FR900020

Operating instructions

Electronic Radar Level Sensor

Document version: V1.0

28.7.2026

Table of contents

1 General notes

1.1 Affected products

This document describes the operation of the following IPF products:

FR900020

Sensor filling level, radar, 62lang, G1/2", 18-35V DC, programmable/ configurable, 2x PNP/NPN NC/ NO, 0/4-20mA, IO-Link, M12 plug connector 4-pin, IP67/IP69k, M12 plug connector 4-pin, stainless steel 1.4404, IP67, parameteriza-tion

1.2 Display of notes

This documentation contains important notes for the contactor's safety and to prevent damage to property. Read the safety instructions carefully and keep the documentation to hand at all times. The safety instructions are presented in descending order according to the respective hazard level as follows:

Danger

Note on an immediate danger to humans. Will lead to irreversible injuries or death if not observed.

Warning

Note on a recognizable danger to humans. Can lead to irreversible injuries or death if not observed.

Caution

Note on a recognizable danger to people or possible damage to property. Can lead to reversible injuries or damage to property if not observed.

Attention

Note on possible damage to property. Can lead to material damage if not observed.

note

Under Notes you will find tips, recommendations and useful information on specific steps and issues.

Tip

Under Tips, you will find tips and tricks as well as recommendations from ipf that have proven helpful when using the products.

1.3 Qualified personnel

The product associated with this documentation may only be handled by personnel who are qualified for the respective task. Installation, start-up and operation of the device may only be carried out in accordance with the associated documentation and the safety instructions contained therein.

Qualified personnel are able to recognize risks and avoid possible hazards when handling these products due to their training and experience.

1.4 Intended use

IPF products may only be used for the applications specified in the corresponding technical documentation. If third-party products or components are used, they must be recommended or approved by IPF. Proper storage, set-up, assembly, installation, start-up, operation and maintenance are prerequisites for the proper and safe operation of the products. In addition, the permissible environmental conditions must be complied with and all notes in the associated documentation must be observed.

1.5 Personal safety

Warning

The use of these products in applications with a direct impact on personal safety is not permitted.

1.6 Brands

All descriptions marked with the ® symbol are registered trademarks. The other descriptions in this document may be trademarks whose use by third parties for their own purposes may infringe the rights of the owner.

1.7 Disclaimer

IPF accepts no liability for malfunctions or damage resulting from improper handling, mechanical damage, incorrect application or improper use of the product. The contents of this publication have been carefully certified to correspond to the product described. Nevertheless, deviations cannot be completely ruled out, so that no guarantee can be given for complete conformity. The information in this publication is regularly checked and, if necessary, corrected or supplemented in subsequent editions.

2 Note on The Document

2.1 Document Function

This manual provides the product's description, including its design, functions, and use, and helps ensure that the product is operated as intended. Please read this manual carefully before using the product. This will help prevent potential injury to persons, damage to property, and damage to the device. The operating instructions are an integral part of the device and must be kept accessible at all times in the immediate vicinity of the place of use. The information in this document is based on the knowledge available at the time of printing. Subject to alteration without notice.

2.2 Terms

note

Notes on preventing interference, malfunctions, and damage to devices or systems.

Warning

Failure to follow these instructions may result in serious or fatal injury.

2.3 Additional Documents

In addition to this document, you can find further documentation online at www.ipf-electronic.com:

- IO-Link parameter list
- EU Declaration of Conformity (current version)
- Manufacturer's declarations
- Certificates
- 3D CAD models

3 Product Description

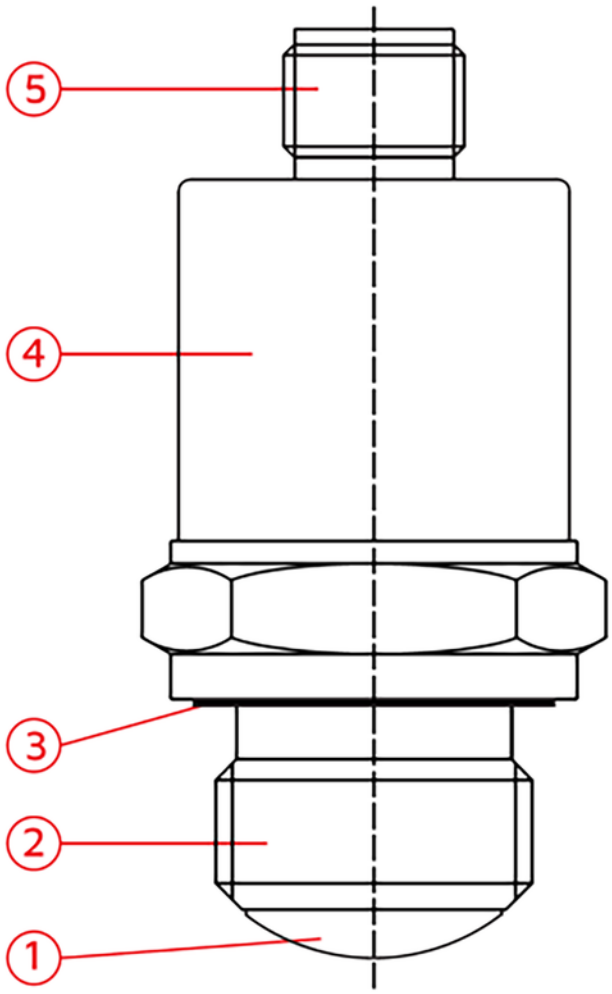
3.1 Function

The device is an electronic radar filling level sensor for the continuous measurement of liquid filling levels. The device uses a pulsed FMCW (Frequency Modulated Continuous Wave) radar and measures the distance to stationary objects contactless. The sensor periodically transmits a radar signal with a linearly rising and falling frequency. The rate of change of the frequency over time remains constant. Objects within the detection range reflect the transmitted signal. The distance to the object is determined via the time-of-flight shift and the frequency deviation in the reflected signal. The device is suitable for applications in virtually all industrial sectors and is ideal for use in tanks up to 5 m in height. Its narrow angle of beam spread minimizes interference from foreign objects or installations. It is recommended for applications in which optical or ultrasonic sensors are unsuitable due to interfering factors such as temperature, the formation of gas or vapor layers, overpressure, negative pressure, or vacuum, dust, wind, or incident light.

