

## GENERAL

**D series** message displays provides an easy operator interface, substituting light indicators with clear pre-stored messages. In new equipment designs or existing renovations, D series message displays can put your information up in lights in easily understandable language.

Different operating modes can meet your specific application requirements. Are available following versions:

- **Compalarm Dm216L:**  
version for DIN rail mounting-6 modules,  
with display 2 rows x 16 characters
- **Compalarm Dm420L:**  
version for DIN rail mounting-6 modules,  
with display 4 rows x 20 characters
- **Compalarm Dm420L/RTC:**  
version for DIN rail mounting-6 modules,  
with display 4 rows x 20 characters, internal RTC  
(real time clock)



## APPLICATIONS

- Warning alarm and event recorder
- PLC/PC message display
- Remote terminal
- Distributed acquisition
- Status/diagnosis indicator

## MAIN COMMON FEATURES

- 16 direct or 60 binary inputs
- EIA-485 com port for remote supervision
- NO/NC hardware selectable inputs
- Optoisolated inputs
- Modular, DIN rail mounting
- Real time clock without battery
- Simplified keyboard (removable)
- 8 groups with programmable behaviour
- Front keyboard programmable
- PS/2 standard keyboard programmable
- PC programmable
- SPDT contact
- Group outlets
- Internal 6 audio tone generator
- Audio output for tone diffusion
- Internal timer driven event
- Internal clock driven event
- Backlighted liquid crystal display
- Screen saver
- External GSM module for SMS, data and fax
- Windows® data logger available



**FRONT PANEL**



**Dm-216L**

Din rail mounting  
6 modules  
LCD display backlight  
2 rows x 16 characters



**Dm-420L**

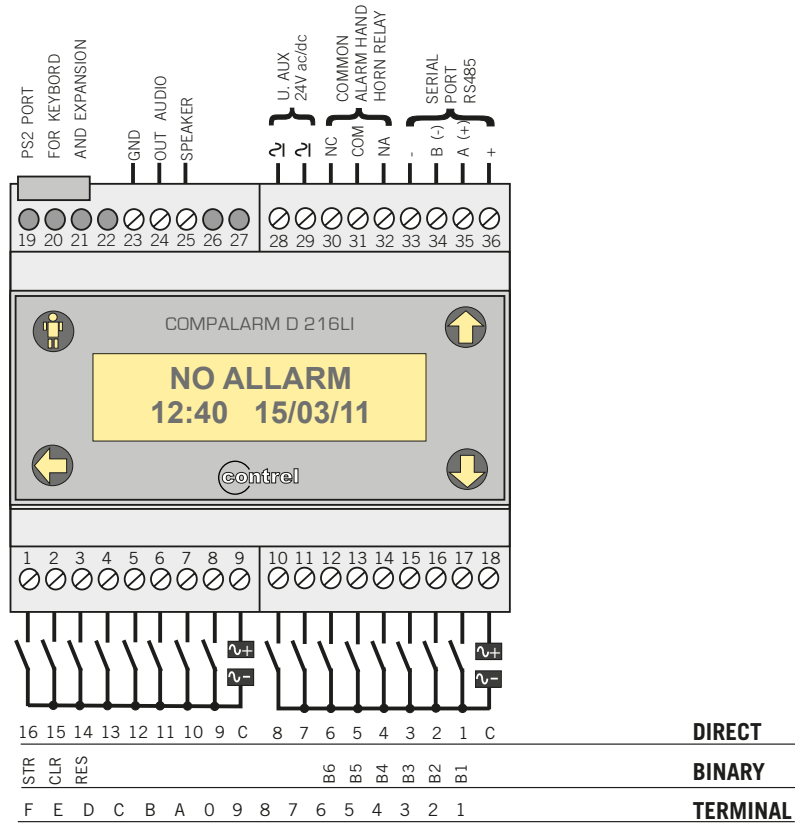
Din rail mounting  
6 modules  
LCD display backlight  
4 rows x 20 characters

