Operating instructions
IO-Link INLINE DISPLAY 1.44"

**E30430**

UK

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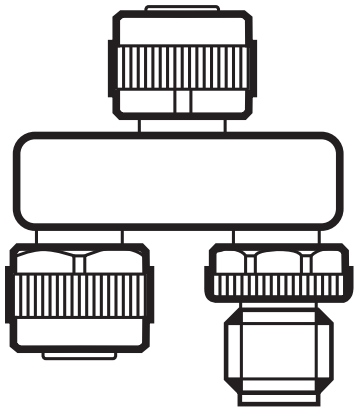
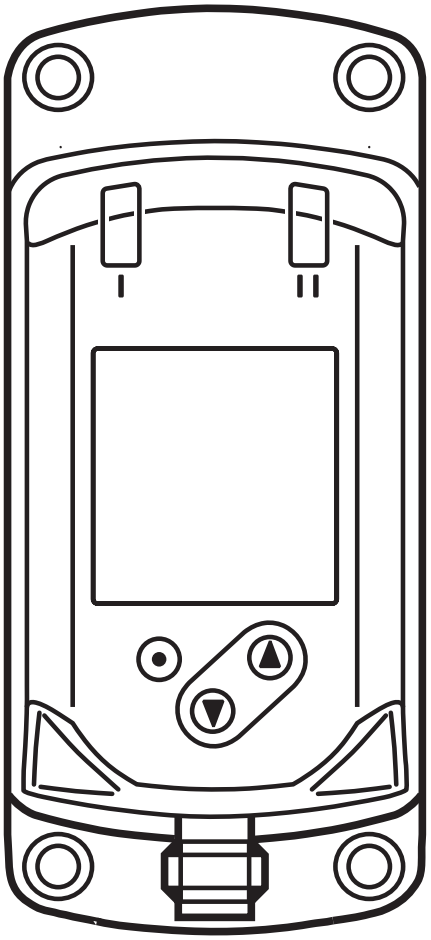




