2,500A DC PRIMARY CURRENT | 0.1% ACCURACY | IP45 RATED | 5kV GALVANIC ISOLATION

View SATEC's flux gate current sensors for DC energy metering on satec-global.com.au ↗

# UHACS FCS-2500/13

## Solid Core Flux Gate Current Sensor for High-Accuracy DC Energy Metering

The UHACS FCS-2500/13 is a solid core flux gate current sensor built for high-current DC energy metering, measuring a primary nominal current of up to ±2,500A DC (±1,750A AC effective). It suits substations, battery energy storage systems (BESS), EV charging infrastructure, data centres and other high-current DC installations where accurate, isolated current measurement is required.

A multi-point zero-flux technology system is combined with high-frequency ripple sensing to deliver high gain and exceptional measurement accuracy across the sensor's entire bandwidth, providing an advanced measurement channel that enhances existing DC sensor technology. The sensor outputs a linear ±40mA signal from a ±24VDC (±5%) supply, with 5kV galvanic isolation between the primary conductor and the secondary output, and is designed for pairing with SATEC PRO Series DC energy meters.

## Main Features

### Highlights

- Solid core flux gate sensor combining multi-point zero-flux technology with high-frequency ripple sensing
- ±2,500A DC primary nominal current (±1,750A AC effective, RMS)
- 0.1% accuracy with 0.02% FS linearity
- Low zero offset current: ±1 µA at 25°C, with excellent long-term stability
- Linear ±40mA output signal from a ±24VDC (±5%) supply
- 5kV RMS galvanic isolation between primary and secondary

### Applications

- Battery energy storage system (BESS) metering
- EV charging infrastructure
- Industrial and commercial DC bus applications
- Data centre power systems
- Solar PV and hybrid renewable installations
- Rail and high-voltage DC infrastructure

# Specifications

| GENERAL CHARACTERISTICS | |
|---|---|
| **Primary nominal current (DC)** | ±2,500A DC |
| **Linear measuring range (1 min)** | 1.1 × primary nominal current DC (up to 2,750A DC) |
| **Primary nominal current (AC)** | ±1,750A AC (AC effective/RMS value) |
| **Nominal output signal** | ±40mA |
| **Supply voltage** | ±24VDC (±5%) |
| **Current consumption** | ±1.2A |
| **Galvanic isolation** | 5kV RMS/50Hz for 1 minute |
| **Conversion ratio** | 2,500A : 40mA |

| ENVIRONMENTAL | |
|---|---|
| **Operating temperature** | –40°C to +80°C (–40°F to 176°F) |
| **Storage temperature** | –55°C to +95°C (–67°F to 203°F) |

| ACCURACY | |
|---|---|
| **Zero offset current** | ±1 µA (at 25°C) |
| **Offset temperature coefficient** | 25 ppm/K |
| **Measuring resistance** | 250Ω |
| **Response time** | ±20µs (di/dt of 100A/µs) |
| **Accuracy** | 0.1% |
| **Linearity** | 0.02% FS |

**CONNECTIONS**

| PIN | LABEL | FUNCTION |
|---|---|---|
| 1 | + | +24V DC supply |
| 2 | – | –24V DC supply (0V reference) |
| 3 | G | Ground |
| 4 | M | Output signal (±40mA) |
| 5 | – | Not assigned |
| 6 | – | Not assigned |

## Important Notes

- Incorrect connection may lead to damage of the sensor. Connect the terminals of the power source and output respectively and correctly.
- The best accuracy is achieved when the window is fully filled with bus-bar (current-carrying conductor).

**Electrical Hazard**

- The current sensor must not be used with the secondary output open-circuited. That is, whenever the primary has current or the sensor is powered on, the secondary output terminal must not be disconnected. Only when the bus has no current and the sensor is not powered on can the current output terminal be disconnected. Otherwise, high voltage may be induced and there is a danger of electric shock or equipment damage.
- Before moving the product, be sure to cut off the power first and unplug all connecting cables.

