

COMPALARM C2C

Alarm annunciator

WARNING!

- Carefully read the manual before the installation or use.
- This device is to be installed by qualified personnel, complying to current standards, to avoid damages.
- Before any maintenance operation on the device, remove supply inputs.
- The manufacturer cannot be held responsible for electrical safety in case of improper use of the equipment.
- Products illustrated herein are subject to alteration and changes without prior notice.

Introduction

The Compalarm C2C alarm annunciator is used to inform the operator that a process has gone beyond set limits using visual and audible alarms.

The annunciator is constructed from 12 inputs channels. The C2C is equipped with a selectable features which can be accessed via dip-switch located behind the front panel. For all signal inputs it's possible to set the non alarm state to normally open or normally closed. Two output relays are located in the C2C.

Within the alarm annunciator market a common standards has been adopted by all key manufacturers and end users with regards to operational sequences.

These standards are used worldwide to define the visual indication, audible alarm and the action the operator must take to control the annunciator.

The Instrument Society of America provide full details of each alarm sequence within ISA 18.1-1979 (R1992) and C2C alarm annunciator is fully compliant with the stated sequences.

Description

- Alarm annunciator
- Flush-mount, standard 96x96mm housing
- 12 alarm channels
- Volt-Free contacts (only for standard inputs 24 VDC)
- For all signal inputs it's possible to set the non alarm state to normally open or normally closed
- LED windows illumination
- Two common relay outputs (alarms common and acoustic signal)
- Programming alarm sequence by dip-switch (ISA standard)
- Built-in buzzer
- Integral pushbuttons (ACK, RESET, LAMP TEST)
- 4 remote pushbuttons
- Advanced programmable functions (ex: inputs/relay association)
- RS485 interface (Modbus-RTU) (optional)
- Ethernet interface (Modbus-TCP, SNMP) (optional)

Standard Inputs Connections

In standard systems, +24 VDC is provided by the annunciator for use as a signal alarms inputs supply. In this instance "+" terminal is linked to signal inputs and "-" terminal to ALL of the "C" terminals within the annunciator.

Important note: - In standard model Compalarm C2C provide +24 VDC as a signal supply voltage and this voltage is available if either the aux supply is present on the annunciator. Use +24 VDC voltage only to supply signals inputs.

Higher Voltage Powered Inputs

If specified at the time of order the customer can supply the unit suitable for use with high voltage signal inputs there are 3 options available:

- 48VAC/DC
- 110VAC/DC
- 250VAC/DC

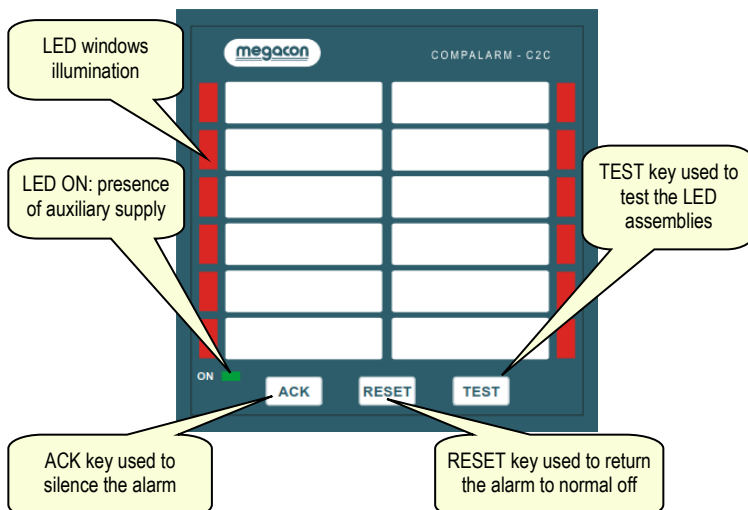
Front keyboard

TEST key – Used to test the LED assemblies by illuminating them in a steady state for as long as the pushbutton is pressed.

