

## TECHNICAL DATASHEET

## OPCO-200C3-2

Product Code : 10100200020720001-2

Closed-loop Hall-effect current transducer for high-power AC/DC current measurement

The OPCO-200C3-2 is a closed-loop (compensated) current transducer using Hall-effect technology, designed for the precise measurement of AC and DC currents, with a 200 A nominal rating and a  $\pm 420$  A measuring range.

It operates from a typical supply voltage of  $(\pm 12 \dots \pm 15 \text{ V}) \pm 5\%$  and ensures full galvanic isolation between the primary and secondary circuits, protecting sensitive equipment in industrial and high-power environments where large potential differences can exist between circuits.

**200 A**

Nominal primary current

 **$\pm 420$  A**

Measuring range

**DC to 100 kHz**

Bandwidth (-3 dB)

 **$< 1 \mu\text{s}$** 

Response time

## ENGINEERING VALUE

**High accuracy** —  $< \pm 0.5\%$  accuracy at IPN with  $< 0.1\%$  linearity error and low temperature drift.

**Measurement headroom** —  $\pm 420$  A range around a 200 A nominal current for transient and pulsed currents.

**Fast response** — Optimized response time ( $< 1 \mu\text{s}$ , 90% of nominal) and 100 kHz bandwidth for dynamic control loops.

**Isolation** — 6.0 kV RMS dielectric withstand, compliant with IEC 61010-1 and EN 50178.

**Easy installation** — Compact closed-loop housing, easy fastening, can be customized on request.

## BEST-FIT APPLICATIONS

**Power supplies** — Battery, UPS and switching power supply applications.

**Motor control** — AC/DC variable-speed and static motor drives.

**Power conversion** — Inverters, variable-frequency drives and propulsion converters.

**Renewable energy** — Solar and wind power conversion.

**Welding equipment** — Power supplies for welding applications.

## Compliance and warranty markings



Standards: IEC 61010-1 EN 50178:1998

## Electrical and performance data

Unless otherwise stated:  $T_A = +25^{\circ}\text{C}$ ,  $V_{CC} = \pm 15\text{ V}$ .

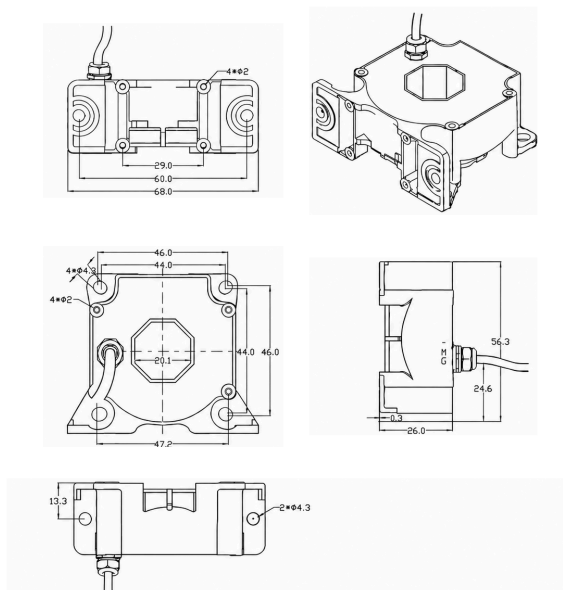
| Parameter                              | Symbol       | Test conditions                                                                                                                             | Min.    | Typ.                  | Max. | Unit                   |
|----------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------|------|------------------------|
| Primary nominal RMS current            | IPN          | -                                                                                                                                           | -       | 200                   | -    | A                      |
| Primary current measuring range        | IPM          | -                                                                                                                                           | -420    | -                     | +420 | A                      |
| Turns ratio                            | NP/NS        | -                                                                                                                                           | -       | 1:2000                | -    | -                      |
| Secondary nominal RMS current          | ISN          | -                                                                                                                                           | -       | 100                   | -    | mA                     |
| Secondary coil resistance              | RS           | -                                                                                                                                           | -       | 24 (25°C) / 27 (85°C) | -    | Ohm                    |
| Measuring resistance                   | RM           | at $V_{CC}=\pm 15\text{V}$ , $I_{Pmax}=\pm 420\text{A}$ (25°C); range varies with supply voltage and current range — see installation notes | 0       | -                     | 43   | Ohm                    |
| Supply voltage                         | VCC          | Tolerance: $\pm 5\%$                                                                                                                        | -       | $\pm 12 \dots \pm 15$ | -    | V                      |
| Offset current                         | IOE          | IPN, $T_A = 25^{\circ}\text{C}$                                                                                                             | -       | $< \pm 0.2$           | -    | mA                     |
| Offset-current temperature coefficient | IOT          | IP = 0, -40 to $+85^{\circ}\text{C}$                                                                                                        | -       | $< \pm 0.4$           | -    | mA/ $^{\circ}\text{C}$ |
| Linearity error                        | $\epsilon_L$ | -                                                                                                                                           | -       | $< 0.1$               | -    | %                      |
| Accuracy                               | XG           | IPN, $T_A = 25^{\circ}\text{C}$                                                                                                             | -       | $< \pm 0.5$           | -    | %<br>IPN               |
| di/dt accurately followed              | di/dt        | -                                                                                                                                           | $> 100$ | -                     | -    | A/ $\mu\text{s}$       |
| Frequency bandwidth                    | BW           | -3 dB, IPN                                                                                                                                  | DC      | -                     | 100  | kHz                    |
| Response time                          | Tr           | 90% of VPN                                                                                                                                  | -       | $< 1.0$               | -    | $\mu\text{s}$          |
| Power consumption                      | IC           | -                                                                                                                                           | -       | 17 + IS               | -    | mA                     |
| Insulation voltage                     | Vd           | 50/60 Hz, 1 min, AC                                                                                                                         | -       | 6.0                   | -    | kV                     |
| Operating temperature                  | TA           | -                                                                                                                                           | -40     | -                     | +85  | $^{\circ}\text{C}$     |
| Storage temperature                    | TS           | -                                                                                                                                           | -55     | -                     | +90  | $^{\circ}\text{C}$     |
| Mass                                   | M            | -                                                                                                                                           | -       | 95                    | -    | g                      |
| Plastic material                       | -            | -                                                                                                                                           | -       | PBT G30/G15, UL94-V0  | -    | -                      |

