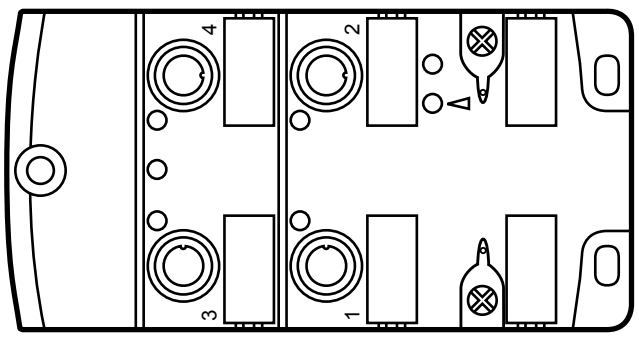
Operating instructions
AS-i CompactLine module

UK

AC2477
AC2479

80259338/00 03/2019



Contents

1 Preliminary note

Technical data, approvals, accessories and further information at www.ifm.com.

1.1 Explanation of symbols

▶ Instructions

→ Cross-reference

Important note
Non-compliance may result in malfunction or interference.

Information
Supplementary note.

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 unit must be carried out by qualified personnel authorised by the machine operator.
- Protect units and cables against damage.

3 Functions and features

A maximum of 4 sensors can be connected to the AC2477 digital input module (2-wire or 3-wire sensors).

A maximum of 4 sensors (2-wire or 3-wire sensors) and 4 actuators can be connected to the AC2479 digital input / output module.

- maximum number of modules per master: 31 (AC2479); 62 (AC2477)
- AS-Interface version 3.0, downward compatible

4 Installation

▶ Disconnect the system from power before installation.

▶ For installation choose a flat mounting surface.
The entire bottom of the module must lie flat on the mounting surface.

▶ Screw the lower part onto the mounting surface using M4 screws and flat washers (1). Tightening torque 1.8 Nm.

▶ Carefully place the yellow AS-i flat cable into the profile slot.

▶ In addition, carefully place the black AS-i flat cable for external voltage supply into the profile slot (AC2479).

▶ Position the upper part and fix it using the supplied M3.5 (2) screws.
Tightening torque 1.2...1.4 Nm.

▶ Fix the module onto the mounting surface using M4...M5 screw and washer (4).
Tightening torque max. 1.8 Nm.
Use stainless steel sleeve (E70402)* for installation in case of high mechanical stress.

▶ Connect the plugs of the sensors (5) to the M12 sockets.
Tightening torque 0.8...1.5 Nm.

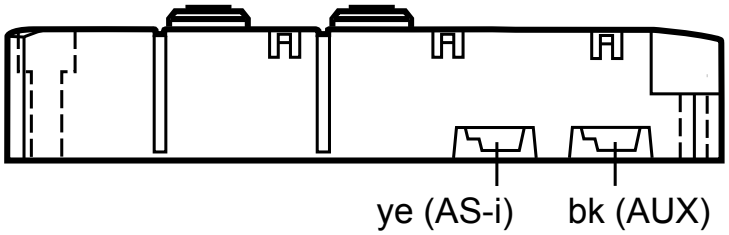
▶ Cover the unused sockets with protective caps (E73004)*.
Tightening torque 0.6...0.8 Nm.

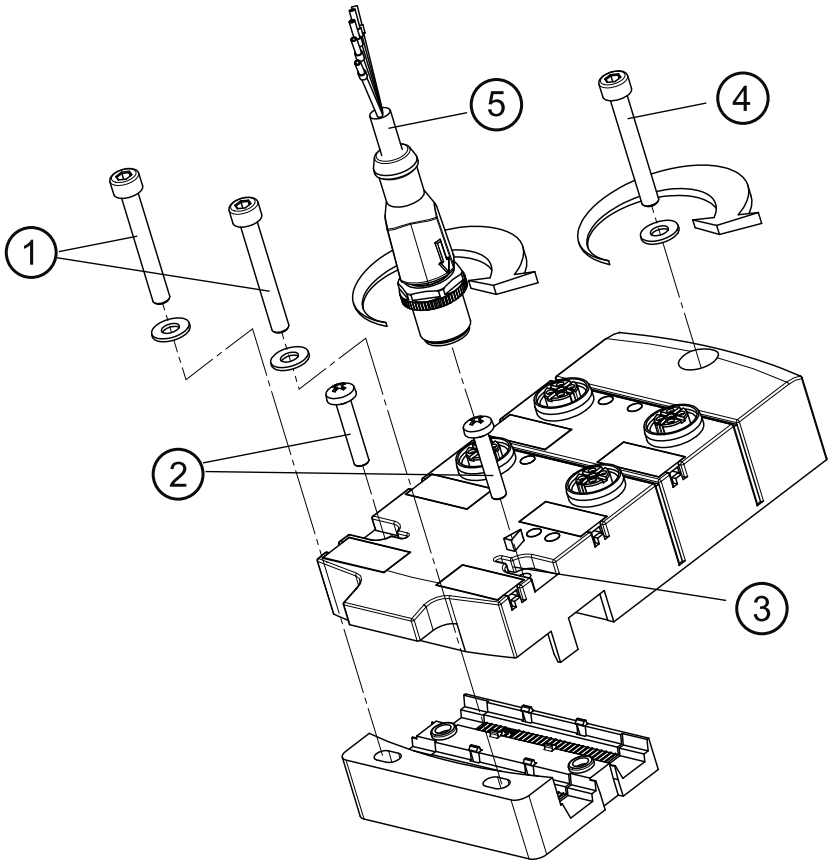
▶ The flat cable end seal (E70413)* must be used if the module is at the end of the cable line.