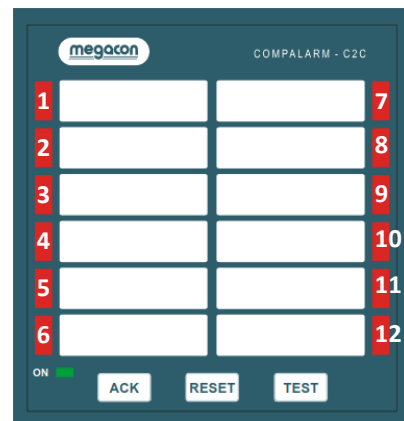
ACK key – Used to silence the alarm and change the state of the associated alarm window in accordance with the selected ISA sequence.

RESET key – Used to return the alarm to the normal off state once the input has returned to the normal condition.

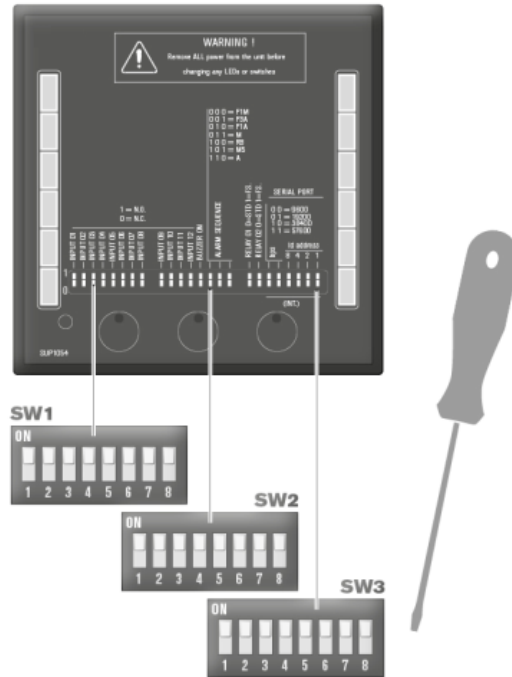
Front indications



Front LED / input channel number



Under panel



To change switch position:

- Remove power supply to Compalarm C2C.
- Using a small flat screwdriver, move the switches in the required position.
- Power on the device.

Dipswitches functions

SW	POS	DESCRIPTION	
SW1	1	OFF	Normally closed input 1 (N.C.)
		ON	Normally open input 1 (N.O.)
	
	8	OFF	Normally closed input 8 (N.C.)
ON		Normally open input 8 (N.O.)	

SW	POS	DESCRIPTION			
SW2	1	OFF	Normally closed input 9 (N.C.)		
		ON	Normally open input 9 (N.O.)		
			
	4	OFF	Normally closed input 12 (N.C.)		
		ON	Normally open input 12 (N.O.)		
	5	OFF	Internal buzzer deactivated		
		ON	Internal buzzer activated		
	6-7-8	OFF	OFF	OFF	F1M alarm sequence
		OFF	OFF	ON	F3A alarm sequence
		OFF	ON	OFF	F1A alarm sequence
OFF		ON	ON	M alarm sequence	
ON		OFF	OFF	R8 alarm sequence	
ON		OFF	ON	M5 alarm sequence	
ON	ON	OFF	A alarm sequence		

SW	POS	DESCRIPTION				
SW3	1	OFF	Positive safety deactivated relay 1			
		ON	Positive safety activated relay 1			
	2	OFF	Positive safety deactivated relay 2			
		ON	Positive safety activated relay 2			
	3-4	OFF	OFF	Serial speed 9600 bps		
		OFF	ON	Serial speed 19200 bps		
		ON	OFF	Serial speed 38400 bps		
		ON	ON	Serial speed 57600 bps		
	5-6-7-8	OFF	OFF	OFF	ON	Serial address 1
		OFF	OFF	ON	OFF	Serial address 2
OFF		OFF	ON	ON	Serial address 3	
...						
ON		ON	OFF	OFF	Serial address 12	
OFF	OFF	OFF	OFF	Internal settings		

Functions of alarm systems

The C2C can manage up to a maximum of 12 alarms. Each with the possibility of setting the non-alarm status to normally open or normally closed. It is possible to select the desired alarm sequence via the dipswitch located under the front panel. The Instrument Society of America provides complete details on each sequence of alarms within ISA 18.1-1979 (R1992) and C2C device is fully complies with the sequences indicated.

