

## Meterbus-to-EIA-485 Adapter (MRC-1)

- Eliminates the need for an external bus power source in many applications
- Includes RJ-11 cable
- Reverse-polarity protection (at the EIA-485 terminals)
- Once powered ON, connected EIA-485 network devices will be powered by a connected Meterbus device

The Meterbus-485 Adapter (Model: MRC-1) converts the Morningstar MeterBus RJ-11 serial interface to a standard EIA-485 interface. By providing isolated 12V power out to a 485 network, this device eliminates the need for an external bus power source in many applications (e.g. a separate 24V-12V converter on 24V systems).

Compatible with: ProStar MPPT and PWM controllers, SunSaver MPPT controller, SunSaver Duo Controller, SureSine Classic inverter.

### KEY FEATURES AND BENEFITS

- Enables Morningstar controllers or inverters with a Meterbus™ port, but no RS-232 or EIA-485 serial communications ports to connect to an EIA-485 network
- Can also be used for EIA-485 communications with any third-party hardware that supports Modbus communication
- Includes an ON/OFF power switch. With the MRC-1 power switch on, the Meterbus device can provide a limited amount of EIA-485 network bus power (12V) for other Morningstar devices
- The MRC-1 eliminates the need to use an MSC (Meterbus to 232) paired with an RSC (232 to 485) to convert from Meterbus to EIA 485
- Fully isolated between 485 bus and meterbus (controller side)
- Status LED for monitoring and diagnostics
- Molded tabs for attachment to 35mm standard DIN rail
- Includes RJ-11 cable and removable four (4) position EIA-485 terminal
- Electronic Protections: reverse-polarity and short circuit protection (at the EIA-485 terminals)
- Terminal Miswire Protection: (applying bus power to A/B in some combination)

### CERTIFICATIONS



MODBUS™ is a trademark of Modbus IDA.

FOR CURRENT DETAILED CERTIFICATION LISTINGS, REFER TO:

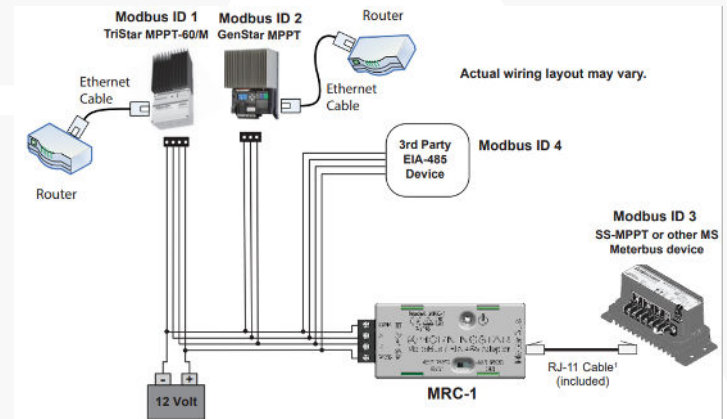
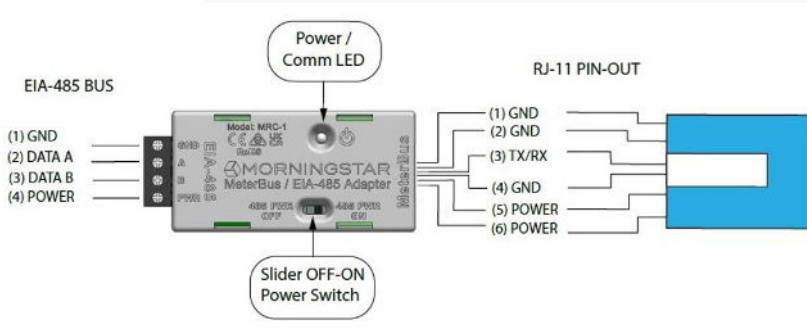
<https://www.morningstarcorp.com/support/library> Under, "Type", choose, "Declaration of Conformity (DOC)" to view a list of product DOCs - DOC: MS-003957

### Technical Specifications

|                                                                  |                                     |
|------------------------------------------------------------------|-------------------------------------|
| Meterbus device system battery voltage                           | >11V                                |
| Self-consumption (MRC-1 power switch ON)                         | ~ 8mA                               |
| Consumption (while communicating)                                | ~18mA                               |
| Net current available from Meterbus device (while communicating) | ~32mA                               |
| BAUD rate                                                        | 9600                                |
| EIA-485 Network Unit Load                                        | 1/4                                 |
| Enclosure                                                        | IP20                                |
| DIN Rail Compatibility                                           | 35 mm (1-3/8")                      |
| Dimensions                                                       | 3.2 X 1.4 X .9 in (80 x 35 x 23 mm) |
| Weight                                                           | 37 g (1.3 oz)                       |
| Operating Temperature                                            | -40 C to +60 C                      |
| Storage Temperature                                              | -55 C to +80 C                      |
| Humidity                                                         | 100% N.C                            |

WARRANTY - Five year limited warranty, for details go to <https://www.morningstarcorp.com/support/> and click on Warranty Policy.

### EIA-485 Network with EIA-485 to Ethernet Bridge



## MODBUS™ Industrial Control and Data Polling

“Protocol of choice” for applications that require industry-standard support and a reliable connection for highspeed monitoring and real-time control. Most commonly used as a control/communication connection between two hardware devices. Values are not pre-scaled (see MODBUS® specifications document for the Morningstar device for scaling details). Can be adapted to work in existing hardware environments with PLC’s, RTU’s, other SCADA equipment.

Note: GenStar and TriStar MPPT (60A only) controllers include both Ethernet and EIA-485 ports.

These controllers can be used to bridge communications from the EIA-485 Modbus Network to Ethernet Modbus TCP/IP.