

ifm electronic



Operating instructions  
Temperature transmitters

**efector600<sup>®</sup>**

**TA2xxx**

**UK**

80026566 / 00 05 / 2015

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## 1 Remark

### 1.1 Explanation of symbols

- ▶ Instructions
- > Reaction, result
- [...] Designation of keys, buttons or indications
- Cross-reference



Important note

Non-compliance can result in malfunction or interference.

## 2 Safety instructions

- Please read this document prior to set-up of the unit. Ensure that the product is suitable for your application without any restrictions.
- If the operating instructions or the technical data are not adhered to, personal injury and/or damage to property can occur.
- Improper or non-intended use may lead to malfunctions of the unit or to unwanted effects in your application. That is why installation, electrical connection, set-up, operation and maintenance of the unit must only be carried out by qualified personnel authorised by the machine operator.
- In order to guarantee the correct condition of the device for the operating time it is necessary to use the device only for media to which the wetted materials are sufficiently resistant (→ Technical data).
- The responsibility whether the measurement devices are suitable for the respective application lies with the operator. The manufacturer assumes no liability for consequences of misuse by the operator. Improper installation and use of the devices results in a loss of the warranty claims.

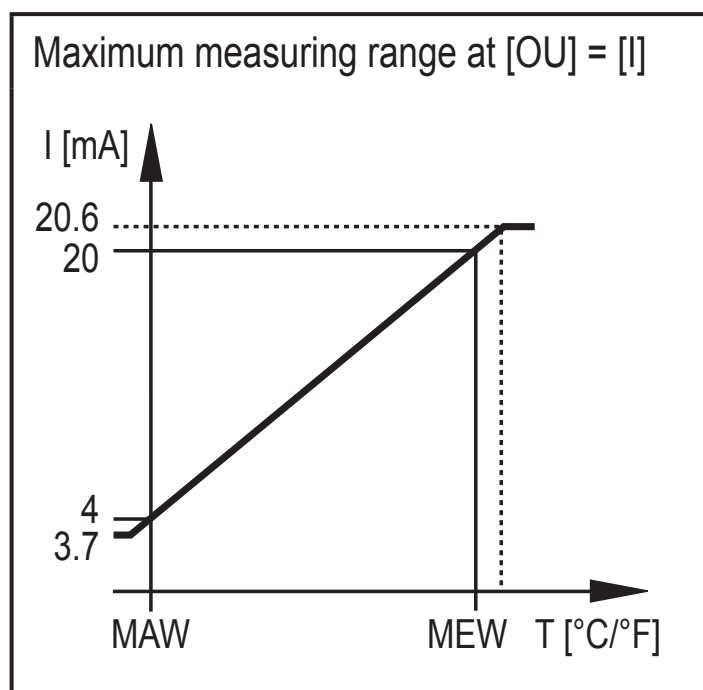
UK

## 3 Functions and features

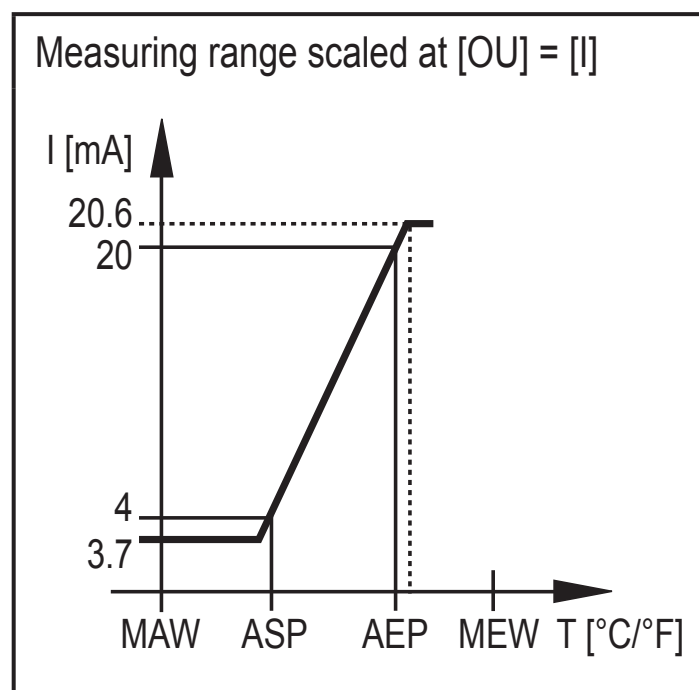
The unit detects the medium temperature and converts it into an analogue output signal (4 ... 20 mA).

