

ifm electronic



Installation instructions
AS-i Controller_e

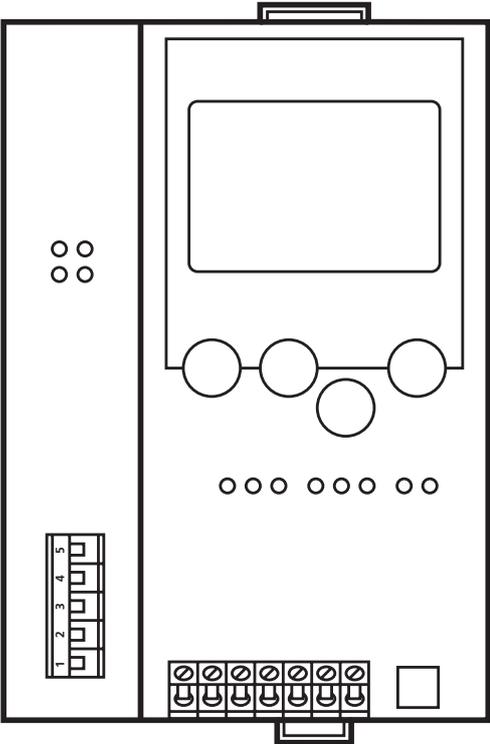
ecomat300[®]

AC1318

AC1324

UK

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1 Functions and features

- The controller_e (AC1318 / AC1324) integrates one or two AS-i masters, both according to the AS-i version 3.0, a mini controller and a DeviceNet interface.
- It controls the exchange of data to the sensor / actuator level
- processes the peripheral data in the integrated processor (signal preprocessing),
- works as stand-alone controller with exchange of data to the PC (visualisation),
- communicates with the higher control level (in the gateway mode).

2 Programming interface RS232C

- Baud rate 4,800 to 115,200 baud
- Max. distance between controller_e and PC: 20 m
- Potential separation from the controller_e power supply
- Programming cable E70320 for connection to PC required

3 DeviceNet interface

- Baud rate 125 k, 250 k and 500 kbit / s
- Max. distance between controller_e and host: depending on the baud rate
- Potential separation from the controller_e power supply
- Up to 64 controllers connected in parallel
- Pin connection:
Pin 1: V-; Pin 2: CAN_L; Pin 3: Shield; Pin 4: CAN_H; Pin 5: V+

4 Installation

Fix the controller_e onto a 35 mm DIN rail which has an electrically safe ground connection. The protection rating of the unit is IP 20, therefore it should be mounted in a protected location (e. g. control cabinet).



Ensure a condensation-free environment. Avoid excessive dust, vibration and shock. The air circulation through the vents must not be impeded. Avoid installation in direct vicinity of frequency inverters.

5 Electrical connection



Disconnect the installation from power. Connect the unit as indicated on the terminals. Never connect the minus potentials to each other or the minus potentials to the FE connection. Ensure an electrically safe ground connection between AS-i controller_e (terminal FE) and ground of the unit.



Disconnect the power supply before connecting the controller_e.

To operate an AS-i system a special AS-i power supply is required. Connection is made to the terminals AS-i + and AS-i -.



The AS-i system is operated ungrounded. AS-i + and AS-i - are to be symmetrical to the ground potential of the installation.

Ensure a low-resistance connection of the symmetry point of the AS-i power supply (terminal "shield") to the ground of the installation.

Supply the controller_e with an additional 24 V DC voltage (20...30V PELV). The connection is made to the terminals +24 V and 0 V.