<b>A</b>	Liquid cristal display
<b>B</b>	Push button for help
<b>C</b>	Confirmation push button (enter)
<b>D</b>	Search down (scroll down)
<b>E</b>	Search up (scroll up)

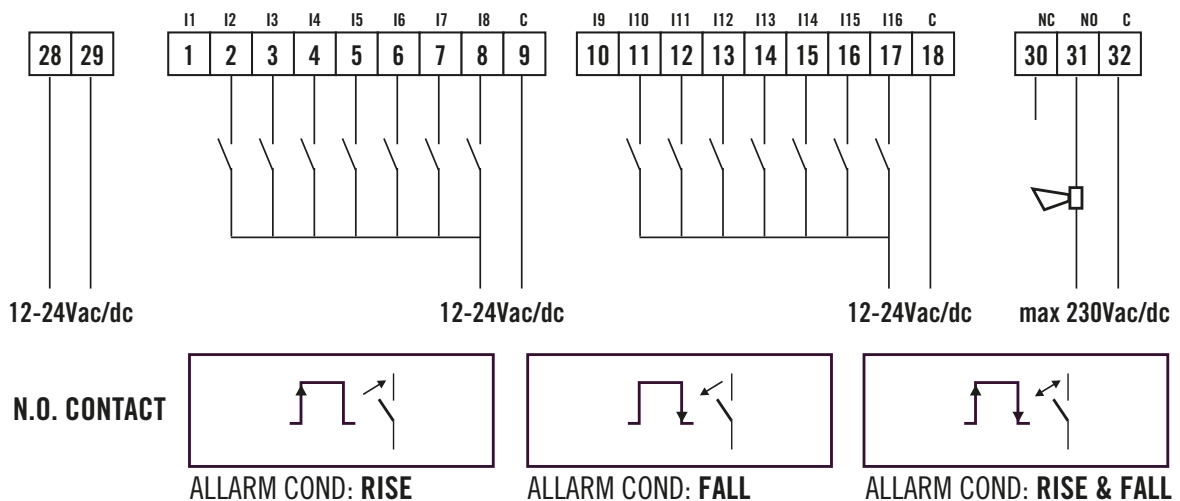
**ELECTRICAL CHARACTERISTICS**

Supply Voltage	12÷40 Vdc	<b>MESSAGES MEMORY</b>	
Frequency	0÷1000 Hz	6 Kbytes	91 messages
Power consumption	5 VA max	<b>ENCLOSURE</b>	
Power dissipation	3 W max	Fitting	Assembly on DIN bar 6 modules
Terminals	Internal self-recovery	Mounting position	Quick assembly on DIN bar
Line fuse	-20 ... 70°C	Protection class EN60529	Any
Operating temperature	0÷60 °C	<b>EMC COMPLIANCE</b>	
Storage temperature	-20÷80 °C	Emission	89/336/EEC
Relative humidity	NON CONDENSING 35÷95%	Immunity	EN50081-1
<b>INPUTS</b>		<b>ISOLATION INPUTS   INTERNAL LOGIC   OUTPUTS</b>	
Overall Dimensions	24Vac/dc ±20%	Test voltage	2500 V @ 50Hz, 1 minute
Cut-out Dimensions	7 mA max @ 24V	Isolation voltage	300 V RMS
Weight	Screw and plug 10 poles 1,5 mm <sup>2</sup> 16 AWG	<b>AUX OUTPUTS</b>	
<b>OUTPUTS</b>		Switching voltage	with external module DR8
Switching voltage	250Vdc MAX	Switching current per output	250 Vac MAX
	250Vac MAX	Total switching current	5 A MAX
Switching current	2A cosφ=1	Terminals	10 A MAX
Switching power	50W MAX	<b>AUDIO OUT</b>	
	250VA MAX	Level	80÷4000 Hz
Terminals	Screw and plug 3 poles 1,5 mm <sup>2</sup> 16 AWG	Terminal	750 mV
<b>SERVICE PORT</b>		<b>REAL TIME CLOCK</b>	
Voltage	PS/2	Precision	JACK PLUG 3,5 mm stereo
Terminal	5 Vdc MAX	Setting	±15 minutes per year
<b>COMMUNICATION</b>		Backup synchronization through communication line	Front panel keyboard or PS/2
Line length	EXTERNAL 120 Ω	10 days, without battery	
Termination resistor §	EMBEDDED 1 kΩ		
Bias resistors (fail-safe)			
Terminals	Screw and plug 4 poles 1,5 mm <sup>2</sup> 16 awg		