# Contents



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

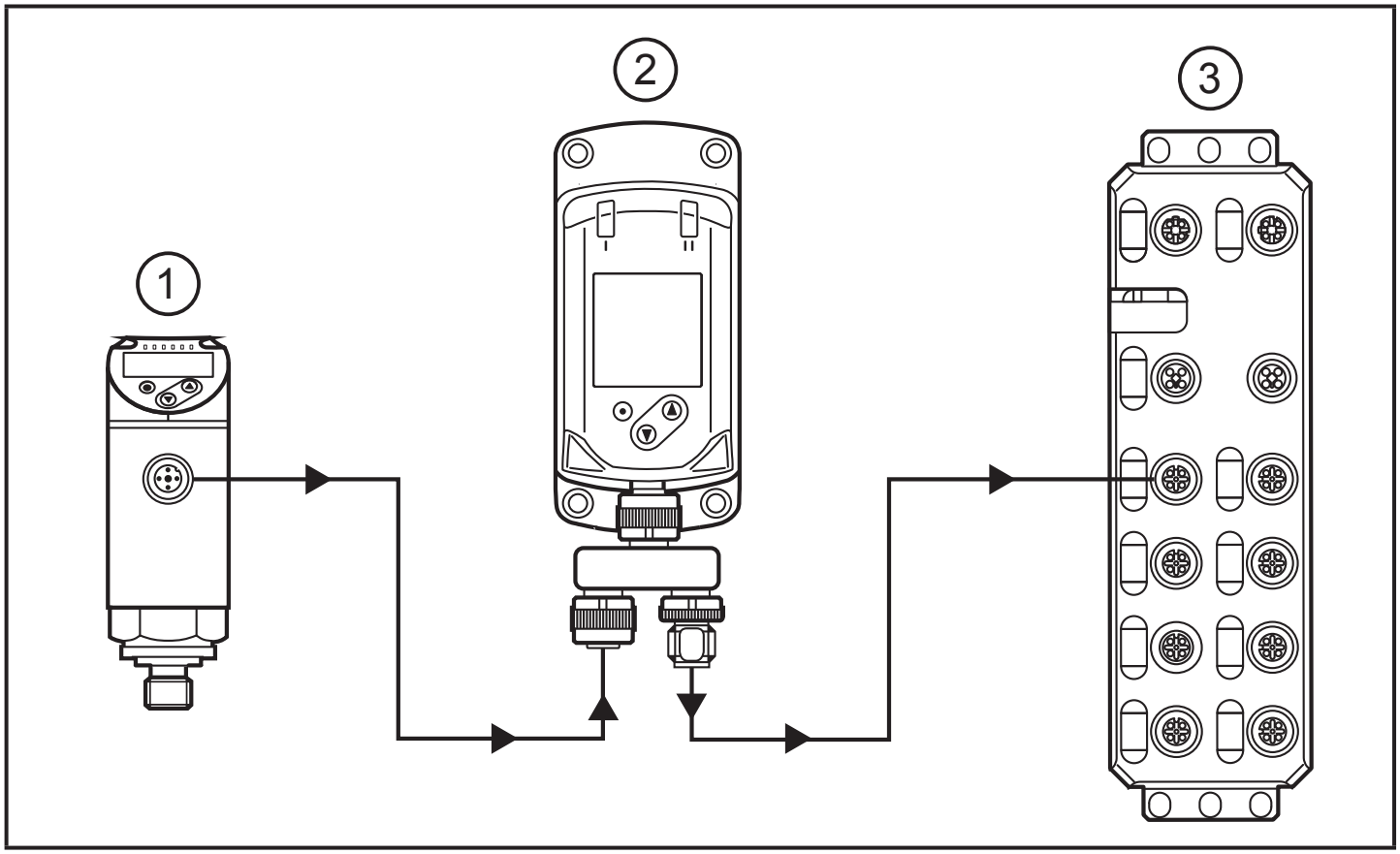
# 1 Safety instructions

- 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 (→ 2 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.

# 2 Functions and features

The IO-Link INLINE DISPLAY is used for indicating process values and the corresponding information from a connected IO-Link sensor.

The parameters of the connected sensor cannot be set via the INLINE DISPLAY.




Example of a system integration
1: IO-Link sensor
2: IO-Link INLINE DISPLAY
3: IO-Link master

# 3 Function

During operation, the device determines the process data that is cyclically transmitted by the sensor and indicates it on the display and as LED status.

# 4 Installation

- ▶ Insert the unit into the system so that no mechanical forces are exerted on the housing.
- ▶ For installation use the supplied accessories.

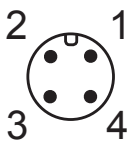
# 5 Electrical connection

The camera must be connected by a qualified electrician.

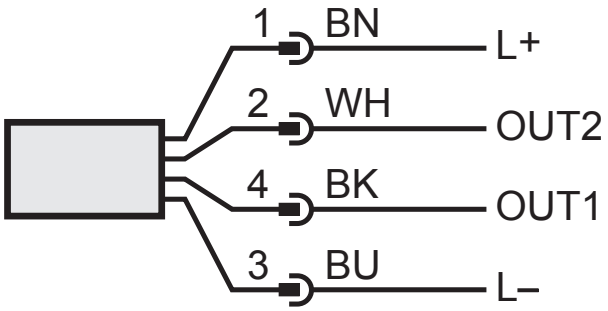
The national and international regulations for the installation of electrical equipment must be adhered to.

Voltage supply according to EN 50178, SELV, PELV.

- ▶ Disconnect power.
- ▶ Connect the unit as follows:



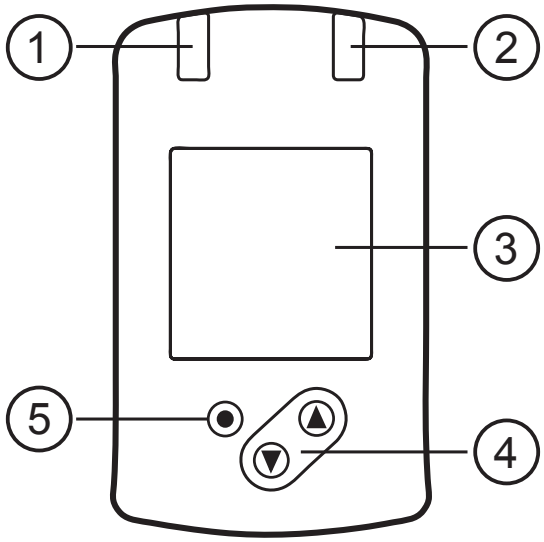

BK: black
BN: brown
BU: blue
WH: white




Colours to DIN EN 60947-5-2

| | |
|---|---|
| **Pin 1** | L+ |
| **Pin 3** | L- |
| **Pin 2 (OUT2)** | IO-Link communication interface to the device |
| **Pin 4 (OUT1)** | IO-Link communication interface from the master |

# 6 Operating and display elements

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| 1, 2: Indicator LEDs |
|---|
| • LED 1 = switching status OUT1<br>(is on when output 1 on the connected device is switched)<br>• LED 2 = switching status OUT2<br>(is on when output 2 on the connected device is switched) |
| **3: TFT display** |
| • Indication of current process values<br>• Indication of the parameters and parameter values. |
| **4: Buttons up [▲] and down [▼]** |
| • Select parameters<br>• Change parameter values (hold button pressed)<br>• Switch between process value display and status display in the normal operating mode (RUN mode)<br>• Locking / Unlocking (buttons pressed simultaneously > 10 seconds) |
| **5: Button [●] = Enter** |
| • Change from the RUN mode to the main menu<br>• Change to the setting mode<br>• Acknowledge the set parameter value |

# 7 Set-up

The device can indicate process values of ifm units. No settings are necessary.

