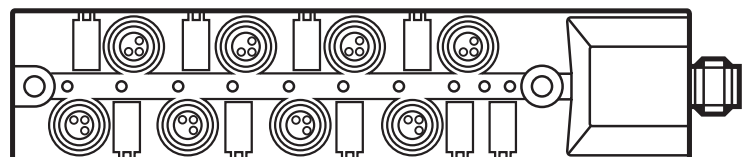


Operating instructions AS-i CompactModule M8

UK

AC2488
AC2489

7390940/04 10/2018



1 Preliminary note

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

1.1 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 manufacturer is responsible for the safety of the plant in which the device is installed.
- If the device is used in a way that is not intended by the manufacturer, the protection supported by the device may be impaired.
- Protect units and cables against damage.

1.2 Symbols used

▶ Instructions

> Reaction, result



Important note

Non-compliance may result in malfunction or interference.



Information

Supplementary note

2 Functions and features

- AC2488: 8 inputs CTT3 (AS-i profile S-7.A.A) / AS-interface version 3.0 / master profile M4 / extended addressing mode: yes / maximum number of modules per master: 62
- AC2489: 2x4 inputs (AS-i profile 2x S-0.A.E) / AS-interface version 3.0, backwards compatible / master profile M3 or M4 / extended address mode: yes / maximum number of modules per master: 31 (2 independent A/B slaves per module)

3 Installation



- ▶ Disconnect power before installation.

- ▶ For installation choose a flat mounting surface.

The entire bottom of the module must lie flat on the mounting surface.

- ▶ Fix the module onto the mounting surface using M4 screws and washers.

4 Electrical connection



The unit must be connected by a qualified electrician.


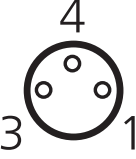
The national and international regulations for the installation of electrical equipment must be adhered to.

- ▶ Disconnect the installation from power and connect the unit.

To ensure the protection rating:

- ▶ Connect the plugs of the sensors to the M8 sockets.
- ▶ Tighten firmly, recommended tightening torque 0.3...0.5 Nm.
- ▶ Cover the unused sockets with the enclosed protective caps.
- ▶ Tighten firmly, recommended tightening torque 0.3...0.5 Nm.

4.1 Pin connection

M12 connector 1: AS-i + 3: AS-i -		Input M8 1: Sensor supply + 3: Sensor supply - 4: Data input	
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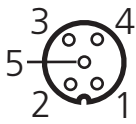
Parameter bit	Designation	Description
P1	Periphery fault	1 periphery fault indication active 0 periphery fault indication not active



In the AS-i network the AC2489 module functions like 2 independent A/B slaves.

5 Addressing

► Addressing the unit via the M12 connector (AS-i); the address is set to 0 at the factory.

AC1154 addressing unit Wiring of the addressing socket		1: AS-i + / 2: TTL → / 3: AS-i - 4: TTL ← / 5: + 5 V
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5.1 Addressing the AC2489 module

In the factory setting, initially only the first slave gives a signal on address 0. It can be addressed to any address between 1A...31B.

If this slave is addressed, the second slave with the address 0 appears automatically in the display. Now this slave can be addressed to any address between 1A...31B.



Both slaves can be assigned any A/B addresses (e.g. 3A/6A or 9A/25B...).
 No address can be assigned twice (e.g. 3A/3A or 9B/9B).

If a slave with the ID code "A" (extended address mode possible) is used in combination with a master of the 1st generation (version 2.0),

- the parameter P3 must be 1 and the output bit D3 must be 0.* The output bit D3 must not be used.
- an address between 1A and 31A must be assigned to this slave.

* default setting

5.1.1 Restore the factory setting (address both slaves to 0) to AC2489

Recommendation:

Use the addressing unit AC1154 to restore the factory settings.



When AS-i masters are used and „automatic addressing“ is activated restoring the factory settings is reversed.

Using the addressing unit AC1154 the factory settings of the module are restored by writing a 0 to ID1 of the second slave (factory setting ID1 = 2).

When the factory settings are restored via the AC1154 the status message [F3] is displayed.

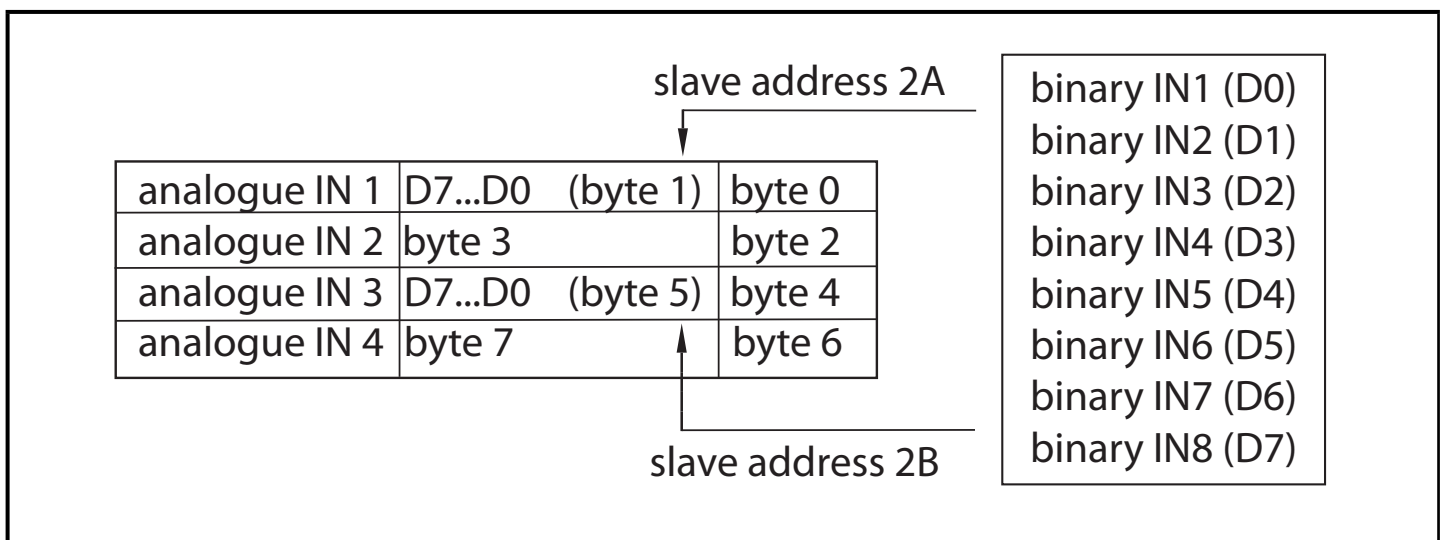
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- ▶ Press mode button once to close the status message.
- ▶ Operating mode ID2 appears.
- ▶ Then press the mode button as long as the addressing mode ADDR is visible to display the factory settings (address 0).

