



CD25000

Coupling device



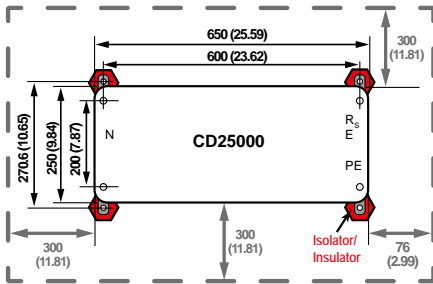
Intended use

The CD25000 can be used with an NGR monitor in HRG systems with a system voltage up to $U_{LL} = 25 \text{ kV}$ ($U_{NGR} = 14.5 \text{ kV}$). The maximum operating altitude is 5000 m above mean sea level.

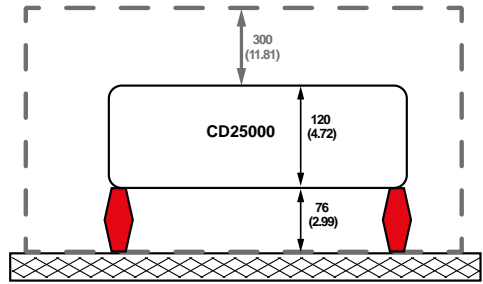
Functional description

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 25 kV. The duty time is limited to 10 s (minute), the cool-down period is 120 minutes.

Dimension diagram and installation



Dimension diagram; all dimensions in mm (in)
Tightening torque, cover screws: 2.5 Nm (22.1 lb-in)
Minimum distance to neighboring devices \longleftrightarrow



! DANGER of an electric shock!
Inappropriate installation and connection can result in death, serious physical injury or substantial damage to property.

The device is suitable for screw mounting:

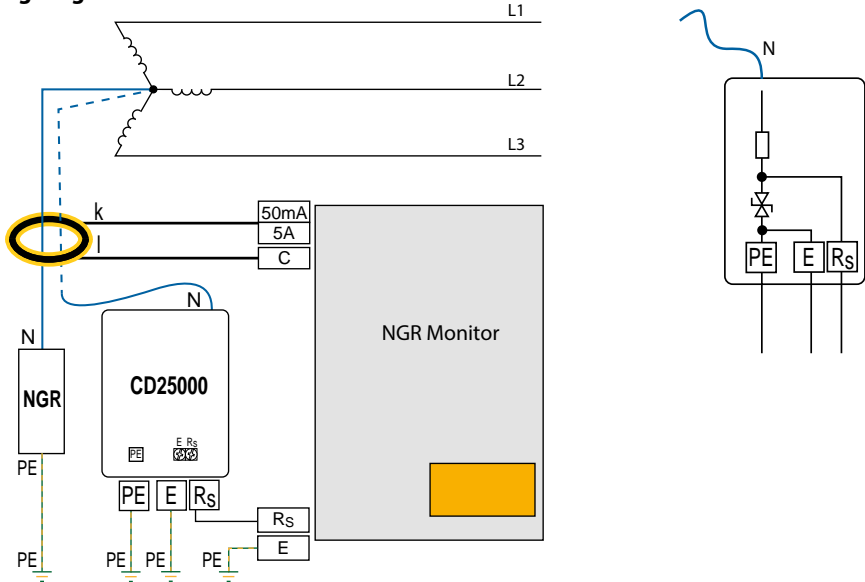
Four M8 fastening screws, tightening torque 21 Nm (186 lb-in).

Connection

Unscrew the cover, connect suitable cable to the appropriate socket.

i The increased protection IP54 is achieved by feeding the cable through a membrane. To do this, push the cable through the membrane during installation and connect it. The membrane wraps around the cable and closes the opening.

Wiring diagram



i The "N" terminal of the CD25000 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 CD25000 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.

Wiring diagram (left), CD25000 internal wiring diagram (right)

Notes on the wiring diagram:

Terminal/ Connection	Use	Connecting cable	
		Metrical	Imperial
N	Connection to the star point of the HRG system: permanently connected cable (1.8 m), cable lug provided by the customer	0.36 mm ²	
R _s	Connection to RS of the NGRM. . .	1.5 mm ²	AWG16
E	Connection to E of the NGRM. . . ; Internally connected to PE	1.5 mm ²	AWG16
PE	Connection to the protective conductor, internally connected to E, M5 cable lug	≥ 1.5 mm ²	AWG16 or greater

Commissioning

After connecting the CD25000 to the NGR monitor, perform a field calibration.

i To obtain the best possible results in a field calibration, the NGR monitor should be in operation for at least one hour in the operational environment.

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.....	14500 V
Overvoltage category.....	III
Pollution degree.....	2
Rated insulation voltage	
No galvanic separation between the circuits!	
IC1 / (IC2 – IC3).....	14500 V
IC2 / IC3.....	50 V

Voltage range

U_n	DC, 50/60 Hz, 10...3200 Hz	14500 V
I_n		145 mA

Operating time

without ground fault (2800 V).....	unlimited
with ground fault (14500 V).....	10 s
Cool-down period.....	120 min
Overload capacity.....	1.15 x I_n for < 10 s

Resistance

100 k Ω	$\pm 0.5\%$
Temperature coefficient.....	20 ppm/K

Environment

Ambient temperature.....	-40...+70 °C
Ambient temperature for UL.....	-40...+60 °C
Humidity.....	$\leq 98\%$

Classification of climatic conditions acc. to IEC 60721

(with respect to temperature and rel. humidity)

Stationary use (IEC 60721-3-3).....	3K22
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Ordering details

Name	ULL	UNGR	Ordering no.
CD25000	up to 25000 V	14400 V	B98039055



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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

Connection RS and E

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
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Connection PE for cable lug

Tightening torque cable lug M5.....	2.2 Nm (19.5 lb-in)
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Connection N

Connection via HV line (1.8 m) with open end cable.....	
..... cable lug provided by the customer	

Other

Operating mode.....	in case of a ground fault maximum 10 s
Mounting.....	any position
Tightening torque cover screws.....	2.5 Nm (22.1 lb-in)
Operating altitude (when mounted on insulators)..... up to 5000 m AMSL
Degree of protection, internal components (DIN EN 60529).....	IP54
Flammability class.....	UL 94 V-0
Weight.....	< 11 kg



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