It is equipped with two relay outputs which will reflect the set ISA sequence:

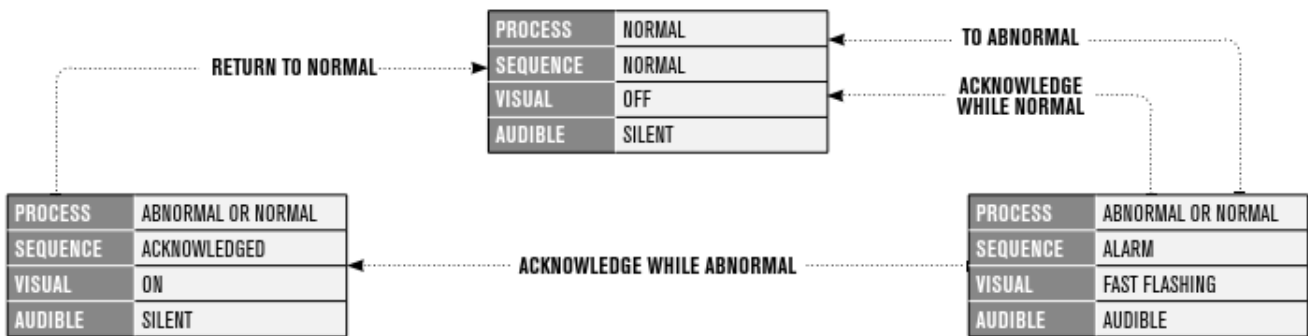
- **R1:** used as **alarms common**
- **R2:** used as **acoustic signal**

Furthermore, for each individual alarm, it is possible to define the relay functionality (off, enable only R1 relay, enable only R2 relay, enable both relay). This advanced feature is only available via the RS485 or Ethernet serial interface.

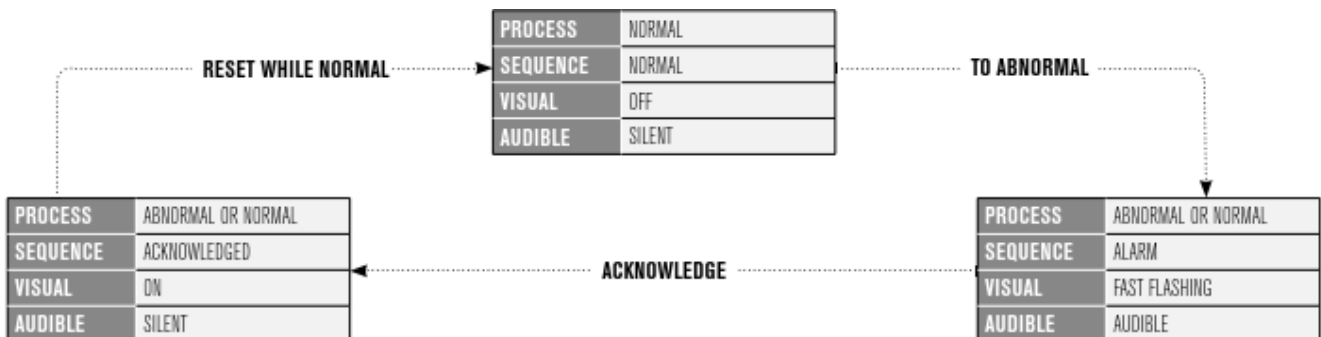
Alarm sequences

To define a sequence the user can simply select any of the listed ISA sequences, using a dipswitches under front panel. The following alarm sequences are available:

