

Current Sensor HCMR 500A-S-40-SB5-C



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

Part number	20 31 050 9201
Specification	Current Sensor HCMR 500A-S-40-SB5-C
HARTING eCatalogue	https://b2b.harting.com/20310509201

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

Termination	4x screw lock with Faston (6.3 x 0.8 mm)
Field of application	Railway version
Pack contents	Connecting cable included

Technical characteristics

I_{PN} Nominal primary current	500 A
I_{PM} Primary current, measuring range	0 ... $\pm 1,200$ A
R_M Measuring resistance @ $I_{PM \max}$, $U_C \max$, $T_A \max$	1 ... 20 Ω For other primary currents see diagram.
I_{SN} Nominal secondary current	125 mA
K_N Turns ratio	1 : 4000



Technical characteristics

U_C Power supply	$\pm 15 \dots \pm 24 \text{ V} \pm 5 \%$
I_C Current consumption @ $U_C \text{ min}$	$20 \text{ mA} + I_S$
X Overall accuracy @ I_{PN} , $T_A = 25 \text{ }^\circ\text{C}$	$\pm 0.6 \%$
E_L Linearity	$< 0.1 \%$
I_O Offset current @ $I_P = 0 \text{ A}$, $T_A = 25 \text{ }^\circ\text{C}$	$\pm 0.5 \text{ mA}$
I_{OT} maximum temperature drift of I_O	$\pm 0.8 \text{ mA}$
t_r Response time @ I_{PN}	$< 1 \mu\text{s}$
di/dt with optimal coupling	$> 100 \text{ A}/\mu\text{s}$
f Frequency	$0 \dots 100 \text{ kHz}$
T_A Ambient temperature	$-40 \dots +85 \text{ }^\circ\text{C}$
T_S Storage temperature	$-45 \dots +90 \text{ }^\circ\text{C}$
R_S Secondary coil resistance @ $T_{A \text{ max}}$	45Ω
U_D Test voltage, effective (50 Hz, 1 min)	7 kV Primary - secondary 0.5 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	41.6 mm
K_S Creepage distance	43.1 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	Not contained
REACH ANNEX XIV substances	Not contained

Material properties

REACH SVHC substances	Not contained
California Proposition 65 substances	Yes
California Proposition 65 substances	Nickel

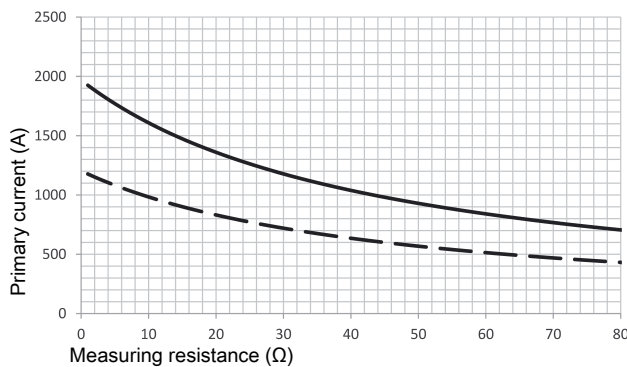
Specifications and approvals

Specifications	EN 50155 IEC 61373
Approvals	DNV GL
CE	Yes

Commercial data

Packaging size	1
Net weight	548 g
Country of origin	Germany
European customs tariff number	90303370
eCl@ss	27210902 Current transformer

Measuring resistance



— $U_C = \pm 24\text{ V} - 5\%$, $T_A = 85\text{ °C}$

- - - $U_C = \pm 15\text{ V} - 5\%$, $T_A = 85\text{ °C}$

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 ($\gg I_{PN}$) 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 .