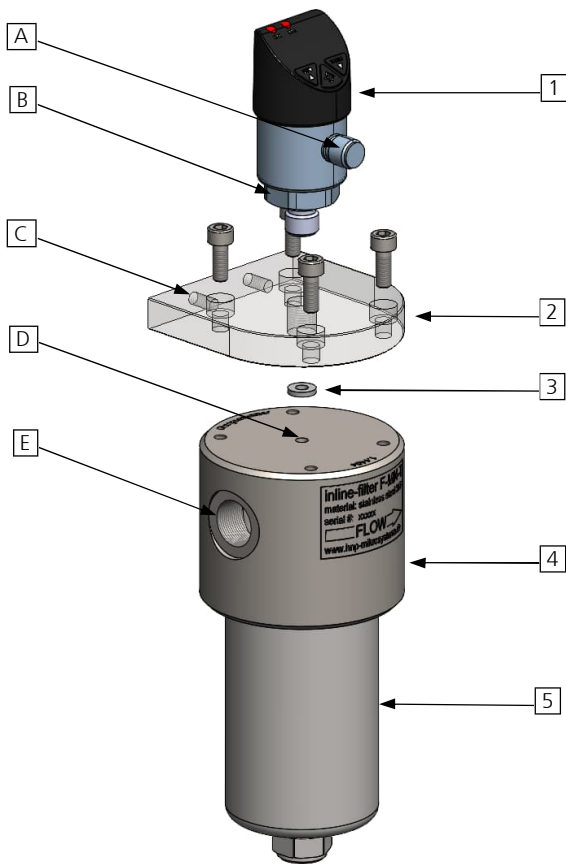
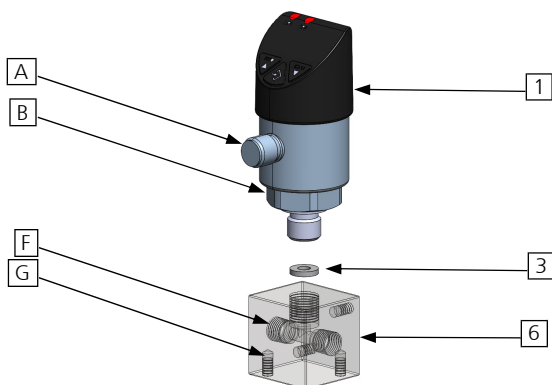


# Quick Guide - Filter Monitoring

## T-filter



## Mounting block



## Technical Data

Measuring range	-1 ... +1.5 bar (-14.5 ... +21.75 psi)	
Overpressure limit	+4 bar (+58 psi)	
Accuracy	< ±0.5 % measuring range (12.5 mbar (0.18 psi))	
Switching points (SP)	SP1: -200 mbar (-2.90 psi) SP2: -300 mbar (-4.35 psi)	
Wetted parts	1.4404, PEEK	
Liquid temperature range (sensor dependent)	-20 ... +85 °C (-4 ... +185 °F)	(pressure switch with display)
	-40 ... +125 °C (-40 ... +257 °F)	(pressure switch)
	0 ... +80 °C (+32 ... +176 °F)	(pressure transmitter)
Output (sensor dependent)	2 switching points and 1 analog signal	(pressure switch with display)
	2 switching points	(pressure switch)
	1 analog signal	(pressure transmitter)
IO-Link	Pressure switch with and without display	
Optical indicator	LED-indicator lamps for switching points at pressure switch or connection cable	
Fluid connection mounting block pressure sensor	1/4"-28 UNF, 1/8" NPT or 3/8" NPT	

## Items and descriptions

Item no.	Description	Material
1	Pressure switch with display	Stainless steel 316L (1.4404)
2	Mounting block filter monitoring	Stainless steel 316L (1.4404)
3	Sealing disk Ø 11.2 x 2 mm	Thermoplastic (PEEK)
4	Filter head	Stainless steel 316L (1.4404)
5	Filter housing	Stainless steel 316L (1.4404)
6	Mounting block pressure sensor	Stainless steel 316L (1.4404)
A	Electrical connection M12	
B	Hexagon bolt AF 27	
C	Mounting hole M6 (2 times)	
D	Process connection in filter head Ø 5 mm	
E	Fluid connection (2 times, only inlet port shown)	
F	Fluid connection (2 times, connection sizes see above)	
G	Mounting hole M5 (4 times)	

## Safety instructions

All of the following tasks must be carried out only by professional and qualified personnel. The filter monitoring must be operated within its specifications. Manipulation, misuse and damaging of the filter monitoring are forbidden. It is only allowed to use original-spare parts. The internal safety instructions for the used medium must be observed.