6 Operating and display elements

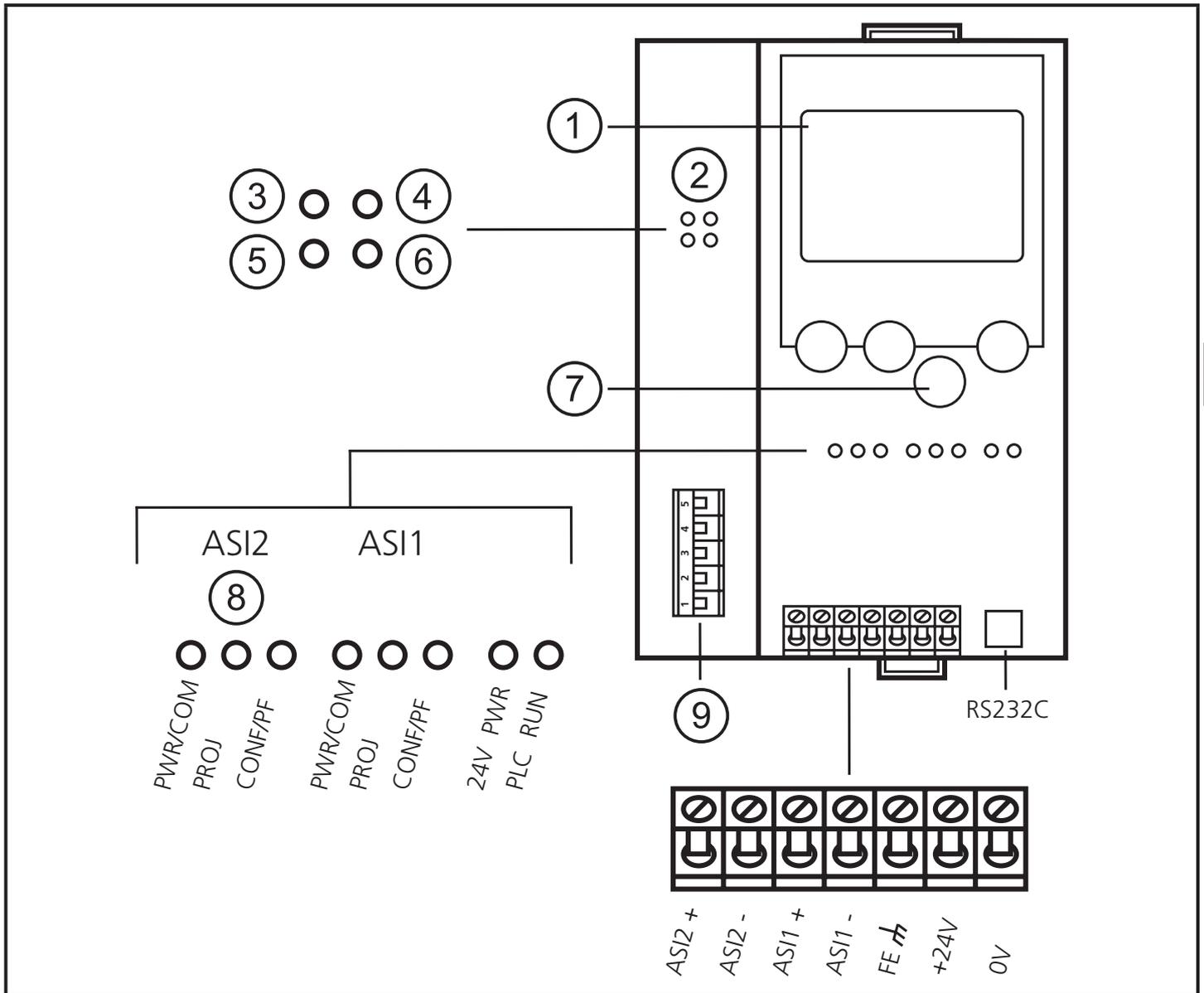
Information concerning the state of the master (AC1318) / masters (AC1324) and the connected system is given via three diagnostic LEDs on the controller_e:

| | |
|---------------------|--|
| LED PWR/COM lights | AS-i voltage present, at least one slave was detected |
| LED PWR/COM flashes | AS-i voltage present, but no slave was detected correctly |
| LED PROJ lights | Projection mode active, the configuration monitoring is deactivated |
| LED PROJ flashes | Projection mode active, changeover to protected mode not possible as a slave with the address 0 is connected |
| LED CONF/PF lights | Projected and current configuration do not match |
| LED CONF/PF flashes | Peripheral fault on at least one connected slave |

DeviceNet Status LEDs

| Network Status | |
|-------------------|--|
| LEDs off | DeviceNet voltage not ok |
| LED green is lit | online, connected |
| LED green flashes | online, not connected |
| LED red on | bus OFF |
| LED red flashes | timeout error during data transmission |
| Module status | |
| LEDs off | no supply voltage |
| LED green is lit | Controller _e online |
| LED red on | unrecoverable system error |
| LED red flashes | system errors |

