité optimales, il doit être mis hors service et protégé contre toute utilisation par inadvertance, avant d'être retourné chez JM Concept.

Les réparations se font uniquement dans les locaux de JM Concept.

Toute installation ne correspondant pas aux impératifs de montage entraîne l'annulation de la garantie.

CONDITIONS OF APPLICATION

Handling or maintenance operations should only be carried out by qualified and authorized staff.

Once product is opened, it immediately invalidates the guarantee.

If a device can no longer be used with optimal safety conditions, it should be put of order and protected against any inadvertent use, before it is returned to JM Concept.

All repairs are made solely in our factory.

The installation must correspond with the assembly imperatives in order to ensure the validation of guarantee.

UE declaration of conformity

Déclaration de conformité UE

EU declaration of conformity

La déclaration de conformité UE s'applique aux appareils suivants :

The UE declaration of conformity applies to the following units :

Modèle indicateur marque JM Concept	Indicator model Brand JM Concept
XALIS	

Nous, JM Concept, fabricant, confirmons sous notre seule responsabilité, la conformité aux exigences essentielles des directives européennes :

As manufacturer JM Concept confirm under our sole responsability, the conformity to the essential requirements of the European directives :

DBT/LVD : 2014/35/UE

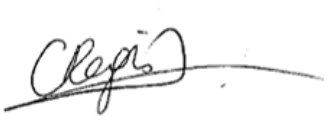
CEM/EMC : 2014/30/UE

RoHS : 2011/65/UE & 2015/863

L'objet de la déclaration décrit ci-dessus est conforme à la directive 2011/65/UE (RoHS) du Parlement européen et du Conseil du 8 juin 2011 relative à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques.

The purpose of the declaration described above complies with Directive 2011/65 / EU (RoHS) of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Brignais, 07/07/2022



Carole REGIS, responsable qualité/quality manager

This declaration complies with the Directive 2014/53/UE