

- **Applications:** *Power line disconnection, generator protection*
- **Mains:** *3 or 4 wire system*
- **Monitoring:** *$U<$, $U<<$, $U>$, $U>>$, $f<$, $f<<$, $f>$, $f>>$ vector surge, direction of rotation, voltage / vector unbalance*
- **Aux. Supply:** *100V - 230 V AC, 24 V - 220 V DC*
- **Outputs:** *5 relays with programmable assignment*
- **Terminals:** *Screwable plug-in terminals*
- **Housing:** *Standard housing 96 x 72 mm, switchboard or rail mounting*
- **Features:** *Serial interface, self-monitoring*



Description

Applications of the CDMR-xx relays include the coupling protection of power plants in parallel-with-system operation, generator protection and general measuring and monitoring tasks in industrial systems. Depending on the requirements, relay types with different combinations of monitoring functions are available. The relay operation is based on digital data acquisition and processing with high accuracy (filtering, rms calculation, frequency measurement, etc.).

The signal of each monitoring function ($U<<$, $U<$, $f<<$, $f<$, etc.) can be independently assigned to any output relay to obtain specific single and group signalling contacts. Each relay may be programmed to operate in normal or negated mode.

Parameter setting is accomplished via the front control panel or via the serial interface. A communication software is available for easy parameter handling and documentation on Laptop or PC by a serial interface.

The auxiliary power supply may be either connected to the measuring voltage or an independent power source. In case of auxiliary power fail, no time delays will be applied on $U<$ or $U<<$ tripping.

By connecting the blocking input "B" to "N", the voltage vector surge (=sudden phase change) tripping can be inhibited, and -depending on the setting of a parameter- also the undervoltage and under- /overfrequency tripping. After power up of the auxiliary- or measuring-voltage the vector surge tripping is inhibited for a specified blocking time.

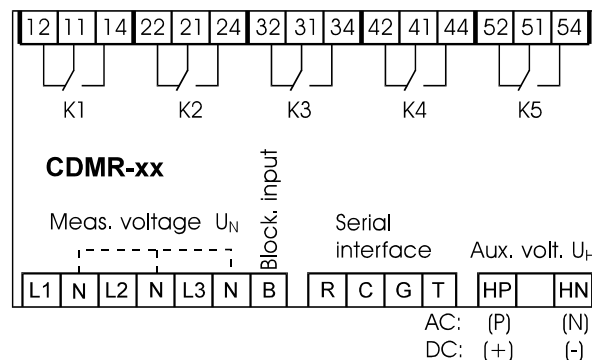
In case of a tripping event the information of the tripping source ($U<<$, $U<$, $f<<$, $f<$, etc.) and the associated measuring values are stored in a non volatile memory. The information of the last events can be recalled from the front panel display.

Specifications

- Meas. voltage U_N : 3 x 400 V / 230 V AC
3 x 110 V / 63 V AC
3 x 100 V / 57 V AC
- Frequency range : 45 - 65 Hz
- Aux. supply U_H : AC : 100 V – 230 V
DC : 24 V – 220 V
- U_H range..... : $\pm 30\%$ for AC voltages
 $\pm 15\%$ for DC voltages
- Power consumption . : 3 VA
- Operating temp. : - 20 °C to +60 °C
- LCD display contrast : - 5 °C to +50 °C
- Output relay**
- Max. switching current : 8 A / 250 V AC / 30 V DC
0.4 A / 230 V DC
- Max. switching power : 2000 VA, 240 W
- Max. switching voltage : 250 V AC, 250 V DC
- Electr. life : 10⁵ operations

Mechanical specifications:

- Case DIN43700 : 96 x 72 x 90 mm
- Switchboard cutout : 92 x 68 mm
- Material : Noryl
- Protection degree : Front IP50 / Rear IP30
- Terminals : 2.5 mm², plug-in



Specifications (continued)

Insulation:

Meas. inputs - aux. supply:

Uh 100 V / 230 V / 400 V AC 4 kV

Uh 24 V - 220 V DC 2.5 kV

Meas. Inputs - relay contacts 4 kV

Standards:

Safety: EN 61010

EMC - Emission:

Uh = AC EN 50081-1

Uh = DC EN 50081-2 (industry)

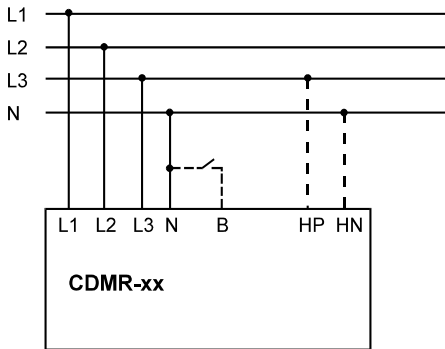
EMC - Immunity: EN 50082-2 (industry)

Mounting equipment:

- Control panel mounting clamps (standard)
- Snap-on adapter to 35mm DIN Rail (optional)

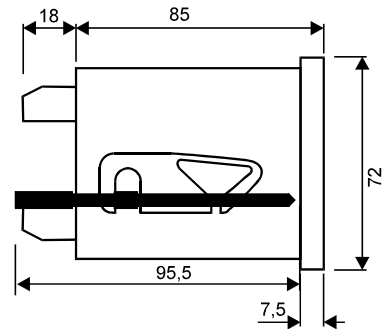
- CDMR serial communication software available for free at www.compactelectric.at
(Requirements: Windows 2000, XP, Vista or Windows 7)

Connection diagram for 4-wire system:

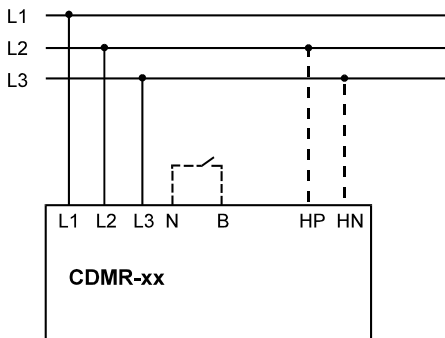


Note: Wire length for "B" connection must not be longer than 3 m.
Specifications subject to change without notice.