Depending on the type of application, radar technology enables:

- Measurement of liquids, even in the presence of gas stratification (e.g., ammonia) or foam formation
- Measurement of bulk materials
- Measurement through the container wall, e.g., IPC containers, or through protective windows, e.g., PTFE or PP

3.2 Structure



(1) Sensor lens

(2) Process connection

(3) Process seal

(4) Connection housing

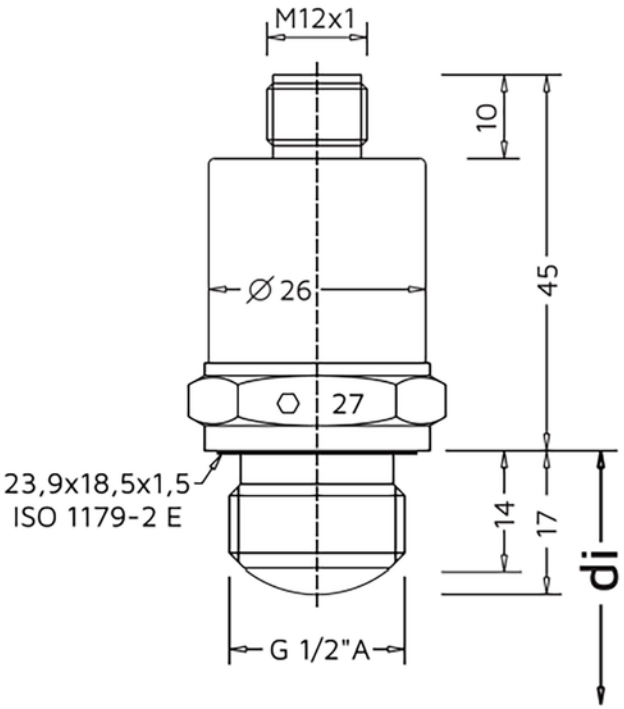
(5) Connector

The device is installed in the respective system via the process connection (2). The process connection is sealed off from the process by a suitable elastomer seal (3). The radar signal is transmitted and received via the sensor lens (1). The signal is detected by the electronics integrated into the connection housing (4), processed according to the settings, and output via the connectors (5). Parameterization and operation of the integrated evaluation electronics are performed via the wired interface. Laser marking of the nameplate ensures the device can be identified via its entire life.

3.3 Nameplate

The nameplate contains the most important information for identifying and using the device, such as the article number, serial number, pin configuration, and certain technical data.

3.4 Dimensions



- Dimensions in mm
- The parameter “di” indicates the distance measurement value relative to the respective measurement reference point.
- Process pressure Pmax = -1 … 10 bar
- Tightening torque Mmax = 50Nm

3.5 Packaging, Transportation, Storage

The device is protected by its packaging, which is designed to withstand normal shipping conditions. Shipping must be carried out in accordance with the notes on the shipping packaging. Failure to do so may result in damage to the device. Upon receipt, the shipment must be inspected immediately for correctness, completeness, and any transport damage. Any transport damage or hidden defects discovered must be handled appropriately. The packages must be kept sealed until installation and, unless otherwise specified, stored only under the following conditions:

- Do not store outdoors
- Store in a dry, dust-free place
- Do not expose to corrosive substances
- Protect from direct sunlight
- Avoid mechanical vibrations
- Storage and transport temperature: -20…+85°C
- Air humidity 20…85 %

3.6 Accessories

A comprehensive range of products, perfectly tailored to the device, is available for installation and electrical connection:

- Weld-in sleeves
- Reducers
- Sealing
- Connection cables
- Field-attachable connection sockets
- IO-Link Master

4 Assembly

4.1 Environmental and Process Conditions

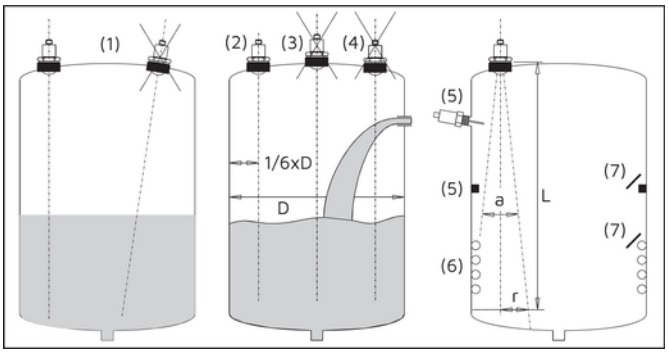
The proper function of the device within the specified technical data can only be guaranteed if the permissible environmental and process conditions at the installation site (» Technical Data section) are not overrun. Therefore, before installation, ensure that all parts of the device in contact with the process (e.g., sensor lens, process connection, process seal) are suitable for the prevailing process conditions (e.g., process pressure, process temperature, chemical properties of the media, abrasion, mechanical stresses).

The quality of the measurement result depends significantly on the properties of the medium being measured:

- Liquids with a refractive index (DK) of ≥ 4 can be measured.
- Filling, agitation, or other processes within the vessel can cause very dense foams to form on the surface of the process medium, which may significantly attenuate the transmitted signal.
- Reduction of the maximum possible measuring range due to media with poor reflective properties, buildup, heavy condensation, foaming, or icing of the sensor

4.2 Installation Location

The measured distance refers to the measurement reference point (» Product Description – Dimensions section). No object detection occurs within the blind zone (minimum measuring range » technical data section). The sensor may be mounted in any alignment. Short connection pipes should be used so that the signal can propagate undisturbed at close range. Plastics are generally transparent to radar waves. Therefore, in plastic containers, e.g. IPC containers, the sensor can be mounted without damaging the container wall. It is also possible to take measurements through a protective wall, e.g., made of PTFE or PP, in the presence of high temperatures or aggressive media. Certain materials, such as glass or mixtures containing glass or carbon fibers or graphite, can make the diameter difficult to measure or even prevent it. If the outer wall of the container is made of a non-conductive material (e.g., plastic, fiberglass-reinforced plastic), microwaves can also be reflected by external sources of interference (e.g., metal lines, conductors, gratings, etc.). Therefore, no such interference sources should be present within the beam cone outside the container. Multiple radar sensors can be mounted side by side without the devices interfering with one another.