ELECTRICAL CHARACTERISTICS



DIRECT MODE OPERATION



Dm216. Message Display 2 lines 16 characters per line LCD

While in direct mode, all inputs are associated to a channel.

16 inputs/channels are available with the standard configuration

All board inputs are optocoupled.

Two common return terminals are provided.

Inputs can be supplied with direct (polarity independent) and alternating current. Input contact can be normally open or closed.

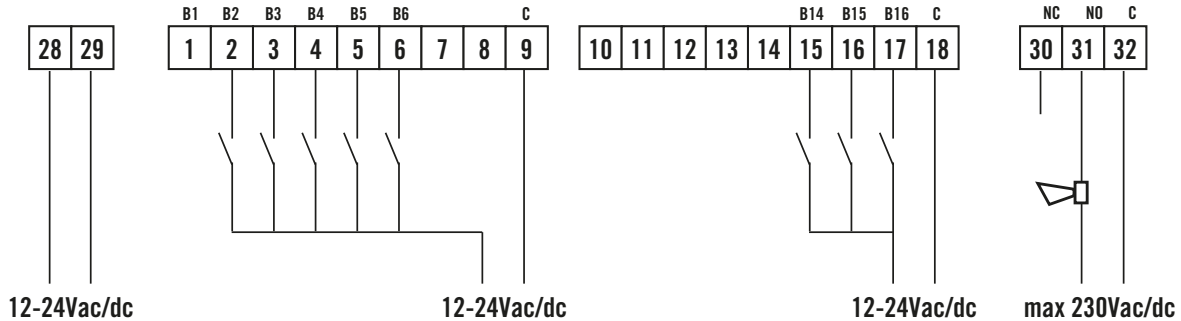
Configuring the device is possible to record an alarm when:

- contact activation (rise)
- contact release (fall) after a previous activation
- both activation and release

It's possible to define the minimum condition duration that produces alarms and the minimum normal duration that produces normality (time filtering).



## BINARY MODE OPERATION



With this operating mode is possible to connect 6 inputs (B1÷B6) coming from an external binary logic.

Up to 60 possible channels are available in this mode (1÷60). A single channel can be triggered activating the STR [17] (strobe) input having a valid binary condition on inputs B1÷B6 while ON [16] input ACTIVE. A single channel can be released activating the STR [17] (strobe) input having a valid binary condition on inputs B1÷B6 while ON [16] input is INACTIVE.

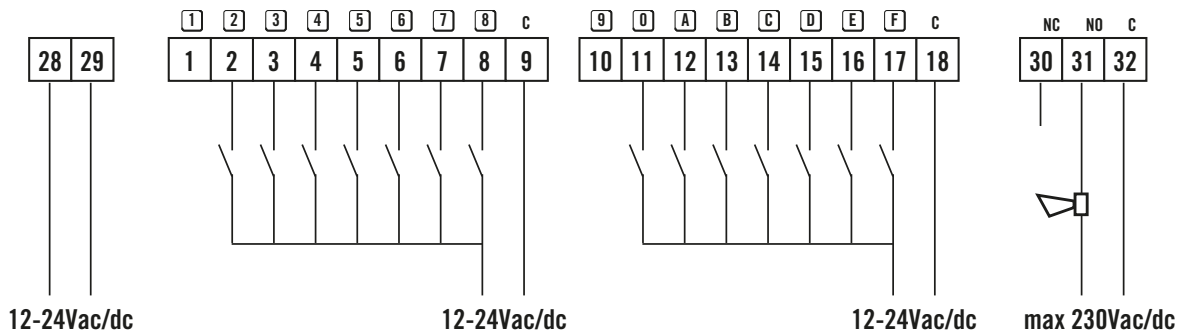
CLR [15] (clear) input, during a STR (strobe) will reset ALL channels to normal condition; inputs B1÷B6 will be ignored. Inputs must be in a stable condition during ALL activating STR time. The STR trigger is filtered both on activation and release related to settings belonging of GROUP 0 (zero). Trigger will be recognised only if STR remain active for the selected filter time and will be considered released only after a stable normal condition having a duration equal or greater than release filter settings.

