

# 800-MF8 Module

## DIMENSIONED DRAWING

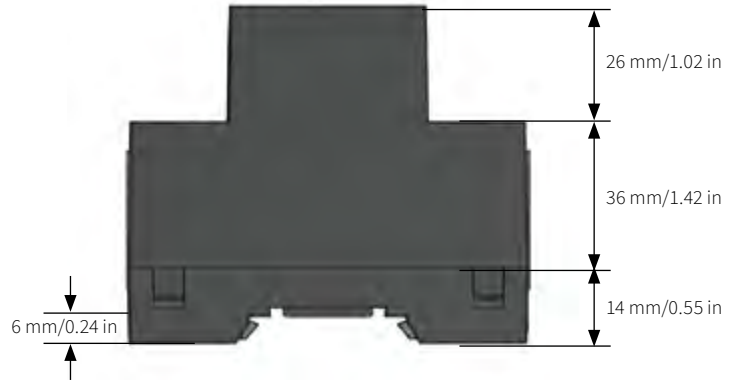
All dimensions in mm

Front view



Requires 1 HP (division unit)

View from left



Bottom view



Top view



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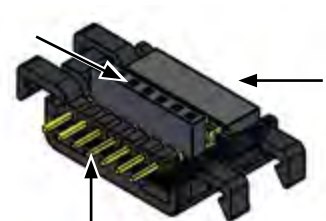
Rear view



Connector for the bus connector

Communication bus connector to the module

Sockets for module



Sockets for additional modules

Connections for the core device or daisy-chained modules



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## TECHNICAL DATA

| 800-MF8 MODULE                                                                                                              |                                                     |
|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| ITEM NO.                                                                                                                    | 5231249 & 5231297                                   |
| <b>GENERAL</b>                                                                                                              |                                                     |
| Net weight (with terminals)                                                                                                 | approx. 73 g (0.16 lb)                              |
| Device dimensions without terminals (W x H x D)                                                                             | Approx. 18 x 90 x 76 mm (0.71 x 3.54 x 2.99 in)     |
| Width of the device in DIN modules (M)                                                                                      | 1 M (1 M = 18 mm / 0.71 in)                         |
| Mounting orientation                                                                                                        | As desired                                          |
| Fastening/mounting – suitable DIN rails (35 mm/1.38 in)                                                                     | TS 35/7.5 according to EN 60715                     |
|                                                                                                                             | TS 35/10                                            |
|                                                                                                                             | TS 35/15 x 1.5                                      |
| Protection level                                                                                                            | IP20 according to EN 60529                          |
| Impact resistance                                                                                                           | IK07 according to IEC 62262                         |
| <b>TRANSPORT AND STORAGE</b> The following specifications apply to devices transported and stored in its original packaging |                                                     |
| Free fall                                                                                                                   | 1 m (39.37 in)                                      |
| Temperature                                                                                                                 | –25 °C to +70 °C (–13 °F to 158 °F)                 |
| Relative humidity                                                                                                           | 5 to 95 % at 25 °C (77 °F), without condensation    |
| <b>ENVIRONMENTAL CONDITIONS DURING OPERATION</b>                                                                            |                                                     |
| The module                                                                                                                  |                                                     |
| – Must only be operated with suitable basic devices (see the user manual for the module).                                   |                                                     |
| – Is for weather-protected and stationary use.                                                                              |                                                     |
| – Has protection class II according to IEC 61010-1, a ground wire connection is not required!                               |                                                     |
| Working temperature                                                                                                         | –10 °C to +55 °C (14 °F to 131 °F)                  |
| Relative humidity                                                                                                           | Max. 80 % at 31 °C (88 °F)                          |
|                                                                                                                             | Max. 50 % at 40 °C (104 °F)<br>without condensation |
| Pollution degree                                                                                                            | 2                                                   |
| Ventilation                                                                                                                 | No forced ventilation required                      |
| Supply voltage                                                                                                              | Via basic device                                    |
| <b>CURRENT MEASUREMENT VIA LP CURRENT TRANSFORMER</b>                                                                       |                                                     |
| Measurement via low-power current transformer with a secondary voltage of                                                   | 0–400 mV                                            |
| Channels                                                                                                                    | 8 (2x4)                                             |
|                                                                                                                             | – 2 systems (L1, L2, L3, N)                         |
|                                                                                                                             | – Single channels                                   |
| Input impedance per channel                                                                                                 | 230 kΩ                                              |
| Nominal input signal of the module                                                                                          | 0 to 400 mV                                         |
| Crest factor                                                                                                                | 1.8                                                 |
| Overload for 1 s                                                                                                            | 1 V                                                 |
| Resolution                                                                                                                  | 16 bits                                             |
| Sampling frequency                                                                                                          | 6.8 kHz                                             |
| Frequency of the fundamental oscillation                                                                                    | 40 Hz to 70 Hz                                      |
| Harmonics                                                                                                                   | 1st to 25th (odd only)                              |
| <b>INTERFACE AND ENERGY SUPPLY</b>                                                                                          |                                                     |
| JanBus (proprietary)                                                                                                        | via bus connector                                   |
| Supply voltage (via JanBus interface)                                                                                       | 24 V                                                |