1. The sensor must be mounted perpendicular to the surface of the material.
2. The recommended mounting distance from the tank wall is 1/6 of the tank diameter.
3. The sensor should not be mounted in the center of the tank.
4. Avoid taking measurements through the flow of the filling material.
5. Avoid installing installations such as limit switches or temperature sensors within the detection range.

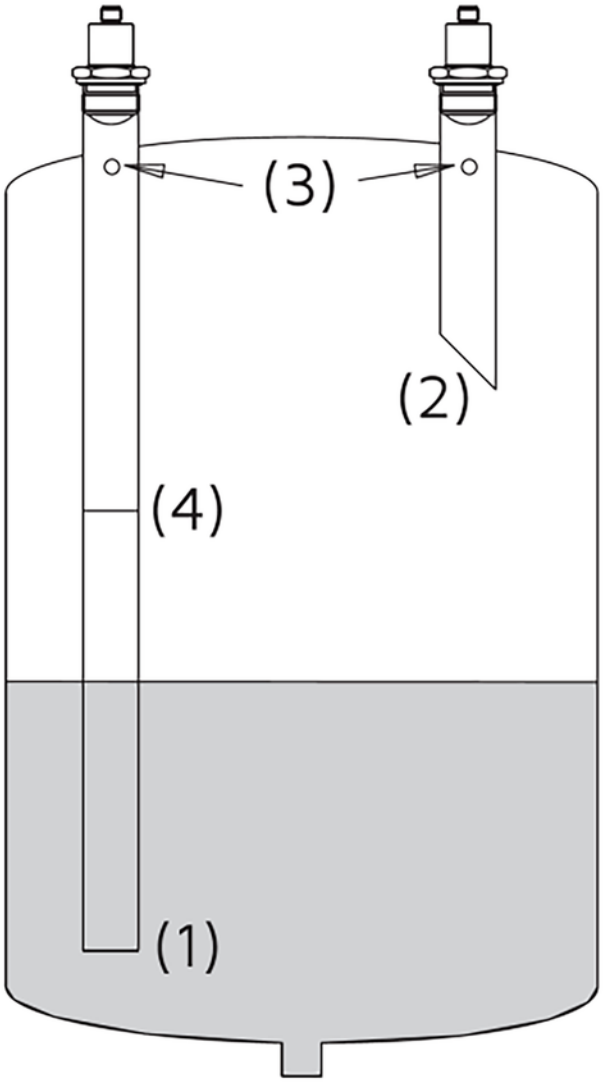
6. Symmetrical installations such as heating coils or flow breakers can significantly interfere with the measurement.

7. Interfering reflections from installations can be scattered or reduced by using metal apertures mounted at an angle.

The radius r of the detection range at a distance L and an angle of beam spread a (see “Technical Data” section) can be determined using the following equation: r = tan (a / 2) * L

4.3 Riser Pipe

The use of a standpipe can significantly improve signal quality. This is recommended for in-tank installations or in cases of highly uneven tank walls, foaming, moving surfaces, and low DK values. The standpipe should be made of metal or plastic reinforced with graphite or carbon fiber. For products that are prone to heavy buildup, measurement via the standpipe is not advisable; if necessary, the pipe must be cleaned regularly.



1. Standpipes should extend below the minimum filling level.

2. For shorter pipes, the version for the end on the medium side is to be cut at a 45° angle.

3. A vent opening (Ø 5 … 10mm) must be provided in the blind zone, above the maximum fill level.

4. Large gaps and thick weld seams inside the pipe when joining pipes must be avoided.

4.4 Installation Instructions

Warning

Install the device only when the system is depressurized. There is a risk of rapid release of measured substances or a pressure surge.

Warning

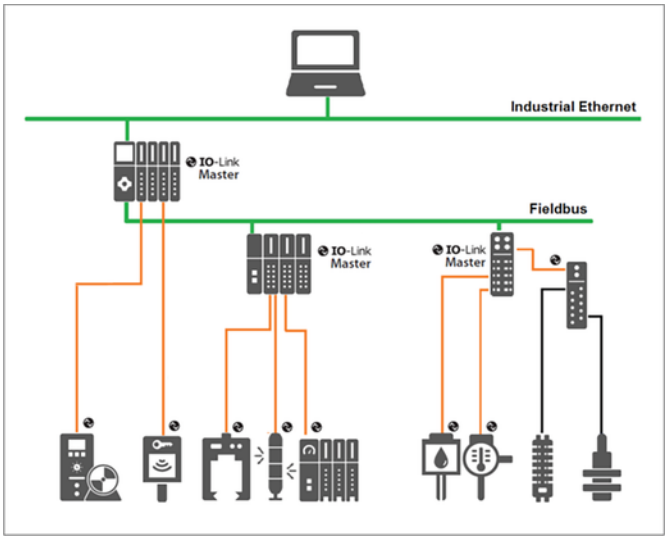
Allow the system to cool sufficiently before installation. There is a risk of leakage of hazardous, hot media.

Do not remove the packaging until immediately before installation, and inspect the device for any damage. The protection cap attached to the process connection or the sensor lens must not be removed until immediately before installation. The sensor lens must not be damaged. Sealing surfaces and threads on the device and at the installation site must be clean and undamaged. Cylindrical threads must be sealed using a suitable O-ring, flat gasket, or profiled gasket. Additional sealing material such as tow, hemp, or PTFE tape should not be used. Tapered threads must be wrapped with additional sealing material, e.g., PTFE tape, to ensure a proper seal. The threaded process connection must be tightened only at the hexagon using a suitable wrench, applying no more than the maximum permissible tightening torque (see the “Product Description – Dimensions” section).

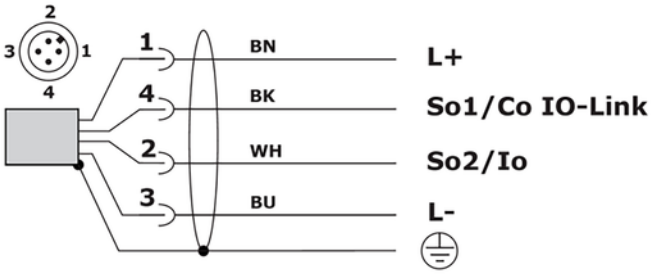
5 Electrical Connection

5.1 Function

IO-Link is a globally standardized I/O technology for communicating with sensors. It is a serial, bidirectional point-to-point connection. IO-Link communication requires an IO-Link master.