6 Settings

The AC2488 module occupies only one slave address. The data of the module is in the analogue range.

6.1 Data bits and value range CTT3 in the M4 Controller, and AC14xx to AC2488



6.1.1 Display of the M4 Controller_e and AC14xx to AC2488

Display (hex.) in the menu [Slave Info] of the M4 Controller _e		Display (dec.) in case of AC14xx units
I-1	0x100	256
I-2	0x200	512
I-3	0x400	1024
I-4	0x800	2048
I-5	0x1000	4096
I-6	0x2000	8192
I-7	0x4000	16384
I-8	0x8000	32768

6.1.2 Display in a higher-level controller (e.g. Siemens) for AC2488

Example: Slave 2A, inputs I-5 and I-8 switched

Channel 1 (input word 1)	1001 000 Byte 1	(Byte 0)
Channel 2 (input word 2)	(Byte 3)	(Byte 2)
Channel 3 (input word 3)	(Byte 5)	(Byte 4)
Channel 4 (input word 4)	(Byte 7)	(Byte 6)

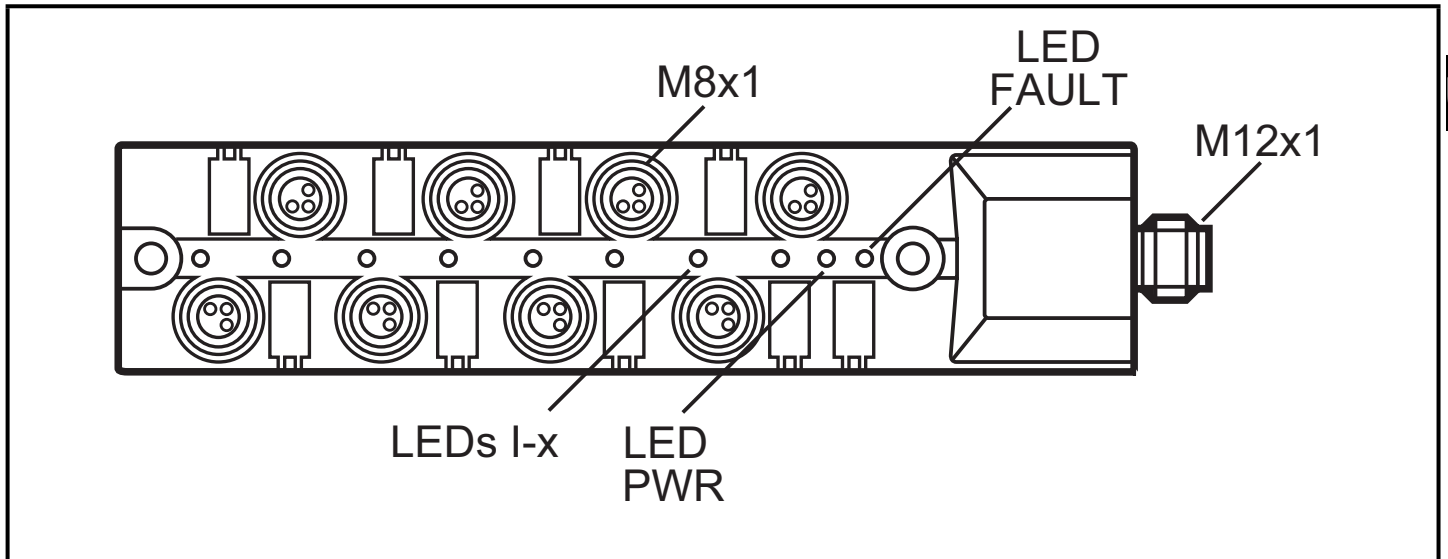
Example: Slave 2B, inputs I-5 and I-8 switched

Channel 1 (input word 1)	(Byte 1)	(Byte 0)
Channel 2 (input word 2)	(Byte 3)	(Byte 2)
Channel 3 (input word 3)	1001 000 Byte 5	(Byte 4)
Channel 4 (input word 4)	(Byte 7)	(Byte 6)

6.2 Data bits AC2489

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

7 Operating and display elements



8 Operation

LED I-x yellow:

Input switched

LED PWR green:

AS-i voltage supply OK

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:

Periphery fault, e.g. sensor supply overloaded or shorted, is signalled to the AS-i master (version 2.1 or higher).

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