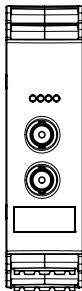




Operating instructions  
AS-i SmartLine FO repeater  
**AC3227**

UK

80290392/00 12/2019



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# 1 Preliminary note

Technical data, approvals, accessories and further information at [www.ifm.com](http://www.ifm.com).

## 2 Safety instructions

- Read this document before setting up the product and keep it during the entire service life.
- The product must be suitable for the corresponding applications and environmental conditions without any restrictions.
- Only use the product for its intended purpose (→ Functions and features).
- If the operating instructions or the technical data are not adhered to, personal injury and/or damage to property may occur.
- The manufacturer assumes no liability or warranty for any consequences caused by tampering with the product or incorrect use by the operator.
- Installation, electrical connection, set-up, operation and maintenance of the product must be carried out by qualified personnel authorised by the machine operator.
- The plant operator is responsible for the safety of the plant in which the device is installed.
- If the device is not used as intended by the manufacturer, the protection supported by the device may be impaired.
- Protect units and cables against damage.

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### 2.1 Symbols used

▶ Instructions

→ Cross-reference



Important note

Non-compliance may result in malfunction or interference.



Information

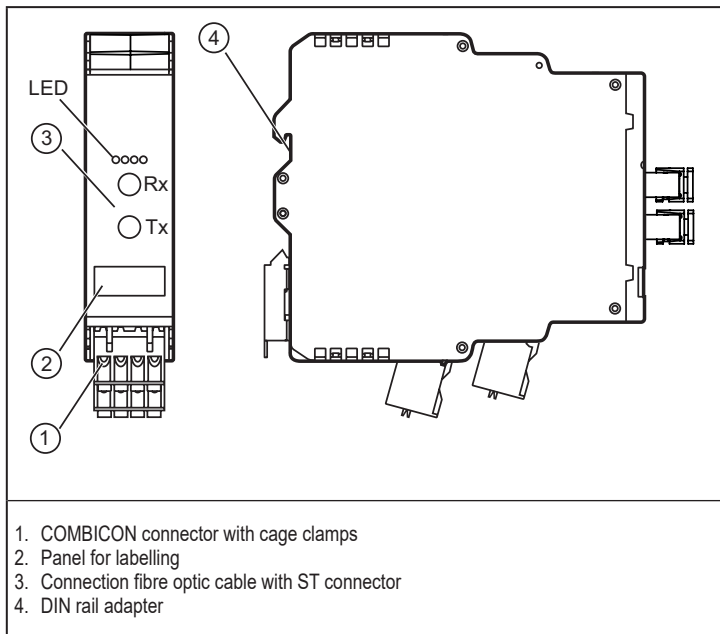
Supplementary note.

### 3 Functions and features

The AS-i FO repeater is used to extend the cable of an AS-i network. The incoming data of repeater 1 is processed and transmitted to repeater 2 via a fibre optic cable. The data of repeater 2 is also processed and sent to repeater 1. A system consists of two AS-i FO repeaters.

- Electrical separation of the incoming AS-i line from the outgoing AS-i line
- Additional AS-i power supply required
- Connection via supplied COMBICON connectors
- Use of a standard fibre optic cable with ST connector

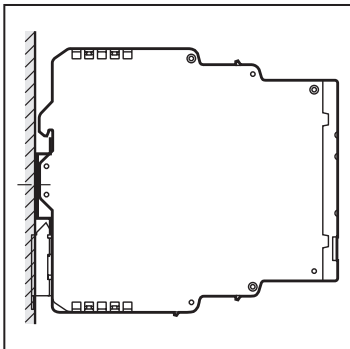
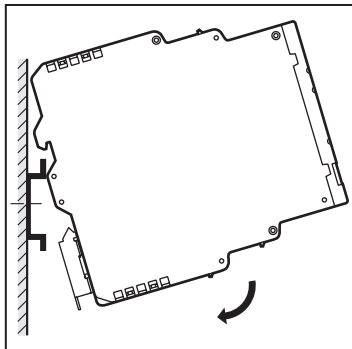
### 4 Operating and display elements



## 5 Installation

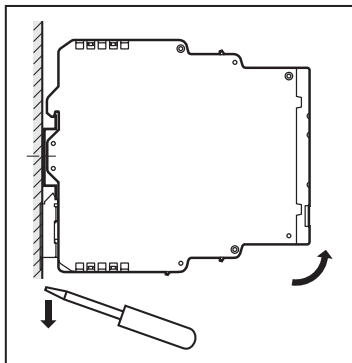
### 5.1 Installation of the device

- ▶ Mount the device on a 35 mm DIN rail.