5.2 Pin Configuration



5.3 Connection Cable

Cable: M12 – A-coded, 1-BN = brown / 2-WH = white / 3-BU = blue / 4-BK = black

Use a cable that is max. 20 m long, 3- or 4-wire, unshielded.

When using the analog output, a shielded cable must be used.

5.4 Connection Instructions

Warning

Install the device only when it is disconnected from the power supply.

note

Before the start-up, turn off all connected control units.

note

Operate inductive loads (auxiliary contactors, solenoid valves) at switching outputs only with a free-wheeling diode or an RC circuit.

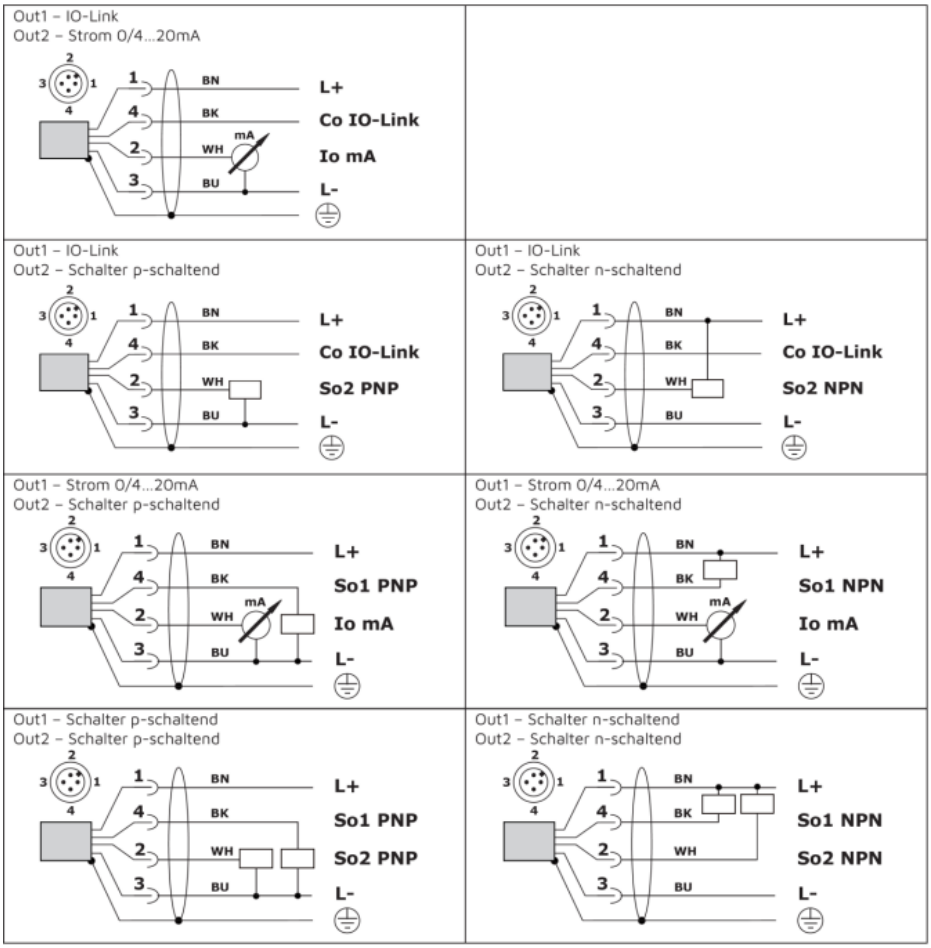
Note the maximum permissible supply voltage Us at the L+/L- connections:

- Us = 9 … 35 VDC
- Us = 18 … 30 VDC in IO-Link mode.

Observe the maximum permissible load resistance RL of the analog output:

- RL ≤ (Us - 8 V) / 22 mA

Ground the device preferably via the metallic process connection; alternatively, use the cable shield. Route the connection cable separately from power-carrying lines, and ground the cable shield.



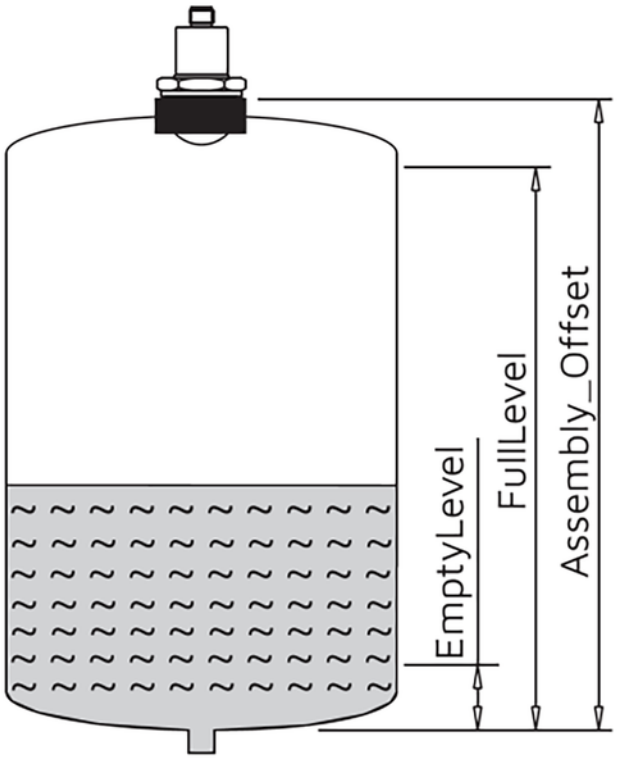
6 Operation

The device is operated exclusively via the wired interface and the operating software. Information regarding the installation and use of an IO link master and the corresponding operating software is not included in this manual. The IODD parameter file and the description can be downloaded from the website www.ipf.de. The IODD description specifies the adjustment ranges and default values for the parameters.

