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# Current Sensor HCM 200A-0-20-CAA-0



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

| | |
|---|---|
| Part number | 20 31 020 0101 |
| Specification | Current Sensor HCM 200A-0-20-CAA-0 |
| HARTING eCatalogue | https://b2b.harting.com/20310200101 |

## Identification

| | |
|---|---|
| Category | Current measurement |
| Series | HCM |
| Element | Current sensor |
| Sensor technology | Hall-Effekt<br>Closed loop |
| Features | Hall effect compensated current sensor<br>Measurable currents: AC, DC, pulsed, mixed ...<br>High accuracy over the entire measuring range<br>Galvanic insulation between primary and secondary current<br>Switchboard mounting<br>Housing material and potting mass have a flammability rating UL 94 V-0<br>Applications: frequency converters, electrical drives, switched mode power suppplies, UPS |

## Version

| | |
|---|---|
| Termination | 3x Faston (6.3 x 0.8 mm) |
| Field of application | Industrial version |

## Technical characteristics

| | |
|---|---|
| $I_{PN}$ Nominal primary current | 200 A |
| $I_{PM}$ Primary current, measuring range | 0 ... ±300 A |
| $R_M$ Measuring resistance<br>@ $I_{PM\ max}$, $U_{C\ max}$, $T_{A\ max}$ | 5 ... 58 Ω For other primary currents see diagram. |
| $I_{SN}$ Nominal secondary current | 100 mA |
| $K_N$ Turns ratio | 1 : 2000 |
| $U_C$ Power supply | ±12 ... ±15 V ±5 % |


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## Technical characteristics

| | |
|---|---|
| $I_C$ Current consumption @ $U_{C\ min}$ | 19 mA + $I_S$ |
| X Overall accuracy @ $I_{PN}$, $T_A$ = 25 °C | ±0.8 % |
| $E_L$ Linearity | <0.1 % |
| $I_O$ Offset current @ $I_P$ = 0 A, $T_A$ = 25 °C | ±0.3 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 @ $T_{A\ max}$ | 25 Ω |
| $U_D$ Test voltage, effective (50 Hz, 1 min) | 3 kV Primary - secondary |
| $U_{St}$ 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 | 29.5 mm |
| $K_s$ Creepage distance | 32.1 mm |
| Tightening torque | 4 Nm (2x steel screw M5) |

## 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 |


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## Material properties

| | |
|---|---|
| REACH SVHC substances | Not contained |

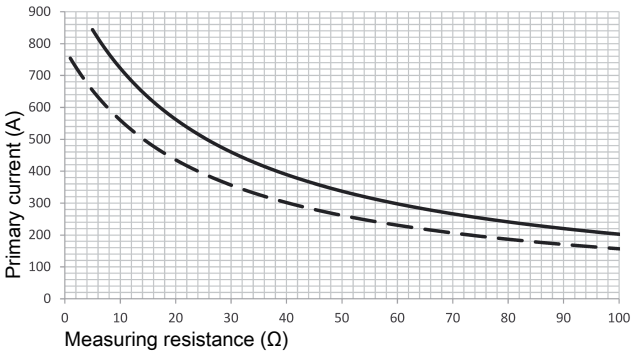
## Specifications and approvals

| | |
|---|---|
| Specifications | EN 50178<br>IEC 61373 |
| Approvals | DNV GL |
| UL / CSA | UL 508 NMTR2.E359667<br>CSA-C22.2 No. 14-13 NMTR8.E359667 |
| CE | Yes |

## Commercial data

| | |
|---|---|
| Packaging size | 1 |
| Net weight | 145.6 g |
| Country of origin | Romania |
| European customs tariff number | 90303370 |
| GTIN | 5713140133846 |
| eCl@ss | 27210902 Current transformer |

## Measuring resistance




—— $U_C$ = ±15 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.


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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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