# Specifications (continued)

## Construction

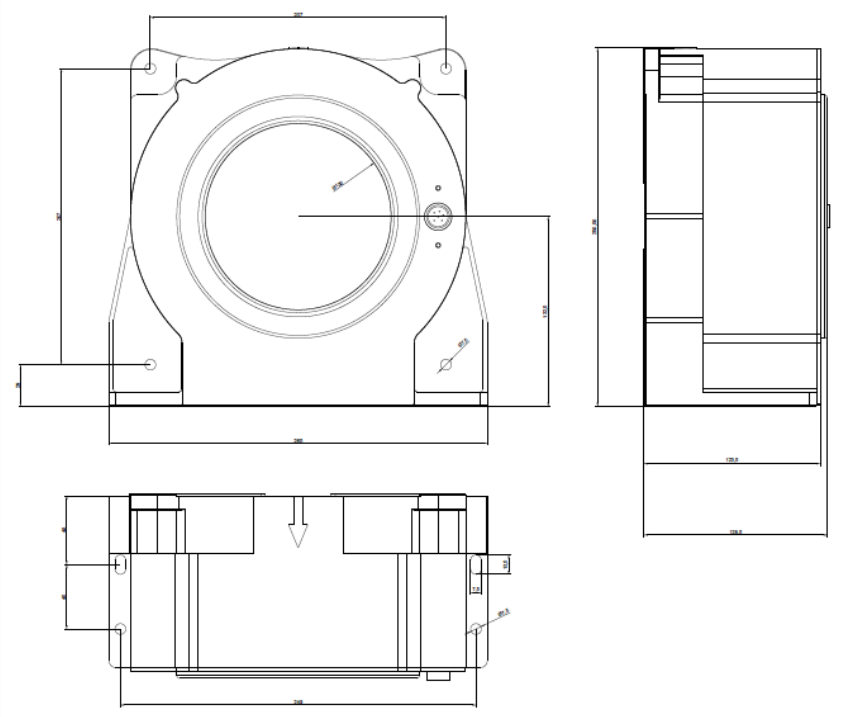
| | |
|---|---|
| **Weight** | 7.2 ± 0.5 kg |
| **Protection rating** | IP45 |
| **Certification** | CE marked, RoHS compliant |

## Compatible SATEC Meters

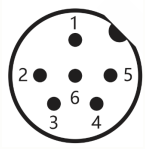
The UHACS FCS-2500/13 is designed for pairing with SATEC PRO Series DC energy meters for single or multi-channel DC current measurement.

See SATEC's **DC Setup Guide for PRO-UHACS** for full wiring and commissioning guidance.

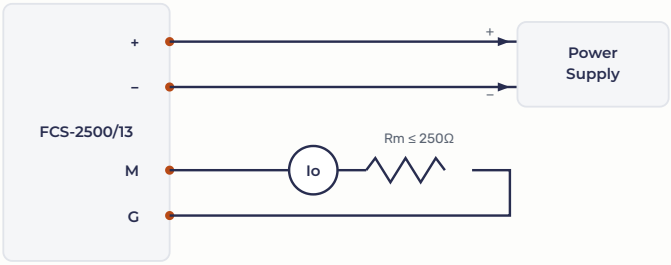
## DIMENSIONS (MM)



## WIRING SENSORS




6-pin connector
(rear view)




The output current (M) is developed across an external measuring resistor Rm ≤ 250Ω and read via an ammeter or a SATEC meter's current input, referenced to G. The best accuracy is achieved when the sensor window is fully filled with the bus-bar (current-carrying conductor).

# Ordering Information

**MODEL – RATED CURRENT**

| MODEL | |
|---|---|
| Solid core flux gate current sensor | **FCS** |

| RATED CURRENT | |
|---|---|
| 2,500A DC primary nominal current | **2500** |

The source specification does not define further order-code segments (e.g. the "/13" case-size suffix used in this sensor's full product name, UHACS FCS-2500/13). Contact SATEC Australia to confirm case size, current-loop ratio and any other configuration options at the time of quotation.

## Related Current Sensors

**FCS-300**
View datasheet ↗

**FCS-600**
View datasheet ↗

**FCS-1000**
View datasheet ↗

## Place An Order

To place an order or request a quotation for the UHACS FCS-2500/13, contact the SATEC Australia sales team, or scan the QR code.

**PHONE** +61 2 4774 2959
**EMAIL** sales@satec-global.com.au
**ONLINE** satec-global.com.au/contact

## Document Revision History

| VERSION | DATE |
|---|---|
| **TBV1.0** | **21 September 2026** |