In case the connected ifm unit cannot be displayed:

▶ Update the internal device catalogue (→ 7.1).

## 7.1 Device catalogue update

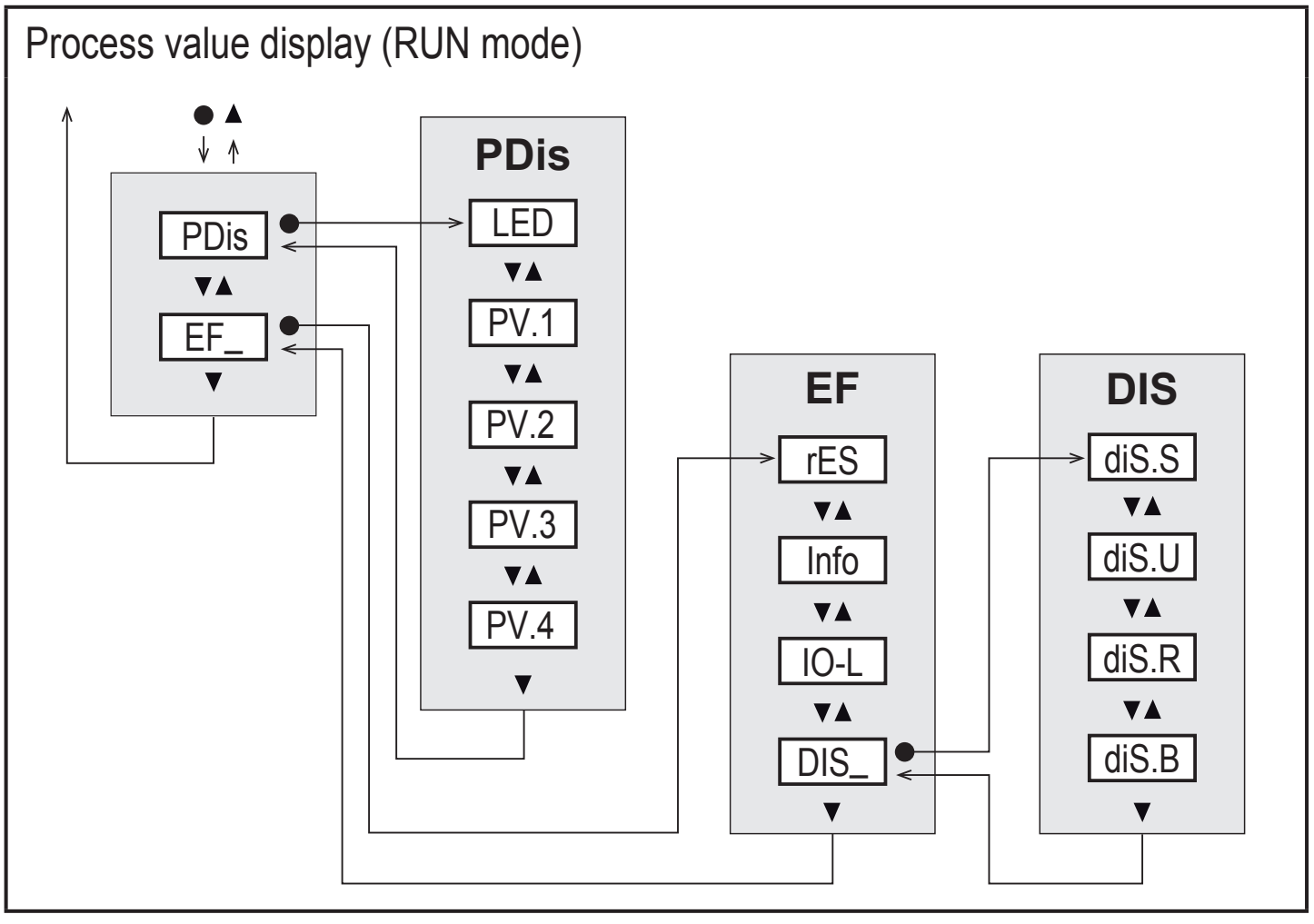
▶ Connect the INLINE DISPLAY with the computer using the USB IO-Link master E30390.

