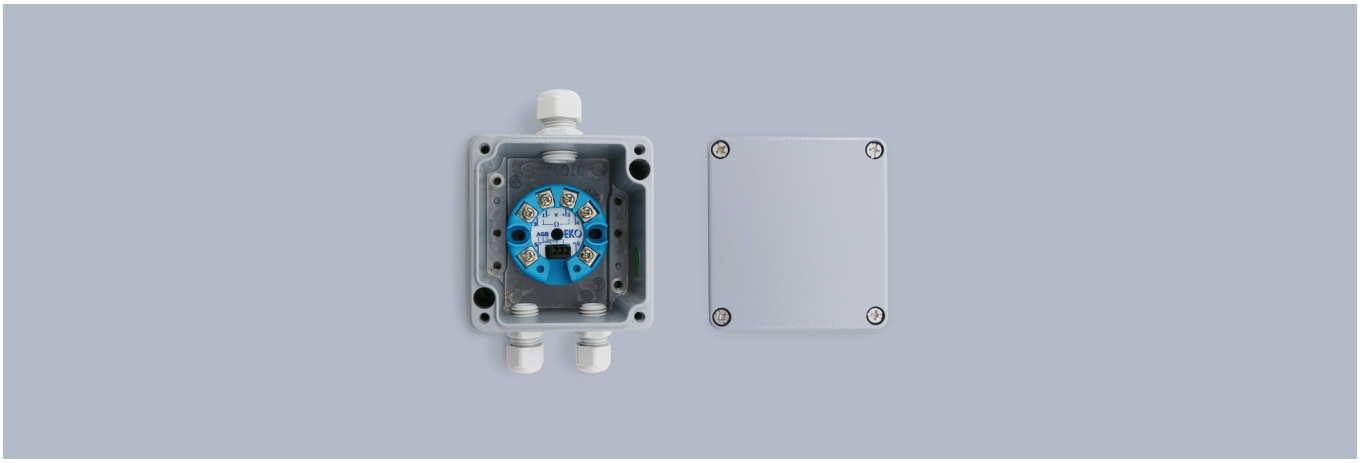

# M-Box Signal converter

## Technical Specifications

Universal MODBUS 485 RTU Converter

Solar Sensors (mV) / PT-100, NTC 10kΩ

Up to 100 units in parallel

Correction for sensor temperature dependency and non-linearity

IP65 All weather enclosure

PV system performance rating and testing methods require solar irradiance as an input parameter. For PV monitoring applications Solar Irradiance and PV module temperature are commonly measured. EKO universal 4-20mA and Modbus RS-485 RTU converters give

full fexibility to combine different type of sensors within a multi sensor network. Solar radiation sensors and temperature sensors can be easily integrated. Preserve or improve the sensor accuracy while complying to the output standards used in the industry.

The M-Box converts the output voltage of a solar radiation sensor, PT-100 or 10kΩ NTC temperature sensor into a MODBUS 485 RTU output. The M-Box can be used with all passive EKO sensors (Irradiance and temperature) or any other sensor with mV output whenever MODBUS 485 RTU signal is required. With MODBUS, up to 100 sensors and converter units can be addressed and connected in parallel.

For practical installation, the converter models are accommodated inside an IP65 aluminium box with universal cable glands. It has robust input/output screw terminals, which can be easily connected to any cable and measurements system at the installation site. With the signal converter the sensor cable can be extended over a long distance without any signal loss or potential electromagnetic interference.

With the optional USB controller and EKO Sense software the converter settings and advanced sensor parameters (Temperature dependency correction / non-linearity correction) can be applied and verified.

| | M-Box |
|---|---|
| **Output** | Digital (Modbs RTU) |
| **Dimensions mm** | 80 (L) x 75 (W) x 57 (H) |
| **Weight** | 0.35 kg |
| **Ingress protection IP** | 65 |

| Options | M-Box |
|---|---|
| **USB programming kit (MC-20)** | USB-M |

| | MC-20 |
|---|---|
| **Output** | Digital (Modbs RTU) |
| **Input range 1** | 0 - 100 mV |
| **Input range 2** | 2W, 3W, 4W PT-100 (* Combined input terminals 1 and 2) |
| **Resolution (µV)** | < 5 |
| **Resolution** | < 0.1 ºC |
| **Impedance** | > 15 MΩ |
| **Temperature response -20°C to 50°C** | < 0.2 % |
| **Response time 95%** | < 1 Sec. |
| **Non-linearity fll span** | < 0.1 % |
| **Operating temperature range** | -40 - 80 °C |
| **Power supply** | 12 to 24 +/-10% VDC |
| **Power consumption** | 0.2 - 0.3 W |
| **Dimensions mm** | 45 (D) x 27 (H) |
| **Weight** | 0.03 kg |

| | |
|---|---|
| **Ingress protection IP** | 20 |

| **Options** | **MC-20** |
|---|---|
| **USB programming kit (MC-20)** | USB-M |

Specifications are subject to change without further notice.