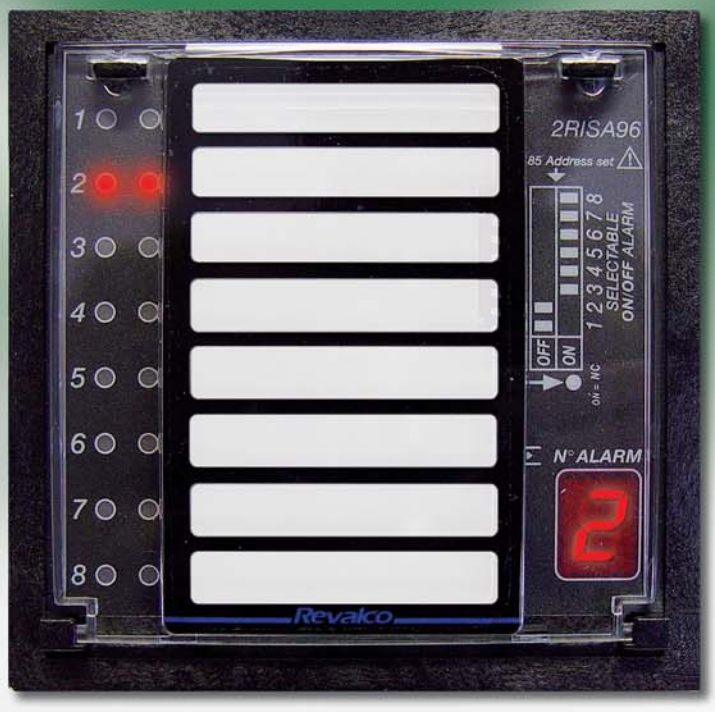
Revalco®

Made in Italy

8 alarm channels set of pigeon-holes



8 ALARM CHANNELS SET OF PIGEON-HOLES

2RISA96

Control device and signalling alarms device in accordance to the functional standard "ISA M" (ex ISA 2C) that represent the most diffused device in industrial and marine fields.It is manufactured in a DIN 96x96 flush mounting box and contains eight signalling correspondent to as much alarm conditions, a relay positive safety cumulative alarms), a silenceable electric siren relay and an RS485 interface (10 devices can be connected simultaneously).

Alarms legend (changeable thin cards) permits to the user to describe the typology of alarm.

Front panel permits the access to the thin cards and to the settable input mini switches (easy safety access without opening the electrical board).

Power supply, inputs and serial RS485 are galvanically separated in order to grant an high safety standardand better protection against electronic disturbances from the field.

Internal software provides to the normal work of device and in meantime makes self-diagnosis controls verifying the reliability of alarm (as unique result of two different software's routes practically eliminating untimely interventions).

Microprocessor is controlled by a "watch dog" system that in case of anomaly suspends the software execution maintaining in rest position the alarm relay.

This device works as positive security; informs about the presence of incoming alarms and also the eventual faulty condition of the same device.

On front, a red display is present showing the input alarms sum (max 8) that are contemporary present and in alarm condition.

This fact permits to the user to see in real time, independently by the acquisition sequence, without reset, if there are inputs in alarm.

In normal condition of work, the frontal zone correspondent to the thin cards is yellow back illuminated; if an alarm happens, the correspondent two red leds light on and the yellow luminescence light off.

In case of internal anomaly, the relay will be in rest situation, yellow luminescence lights off and no one alarm showed on front.

This device is powered by 230VAC standard auxiliary supply, but on terminals an auxiliary power supply is present to be used if a safety low voltage auxiliary supply is necessary.

Inputs can be polarized by a common terminal referred to the positive or negative wire of power supply or connected to other source always polarizing the common in the most convenient way; are galvanically separated from the other circuits and are suitable for an "OPEN COLLECTOR" contact.

Power supply circuit is galvanically separated too as well as the RS48 serial.