## 4 Function

- The unit supports IO-Link.
- The unit converts the measured signal into a temperature-proportional analogue signal. Depending on the parameter setting ( $\rightarrow$  7) the output signal is at:
  - 4...20 mA with setting [OU] = [I] or
  - 20...4 mA with setting [OU] = [Ineg].
- The analogue signal can be scaled.



MAW = initial value of the measuring range  
 MEW = final value of the measuring range



ASP = analogue start point  
 AEP = analogue end point

Within the measuring range the output signal is between 4 and 20 mA. If the temperature value is outside the limits of the measuring range, the following output signal is displayed:

	Output signal at [OU] = [I]	Output signal at [OU] = [Ineg]
Temperature > AEP	20...20.6 mA	4...3.7 mA
Temperature > MEW		
Temperature < ASP	3.7...4 mA	20.6...20 mA
Temperature < MAW		

In case of internal fault, the output signal behaves according to the parameter set in [FOU] (3.5 mA or 21.1 mA)  $\rightarrow$  7 Parameter setting.

## 5 Installation

- ▶ Horizontal mounting recommended for high medium temperatures.
- ▶ Connect the unit to the process using a fixing element (adapter, clamp).



Information about the available adapters at [www.ifm.com](http://www.ifm.com).

- ▶ Observe the instructions of the adapter.
- ▶ Use a lubricating paste which is suitable and approved for the application.

Use in hygienic areas to 3A requirements:

- ▶ Make sure that the sensors are integrated into the system in accordance with 3A.
- ▶ Tighten seals to defined torque and ensure seals are centered.

Use in hygienic areas to EHEDG:

- ▶ Make sure that the sensors are integrated into the system in accordance with EHEDG.

### 5.1 Units with G $\frac{1}{2}$ sealing cone (type TA25xx)



About sensor installation conforming to 3A:

- ▶ Insert PEEK sealing ring E43911.
- ▶ Carry out installation according to separate installation instructions of the sealing ring.

The PEEK sealing ring is not supplied with the unit. It must be ordered separately.  
Order no.: E43911.