*to be ordered separately

In case of interference coupling to the sensor cables or the black flat cable (24 V DC auxiliary supply), the use of the functional earth springs can improve the EMC.
Requirement:
an interference-free and low-resistance connection to the machine ground.

▶ If necessary, you can ground the module via the earth springs (5).





1: M4 screws and washers (not supplied with the device). Tightening torque 1.8 Nm.
2: M3.5 screws supplied. Tightening torque 1.2...1.4 Nm.
3: Functional earth springs
4: M4...M5 screw and washer (not supplied with the device). Tightening torque max. 1.8 Nm.
5: M12 connector. Tightening torque 0.8...1.5 Nm.

Observe the maximum tightening torque of the connection cable.

5 Electrical connection

The unit must be connected by a qualified electrician.
The national and international regulations for the installation of electrical equipment must be adhered to.

Intended for connection to class 2 (cULus class 2) circuits only.

▶ Disconnect power.

▶ Connect the unit.

5.1 External protective circuitry for inductive loads

The switch-on and switch-off capacity for triggering solenoids is rated up to 20 W (IEC 947-5-2, utilisation category DC-13).

Recommendation: For inductive loads use a free wheel diode on the load.
ifm electronic offers valve plugs with integrated free wheel diodes.

6 Addressing

▶ Assign a free address between 1 and 31.

The address is set to 0 at the factory.

6.1 Addressing with the AC1154 addressing unit

The module can be addressed via the addressing cable AC70423.

IR addressing is not possible with the AC2477 and AC2479 modules.

7 Pin connection / data bits

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4 inputs / AS-i profile S-0.A.E / extended addressing mode: Yes

Data bit	D0	D1		D2	D3	
Input	I1	I2		I3	I4	
Socket	I-1/2	I-1/2	I-2	I-3/4	I-3/4	I-4
Pin	4	2	4	4	2	4

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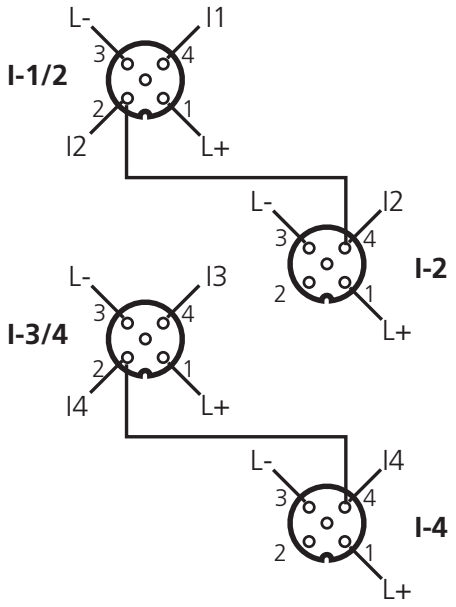
Inputs (Y-circuit)

Inputs
1: sensor supply +
3: sensor supply -
5: functional earth



If a slave with the extended addressing mode is used in combination with a master of the first generation (version 2.0), the parameter P3 must be 1 and the output bit D3 must be 0*. The output bit D3 and the parameter bit P3 must not be used.

If a slave with the extended addressing mode is used in combination with a master of the first generation (version 2.0), an address between 1A and 31A must be assigned to this slave.

* default setting

AC2479

4 inputs / 4 outputs / AS-i profile S-7.F.E / extended addressing mode: no

Data bit	D0	D1		D2	D3	
Input	I1	I2		I-3	I-4	
Socket	I-1/2	I-1/2	I-2	I-3/4	I-3/4	I-4
Pin	4	2	4	4	2	4
Output	O1	O2		O3	O4	
Socket	O-1	O-2		O-3	O-4	
Pin	4	4		4	4	

Inputs (Y-circuit)

