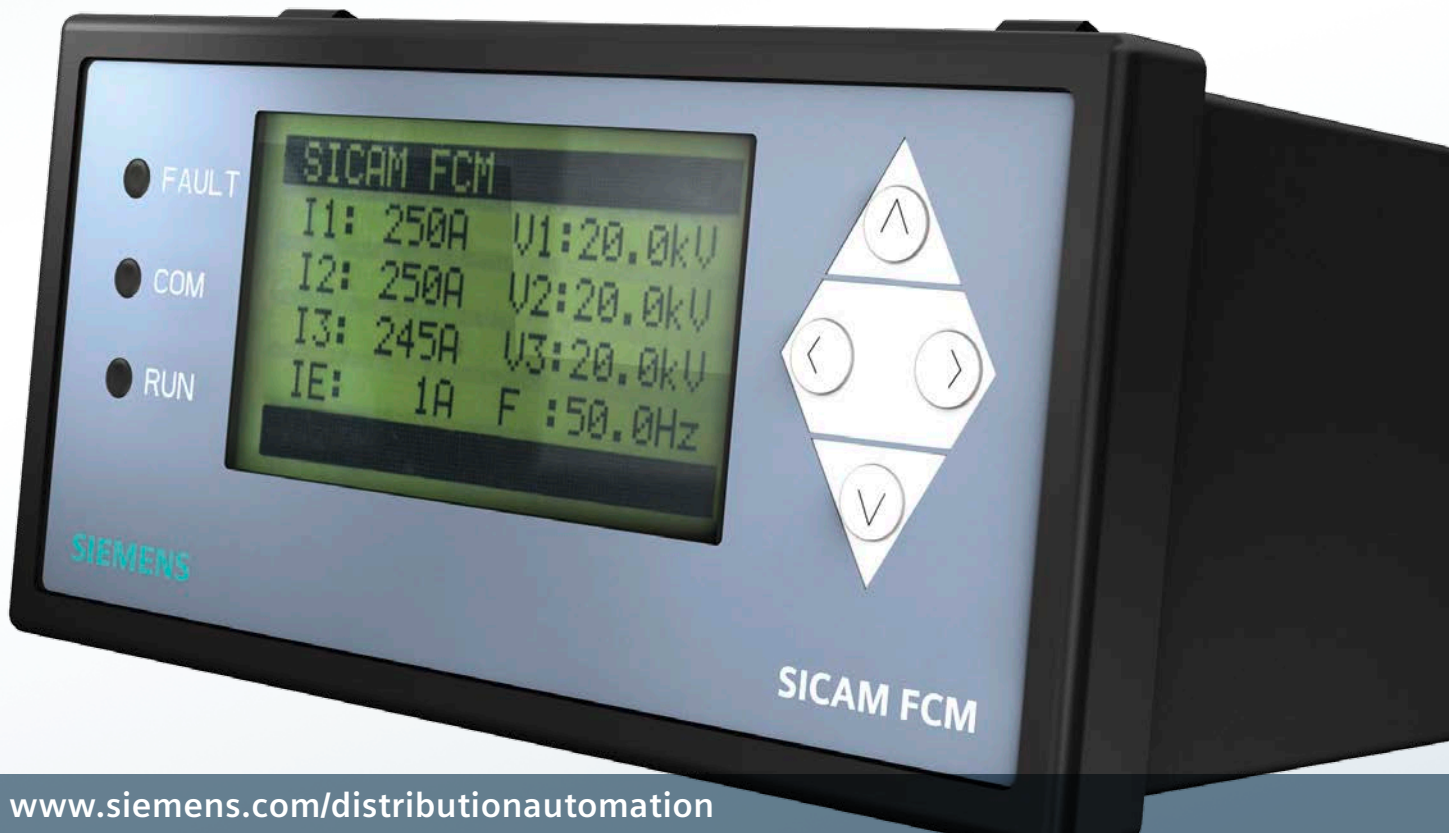


SIEMENS



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SICAM FCM

Keeping your finger on the pulse of your distribution network

Answers for infrastructure and cities.

Feeder Condition Monitoring: SICAM FCM tracks it all down ...