Auxiliary power supply	
Voltage:	
- nominal value UAUX	24V, 115 V, 230 V ac 50/60 Hz (24VDC optional)
- use range	0.9...1.1 UAUX
- Consumption	4 VA max
Input technical characteristics	
Voltage	
- range	from 12VDC to 48VDC by external aux supply, or by using a supplier available on the input circuits apparatus (15VDC)
Typology	
- alarm/push-button inputs identification)	8 alarm inputs and 4 push-button inputs(to cancel, to silence, lamps test,
- galvanic insulation	inputs circuit and external contact alarm > 100VDC/VAC
Output technical characteristics	Galvanic insulation
- alarm relay coil-contact	4 kV
- RS 485	3 kV
Contact characteristics	change over relay 5A – 1250VA (cos φ=1) max 250VAC
Environment conditions	Ambient temperature:
- nominal temperature	0...+45 °C
- range	-5...+55 °C
- storage temperature	-10...+70 °C
- humidityhumidity	10...95 %
- atmospheric pressure	70...110 kPa
Standards CEI	
- Safety	CEI EN 61010-1 300V CAT III
- Electromagnetic compatibility (immunity)	CEI EN 61000-6-2 (ex EN 50082-2)
- Electromagnetic compatibility (emission)	CEI EN 61000-6-4 (ex EN 50081-2)
- Protection IP	CEI EN 60529
- Sequence	CEI EN 61810–1 EN61810-2 (ex CEI 41.1)
Mechanical characteristics	
- mounting	flush mounting DIN 43700
- Protection degree	IP20 / IP30 on front
Visualization	
- display	total number(sum) of alarm in action
- Leds	8 doubled, independent red colour
Operation safety	
- signalling	double signalling circuit
- control	self-test microprocessor and software

OPERATION

SEQUENCE DESCRIPTION

ALARM INPUT	LED	ALARM RELAY	ELECTRIC SIREN RELAY
- Rest alarm (no alarms)	LIGHT OFF	ON	OFF
- A) Alarm present	PULSE	OFF	ON
- B) Rest alarm	PULSE	OFF	ON
- By pressing “TO SILENCE”	PULSE	OFF	OFF
- By pressing “IDENTIFICATION”	LIGHT ON	OFF	OFF
- No alarm (return to rest condition)	LIGHT ON	OFF	OFF
- By pressing “TO CANCEL” If alarm is always present starts again from A) position	LIGHT OFF	ON	OFF
- Pulse alarm (temporary “ON”) PULSE	PULSE	OFF	ON

Further the sequence starts again from B) position

PREST CONDITION INPUT ALARMS SETTING

Push-button inputs (to cancel, identification, to silence) are forecasted by the standards in rest condition (normally closed). Test lamp push-button is not forecasted by the standards, and it works by the pressure and by the time duration of it. Opening the front panel it is possible to see the setting micro switches of relays (from 1 to 8).
Using a screwdriver it is possible to move them to ON or OFF considering the rest condition related to the alarm n° in use.

Examples:
ALARM 1 = ON rest (input lack = Alarm)
ALARM 2 = ON rest (input lack = Alarm)
ALARM 3 = OFF rest (input presence = Alarm)
ALARM 4 = ON rest (input lack = Alarm)
ALARM 5 = OFF rest (input presence = Alarm)
ALARM 6 = ON rest (input lack = Alarm)
ALARM 7 = ON rest (input lack = Alarm)
ALARM 8 = ON rest (input lack = Alarm)

RS485 COMMUNICATION PROTOCOL

ASCII communication protocol

Pigeon-holes condition question:
Rxx send ASCII R character (82) followed by the address value xx of instrument from 0 to 9(from decimal 48 to decimal 57).
Example of instrument with address 4:
SEND “R4” 82,52
Pigeon-holes condition= Alarms present and/or identified:
ALL 1 OFF; ALL 2 ON; ALL 3 ON; ALL 4 OFF; ALL 5 OFF; ALL 6 OFF; ALL 7 OFF; ALL 8 OFF
ANSWER: “0 1 1 0 0 0 0 0”