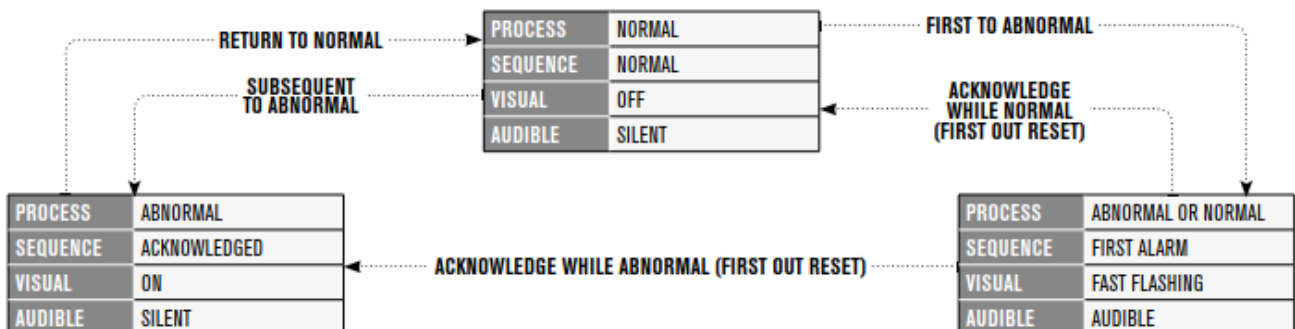
Sequence A, Automatic reset



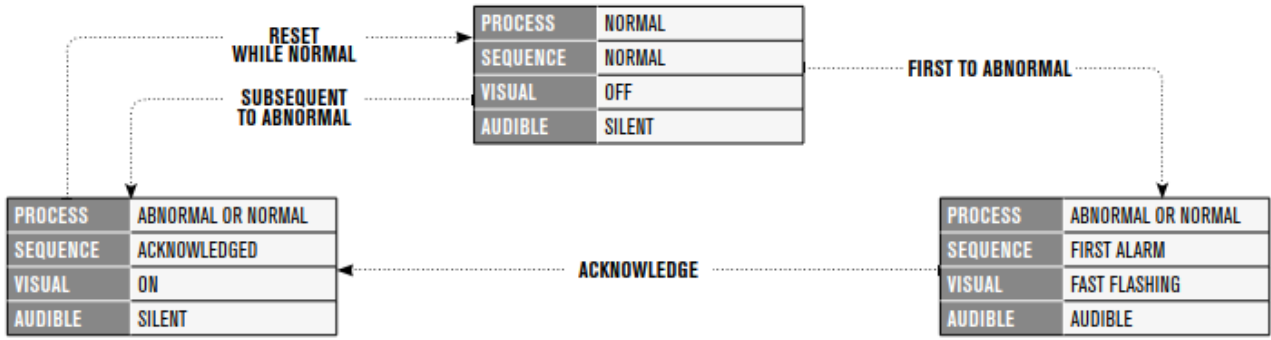
Sequence M, Manual reset



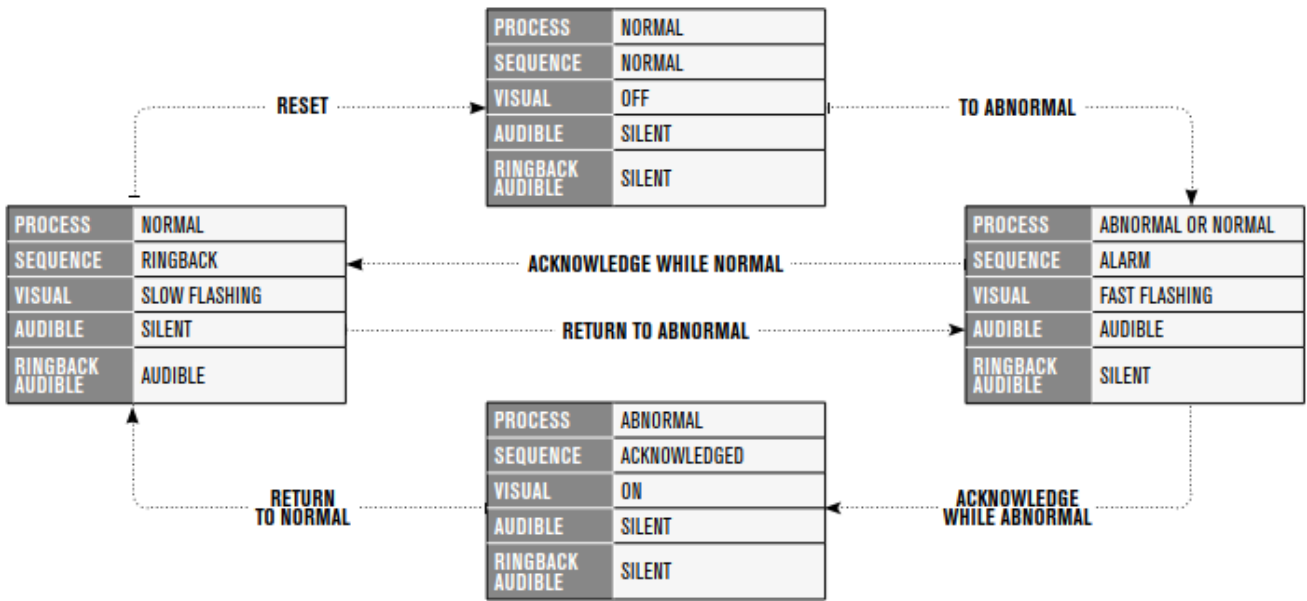