Short circuits and ground faults

Aimed at detecting

- Fast fault localization
- High availability

Network condition monitoring

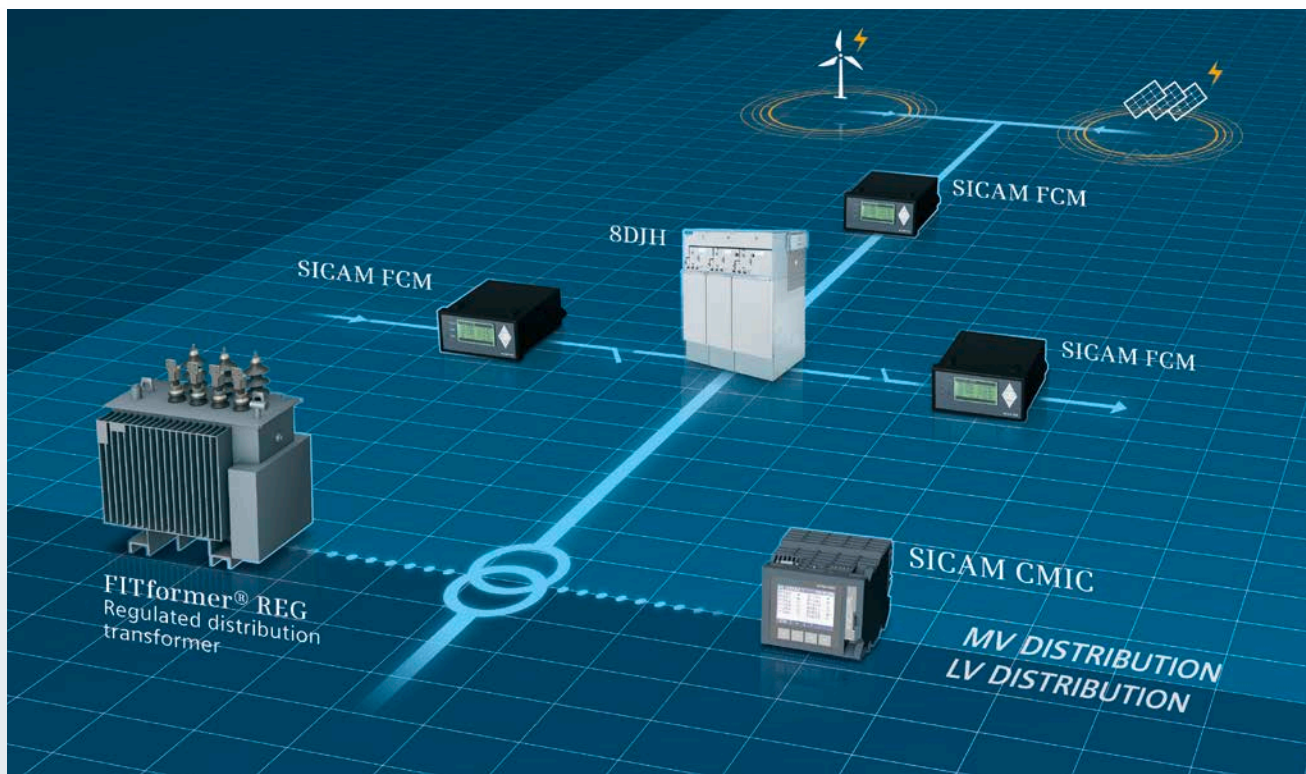
Voltage, current, active/reactive/apparent power, power factor, frequency

- Early detection of overload situations
- Safe operation

Load flow monitoring

Maximum, minimum and mean values every 15 minutes

- Load curves for planning network expansion
- Optimum investment planning



All facts at a glance: SICAM FCM is always the right choice ...

Unit in the distribution station

A look at different distribution stations makes it clear: The number of short circuit indicators and transformers reflects the diversity of distribution stations in terms of power, station size and cable feed. SICAM FCM, with low-power sensors according to IEC 60044*, has everything under control. This device is the right choice for any

station. It covers all switchgear types up to 1,250 A as well as grounded, isolated and compensated distribution systems. Thanks to the low-power sensors and high quality measuring technology, the device delivers reliable values with 99 percent accuracy – a true power meter.