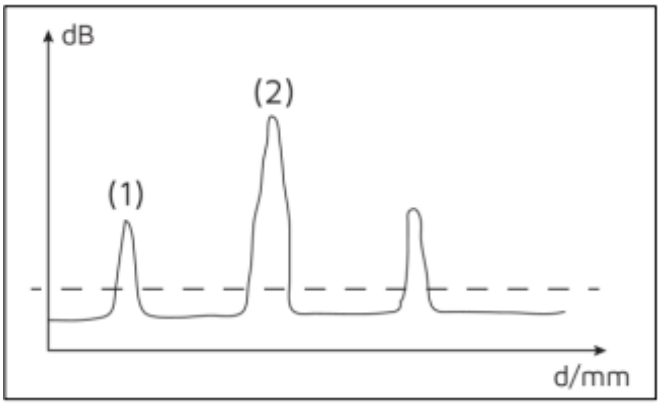
6.1 Parameters

Measured variable

Parameters	r/w	Description
Display Mode	rw	Distance / filling level
Assembly_Offset	rw	Filling level measurement: system zero point
EmptyLevel	rw	Level measurement parameter: minimum filling level
FullLevel	rw	Level measurement parameter: maximum filling level
Filter	rw	Jump-like: the first signal evaluated as valid is used (1) fast 0.5 m/s: very fast signal jumps are filtered out Slow 1 m/s: rapid signal jumps are filtered out Maximum value: the strongest/highest signal is used (2)
EchoLost	rw	Action in case of signal loss: hold / Distance 0 m / Max. filling level / Min. filling level
MeasureInterval	rw	Measurement interval / Unit: ms



Measured variable: Filling level



Filter:
(1) abrupt change >> first valid value
(2) maximum value >> strongest, highest signal

Variables

Parameters	**r/w**	
Unit	rw	Unit of the measured value
TeachZero	rw	Measurement offset / Characteristic curve is shifted / Unit as specified by the parameter (unit)
Damp1	rw	Damping: measured value / exponential / value × 0.01x = 99.9% of measured value
Peak_max	r	Maximum stored value per unit, as specified by the parameter (unit)

Parameters	r/w	
Peak_min	r	Minimum stored value per unit, as specified by the (unit) parameter
Reported lower limit	r	Minimum possible measured value / unit according to the (unit) parameter
Reported upper limit	r	Maximum possible measured value per unit, as specified by the (unit) parameter
User_Button	w	Clear Peak_min / Peak_max / Peak_min+max / Offset Calibration Based on Measured Value
User_DAC_ma	rw	Analog Output Current Value / Actual Output or Simulation / Unit: mA
Transceiver limit underrun	r	Value undershot the counter/sensor threshold
Transceiver limit overrun	r	Counter / sensor limit overrun

Measured values

Parameters		
Linear measurement + zero offset	r	Measured value / shifted by zero-point offset / unit as specified by the (unit) parameter
Signal	r	Signal strength of the measured value / unit: dB
Analog output	r	Analog output value / unit: mA

6.2 Switching output So

6.2.1 Operating Functions – Operation Mode

Depending on the function [O1_Conf/O2_Conf+Operation Mode], the output is switched differently:

- PP (Push-Pull) / Auxiliary Power Supply +L / Auxiliary Power Supply -L
- NPN / Auxiliary Power Supply -L / Off - High Impedance
- PNP / Auxiliary power supply +L / Off – high impedance
- Analog Out / Current Output Io 0/4...20 mA

For the So1 switching output, only the PP operating mode can be selected.

6.2.2 Switching Functions - Switch Mode

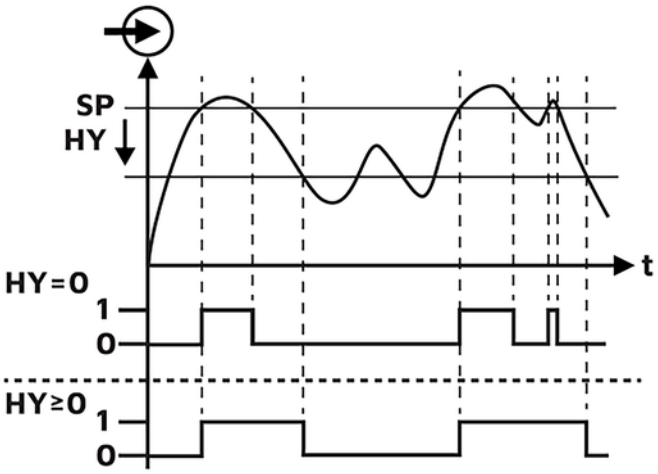
Various switching functions [O1_Conf/O2_Conf+Switch Mode] are adjustable for the switching outputs:

Deactivated:

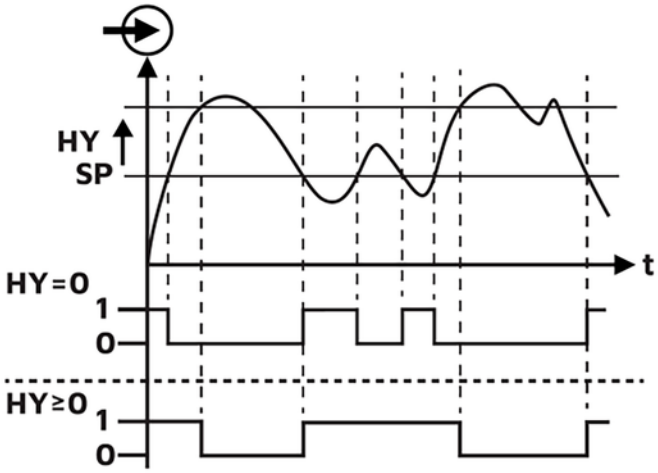
- The switching output is deactivated and therefore has high impedance.

Single-point mode:

- The switching output is activated when the measured value overruns the switching point [O1_SP/O2_SP] and the turn-on delay time [O1_ds/O2_dS] has elapsed.
- The switching output is deactivated when the measured value undershoots the switching point [O1_SP/O2_SP] and the deactivation delay time [O1_dr/O2_dR] has elapsed.
- For polarity [O1_Conf/O2_Conf+Polarity+NO], the release position is less than the set switching point O1_SP/O2_SP by the hysteresis [O1_HY/O2_HY]. For polarity [O1_Conf/O2_Conf+Polarity+NC], the actual switching point is greater than the set switching point [O1_SP/O2_SP] by the hysteresis [O1_HY/O2_HY].