6.1 LED indicators and pin connection

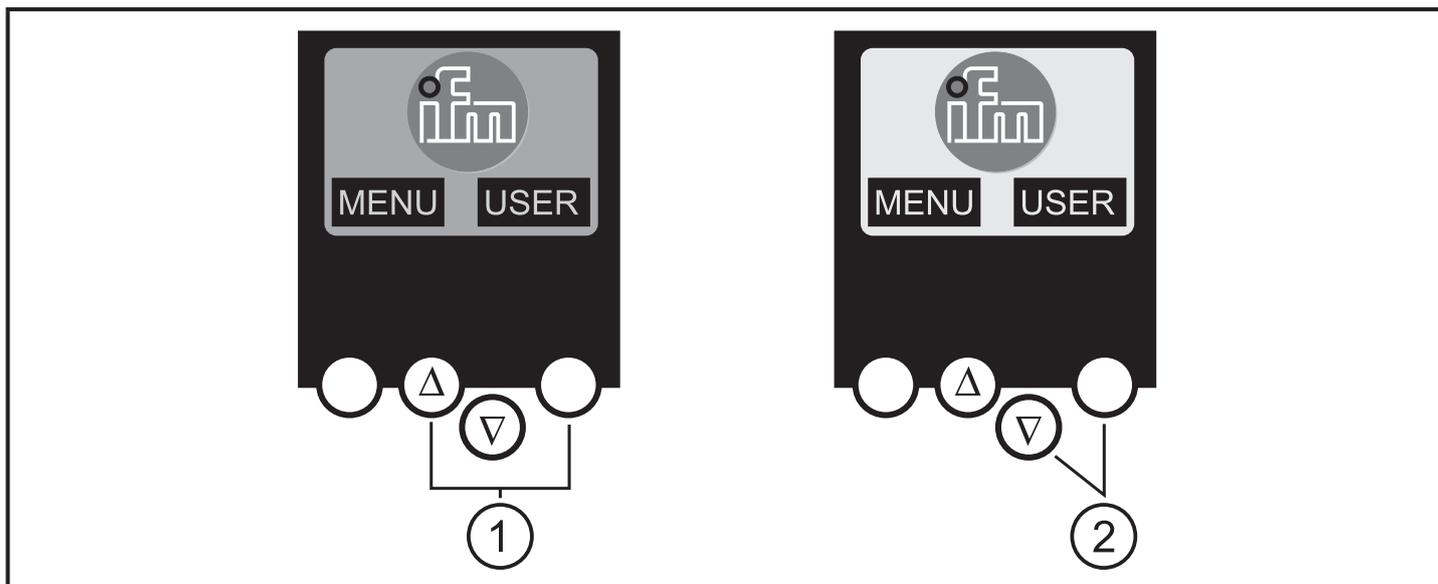


- 1: Display
- 2: DeviceNet
- 3: Network status
- 4: Module status
- 5: Reserved
- 6: Reserved
- 7: Pushbuttons
- 8: only AC1324
- 9: DeviceNet Interface

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6.2 Contrast setting

The contrast can be directly changed by simultaneously pressing the right button and the Δ button (too bright) or the ∇ button (too dark).

