Pushing Performance

Current Sensor HCMR 1000A-S-40-SB5-0

Image is for illustration purposes only. Please refer to product description.

Part number	20 31 100 9107
Specification	Current Sensor HCMR 1000A-S-40-SB5-0
HARTING eCatalogue	https://b2b.harting.com/20311009107

Identification

Category	Current measurement
Series	HCMR
Element	Current sensor
Sensor technology	Hall-Effekt Closed loop
Features	Hall effect compensated current sensor Measurable currents: AC, DC, pulsed, mixed ... High accuracy over the entire measuring range Galvanic insulation between primary and secondary current Internal screen between primary and secondary circuit Switchboard mounting Housing material and potting mass have a flammability rating UL 94 V-0 Applications: frequency converters, electrical drives, auxiliary converters

Version

Field of application	Railway version
Termination	4x screw lock with Faston (6.3 x 0.8 mm)

Technical characteristics

I_{PN} Nominal primary current	1,000 A
I_{PM} Primary current, measuring range	0 ... ±1,800 A
R_M Measuring resistance @ $I_{PM\ max}$, $U_{C\ max}$, $T_{A\ max}$	11 Ω For other primary currents see diagram.
I_{SN} Nominal secondary current	250 mA
K_N Turns ratio	1 : 4000
U_C Power supply	±15 ... ±24 V ±5 %

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Technical characteristics

I_C Current consumption @ $U_{C\ min}$	30 mA + I_S
X Overall accuracy @ I_{PN}, T_A = 25 °C	±0.4 %
E_L Linearity	<0.1 %
I_O Offset current @ I_P = 0 A, T_A = 25 °C	±0.5 mA
I_{OT} maximum temperature drift of I_O	±0.8 mA
t_r Response time @ I_{PN}	<1 µs
di/dt with optimal coupling	>100 A/µs
f Frequency	0 ... 100 kHz
T_A Ambient temperature	-40 ... +85 °C
T_S Storage temperature	-45 ... +90 °C
R_S Secondary coil resistance @ $T_{A\ max}$	27 Ω
U_D Test voltage, effective (50 Hz, 1 min)	12 kV Primary - secondary 1 kV Secondary - screen
U_{St} Rated impulse voltage (1,2/50 µs)	20 kV
U_B Rated voltage	2,000 V
Overvoltage category	III
Pollution degree	2
L_s Clearance distance	50 mm
K_s Creepage distance	50.5 mm
Tightening torque	4 Nm (4x steel screw M5 - Horizontal)

Material properties

Material (hood/housing)	Polycarbonate (PC)
Material flammability class acc. to UL 94	V-0
RoHS	compliant
ELV status	compliant
China RoHS	e
REACH Annex XVII substances	No
REACH ANNEX XIV substances	No

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Material properties

REACH SVHC substances	No

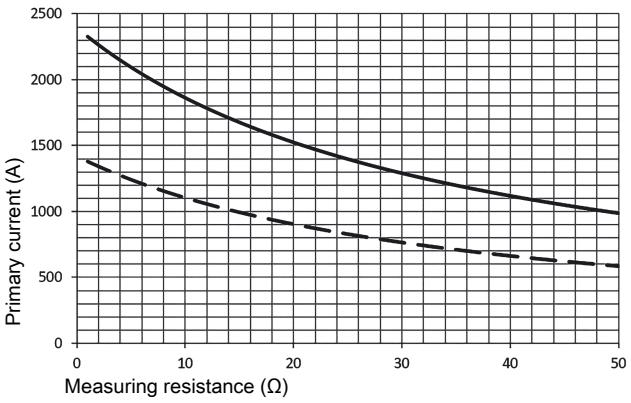
Specifications and approvals

Specifications	EN 50178 IEC 61373
Approvals	DNV GL
CE	Yes

Commercial data

Packaging size	1
Net weight	877 g
Country of origin	Germany
European customs tariff number	90303370
eCl@ss	27210902 Current transformer

Measuring resistance



—— V_C = ±24 V -5 %, T_A = 85 °C
– – – V_C = ±15 V -5 %, T_A = 85 °C
Primary currents higher than I_{PM} only for peak!

Remark

- If I_P flows in the direction of the arrow I_S is positive.
- Over currents (»I_{PN}) or the missing of the supply voltage can cause an additional permanent magnetic offset.
- The temperature of the primary conductor may not exceed 100 °C.

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Safety note

These transformers may only be used in electrical or power electronic applications which fulfill the relevant regulations (standards, EMC requirements,…).
This transformer must be used in limited-energy secondary circuits according to IEC 61010-1.

Caution, risk of electric shock

- Pay attention to protect non-insulated high-power current carrying parts against direct contact (e.g. with a protective enclosure).
- When installing this sensor please make sure that the safe separation (between primary circuit and secondary circuit) is maintained over the whole circuits and their connections.
- The sensor may only be connected to a power supply respecting the SELV/PELV protective regulations according to EN 50 178. The installation of the power supply must be short-circuit-proof.
- Disconnecting the main power must be possible.
- The current sensors support a safe separation. The creepage and clearance distances are taken as a basis for the rated voltage. They are the shortest distance between the secondary connection and the sensor's window. The actual clearance and creepage distances depend on the position of the primary conductor respectively on the actual shortest distance between the primary conductor and the secondary connection.

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