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Current Sensor HCM 300A-0-20-CRA-0

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

Part number	20 31 030 0303
Specification	Current Sensor HCM 300A-0-20-CRA-0
HARTING eCatalogue	https://b2b.harting.com/20310300303

Identification

Category	Current measurement
Series	HCM
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 Switchboard mounting Applications: frequency converters, electrical drives, switched mode power suppplies, UPS

Version

Termination	JST B 3P-VH
Field of application	Industrial version

Technical characteristics

I_{PN} Nominal primary current	300 A
I_{PM} Primary current, measuring range	0 ... ±500 A
R_M Measuring resistance @ $I_{PM\ max}$, $U_{C\ max}$, $T_{A\ max}$	5 ... 38 Ω For other primary currents see diagram.
I_{SN} Nominal secondary current	150 mA
K_N Turns ratio	1 : 2000
U_C Power supply	±12 ... ±20 V ±5 % @ -40 ... +85 °C ±24 V ±5 % @ -40 ... +70 °C

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Technical characteristics

I_C Current consumption @ $U_{C\ min}$	26 mA + I_S
X Overall accuracy @ I_{PN}, T_A = 25 °C	±0.5 %
E_L Linearity	<0.1 %
I_O Offset current @ I_P = 0 A, T_A = 25 °C	±0.4 mA
I_{OT} maximum temperature drift of I_O	±0.7 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 @ $T_{A\ max}$	30 Ω
U_D Test voltage, effective (50 Hz, 1 min)	3 kV Primary - secondary
U_{St} Rated impulse voltage (1,2/50 µs)	6 kV
U_B Rated voltage	600 V
Overvoltage category	III
Pollution degree	2
L_s Clearance distance	9.5 mm
K_s Creepage distance	9.5 mm
Tightening torque	3.2 Nm (2x steel screw M4 - Vertical) 3.2 Nm (4x steel screw M4 - Horizontal)

Material properties

Material (hood/housing)	Polycarbonate (PC)

Specifications and approvals

Specifications	EN 50178 IEC 61373
CE	Yes
Approvals	DNV GL

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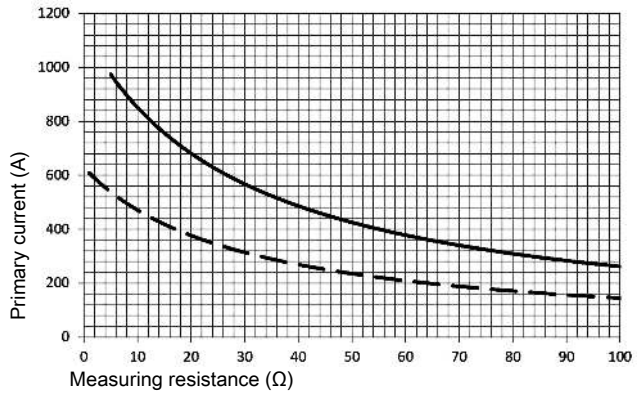
Commercial data

Packaging size	1
Net weight	133.6 g
Country of origin	Romania
European customs tariff number	90303370
eCl@ss	27210902 Current transformer

Measuring resistance



—— V_C = ± 20 V -5 %, T_A = 85 °C
– – – V_C = ±12 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.
To achieve specified accuracy level in the temperature range of -40 ... -35 °C a warm up time of a few minutes is recommended.

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.

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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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