Operational mode – polarity: NO / Normally Open

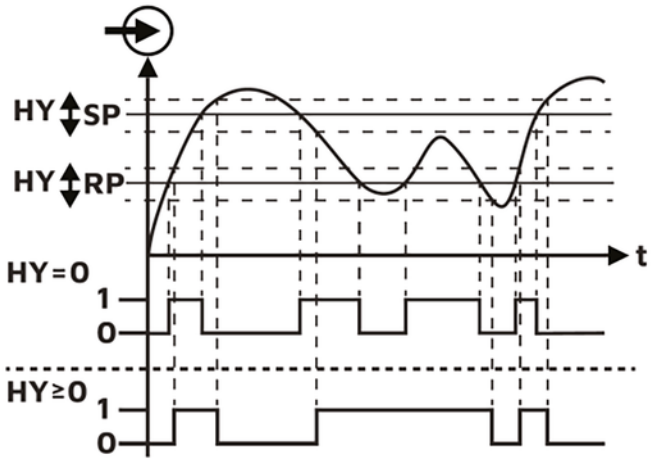


Operational mode – polarity: NC / Normally Closed (nc)

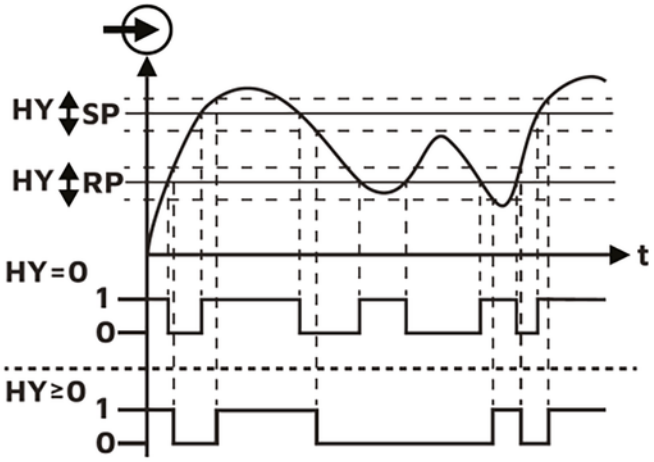
6.2.3 Window Function - Window Mode

- The switching range is defined by specifying the switching point [O1_SP/O2_SP] and the release position [O1_RP/O2_RP].
- The switching output is activated when the measured value falls within the range defined by the switching point [O1_SP/O2_SP] and the release position [O1_RP/O2_RP], and the turn-on delay time [O1_dS/O2_dS] has elapsed.

- The switching output is deactivated when the measured value is outside the range defined by the switching point [O1_SP/O2_SP] and the release position [O1_RP/O2_RP], and the reverse switching delay time [O1_dR/O2_dR] has elapsed.
- The hysteresis [O1_HY/O2_HY] creates a switching offset symmetrical about the switching point [O1_SP/O2_SP] and the release position [O1_RP/O2_RP].



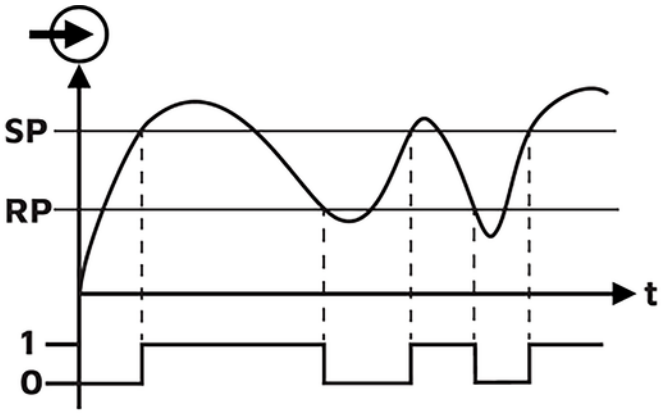
Operational mode – polarity: NO / Normally Open



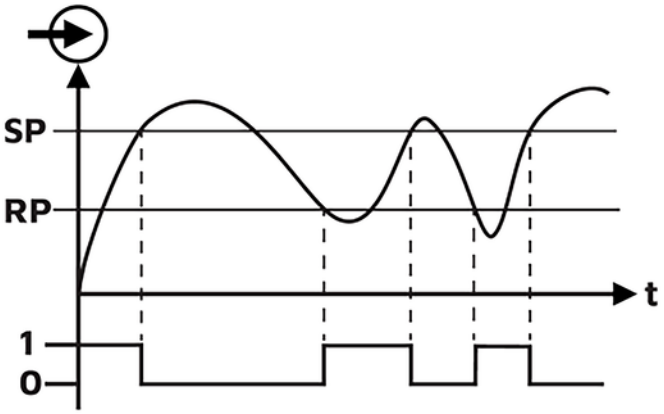
Operational mode – polarity: NC / Normally Closed (nc)

6.2.4 Two-Point Function - Two-Point Mode

- The switching range is defined by specifying the switching point [O1_SP/O2_SP] and the release position [O1_RP/O2_RP].
- The switching output is activated when the measured value overruns the switching point [O1_SP/O2_SP] and the turn-on delay time [O1_dS/O2_dS] has elapsed.
- The switching output is deactivated when the measured value undershoots the switching point [O1_SP/O2_SP] and the reset delay time [O1_dR/O2_dR] has elapsed.



Operational mode – polarity: NO / Normally Open



Operational mode – polarity: nc / Normally Closed (nc)

6.2.5 Fault Reporting Function

The switching output signals a detected malfunction (see the ”Fault Diagnosis and Troubleshooting” section).