## Further information

Detailed information on all functions of the filter monitoring and their programming can be found in the respective enclosed pressure sensor operating instructions of the manufacturer.

The exchange of the filter element is described in detailed steps in the quick guide for the associated inline filter.

## Contact

HNP Mikrosysteme GmbH  
Bleicherufer 25 · D-19053 Schwerin

phone +49 385 52190-301  
fax +49 385 52190-333

e-mail info@hnp-mikrosysteme.de  
http://www.hnp-mikrosysteme.de

## Pressure switch with display



Item no.	Description
#1	Status display, switching outputs
#2	Display
#3	INFO button
#4	MENU button
#5	Confirmation button
#6	Electrical connection
#7	Hexagon bolt AF27
#8	Process connection G1/4" A DIN EN ISO 1179-2

### Installation/Assembly – T-filter

- For more information, see also the quick guide for the associated inline filter.
- The filter (incl. filter monitoring) should be placed upstream of the component to be protected (e.g. pump)
- Use the mounting holes [C] of the mounting plate [2] to mount the filter (incl. filter monitoring) in the system – filter housing [5] must point downwards
- **Attention!** Fastening the filter only by the fluidic connections [E] is not allowed!
- Ensure a tension free connection of the system tubing to the fluidic connections [E]

### Installation/Assembly – mounting block

- To avoid pressure deviations, the mounting block [6] (incl. filter monitoring) must be installed in the fluid line as close as possible to the point that is to be monitored
- Use the mounting holes [G] of the mounting block [6] to mount the filter monitoring in the system – pressure transmitter [1] must point upwards
- **Attention!** Fastening the mounting block [6] only by the fluidic connections [F] is not allowed!
- Ensure a tension free connection of the system tubing to the fluidic connections [F]

### Commissioning

- Ensure media supply
- Switch system on

### Decommissioning

- Ensure system is shut down, depressurized and eventually cooled down
- Interrupt media supply

## Pressure switch



Item no.	Description
#1	Electrical connection (depending on configuration)
#2	Housing, label
#3	Hexagon bolt AF27
#4	Process connection G1/4" A DIN EN ISO 1179-2

### Functions (pressure switch)

- Hysteresis function keeps the switching status of the outputs stable if the system pressure fluctuates around the set point. With increasing system pressure, the output switches when reaching the switch point (SP). If the system pressure drops again, the output will not switch back before the reset point (RP) is reached.
- The window function allows monitoring of a defined range. When the system pressure is in the range between window low (FL) and window high (FH), the output switches on. When the system pressure is outside the range between window low (FL) and window high (FH), the output switch off.
- Delay times (0 ... 65 s) make it possible to filter out unwanted pressure peaks of a short duration or a high frequency. The pressure must be present for at least a certain pre-set time so that the output switch on. The switching output does not immediately change its status, when it reaches the switching event (SP), rather only after the pre-set delay time (DS). If after the delay time the switching event is no longer present, the switching output does not switch back. The output only switches back when the system pressure has dropped to the reset point (PR) and stays at or below the reset point (RP) for at least the pre-set delay time (DR). If the switching event is no longer present after the delay time, the switching output does not change its status.

### Steps upon triggering filter monitoring

- For pressure switch:
- In the standard programming, the switching points SP1 and SP2 are set to -200 mbar

## Pressure transmitter



Item no.	Description
#1	Electrical connection (depending on configuration)
#2	Housing, label
#3	Hexagon bolt AF27
#4	Process connection G1/4" A DIN EN ISO 1179-2

- (-2.90 psi) and -300 mbar (-4.35 psi). The SPs are set with the hysteresis function, so that each SP is assigned an RP with a difference of 6 mbar (0.09 psi) to the SP with a switching delay of 3 s.
  - Depending on the pressure sensor and optional additional equipment, triggering of the switching points is accompanied by an illumination of LED status indicators.
  - If switching point SP1 is triggered, this means that the system is still supplied with media, but that a filter change or filter cleaning must be carried out soon.
  - If switching point SP2 is triggered during further operation, a filter change or filter cleaning must be carried out to ensure the quality of the media supply.
  - Simultaneous triggering of both switch points SP1 and SP2 indicates a blocked or closed suction line - the complete media supply must be checked (e.g. for closed valves).
- For pressure transmitter:
- When monitoring the system pressure with the aid of a higher-level controller via the analog signal, the identical procedure for filter monitoring is necessary. It is therefore necessary to program two switching points Sp1 and SP2 at -200 mbar (-2.90 psi) and -300 mbar (-4.35 psi).

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