## 6 Electrical connection

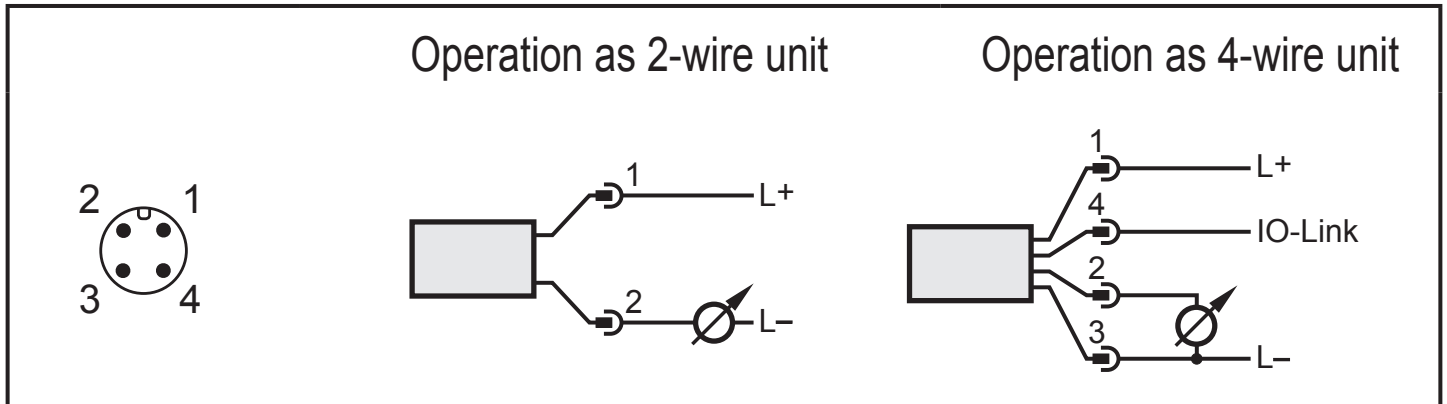


The unit must be connected by a qualified electrician.

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

Voltage supply according to EN 50178, SELV, PELV.

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



	Operation as 2-wire unit	Operation as 4-wire unit
Pin 1	L+	L+
Pin 2	Analogue signal for temperature	Analogue signal for temperature
Pin 3		L-
Pin 4		IO-Link

### 6.1 IO-Link

#### 6.1.1 General information

This unit has an IO-Link communication interface which requires an IO-Link-capable module (IO-Link master) for operation.

The IO-Link interface enables direct access to the process and diagnostic data and provides the possibility to set the parameters of the unit during operation.

In addition communication is possible via a point-to-point connection with a USB adapter cable.

You will find more detailed information about IO-Link at [www.ifm.com/gb/io-link](http://www.ifm.com/gb/io-link).

## 6.1.2 Device-specific information

You will find the IODDs necessary for the configuration of the IO-Link unit and detailed information about process data structure, diagnostic information and parameter addresses at [www.ifm.com/gb/io-link](http://www.ifm.com/gb/io-link).

## 6.1.3 Parameter setting tools

You will find all necessary information about the required IO-Link hardware and software at [www.ifm.com/gb/io-link](http://www.ifm.com/gb/io-link).

# 7 Parameter setting

Using an IO-Link capable parameter setting tool, the following options are available:

- Reading current process values.
  - Reading, changing and saving current parameter settings and transmitting them to other units of the same type.
- Connect the unit via the IO-Link interface to a PC or PLC with suitable parameter setting software.



ifm offers an IO-Link interface for the connection of the sensor via USB port.

## 7.1 Adjustable parameters

OU	Output function	Analogue output signal: [I]: 4...20 mA [Ineg]: 20...4 mA
ASP	Analogue start point for temperature	With setting [OU] = [I]: Measured value at which the output signal is 4 mA. With setting [OU] = [Ineg]: Measured value at which the output signal is 20 mA.
AEP	Analogue end point for temperature	With setting [OU] = [I]: Measured value at which the output signal is 20 mA. With setting [OU] = [Ineg]: Measured value at which the output signal is 4 mA. Minimum distance between ASP and AEP = 5 °C or 9 °F.
COF	Zero-point calibration	Setting range: ± 10 K in steps of 0.1 K. The internal measured value "0" is shifted by this value.

FOU	Response of the output in case of an internal fault	[On]: The analogue signal goes to the upper end stop value (21.1 mA). [OFF]: The analogue signal goes to the lower end stop value (3.5 mA).
Uni	Unit of measurement for the system temperature	°C or °F

## 8 Operation

After power on, the unit is in the Run mode (= normal operating mode).

## 9 Technical data

Technical data and scale drawing at [www.ifm.com](http://www.ifm.com)

## 10 Factory setting

	Factory setting	User setting
OU	I	
COF	0,0	
FOU	OFF	

Factory setting (ASP and AEP) and the units (Uni)

→ Technical data at [www.ifm.com](http://www.ifm.com).

More information at [www.ifm.com](http://www.ifm.com)