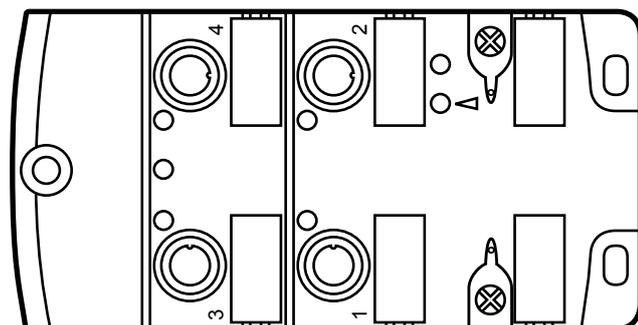


Operating instructions AS-i CompactLine module

UK

AC2434
AC2435

80263001/00 03/2019



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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.

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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 AC2434 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 AC2435 digital input / output module.

- maximum number of modules per master: 31
- AS-Interface version 2.11 and 3.0

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 2.0...2.4 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 (AC2435).
- ▶ 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 2.0...2.4 Nm.
- ▶ Connect the plugs of the sensors (5) to the M12 sockets.
Tightening torque 0.8...1.5Nm.
- ▶ 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

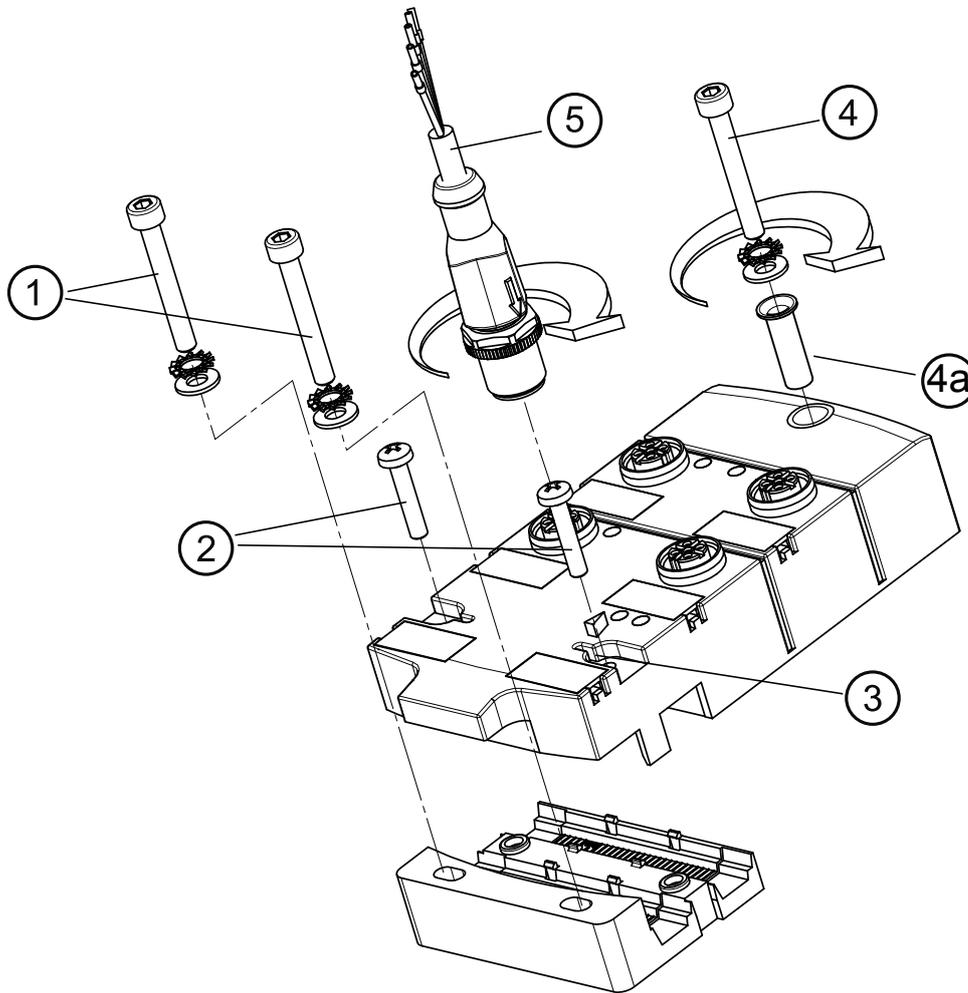
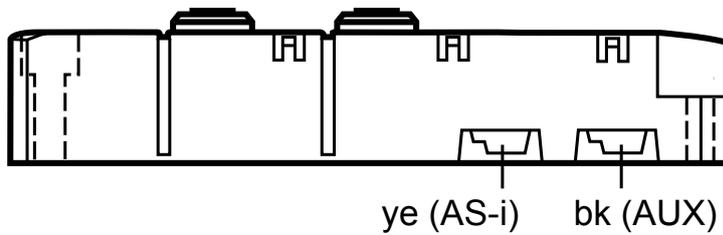