Sequence F1A, Automatic reset first out



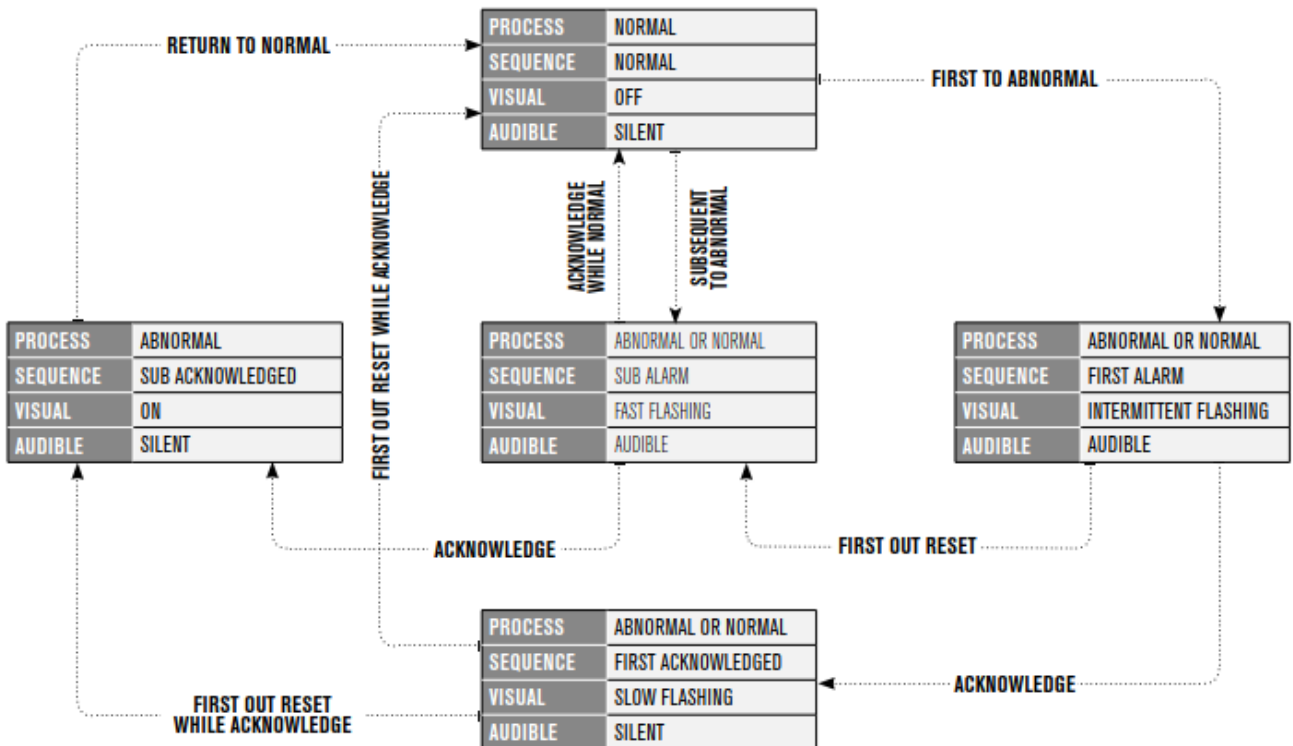
Sequence F1M, Manual reset first out



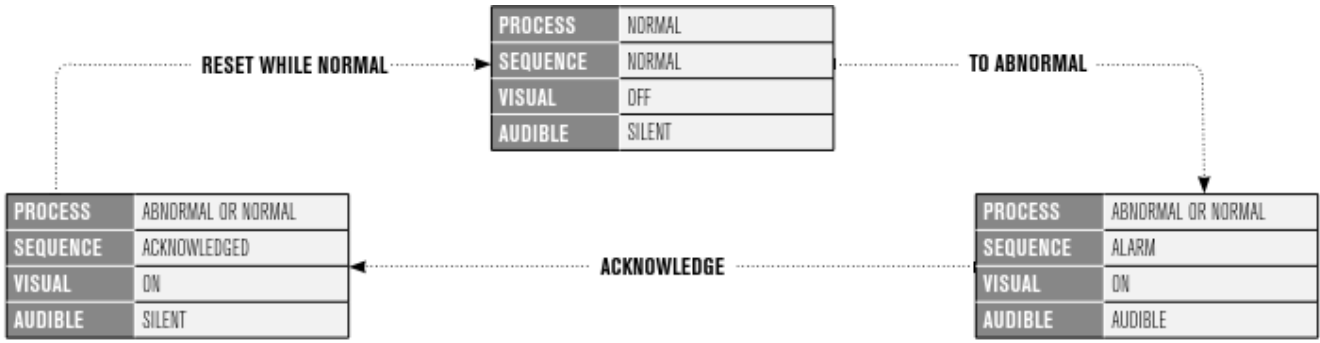