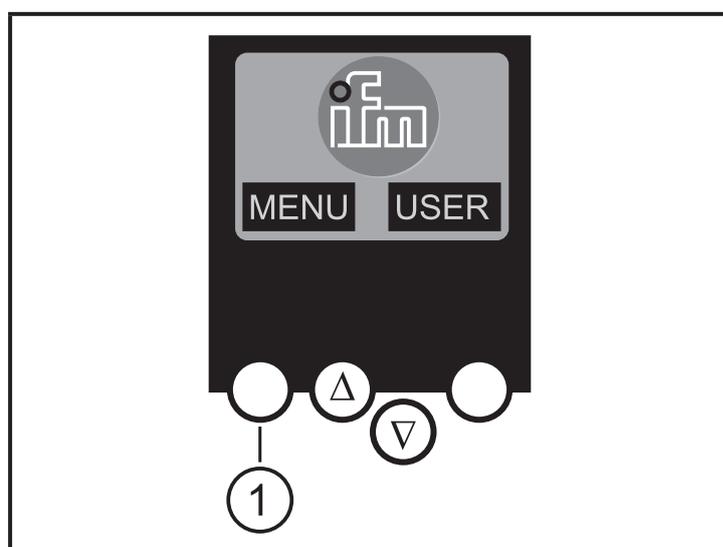


- 1: Increase contrast
- 2: Decrease contrast

7 Operation

7.1 Menu overview

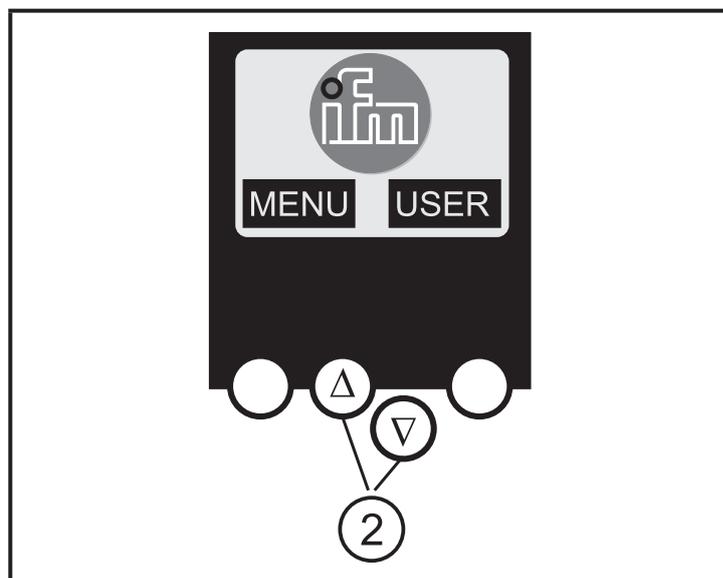
Open the main menu by pressing the left button "MENU" in the start display.



- 1: MENU button

To navigate within a menu point press the buttons Δ or ∇ .

Press the buttons simultaneously to switch between the German and English menu.



2: navigation buttons

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7.2 Menu navigation

| | |
|-----------------|--|
| Slave Lists | (Checking the addresses of the connected AS-i slaves) ∇ list of the detected AS-i slaves (LDS) ∇ list of the projected AS-i slaves (LPS) ∇ list of the activated AS-i slaves (LAS) ∇ list of the AS-i slaves with peripheral fault (LPF) |
| Address Slave | (Programming of the correct addresses in the connected AS-i slaves) ∇ Readdressing of an AS-i slave connected to the controller _e ∇ Automatic addressing of new AS-i slaves to the next free address (easy startup) |
| Quick setup | (Summary of the menu points required for a basic configuration) ∇ Reading of the current AS-i configuration (config all) ∇ Setting of the fieldbus connection (optional) |
| System setup | (Setting of the controller _e device) ∇ Baud rate of the serial programming interface ∇ IP address of the Ethernet programming interface (optional) ∇ Input of the password to enable changes in the system configuration ∇ Update of the controller _e firmware (special programming software required) |
| System info ... | (Device information) ∇ Hardware and firmware version numbers of this controller _e ∇ Serial number of this controller _e ∇ Current/maximum PLC cycle time |

| | |
|--------------|---|
| PLC Setup | (Using the integrated PLC is optional) ▽ Activation or deactivation of the gateway mode (no PLC used) ▽ Start or stop of the PLC in the controller _e (if used) |
| PLC Info | (Display of the user program name, author, date) |
| Master Setup | (AS-i master flags) ▽ Reading of the current AS-i configuration (config all) ▽ Changeover to the projection mode: Configuration of the AS-i system ▽ Changeover to the protected mode: standard mode (the master monitors the configuration) ▽ Deactivation of the automatic AS-i slave addressing in the protected mode ▽ Deactivation of the AS-i reset when exiting the projection mode ▽ Display of the config. error counter of the connected AS-i system ▽ Reset of the config. error counter ▽ Display of the fault rate percentage of the connected AS-i system |
| Slave Setup | (Details about the connected AS-i slaves) ▽ Digital or analogue inputs / outputs of the connected AS-i slaves ▽ Current and projected parameters of the connected AS-i slaves ▽ Current and projected I /O and ID codes of the connected AS-i slaves ▽ Message faults in the communication to the connected AS-i slaves |

| | |
|----------------|---|
| Fieldbus Setup | <ul style="list-style-type: none"> ∇ Input of the DeviceNet node address of the controller ∇ Input of the baud rate of the controller ∇ Input of the module length: <ul style="list-style-type: none"> Module 1 = digital inputs master 1A Module 2 = digital outputs master 1A Module 3 = digital inputs master 2A Module 4 = digital outputs master 2A Module 5 = digital inputs master 1B Module 6 = digital outputs master 1B Module 7 = digital inputs master 2B Module 8 = digital outputs master 2B Module 9 = analogue multiplexed input Module 10 = analogue multiplexed output Module 11 = command channel Module 12 = PLC inputs Module 13 = PLC outputs Module 14 = analogue input master 1 Module 15 = analogue output master 1 Module 16 = analogue input master 2 Module 17 = analogue output master 2 Module 18 = diagnosis |
| Fieldbus data | <p>(optional)</p> <ul style="list-style-type: none"> ∇ Display of the data cyclically transmitted via the fieldbus |