Technical data



- ① LC display
- ② 4 function keys
- ③ 3 status LEDs

| | |
|---|--|
| Controls and displays | <ul style="list-style-type: none"> ● LC display with 4 function keys for operation ● Fault (field faults), Run and Status LED for communication |
| Supply voltage | <ul style="list-style-type: none"> ● DC 24–60 V / AC 230 V, battery for 2,000 hours ● Battery life approx. 20 years |
| Protection class | <ul style="list-style-type: none"> ● IP20 |
| Ambient temperature | <ul style="list-style-type: none"> ● –30 to +70 °C |
| Housing, dimensions, installation and connections | <ul style="list-style-type: none"> ● Plastic, 96 x 48 x 119.5 mm (W/H/D), snaps into cutout, screw and spring-loaded terminals |
| Interface and protocol | <ul style="list-style-type: none"> ● 1 x RS485, Modbus RTU |
| Measurands | <ul style="list-style-type: none"> ● TRMS (True RMS) measurands ● Phase voltages and currents, ground fault current, line frequency and $\cos \phi$, active power, reactive power and apparent power ● Minimum and maximum values every 15 minutes for all phase currents and as a drag pointer function |
| Inputs and outputs | <ul style="list-style-type: none"> ● 3 inputs for AC voltage can be set for $100\text{ V} / \sqrt{3}$ or low-power sensors with $3.25\text{ V} / \sqrt{3}$ (according to IEC 60044-7) ● 3 inputs for AC current, low-power sensors with 225 mV @ 300 A (according to IEC 60044-8) ● Alternative: L2 power input configured for sensitive ground fault detection with low-power sensor with 225 mV @ 60 A (according to IEC 60044-8) ● 2 output relays for the fault direction (forward / backward) ● 1 digital input for resetting the fault status |

* IEC 61869-10 New Proposal



... to connect any process



High measurement accuracy for switchgear types up to 1,250 A



Resistive voltage dividers facilitate precise and linear measurements



Can also be used to connect 1 A transformers in existing systems

| Order combinations | MLFB number | Devices for use ... | | | |
|--|--------------------|---------------------------|--------------------------|--|--|
| | | ... with existing sensors | ... in grounded networks | ... in isolated / compensated networks | ... with conventional transformers (1 A) |
| SICAM FCM Directional short circuit / ground-fault indicator, including monitoring | 6MD2320-1AA00-1AA0 | 1 x | 1 x | 1 x | 1 x |
| Sensor for phase current Low-power sensor 225 mV @ 300 A, IEC 60044-8 Split core transformer, 55 mm inner diameter | 6MD2320-0GA00-1AA0 | | 3 x | 2 x | |
| Sensitive core balance sensor Sensitive low-power sensor 225 mV @ 60 A, IEC 60044-8 Split core transformer, 110 mm inner diameter | 6MD2320-0AF00-1AA0 | | | 1 x | |
| 1 A adapter Transformer for 3 inputs (1 A) in low-power signal | 6MD2320-0AA10-1AA0 | | | | 1 x |
| Voltage sensor, 12 kV 10 kV / $\sqrt{3}$ → 3.25 V / $\sqrt{3}$, IEC 60044-7 for T connector with C cone | 6MD2320-0AA04-1AA0 | | 3 x* | 3 x | |
| Voltage sensor, 24 kV 20 kV / $\sqrt{3}$ → 3.25 V / $\sqrt{3}$, IEC 60044-7 for T connector with C cone | 6MD2320-0AA07-1AA0 | | 3 x* | 3 x | |

* Optional for measuring function



... innovative and highly accurate

- Reliable measurands
- High-quality measuring technology

99% accuracy

- Flexible applications
- IEC 60044-7/-8

Standardized sensors
for current and voltage

- Efficient installation and startup

No adjustment to primary variables

First for sensors

SICAM FCM leads the way with a good example. It's the first short circuit indicator to use standardized sensors for measuring current and voltage according to IEC 60044-7/-8. And the results are excellent: This approach delivers a highly accurate measurement without calibration or adjustment to the primary variables.



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