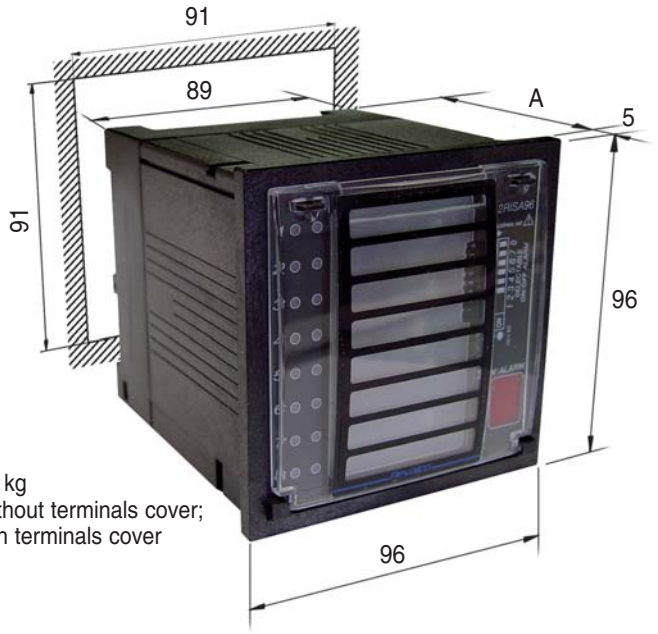
RS485 address setting:
Turn off the instrument
Maintain pressure on test lamp push-button
Move the micro switches as per the following table (MI= micro switch , N° instrument address), then power the instrument:

ADDRESS N°	MI 1	MI 2	MI 3	MI 4	MI 5	MI 6	MI 7	MI 8
0	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
3	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
4	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
5	OFF	OFF	OFF	OFF	ON	OFF	OFF	OFF
6	OFF	OFF	OFF	OFF	OFF	ON	OFF	OFF
7	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
8	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON
9	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON

Example “ADDRESS 1” like the table:

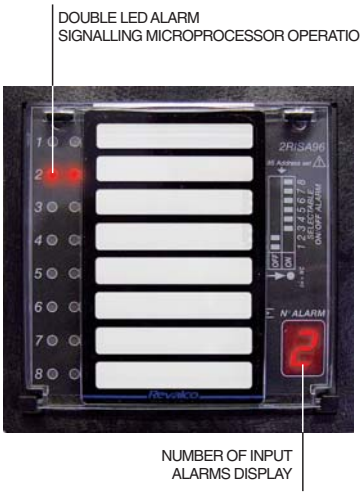
Release the test lamp push-button
Turn off the instrument
Move the micro switches as mentioned in the “REST CONDITION INPUT ALARMS SETTING” chapter
Give power to the instrument that now is working

DIMENSIONS in mm

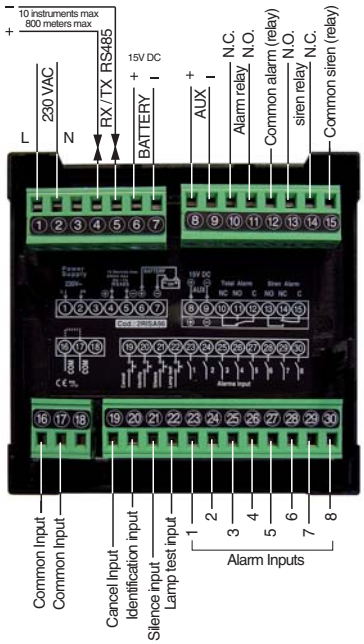


Weight: 0,55 kg
A = 97,3 without terminals cover;
A = 116,5 with terminals cover

FRONTAL ELEMENTS DESCRIPTION



BACK CONNECTIONS DESCRIPTION



EQUIPMENT

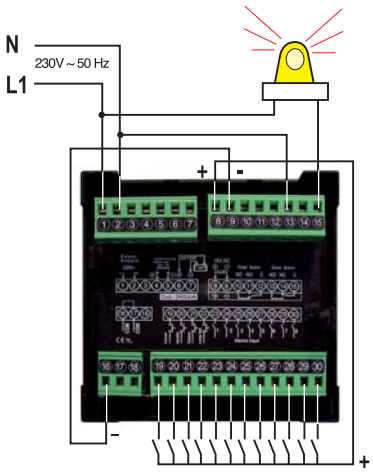
- Mini CD containing the MODBUS protocol and instructions how to fill-in the labels to insert into the proper pocket situated on front of instrument