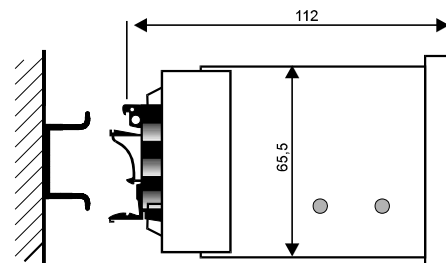
Front mounting (panel cut-out: 92 x 68 mm):



Connection diagram for 3-wire system:



Mounting with rail adapter (adapter width: 115 mm):



Operating parameters and setting ranges (Relay selection guide):

CDMR-51 100/57 V									
Parameter	Measuring value resolution	Setting range	Tripping delay	Release time	Hysteresis	Relay assignment	Event monitor	Lock-out time	Language
Voltage U<<, U<, U>, U>>	1 V	4-wire-system: 6 - 76 V 3-wire-system: 10 - 130 V	40 ms - 60 s	40 ms - 60 s	4-wire-system: 0 - 12 V 3-wire-system: 0 - 20 V	K1 - K5	Last event without timestamp	-	english / german
Frequency f<<, f<, f>, f>>	0.01 Hz	45 - 65 Hz	60 ms - 60 s	60 ms - 60 s	0 - 5 Hz	K1 - K5			
Vector surge Vk>	1 °	1 - 30 °	Blocking time 1 - 20 s	Sensitivity 1 / 3-phasig	Pulsewidth: 1 - 20 s	K1 - K5			
Voltage unbalance	1 V	4-wire-system: 1 - 30 V 3-wire-system: 1 - 50 V	40 ms - 60 s	40 ms - 60 s	4-wire-system: 0 - 12 V 3-wire-system: 0 - 20 V	K1 - K5			
Phase sequenz	-	-	-	-	-	K1 - K5			

CDMR-51 400/230 V									
Voltage U<<, U<, U>, U>>	1 V	4-wire-system: 23 - 300 V 3-wire-system: 40 - 520 V	40 ms - 600 s	40 ms - 600 s	4-wire-system: 0 - 50 V 3-wire-system: 0 - 80 V	K1 - K5	Last event without timestamp	0 - 990 s	english / german
Frequency f<<, f<, f>, f>>	0.01 Hz	45 - 65 Hz	60 ms - 60 s	60 ms - 60 s	0 - 5 Hz	K1 - K5			
Vector surge Vk>	1 °	1 - 30 °	Blocking time 1 - 20 s	Sensitivity 1 / 3-phasig	Pulsewidth: 1 - 20 s	K1 - K5			
Voltage unbalance	1 V	4-wire-system: 2 - 120 V 3-wire-system: 4 - 200 V	40 ms - 600 s	40 ms - 600 s	4-wire-system: 0 - 50 V 3-wire-system: 0 - 80 V	K1 - K5			
Phase sequenz	-	-	-	-	-	K1 - K5			

CDMR-61 400/230 V									
Voltage U<<<, U<<, U<, U>, U>>	1 V	4-wire-system: 23 - 300 V 3-wire-system: 40 - 520 V	40 ms - 60 s	40 ms - 60 s	4-wire-system: 0 - 50 V 3-wire-system: 0 - 80 V	K1 - K5	Last 100 events with timestamp	-	english / german
Frequency f<<, f<, f>, f>>	0.01 Hz	45 - 65 Hz	60 ms - 60 s	60 ms - 60 s	0 - 5 Hz	K1 - K5			
Vector surge Vk>	1 °	1 - 30 °	Blocking time 1 - 20 s	Trip logic 1 / 2 / 3-phase	Pulsewidth: 1 - 20 s	K1 - K5			
Voltage unbalance	1 V	4-wire-system: 2 - 120 V 3-wire-system: 4 - 200 V	40 ms - 60 s	40 ms - 60 s	4-wire-system: 0 - 50 V 3-wire-system: 0 - 80 V	K1 - K5			
Vector unbalance	1 °	0 - 10 °	40 ms - 60 s	40 ms - 60 s	0 - 5 °	K1 - K5			
Phase sequenz	-	-	-	-	-	K1 - K5			

CDMR-62 100/57 V									
Voltage U<<<, U<<, U<, U>, U>>	0.1 V	4-wire-system: 1 - 82 V 3-wire-system: 1 - 143 V	40 ms - 600 s	40 ms - 600 s	4-wire-system: 0 - 12 V 3-wire-system: 0 - 20 V	K1 - K5	Last 100 events with timestamp	0 - 990 s	english / german
Frequency f<<, f<, f>, f>>	0.01 Hz	45 - 65 Hz	60 ms - 60 s	60 ms - 60 s	0 - 5 Hz	K1 - K5			
Vector surge Vk>	1 °	1 - 30 °	Blocking time 1 - 20 s	Trip logic 1 / 2 / 3-phase	Pulsewidth: 1 - 20 s	K1 - K5			
Voltage unbalance	1 V	4-wire-system: 1 - 30 V 3-wire-system: 1 - 50 V	40 ms - 600 s	40 ms - 600 s	4-wire-system: 0 - 12 V 3-wire-system: 0 - 20 V	K1 - K5			
Vector unbalance	1 °	0 - 10 °	40 ms - 600 s	40 ms - 600 s	0 - 5 °	K1 - K5			
Phase sequenz	-	-	-	-	-	K1 - K5			