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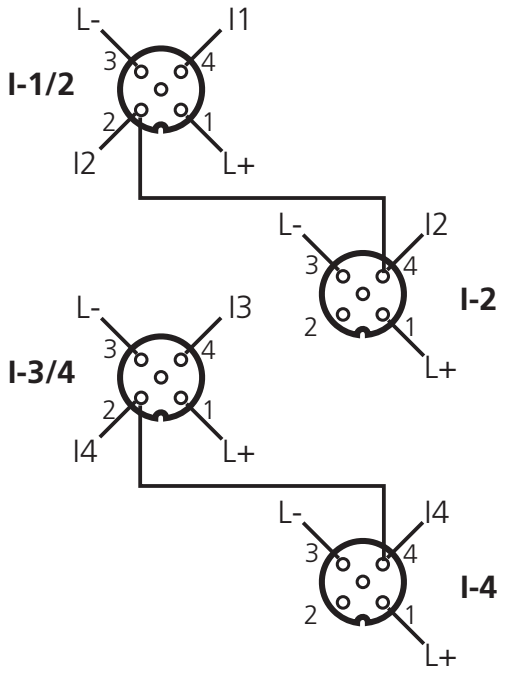
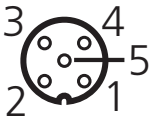
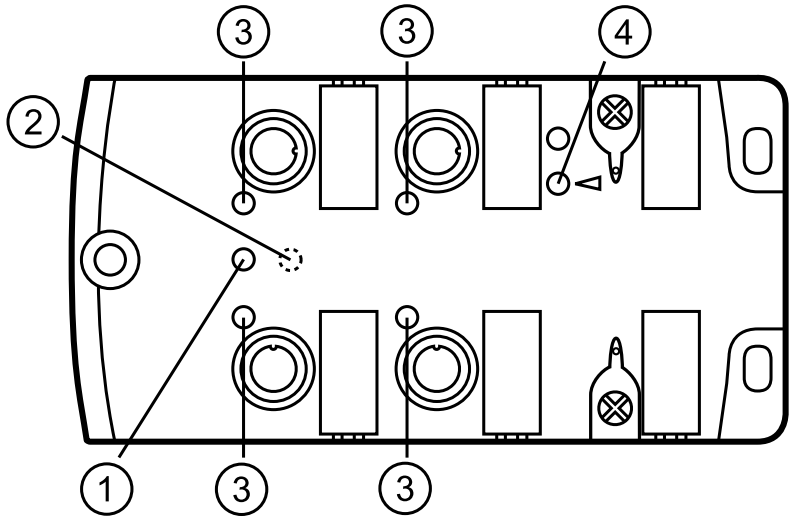
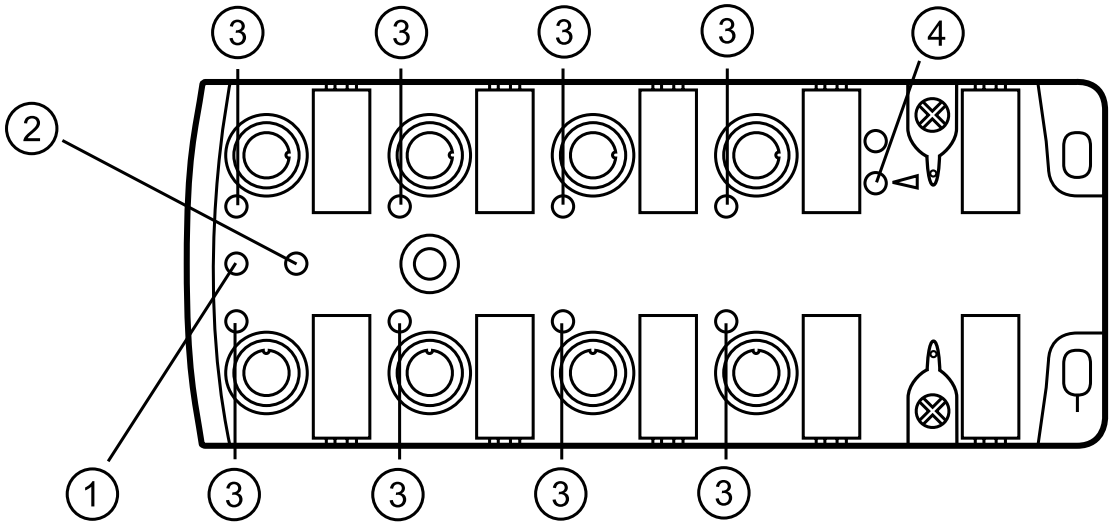


Outputs
3: external voltage AUX -
4: switching output
5: functional earth (FE)
1.2: not connected (n.c.)



8 Operating and display elements





1: LED AS-i
2: LED AUX (AC2479)
3: LED IN / OUT
4: LED FAULT

LED AS-i green lights:	AS-i voltage supply ok
LED AUX green lights:	AUX voltage supply ok (AC2479)
LED IN / OUT yellow lights:	input / output switched
LED FAULT red lights:	AS-i communication error, slave does not participate in the "normal" exchange of data, e.g. slave address 0
LED FAULT red flashes:	peripheral fault, e.g. sensor supply / output overloaded or shorted, communication active

Overload and short circuit of the input supply and the outputs are signalled as peripheral fault to the AS-i master (version 2.1 or higher).

9 Maintenance, repair and disposal

The operation of the unit is maintenance-free. Always exchange the upper part and lower part at the same time.

After use dispose of the unit in an environmentally friendly way in accordance with the applicable national regulations.