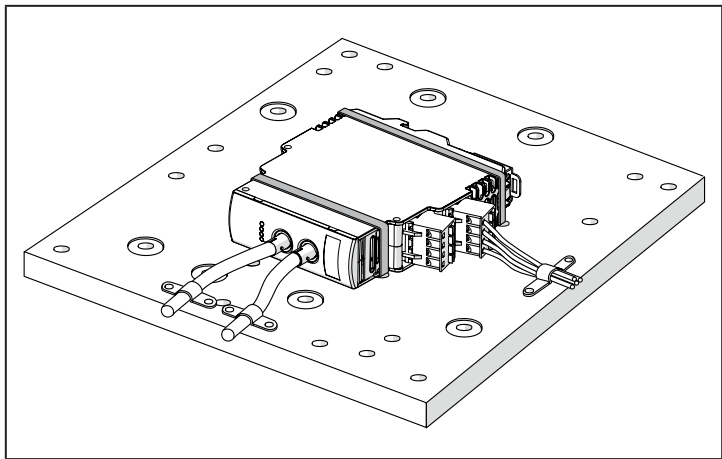
- ▶ Leave enough space between the device and the top and bottom of the control cabinet to enable air circulation and to avoid excessive heating.
- ▶ Take into account the internal heating of all devices when mounting several devices side by side and observe the environmental conditions for every device.

### 5.2 Remove device



### 5.3 Installation with increased mechanical stress

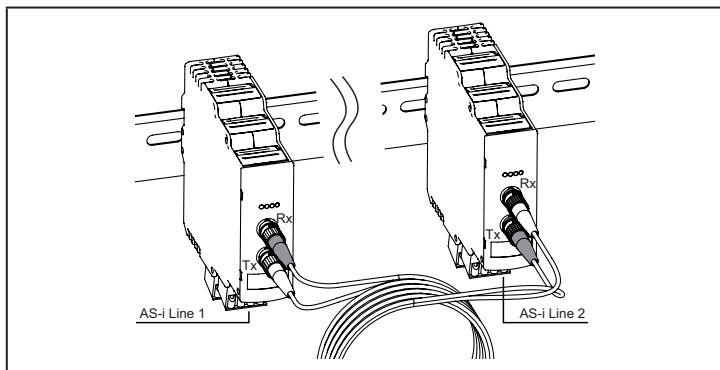
- ▶ If installed in machines with increased mechanical stress (high shock and vibration stress) mount the units lying flat against the base of the panel.
- ▶ Screw or clamp the units and secure the cables and fibre optic cables.




## 6 Connections

### 6.1 Electrical connection


Connect the incoming AS-i line 1 to terminals A+ and A- of repeater 1 and the outgoing AS-i line 2 to terminals A+ and A- of repeater 2.



 An additional AS-i power supply is required for the outgoing AS-i line.

If the AS-i FO repeater 1 is at the cable end of an AS-i line and the cable length is > 100 m, the AS-i bus must be terminated with a link between T1 and T2. A link is supplied.

The AS-i bus termination is used to improve the signal quality and to extend the AS-i network cable. Only one AS-i bus termination may be used per AS-i segment.

 Activate the termination and check the signal quality of the AS-i network via the diagnostic possibilities of the master (e.g. telegram error).

## 6.2 Optical fibre connection

- ▶ Connect fibre optic cable.
- ▶ Connect Rx of repeater 1 to Tx of repeater 2, connect Rx of repeater 2 to Tx of repeater 1.

Permissible fibre optic cable types

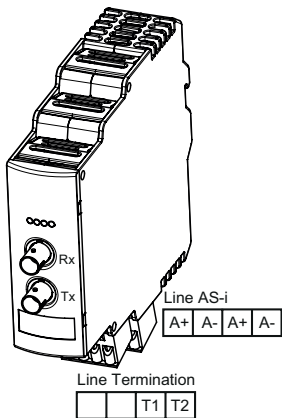
- Fibre optic cable 50/125  $\mu\text{m}$  with ST connector (recommended up to 500 m)
- Fibre optic cable 62.5/125  $\mu\text{m}$  with ST connector (do not use at distances below 200 m)
- ▶ Observe permissible bending radii of the fibre optic cable manufacturers.



Calculation of the achievable distances for data transmission

→ ifm fibre optic calculator in the download area.


## 7 Terminal connection



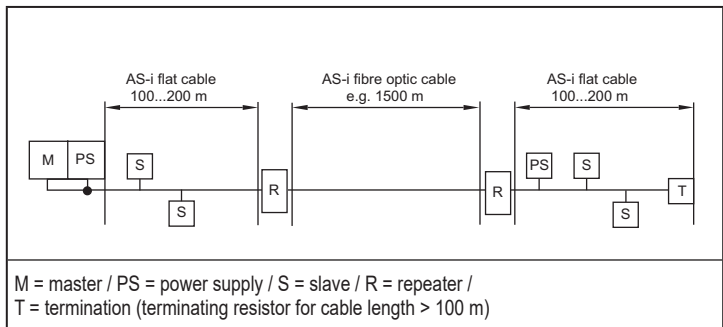
A+: AS-i +  
A-: AS-i -  
A+: AS-i +  
A-: AS-i -



## 8 Operation / LEDs

	LED PWR green:	AS-i voltage ok
	LED TERM yellow:	termination active
	LED Rx green:	optical input, receive data
	LED Tx green:	optical output, send data

## 9 Example of an AS-i topology



## 10 Maintenance, repair, disposal

### 10.1 Maintenance

The device is maintenance-free.

### 10.2 Cleaning the housing surface

- ▶ Disconnect the device.
- ▶ Clean the device from dirt using a soft, chemically untreated and dry cloth.



Micro-fibre cloths without chemical additives are recommended.

### 10.3 Disposal

- ▶ Dispose of the device in accordance with the national environmental regulations.