

Coupling device CD14400



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Product description

The CD14400 can be used with an NGR monitor in HRG systems with a system voltage U_{LL} up to 14.4 kV ($U_{NGR} = 8.4$ kV).

The maximum operating altitude is 5000 m above mean sea level.

Application:

- The coupling device is suitable for HRG applications up to a system voltage of 14400 V.

Function

The combination of an NGR monitor and a coupling device extends the range of application of the neutral grounding resistor monitor up to a system voltage of 14.4 kV. The duty time is limited to 60 s (1 minute), the cool-down period is 120 minutes.

Ordering details

Type	U_{LL}	U_{NGR}	Art. No.
CD14400	up to 14400 V	8400 V	B98039054

Device features

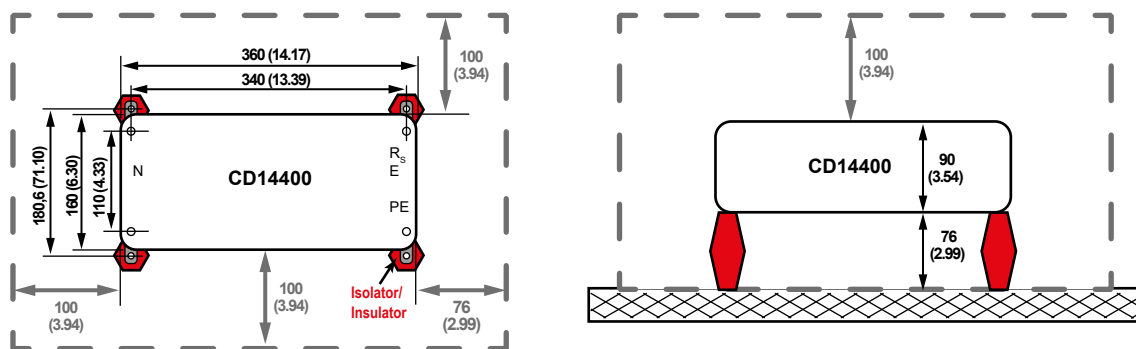
- Coupling device for NGRM
- Range of use up to 14400 V system voltage
- Application up to 5000 m
- IP54

Certifications



Dimension diagram

Dimensions in mm (in)

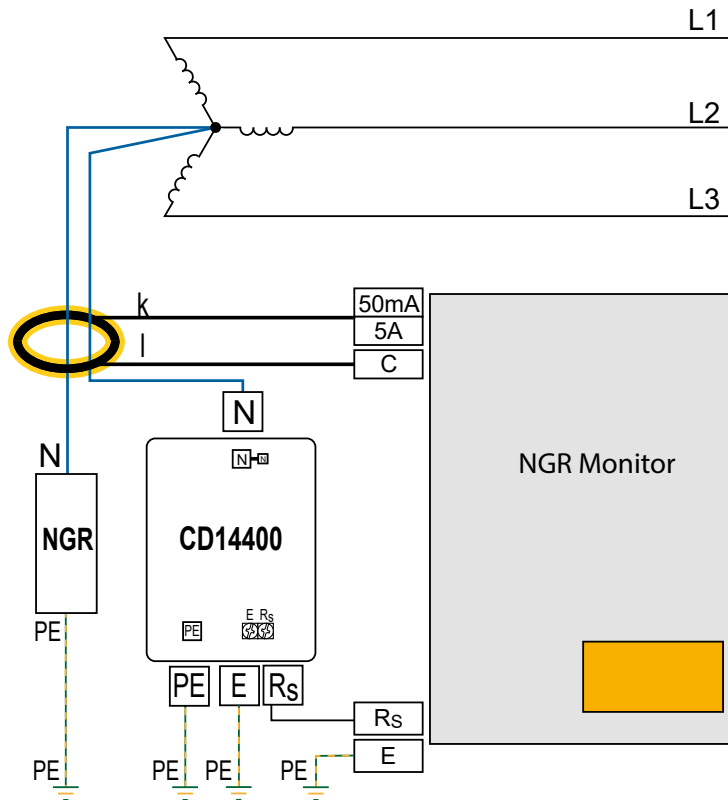


Tightening torque cover screws: 2.5 Nm (22.1 lb-in)