Sequence R8, Common ringback audible



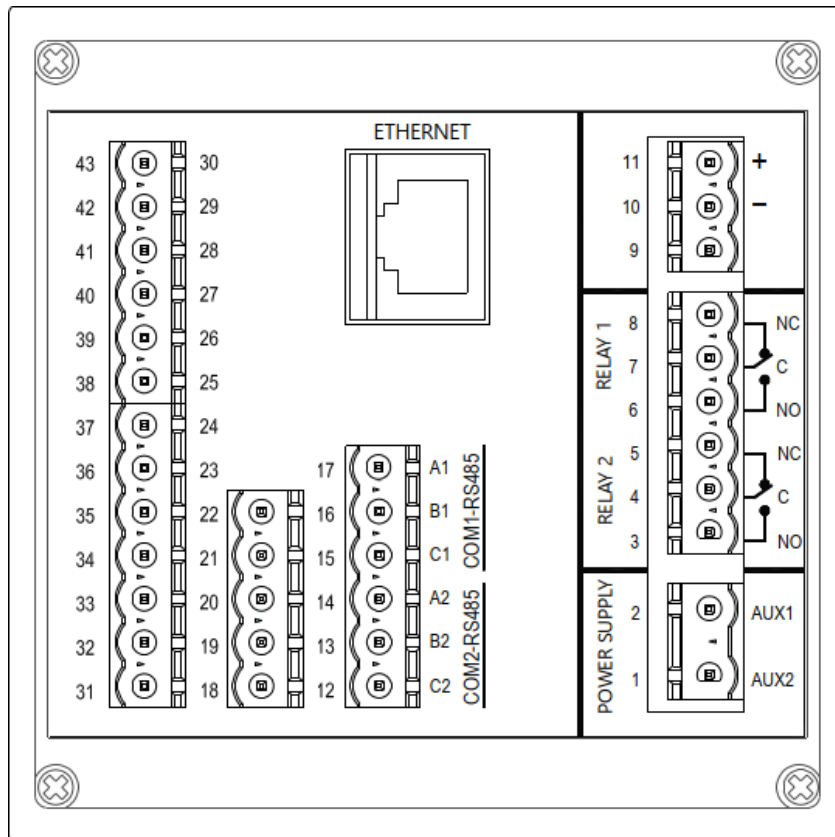
Sequence F3A, Automatic reset first out with first out flashing and reset pushbutton