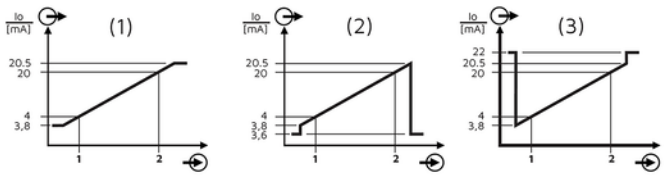
6.3 Analog Output Io

An analog current signal is output, which corresponds to the device’s nominal measuring range:

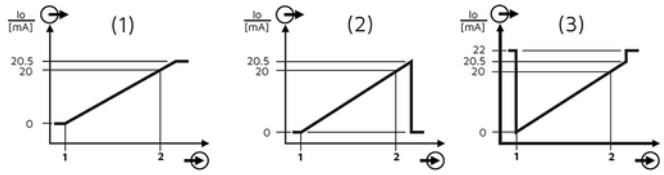
- 0 … 20mA / Output signal range / 0 ... 20.5mA
- 4 … 20mA / output signal range / 3.8 ... 20.5mA
- 20 … 0mA / Output signal range / 20.5 ... 0mA
- 20 … 4mA / output signal range / 20.5 ... 3.8mA

Free assignment to measurement input values within the nominal measuring range is possible. Behavior of the output current value in case of an overrun of the output signal range, in accordance with NAMUR NE43:

- (1) Hold final value at 0/3.8 mA/20.5mA
- (2) Step ≤ 3.6mA
- (3) Jump ≥ 21 mA (22mA)



Output signal 4 … 20mA



Output signal 0 … 20mA

7 Troubleshooting/Fault Diagnosis

The plant operator is responsible for taking appropriate measures to resolve any interferences that occur.

7.1 Fault reports

IO-Link code	Description	Elimination
20480 (0x5000)	Device hardware error	Replace the device or send it in for repair
35856 (0x8C10)	Overrun of measuring range	Check measuring range calibration
35888 (0x8C30)	Undershooting of the measuring range	Check measuring range calibration
36346 (0x8DFA)	Analog Output Error 3.6 mA	Check the calibration of the current output
36347 (0x8DFB)	Analog output error 22 mA	Check the calibration of the current output

7.2 Check in the event of a malfunction

Component / Area	Description	Elimination
Housing	- Damage	- Replace the device or send it in for repair
Sensor lens	Soiling	Clean the device or send it in for repair
	Damage	Replace the device or send it in for repair
Process seals	- Damage	- Replace the process gasket; use a different gasket material if necessary
Supply voltage	Operating voltage present	Turn on the operating voltage or repair it / Check the connection contacts or repair them
	Operating voltage reversed	Reverse the polarity of the operating voltage
	Operating voltage too low / too high	Adjust or repair
	Load resistance too high	Reduce resistance / Increase operating voltage
	- Damaged connection cable	- Replace or repair the cable

7.3 Troubleshooting and Problem Resolution

When used as intended, the device is maintenance-free. Deposits adhering to the sensor lens can cause incorrect measured values. In this case, clean the sensor lens regularly. Do not use sharp or hard tools, compressed air, or corrosive chemicals.

8 Repair

This device is not intended to be repaired by the user. Repairs may only be performed by the manufacturer.

8.1 Disassembly

note

Use appropriate protective clothing, e.g. safety goggles and gloves

Warning

Allow the device and system to cool sufficiently before disassembly. There is a risk from hot surfaces and leaking, hazardous, and hot measured media.

Warning

Only disassemble the device when the system is depressurized. There is a risk of rapidly escaping media or a pressure surge.

After disassembly, the sensor lens, process connection, and connector must be covered with a protection cap.

8.2 Returns

Returns can only be accepted if the device is enclosed with a decontamination declaration. The declaration can be requested from ipf electronic and must be completed in full and affixed to the outside of the packaging in a manner that protects it from the elements and damage during transport.

8.3 Disposal

In accordance with EU Directive 2012/19/EU on Waste Electrical and Electronic Equipment (WEEE), ipf electronic products are marked with the symbol shown to minimize the disposal of WEEE as unsorted household waste. These products must not be disposed of as unsorted household waste and may be returned to ipf electronic for disposal. Returns are subject to ipf electronic's general terms and conditions or individually agreed terms.

9 Appendix

9.1 technical data

IPF ELECTRONIC

Data sheet FR900020 ● Subject to alteration! version: 06-02-2026

FR900020

Filling level sensors ● Radar

Sensor filling level, radar, 62lang, G1/2", 18-35V DC, programmable/configurable, 2x PNP/NPN NC/NO, 0/4-20mA, IO-Link, M12 plug connector 4-pin, IP67/IP69k, M12 plug connector 4-pin, stainless steel 1.4404, IP67, parameterization

IO-Link interface

The FR900020 radar sensor from ipf electronic is an electronic distance sensor that is used for continuous level measurement in liquid media. It works contactless with pulsed FMCW radar (frequency-modulated continuous wave radar) and reliably detects the distance to stationary objects.
The sensor regularly emits a radar signal with a linearly increasing and de-energizing frequency. The frequency changes at a constant rate. If the signals hit objects in the measuring range, they are reflected. The distance is precisely determined based on the transit time and the frequency difference of the reflected signal.
The FR900020 is suitable for a wide range of applications in almost all branches of industry and is especially designed for use in tanks up to a height of 5 meters. Its narrow angle of beam spread of 10° minimizes disturbing influences caused by installations or foreign objects in the tank.
Its use is particularly recommended where optical or ultrasonic sensors are affected by environmental conditions such as temperature fluctuations, gas or vapor layers, pressure conditions (excess pressure, negative pressure, vacuum), dust, wind or light.

The radar technology used enables, among other things
- reliable measurements of liquids, even with gas overlays (e.g. ammonia) or foaming
- measurements through container walls, for example in IBC containers or through protective windows made of materials such as PTFE or PP

When ultrasonic measurements reach their limits, the FR900020 offers a powerful alternative. The 122 GHz radar sensor is characterized by particularly good signal bundling and remains insensitive to soiling and temperature fluctuations.