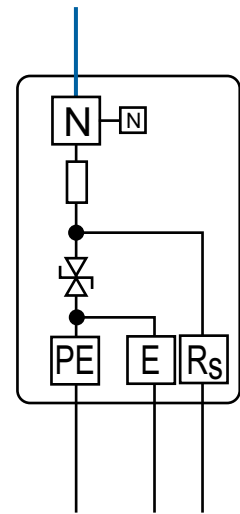
←→ Minimum distance to adjacent devices

Wiring diagrams

Wiring diagram



Internal wiring diagram CD14400



i The „N“ terminal of the CD14400 should be connected directly to the star point of the transformer, so that the connection between NGR and star point is also monitored.
 A direct connection between the „N“ connections of the CD14400 and the NGR is not recommended, as in this case a line interruption between the star point and the NGR connection „N“ would not be monitored.

Terminal	Use	Connecting cable	
		Metrical	Imperial
R_S	Connection to R_S of the NGRM...	1.5 mm ²	AWG16
E	Connection to E of the NGRM...; internally connected to PE		
N	Connection to the star point of the HRG system; via cable lug M5 or M10	≥ 1.5 mm ²	AWG16 or greater
PE	Connection to protective earth conductor; internally connected to E, cable lug M5		

Technical data

Insulation coordination DIN EN 50178:1997

Definitions	
Measuring circuit (IC1)	N
Output circuit (IC2)	R _S
Protective circuit (IC3)	E, PE
Rated voltage	8400 V
Overtoltage category	III
Pollution degree	2
Rated insulation voltage	
no galvanic separation between the circuits!	
IC1/(IC2 – IC3)	8400 V
IC2/IC3	50 V

Voltage range

U_n	DC, 50/60 Hz, 10...3200 Hz	8400 V
I_n		84 mA
Operating time		
without ground fault (1900 V)		unlimited
with ground fault (4200 V)		90 seconds
with ground fault (8400 V)		60 seconds
Cool-down period		120 minutes
Overload capacity	1.15 x U_n for < 30 seconds	

Resistance

100 kΩ	±0.5 %
Temperature coefficient	20 ppm/K

Environment

Ambient temperature	-40...+70 °C
Ambient temperature for U_L	-40...+60 °C
Humidity	≤ 98 %

Classification of climatic conditions acc. to IEC 60721

(related to temperature and relative humidity)

Stationary use (IEC 60721-3-3)	3K22
Transport (IEC 60721-3-2)	2K11
Long-term storage (IEC 60721-3-1)	1K22

Classification of mechanical conditions acc. to IEC 60721

Stationary use	3M12
Transport	2M4
Long-term storage	1M12

Connection

<i>Connection R_S and E</i>	
Tightening torque	0.5...0.6 Nm (4.4...5.3 lb-in)
Conductor sizes	AWG 24-12
Stripping length	7 mm
Conductor, rigid	0.2...4 mm ²
Conductor, flexible	0.2...2.5 mm ²
Multiple conductor, flexible with ferrule	
without plastic sleeve	0.25...1.5 mm ²
with plastic sleeve	0.25...2.5 mm ²
Multiple conductor, flexible with TWIN ferrule	
with plastic sleeve	0.5...1.5 mm ²
<i>Connection N and PE</i>	
Tightening torque cable lug M10	17 Nm (150 lb-in)
Tightening torque cable lug M5	2.2 Nm (19.5 lb-in)

Other

Tightening torque	
cover screws	2.5 Nm (22.1 lb-in)
mounting screws	21 Nm (186 lb-in)
Operating mode	in case of a ground fault maximum 60 s
Mounting	any position
Operating altitude	up to 5000 m AMSL
Degree of protection, internal components (DIN EN 60529)	IP54
Flammability class	UL 94V-0
Documentation number	D00346
Weight	< 4.4 kg



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