

## Current Sensor HCM 300A-0-20-SB4-0



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

Part number	20 31 030 0302
Specification	Current Sensor HCM 300A-0-20-SB4-0
HARTING eCatalogue	<a href="https://b2b.harting.com/20310300302">https://b2b.harting.com/20310300302</a>

### 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 Housing material and potting mass have a flammability rating UL 94 V-0 Applications: frequency converters, electrical drives, switched mode power supplies, UPS

### Version

Termination	3x steel screw M4
Field of application	Industrial version

### Technical characteristics

$I_{PN}$ Nominal primary current	300 A
$I_{PM}$ Primary current, measuring range	0 ... $\pm 500$ A
$R_M$ Measuring resistance @ $I_{PM \max}$ , $U_C \max$ , $T_A \max$	1 ... 40 $\Omega$ For other primary currents see diagram.
$I_{SN}$ Nominal secondary current	150 mA
$K_N$ Turns ratio	1 : 2000
$U_C$ Power supply	$\pm 12$ ... $\pm 20$ V $\pm 5$ %



## Technical characteristics

$I_C$ Current consumption @ $U_{C \min}$	26 mA + $I_S$
X Overall accuracy @ $I_{PN}$ , $T_A = 25 \text{ }^\circ\text{C}$	$\pm 0.5 \%$
$E_L$ Linearity	$< 0.1 \%$
$I_O$ Offset current @ $I_P = 0 \text{ A}$ , $T_A = 25 \text{ }^\circ\text{C}$	$\pm 0.4 \text{ mA}$
$I_{OT}$ maximum temperature drift of $I_O$	$\pm 0.7 \text{ mA}$
$t_r$ Response time @ $I_{PN}$	$< 1 \text{ } \mu\text{s}$
di/dt with optimal coupling	$> 100 \text{ A}/\mu\text{s}$
f Frequency	0 ... 100 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 @ $T_{A \max}$	28 $\Omega$
$U_D$ Test voltage, effective (50 Hz, 1 min)	3 kV Primary - secondary
$U_{St}$ Rated impulse voltage (1,2/50 $\mu\text{s}$ )	10 kV
$U_B$ Rated voltage	600 V
Overvoltage category	III
Pollution degree	2
$L_S$ Clearance distance	17.8 mm
$K_S$ Creepage distance	18.5 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)
Material flammability class acc. to UL 94	V-0

## Specifications and approvals

Specifications	EN 50178 IEC 61373
CE	Yes

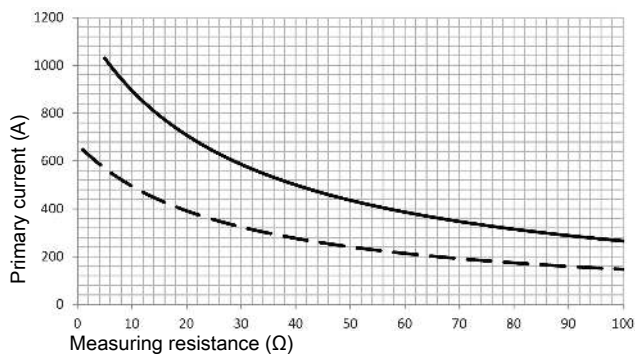
## Specifications and approvals

Approvals	DNV GL
-----------	--------

## Commercial data

Packaging size	1
Net weight	115 g
Country of origin	Romania
European customs tariff number	90303370
eCl@ss	27210902 Current transformer

## Measuring resistance



—  $V_C = \pm 20\text{ V} -5\%$ ,  $T_A = 85\text{ °C}$

- - -  $V_C = \pm 12\text{ V} -5\%$ ,  $T_A = 85\text{ °C}$

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  $100\text{ °C}$ .

To achieve specified accuracy level in the temperature range of  $-40\text{ ... }-35\text{ °C}$  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.



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.