Sequence M5. Manual reset no flashing



Terminals position

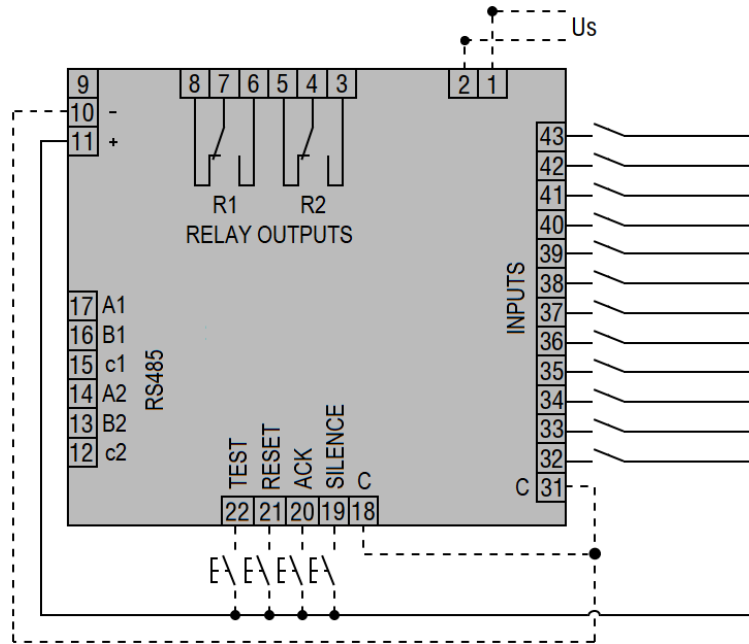


N°	Description
1-2	Auxiliary power supply
3-4-5	Output relay R2 (acoustic signal)
6-7-8	Output relay R1 (alarms common)
9	Not used
10-11	24VDC signal supply output voltage
12-13-14	RS485 connection (COM2) (optional)
15-16-17	RS485 connection (COM1) (optional)
18-31	Common inputs
19	External input (Silence)
20	External input (ACK)
21	External input (RESET)
22	External input (TEST)
32-43	Alarm inputs (Terminal 43 corresponds to alarm input No. 1 ... Terminal 32 corresponds to alarm input No. 12)

Wiring diagrams

Volt-Free contacts (standard 24 VDC)

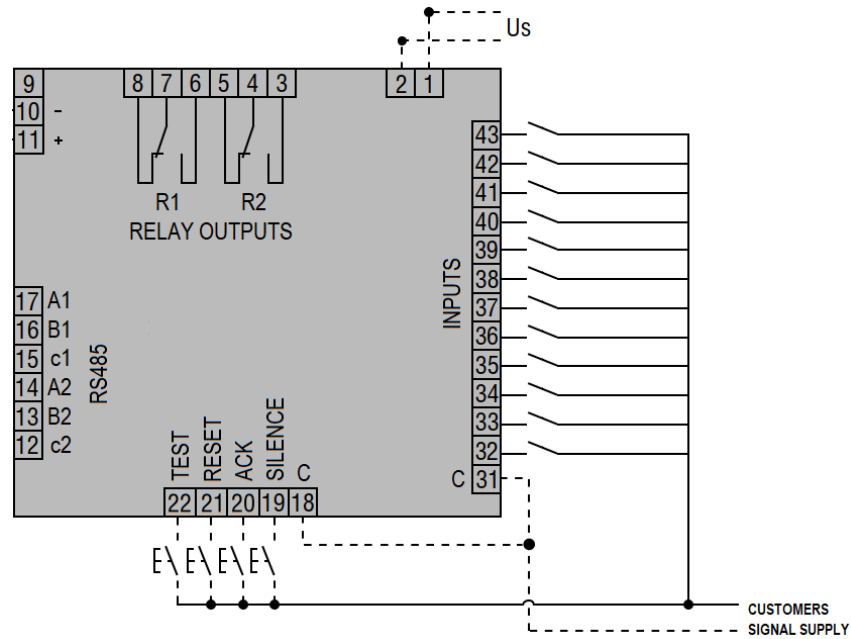
In standard systems 24VDC is provided by the annunciator for use as a signal supply.