CONNECTION DIAGRAM

- Power supply 230VAC
- Output contact relays in condition of turn off device

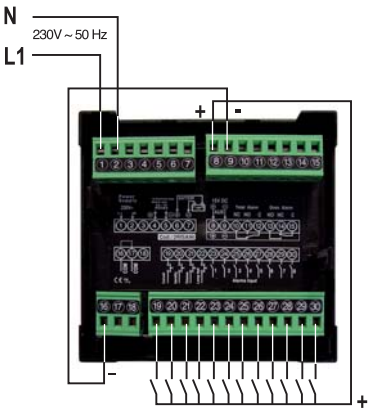
EXAMPLE N. 1

- Inputs normally open powered by auxiliary from the apparatus
- Electric siren relay that drive an AC winking



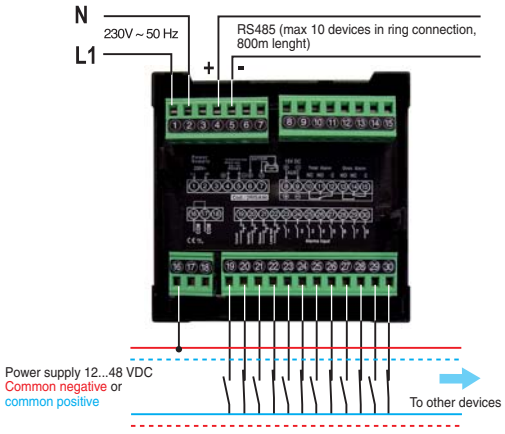
EXAMPLE N. 2

- Inputs normally open and closed powered by auxiliary from the apparatus



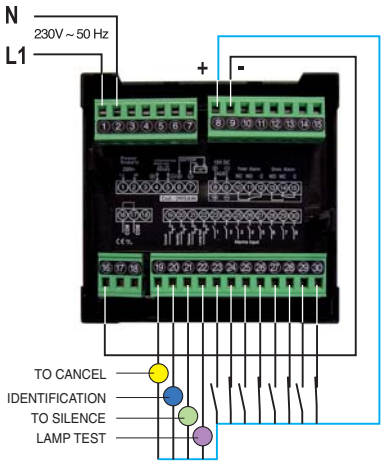
EXAMPLE N. 3

- Inputs normally open and closed powered by external auxiliary supply
- RS485 (documented property protocol)



EXAMPLE N. 4

- Inputs normally open and closed powered by auxiliary from the apparatus
- Push-buttons connection: to cancel, identification, to silence, lamp test

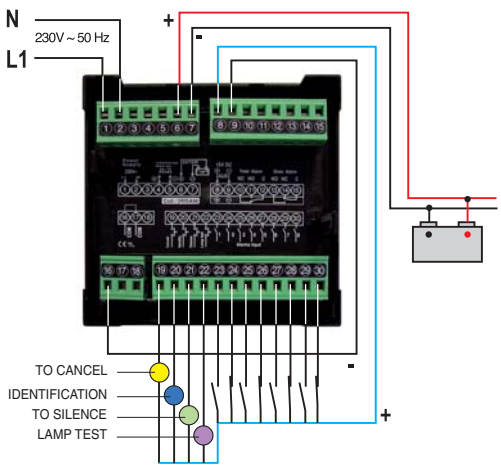


EXAMPLE N. 5

- Inputs normally open and closed powered by external auxiliary supply
- RS485 (documented property protocol)

Presence of back-up battery grants the operation also in absence of voltage supply (normal condition of work) on the device and on the all control electronic circuits.

It is suitable in alarm, surveillance, security nets or other different with presence of back-up power supply.



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