

SIEMENS

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SICAM FCM

Cost-effective measuring device for use in Low voltage switchgears

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Low voltage

SICAM FCM – The Ideal Monitor for your Low-Voltage Distribution

The SICAM FCM (Feeder Condition Monitor) also performs well as a low-cost power meter in a low-voltage power system. It is optimized for flush mounting in low-voltage switch bays because of the low height. Supplementing the comprehensive measuring functions, the SICAM FCM is a phase-fault indicator and ground-fault indicator with directional indication. The current data is measured using low-power current transformer technology as per IEC 60044-8 / IEC 61869-10 or using conventional 1 A/5 A instrument transformers. Using the integrated Modbus RTU interface, the measured values are provided, making it easier to further process the data for a precise assessment of the voltage system.

Functions as a Power Meter

- Calculation of active power, reactive power, and apparent power (P, Q, S), per phase and 3-phase
- Calculation of power factors, per phase and 3-phase
- Calculation of active and reactive energy for import/export, 3-phase
- Inversion of the P, Q values
- Rotating field detection
- Power-flow direction indication
- Directional short-circuit and ground-fault detection
- Link to low-power sensors or conventional 1 A/5 A instrument transformers
- Adjustable overcurrent, overvoltage and undervoltage alarms
- Trailing-pointer functionality for currents/power



SICAM FCM, Low-Power Current Transformer for Measurement in the Low-Voltage System

Customer Benefit

- Inexpensive power meter
- Phase-segregated direction indication of phase faults and ground faults
- One hardware platform for low-voltage and medium-voltage applications
- Use of inexpensive wide-range low-power current transformers
- High-quality measurement technology with high measuring accuracy in connection with low-power current transformers
- Telecontrol parameterization via SICAM A8000 and Modbus
- Low-profile height (50 % of normal power meters)

Low voltage use

Communication

- RS485 interface including Modbus RTU communication for all information and for remote parameterization/firmware updates, PC programming as an alternative

Signalization

- Display for presenting up-to-date measured values or fault information in the power distribution system, 4 function keys
- 3 LEDs for the operating state
- 2 binary outputs

Measured Quantities

- RMS measured values; accuracy class 0.5
- Phase-to-ground voltages and currents, ground current, power frequency and $\cos \varphi$, phase angle, active power, reactive power, and apparent power, per phase and 3-phase, power factor, per phase and 3-phase, rotating-field detection
- Energy meter
- Trailing pointer

Inputs

- 3 inputs for alternating voltage selectively adjustable for 100 V/ $\sqrt{3}$, low-power sensors with 3.25 V/ $\sqrt{3}$ (as per IEC 60044-7) or 3 direct inputs for AC 230 V
- Alternatively: 3 inputs for linking to LRM voltage-detecting systems (as per IEC 61243-5)

3 inputs for low-power current transformers with 225 mV at rated current (as per IEC 60044-8/61869-10), the rated primary current is adjustable in the SICAM FCM device from 50 A to 2500 A;

L2 current input can be configured for sensitive ground-fault detection using low-power current transformers with 225 mV at rated current (as per IEC 60044-8/61869-10), the rated primary current is adjustable in the SICAM FCM device

- Alternatively: inputs for conventional instrument transformers 1 A/5 A via adaptors
- 1 binary input

Temperature Range

- From -40 °C to +70 °C

Auxiliary Voltage

- DC 24 to 250 V, AC 230 V
- Battery with lifetime > 15 years

Housing

- Polycarbonate housing for panel flush mounting
- Dimensions: 96 x 48 x 109,5 mm (W/H/D)
- Protection class: front panel IP40, rear panel IP20

Low-Power Current Transformers for Low Voltage

- 2 variants for rated currents of 100 A to 400 A, 300 A to 1000 A
- As per the IEC 61869-10 standard
- Accuracy class 1/0.5 with correction factors
- Small housing form, installation without tools and without modifying the primary equipment
- Sensor cable for direct connection (7 m in length)



Siemens AG
Smart Infrastructure
Digital Grid
Humboldtstraße 59, 90459 Nuremberg, Germany

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For all products using security features of OpenSSL, the following shall apply:

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (www.openssl.org), cryptographic software written by Eric Young (eay@cryptsoft.com) and software developed by Bodo Moeller.