

Current Sensor HCM 500A-0-50-CCA-C

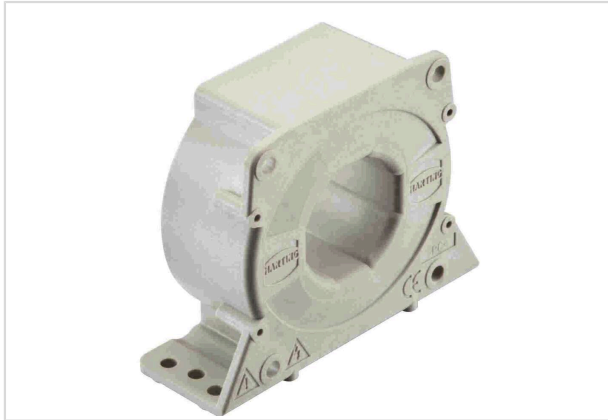


Image is for illustration purposes only. Please refer to product description.

| | |
|--------------------|---|
| Part number | 20 31 050 0201 |
| Specification | Current Sensor HCM 500A-0-50-CCA-C |
| HARTING eCatalogue | https://b2b.harting.com/20310500201 |

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 | Metz Typ 320 (PT11503VBBN) |
| Field of application | Industrial version |
| Pack contents | Connecting cable included |

Technical characteristics

| | |
|---|--|
| I_{PN} Nominal primary current | 500 A |
| I_{PM} Primary current, measuring range | 0 ... ± 800 A |
| R_M Measuring resistance @ $I_{PM \max}$, $U_C \max$, $T_A \max$ | $\leq 45 \Omega$ For other primary currents see diagram. |
| I_{SN} Nominal secondary current | 100 mA |
| K_N Turns ratio | 1 : 5000 |



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 @ $I_P = 0 \text{ A}$, $T_A = 25 \text{ }^\circ\text{C}$ | $\pm 0.4 \text{ mA}$ |
| I_{OT} maximum temperature drift of I_O | $\pm 0.7 \text{ mA}$ |
| 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 @ $T_{A \text{ max}}$ | 82Ω |
| U_D Test voltage, effective (50 Hz, 1 min) | 3 kV Primary - secondary |
| U_{SI} Rated impulse voltage (1,2/50 μs) | 10 kV |
| U_B Rated voltage | 600 V |
| Overvoltage category | III |
| Pollution degree | 2 |
| L_S Clearance distance | 19.5 mm |
| K_S Creepage distance | 28.8 mm |
| Tightening torque | 3.2 Nm (4x steel screw M4 - Vertical) 3.2 Nm (4x steel screw M4 - Horizontal) |

Material properties

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|---|--------------------------|
| Material (hood/housing) | Polycarbonate (PC) |
| Material flammability class acc. to UL 94 | V-0 |
| RoHS | compliant with exemption |
| ELV status | compliant with exemption |
| China RoHS | 50 |
| REACH Annex XVII substances | Not contained |
| REACH ANNEX XIV substances | Not contained |

Material properties

| | |
|--------------------------------------|-----|
| REACH SVHC substances | Yes |
| California Proposition 65 substances | Yes |

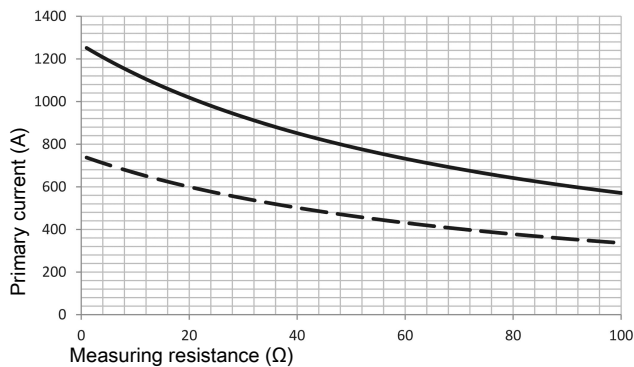
Specifications and approvals

| | |
|----------------|-----------------------|
| Specifications | EN 50178 IEC 61373 |
| CE | Yes |
| Approvals | DNV GL |

Commercial data

| | |
|--------------------------------|------------------------------|
| Packaging size | 1 |
| Country of origin | Germany |
| European customs tariff number | 90303370 |
| GTIN | 5713140133921 |
| eCl@ss | 27210902 Current transformer |

Measuring resistance



— Uc = ±24 V -5 %, TA = 85 °C

- - - Uc = ±15 V -5 %, TA = 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.



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.