In case of interference coupling to the sensor cables or the black flat cable (24 V DC auxiliary supply), the use of the functional earth springs can improve the EMC.

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 2.0...2.4 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). Tubular rivet (4a) pre-mounted in the mounting hole. Tightening torque 2.0...2.4 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.

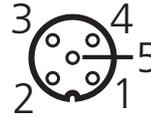


IR addressing is not possible with the AC2434 and AC2435 modules.

7 Pin connection / data bits

Inputs

- 1: sensor supply +
- 2+4: data input
- 3: sensor supply -
- 5: functional earth



Outputs

- 3: external voltage AUX -
- 4: switching output
- 5: functional earth (FE)
- 1,2: not connected (n.c.)



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4 inputs

AS-i profile S-0.0.E / extended addressing mode: no

Data bit	D0	D1	D2	D3
Input	1	2	3	4
Socket	I-1	I-2	I-3	I-4
Pin	2+4	2+4	2+4	2+4

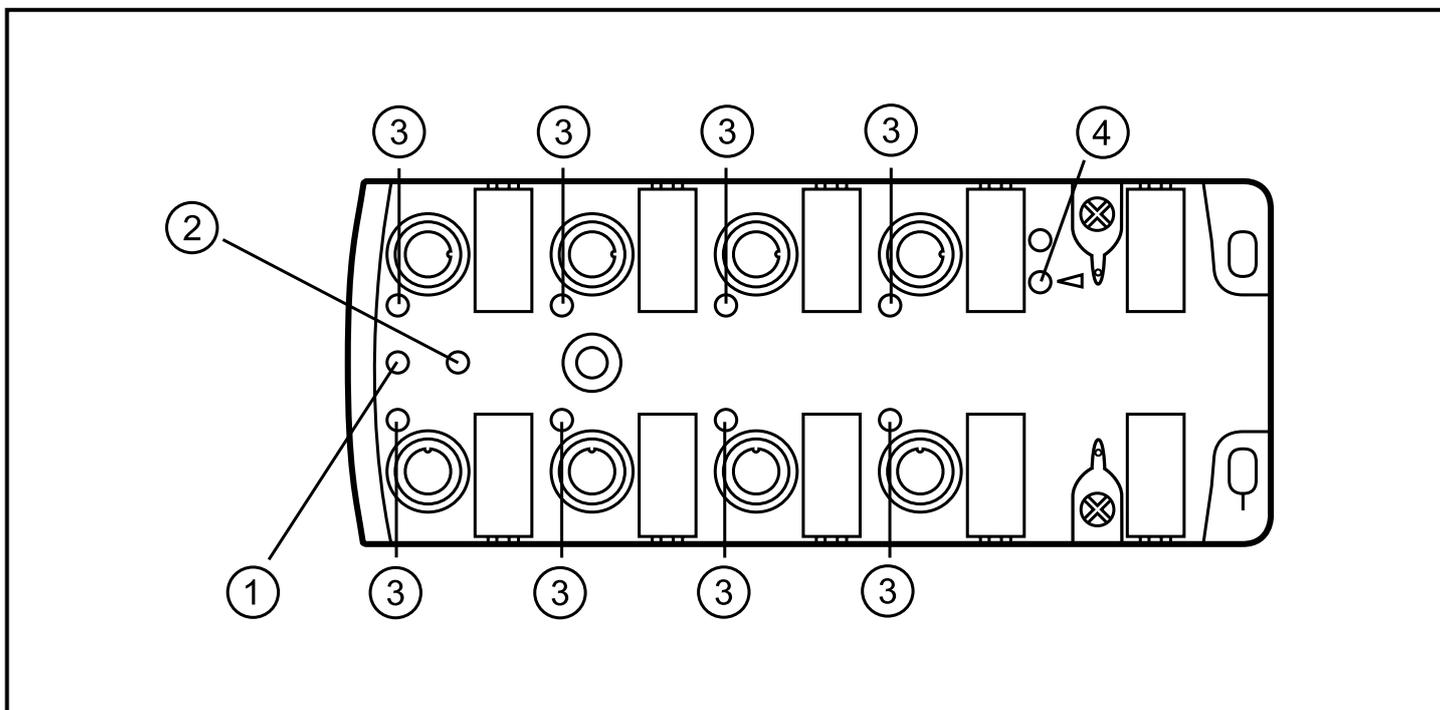
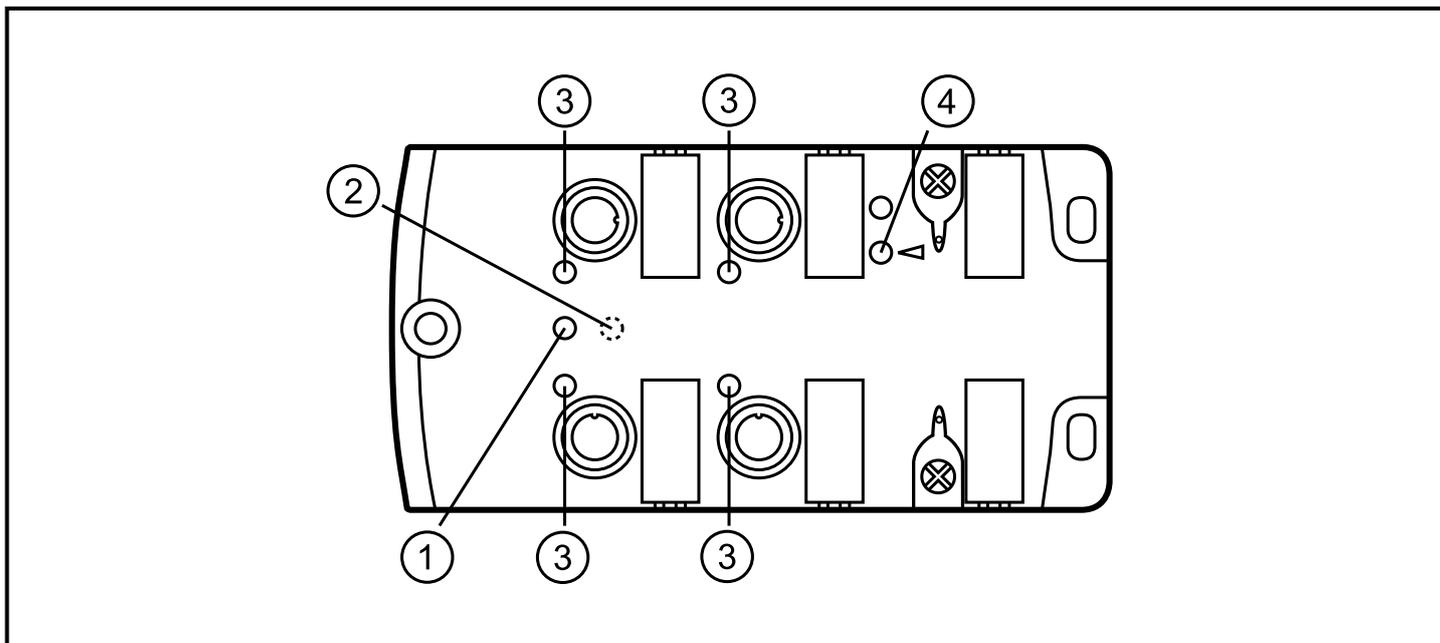
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4 inputs / 4 outputs

AS-i profile S-7.0.E / extended addressing mode: no

Data bit	D0	D1	D2	D3
Input	1	2	3	4
Socket	I-1	I-2	I-3	I-4
Pin	2+4	2+4	2+4	2+4
Output	1	2	3	4
Socket	O-1	O-2	O-3	O-4
Pin	4	4	4	4

8 Operating and display elements



- 1: LED AS-i
- 2: LED AUX (AC2435)
- 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 (AC2435)
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).

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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.

10 Scale drawing

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