MC-20 Signal converter

Technical Specifications

Universal MODBUS 485 RTU Converter

Solar Sensors (mV) / PT-100, NTC 10kΩ

Up to 100 units in parrallel

Correction for sensor temperature dependency and non-linearity

Optional USB controller EKO sense configuration software

The MODBUS 485 RTU converter called "MC-20" is a digital signal conditioner to convert the Voltage output of a solar radiation sensor, PT-100 or 10kΩ NTC temperature sensor into a MODBUS 485 RTU output. The converter can be used with all passive EKO radiometers or any other mV sensor to be connected to data loggers or inverters with a MODBUS 485 RTU input channel. By using the signal conditioner, the sensor cable can be easily extended over long distances without any signal loss or potential electromagnetic interference in noisy industrial environments. With MODBUS up to 100 different sensors and converter units can be addressed and connected in parallel.

The mV signal of the solar sensor will be converted to irradiance 0 - 1600 W/m2. In this case the sensitivity factor of the solar sensor will be set to the converter. With the optional USB controller and EKO Sense software (Multiple languages) the converter settings can be freely changed. This tool will be needed in case the sensor sensitivity might need to be changed after a periodical solar sensor re-calibration.

It has robust input/output screw terminals, which can be easily connected to the signal cable that leads to the measurements system at the installation site.

	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.