▶ Activate the device mode in the device menu.

▶ Open LR DEVICE and transfer the current version of the "Catalogue update IODD" to the device.

Depending on the size, the update of the display may take several minutes. Usually, the update takes about 1 minute.

# 8 Menu



## Explanation of the main menu

| | |
|---|---|
| PDis | Opening of the lower menu level PDis. |
| EF | Opening of the lower menu level EF. |

## Explanation of the process value display (PDis)

| | |
|---|---|
| LED | Switching status LEDs: ON, OFF |
| PV.x | Process value display:<br>OFF = process value is not displayed<br>bk/wh = black or white, depending on the setting of the background ddiS.S<br>red = red<br>green = green<br>yellow = yellow<br>(x = 1...4 for the 4 process values that can be displayed) |



## Explanation extended functions (EF)

| | |
|---|---|
| rES | Restore factory settings |
| Info | Device information |
| IO-L | IO-Link communication: ON/OFF<br>- OFF: normal operation as passive display<br>- ON: parameter setting or update of the device catalogue via the IODD tool (e.g. LR DEVICE → www.ifm.com).<br>When the device is started, this point is reset to OFF. |
| DIS | Opening of the lower menu level. |

## Explanation display settings (DIS)

| | |
|---|---|
| diS.S | Display background schema:<br>dark = black<br>light = white |
| diS.U | Display refresh rate: d1, d2, d3, d4, d5. |
| diS.R | Display rotation in degrees: 0, 90, 180, 270. |
| diS.B | Display brightness: 25, 50, 75, 100, OFF. |

# 9 Parameter setting

## 9.1 Parameter setting in general

| | |
|---|---|
| 1. Change from the RUN mode to the main menu | [●] |
| 2. Select the requested parameter | [▲] or [▼] |
| 3. Change to the setting mode | [●] |
| 4. Modification of the parameter value | [▲] or [▼] > 1 s |
| 5. Acknowledge the set parameter value | [●] |
| 6. Return to the RUN mode | > 30 s (timeout) or press [▲] and [▼] simultaneously until the RUN mode is reached. |

# 10 Troubleshooting

| | Display | Description | Type | Instructions |
|---|---|---|---|---|
| 1 | ERROR | Faulty units / malfunction | Error | ▶ Replace device |
| 2 | (off) | Supply voltage too low | Error | ▶ Assure a voltage supply with a sufficiently available current. (18 … 30 V DC) |
| 3 | PARA | Parameter setting outside the valid range. | Error | 1. Save the parameter settings.<br>2. Restore the factory settings.<br>3. Enter parameters again. |
| | PARA<br>invalid device catalogue,<br>try catalogue update | | | Device catalogue no longer up to date.<br>▶ Reinstall device catalogue |

| | Display | Description | Type | Instructions |
|---|---|---|---|---|
| 4 | no connection | No IO-Link connection between the master and the device was found | Error | • If the device is only connected to a power supply, this status is normal.<br>• If parameter IO-Link = OFF:<br>▶ Check the cable connections and the function of the connected IO-Link participants<br>▶ If necessary, re-establish the communication |
| 5 | invalid | Invalid flag of the process data (PDV) is set. Indicated in the process value line | Error | The process value of the connected device is marked as invalid.<br>▶ Check the connected device. |
| 6 | unsupported device of vendor <xxx> | No process data description for the device available. | Error | The connected device is not in the device catalogue. |
| | unknown ifm device try catalogue update | | | Device catalogue no longer up to date.<br>▶ Device catalogue update: Device catalogue download for ifm devices at www.ifm.com. |
| 7 | invalid process data description | The process data description does not match the communication content. | Error | Process data recognition error.<br>▶ Restart the communication with the connected device, e.g. by disconnecting and reconnecting the device. |

| | Display | Description | Type | Instructions |
|---|---|---|---|---|
| 8 | Loc | The setting buttons on the unit are locked,<br>Parameter change rejected. | Warning | ▶ Unlock the unit → 6 Operating and display elements. |
| 9 | C.Loc | Parameter setting via pushbuttons disabled,<br>parameter setting via IO-Link communication is active. | Warning | ▶ Wait until the parameter setting via the remote participant is finished. |
| 10 | S.Loc | Setting buttons locked via parameter software,<br>Parameter change rejected. | Warning | ▶ Unlock the setting buttons via the parameter setting software. |
| 11 | no process data available | No process data is available | Warning | The device is in the pre-operate mode.<br>▶ Wait until the connection is established. |