RS485 Multi-Color Display
Short guide

1. Overview

SMI2-M is a universally applicable LED display that receives data from an RS485 network over Modbus RTU / ASCII protocols and can be operated in slave, master or spy mode. The complete documentation and the configuration software are available for download on *www.akYtec.de*.

2. Specifications

Table 1 Technical data

Power supply	24 (18…36) V DC
Power consumption, max.	1.6 W
Display	4 digits with sign, 7 segments
Colors	green, yellow, red
Character height	14 mm
Data interface	RS485
Protocol	Modbus ASCII, Modbus RTU
Mode	Master, Slave, Spy
Baud rate	2.4…115.2 kbit/s
Galvanic isolation to power supply	500 V / 1 min
Configuration interface	USB 2.0 (Micro-USB)
Configuration software	akYtecToolPro
Enclosure	panel mounting in Ø22.5 mm borehole
Dimensions	48 × 26 × 65 mm
IP Code	front IP65, rear IP20
Appliance class according to IEC 61140	III
Weight	approx. 30 g
Environmental conditions	
Ambient temperature	-40…+70 °C
Storage temperature	-40…+70 °C
Relative humidity	up to 80 % (at +25 °C, non-condensing)
Altitude	up to 2000 m ASL
Vibration / shock resistance	conforms to IEC 61131-2
EMS emission / immunity	

3. Intended use

The device has been designed and built solely for the intended use described here, and may only be used accordingly. The technical specifications contained in this document must be observed.

The device may be operated only in properly installed condition.

Improper use

Any other use is considered improper. Especially to note:

- The device may not be used for medical appliances applied to maintain human life or health, its control or other effect on them.
- The device may not be used in explosive environment.
- The device may not be used in atmosphere in which there are chemically active substances.

4. Functions

The device displays data received from the RS485 network, error messages and configuration parameters.

The secondary voltage source with galvanic isolation guarantees a stable power supply and protection against polarity reversal.

The RESET button on the cylindrical surface of the device enables to retrieve the configuration parameters and to restore factory settings, if necessary.

Main functions:

- Slave mode: receiving data from a Master
- Master mode: querying data from a Slave
- Spy mode: receiving data from a Slave in a network with an existing Master
- Displaying received data according to display settings
- Extended data displaying control
- Error indication if data cannot be displayed
- Error indication if no master activity

5. Installation

CAUTION
Installation must be performed only by fully qualified personnel. Improper installation can cause injuries and damage the device.

The device is designed for panel mounting in a simple borehole of Ø22.5 mm. To prevent the device from spinning, make a cutout in the mounting plate as shown in Fig. 2.

Carefully position the supplied gasket on the display rear surface.

Insert the cylindrical body of the device into the cutout and tighten the nut from the rear side of the panel (Fig. 3).

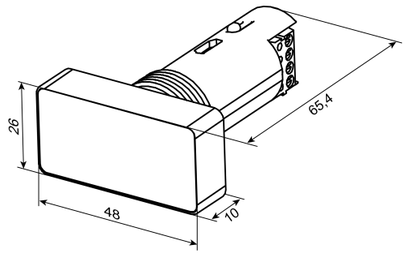


Fig. 1 Dimensions

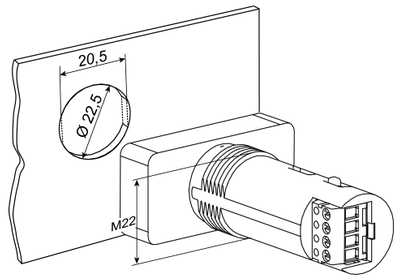


Fig. 2 Mounting cutout

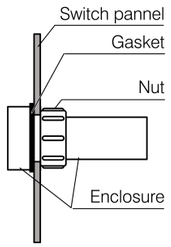


Fig. 3 Device mounting

NOTICE
Do not use any tools to tighten the nut. Tighten the nut only by hand.

6. Wiring

CAUTION
Ensure the device is provided with its own power supply line and electric fuse I = 0.5 A.

CAUTION
Switch on the power supply only after the wiring of the device has been completely performed.

NOTE
Network cables should be routed separately or screened from the supply cables.
Only a shielded cable may be used for network lines.

The maximum conductor cross-section is 1.5 mm². Wires should be stripped for approx. 8-10 mm.

Table 2 Terminal assignment

Designation	Description
1	Power supply 24 VDC +
2	Power supply 24 VDC -
3	Network line RS485 -
4	Network line RS485 +

6.1 RS485 conncetion

A twisted pair cable should be used for RS485 network connection, observing polarity.

The length of the network line should not exceed 1200 meters.

RS485 interface also works when the device is powered over USB.

NOTE
If necessary, install terminal resistors at the beginning and the end of the RS485 line. We recommend the resistor 120 Ω, 0.25 W.

7. Maintenance

The maintenance includes:

- cleaning the case and the terminals from dust, dirt and debris
- checking the fastening of the device
- checking the wiring (connecting leads, fastenings, mechanical damage)

NOTE
The device should be cleaned with a damp cloth only. No abrasives or solvent-containing cleaners may be used.
The safety precautions must be observed when carrying out maintenance.

8. Transportation and storage

Pack the device in such a way as to protect it reliably against impact for storage and transportation. The original packaging provides optimum protection.

If the device is not taken immediately after delivery into operation, it must be carefully stored at a protected location. The device should not be stored in an atmosphere with chemically active substances.

The environmental conditions from the Tab. 1 must be considered during transportation and storage.

NOTE
The device may have been damaged during transportation.
Check the device for transport damage and completeness!
Report the transport damage immediately to the shipper and akYtec GmbH.

9. Scope of delivery

–	SMI2-M	1
–	Gasket	1
–	Mounting nut	1
–	4-pole plug-in-connector	1
–	Short guide	1

10. Configuration

The SMI2-M is configured with the free software akYtecToolPro. Scan the QR code to download akYtecToolPro.

https://akytec.de/qr_smi2m

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