### Ordering information

| Part number  | Product code        | Nominal current | Measuring range | Connector                                                                                                       |
|--------------|---------------------|-----------------|-----------------|-----------------------------------------------------------------------------------------------------------------|
| OPCO-200C3-2 | 10100200020720001-2 | 200 A           | -420 to +420 A  | Integral 3-core PVC output cable — colour code Red (+VCC) / Blue (-VCC) / Yellow (M), cable gland, flying leads |

The specified measurement performance is achieved only when the sensor is used within the stated electrical, thermal and load conditions.

## Mechanical dimensions and electrical connection

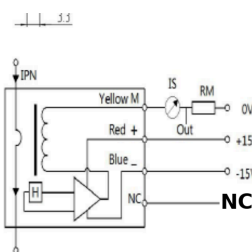


All dimensions are in millimetres. General tolerance:  $\pm 0.5$  mm. Overall envelope (cable version): 68.0 × 60.0 mm (rear flange), 46.0 × 46.0 mm front face, 26.0 mm depth, 56.3 mm overall height. Primary through-hole: octagonal, 20.1 mm across flats. Mounting: 4 × Ø2 mm holes (rear, 29.0 × 60.0 mm pattern) + 4 × Ø4.3 mm holes (front, 44.0 × 46.0 mm pattern) + 2 × Ø4.3 mm base bracket holes (13.3 mm spacing). Cable entry: strain-relief gland.

### Terminal definition

| Marking    | Function           | Description                                                                            |
|------------|--------------------|----------------------------------------------------------------------------------------|
| + (Red)    | Positive supply    | +VCC                                                                                   |
| - (Blue)   | Negative supply    | -VCC                                                                                   |
| M (Yellow) | Measurement output | Current output; connect the external measurement resistor $R_M$ from terminal M to 0 V |
| NC         | Not connected      | -                                                                                      |

### Electrical connection and signal conversion



### Installation essentials

- Signal output:** the primary current is measured as a voltage across the external measurement resistor  $R_M$ , connected between terminal M and 0 V.
- Dynamic performance:**  $di/dt$  and response time are best when the primary hole is completely filled by a single busbar.
- Thermal limit:** the primary conductor temperature must remain below 100°C.
- Customization:** custom designs are available on request for different rated input currents and output voltages.

## Safety, compliance and quality information

### Safety information

The OPCO-200C3-2 is a component intended for integration into electrical and electronic equipment by qualified personnel. The equipment manufacturer is responsible for the risk assessment, insulation coordination, protective measures and regulatory conformity of the final system. Do not touch live conductors. Disconnect all power sources before installation, inspection or maintenance. Operate the transducer only within its specified limits.

### Compliance and environmental information

| Subject           | Information                                                                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Electrical safety | Designed for integration into equipment assessed to applicable electrical-safety requirements, including IEC 61010-1, EN 50178:1998 where relevant to the end application. |
| Materials         | Housing in PBT GF30/GF15, UL 94-V0. Further product material and flammability information is available from ADISENS on request.                                            |
| CE                | EU conformity information and the applicable Declaration of Conformity are available from ADISENS on request.                                                              |
| RoHS / REACH      | Product environmental declarations are available from ADISENS on request.                                                                                                  |
| Disposal          | Dispose of the product in accordance with local requirements for electrical and electronic equipment. Do not incinerate.                                                   |

### Three-year commercial warranty



ADISENS provides a three-year commercial warranty from the date of delivery, subject to the applicable ADISENS warranty terms and conditions. The warranty does not cover incorrect wiring, operation outside specified ratings, unsuitable environmental exposure, unauthorized modification, mechanical damage or improper system integration.

### Document identification and control

| Document reference | Revision | Issue date     | Language | Product code        |
|--------------------|----------|----------------|----------|---------------------|
| FT-OPCO-200C3-2    | V1.0     | September 2026 | English  | 10100200020720001-2 |

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