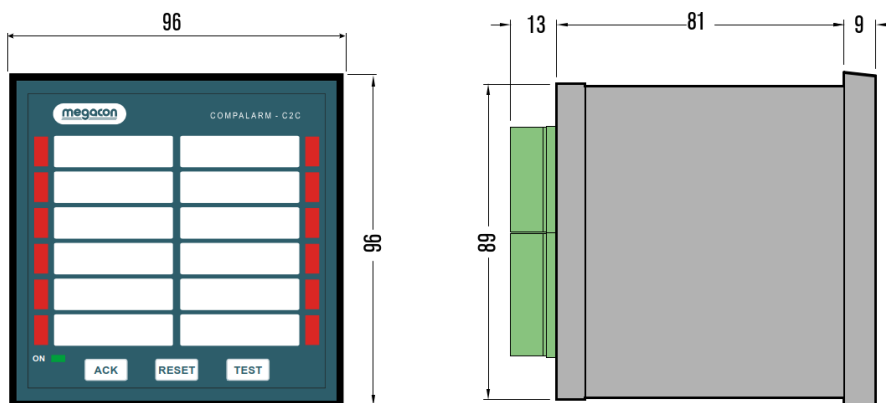
Higher Voltage Powered Inputs

If specified at the time of order the customer can supply the unit suitable for use with high voltage signal inputs there are 3 options available:

- 48VAC/DC
- 110VAC/DC
- 250VAC/DC



Mechanical dimensions (mm)



Technical characteristics

Auxiliary supply	
Rated voltage	90 ÷ 250 VAC/DC 20 ÷ 60 VAC/DC (optional)
Frequency	45 – 65 Hz
Power consumption	2,5 VA (volt-free inputs) 5 VA (higher voltage powered inputs) 6,5 VA (volt-free inputs, ethernet) 3,5 VA (higher voltage powered inputs + ethernet)
Digital inputs	
Number of inputs	12 (alarms) + 4 (remote keys)
Input type	Configurable normally open or normally closed
Current input	5 mA max
Voltage presents on terminals	24 o 48 o 115 o 230 VAC/DC
Output relays	
Number of outputs	2
Type of output	1 changeover contact
Output rating	5A / 250V max
Electrical life	100x10 ³ operations
Mechanical life	20x10 ⁶ operations
RS485 Serial interface (optional)	
Baud-rate	Programmable 9600 – 57600 bps
Stop bits	1-2
Data format	8 bit, no parity 8 bit, even 8 bit odd
Protocol	Modbus RTU
ETHERNET interface (optional)	
Network interface	RJ45 Ethernet 10BASE-T or 100BASE-TX (auto-sensing)
Protocols supported	Modbus TCP, SNMP
Connector type	RJ45 plug-in connector
Insulation	
Insulation voltage	2kV for 1 minute
Housing	
Mounting	Flush mount
Dimension L x H x P	96 x 96 x 81 mm
Cutout	90 x 90 mm
Protection degree	IP40 on front IP20 housing
Weight	<500g
Ambient conditions	
Operating temperature	0...+60 °C
Storage temperature	-20...+80 °C
Relative humidity	<90%
Compliance	
Reference standards	2014/35/UE,2014/30/UE,2015/863/UE EN 61326-1:2013-01 EN 61326-2-1:2013-01

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