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## TEMPERATURE MEASUREMENT

|                                 |                                                                 |
|---------------------------------|-----------------------------------------------------------------|
| Update time                     | 200 ms                                                          |
| Total burden (sensor and cable) | max. 4 k $\Omega$                                               |
| Cable                           | $\leq 30$ m (32.81 yd) unshielded<br>> 30 m (32.81 yd) shielded |
| Suitable temperature sensors    | KTY83, KTY84, PT100, PT1000                                     |
| Standard                        | Class B according to IEC 60751                                  |

## RESIDUAL CURRENT MEASUREMENT (RCM)

|                    |                                                                   |
|--------------------|-------------------------------------------------------------------|
| Nominal current    | 30 mA                                                             |
| Measuring range    | 0 to 40 mA                                                        |
| Operating current  | 50 $\mu$ A                                                        |
| Resolution         | 1 $\mu$ A (color graphic display: 0.01 A)                         |
| Crest factor       | 1.414 (relative to 40 mA)                                         |
| Load               | max. 4 $\Omega$                                                   |
| Overload for 1 s   | 0.9 A                                                             |
| Permanent overload | 0.3 A                                                             |
| Measurement types  | Type A, Type B, and B+ (using corresponding current transformers) |

## ANALOG MEASUREMENT

|                         |                                   |
|-------------------------|-----------------------------------|
| Measuring range         | 0 to 20 mA                        |
| Load                    | Max. 4 $\Omega$                   |
| Overload for 1 s        | 0.9 A                             |
| Permanent overload      | 0.3 A                             |
| Measuring accuracy      | $\pm 0.5$ % of the measured value |
| Resolution              | 16 bit                            |
| Temperature coefficient | < 50 ppm/°C                       |
| Sampling frequency      | 6.8 kHz                           |
| Sampling rate           | 200 ms                            |

## CONNECTION CAPACITY OF THE TERMINALS – SPRING TERMINALS (PUSH-IN TERMINALS)

Connectible conductors. Only connect one conductor per terminal point!

|                                                              |                                                        |
|--------------------------------------------------------------|--------------------------------------------------------|
| Single core, multi-core, fine-stranded (min. – max.)         | 0.14 mm <sup>2</sup> – 1.5 mm <sup>2</sup> , AWG 26–16 |
| Wire ferrules with collar * per DIN 46 228/4, (min. – max.)  | 0.25 mm <sup>2</sup> –1 mm <sup>2</sup> , AWG 22–17    |
| Wire ferrules without collar per DIN 46 228/1, (min. – max.) | 0.25 mm <sup>2</sup> – 1.5 mm <sup>2</sup> , AWG 22–16 |
| Wire ferrules: Contact sleeve length **/Strip length         | 8–12 mm (0.31–0.47 in) / 10–12 mm (0.39–0.47 in)       |

\* Applies to wire ferrules with a maximum outer diameter of the plastic collar up to 3.5 mm (0.14 in).

\*\* Depending on the type of wire ferrules used (wire ferrules manufacturer)