## EXTERNAL GROUP OUTLETS DR8

This device can emulate a TTY terminal, displaying all incoming characters (from COM port) and sending all characters entered on local keyboard(s). Communication parameters 9600 baud, 8 data bit, 1 stop bit, no parity. Local keyboard can be arranged to suit specific needs:

### FRONT PUSH-BUTTONS

4 keys on the front of the device corresponding to the following lowercase letters

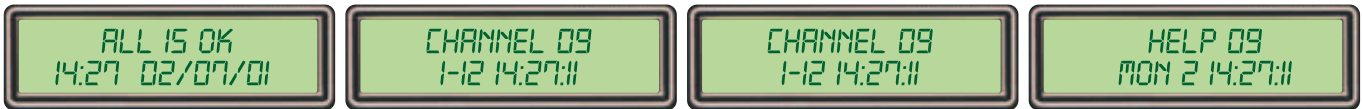


### PS/2 KEYBOARD

A standard PS/2 keyboard can be connected to service port. All keyboards can works together. If an extended keyboard is connected to PS/2 port, no additional module can be derived from this connection: keyboard uses this port exclusively. Local display shows only incoming ASCII data stream. If you prefer to have displayed also local entered characters, you must enable LOCAL ECHO. Character set and special functions (like output activation and sound playing) are listed in the following tables.



OPERATION



This device is equipped with liquid crystal display, with anti-glare contrast enhancement acrylic filter.

Welcome /idle message is displayed during normal condition, this message is user configurable. With real time clock installed and status line enabled, current date/time is shown.

Detecting an alarm condition, specific text will be displayed. A symbol, on the bottom left, give a prompt on channel status:

- flashing bell: input in alarm, not silenced / acknowledged
- fixed bell: input normal, not silenced / acknowledged
- flashing square: input in alarm, silenced / acknowledged
- fixed square: input normal, silenced / acknowledged

Alarm index / total alarms indication is shown if the status line is enabled. This index is continuously updated. If the real time clock is installed, the time related to event record is shown.

Push help key (A) to silence / acknowledge the displayed channel. The same key swap the display to hidden help message.

Push enter key (B) to reset the channel. It's impossible to reset a channel already in alarm condition (flashing symbol).

When the channel is programmed to be volatile, when the channel returns to normal the alarm will be cancelled without operator's acknowledge.

Reset operation must be performed only when a manual (non-automatic) reset was chosen during system configuration.

Holding the help key (A) pressed for at least 8 seconds, a contemporary silence / acknowledge operation will be performed on all channels.

Holding the enter key (B) pressed for at least 8 seconds all channels will be reset.

By means of scrolling keys (C) (D) it's possible to display all the alarm list, independently from the display preferences (static/ cycle / last).

DEVICE TYPE AND FIRMWARE VERSION WILL BE DISPLAYED WHEN PUSHING THE HELP KEY (A) WHILE IN NORMAL CONDITION.

31 characters are available for alarm text, because first character of bottom line is reserved for status symbol. When status line is active, the bottom line is completely reserved for information and all characters stored in this position are lost. Help message can be 16 character long if status line is active.

DIMENSION