Advantages:
- Independent of weather conditions
- Resistant to extreme temperatures
- Resistant to moisture, dirt and temperature fluctuations
- Radiation through certain materials possible
- 122 GHz radar technology
- Simple start-up (plug & play)
- Remote monitoring and parameterization via IO-Link
- Maintenance-free operation

IPF ELECTRONIC

Data sheet FR900020 ● Subject to alteration! version: 06-02-2026

Electrical features

Response/decay time	0.03 ms
Type of switching function	Programmable/configurable
Type of analog output	0 - 20mA | 4 - 20mA
Type of electrical connection	Connector M12
Type of switching output	Push-pull
Rated switching current	200 mA
Setting procedure	Parameterization via IO-Link
No-load current	20 mA
Number of pins	4
Supported communication interface	IO-Link
Operating voltage (DC)	18 - 35 V
Measuring range	300 - 5000 mm
Relative permittivity (εr) of the medium ≥	4
Electrical connection	M12 4-pin plug connector
Operating voltage	18-35VDC
ardTEEL_Schutzfunktionen	Short circuit protection | Reverse polarity protection

Mechanical features

Tightening torque	50 Nm
Type of process connection	G1/2 inch
Design	Cylinder, screw-thread
Pressure resistance	10 bar
Diameter	26 mm
Thread length	14 mm
Length	62 mm
Probe length	17 mm
Medium temperature	-40 - 85 °C
Degree of protection (IP)	IP67 / IP69k
Housing material	Stainless steel
Sensing element material	Plastic (PEEK)
Thread dimension	1/2 inch
Ambient temperature	-40 - 85 °C
dimensions	1/2 inch, 62mm long

Optical features

Angle of beam spread	10 °

Other features

IO-Link version	V1.1

Classification

ETIM 8

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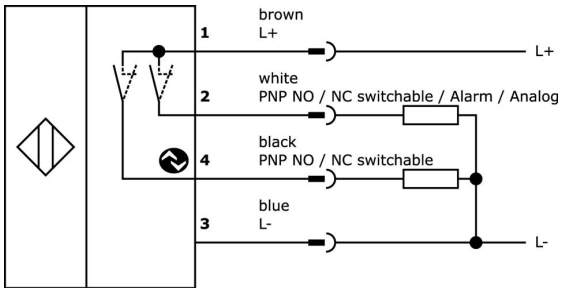
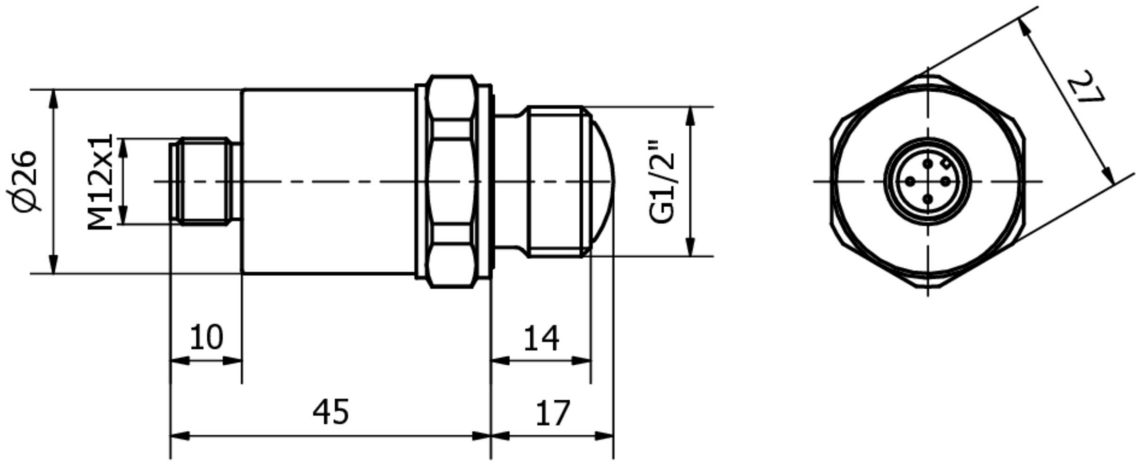
More

IPF Product Group	352 Level sensors (Radar)
packaging dimensions	170 x 160 x 65 mm
gross weight	161 g
Customs tariff number	90261029
WEEE number	40951076
Reach-compliant	Yes
RoHS-compliant	Yes
MTTF value	214 year(s)

Connection



Dimensional drawing



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Extract accessories program

VK205321

Connection cable, 2m, M12 socket 4-pin angular, free cable end, 4x0.34mm², PUR (polyurethane), Ø5.5mm, 250V, -25-90°C, IP67, shielded, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK205325

Connection cable, 2m, M12 socket 4-pin straight, free cable end, 4x0.34mm², PUR (polyurethane), Ø5.5mm, 250V, -25-90°C, IP67, shielded, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK205621

Connection cable, 2m, M12 socket 5-pin angular, free cable end, 5x0.34mm², PUR (polyurethane), Ø6mm, 60V, -25-90°C, IP67, shielded, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK205625

Connection cable, 2m, M12 socket 5-pin straight, free cable end, 5x0.34mm², PUR (polyurethane), Ø6mm, 60V, -25-90°C, IP67, shielded, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK200321

Connection cable, 2m, M12 socket 4-pin angular, free cable end, 4x0.34mm², PUR (polyurethane), Ø4.7mm, 250V, -40-90°C, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK200325

Connection cable, 2m, M12 socket 4-pin straight, free cable end, 4x0.34mm², PUR (polyurethane), Ø4.7mm, 250V, -40-90°C, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK200621

Connection cable, 2m, M12 socket 5-pin angular, free cable end, 5x0.34mm², PUR (polyurethane), Ø5.4mm, 60V, -25-90°C, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VK200625

Connection cable, 2m, M12 socket 5-pin straight, free cable end, 5x0.34mm², PUR (polyurethane), Ø5.4mm, 60V, -25-90°C, IP67, suitable for trailing chain and torsion resistant, oils and cooling lubricants, welding area, silicone-free

VY000005

IO-Link master, 41x24x67mm, IO-Link, M12, With USB interface

You can find further accessories on our homepage

Installation

Mounting / installation may only be carried out by a qualified electrician!

Disposal

WEEE number according to § 6 para. 3 ElektroG: 40951076

Safety warnings

/ Before initial operation, please make sure to follow all safety instructions that may be provided in the product information.

/ Never use these devices in applications where the safety of a person depends on their functionality.

/ Any software, drivers or IODD files that may be required to operate your device can be downloaded free of charge from our homepage: www.ipf-electronic.com

TECHNICAL ADVICE

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