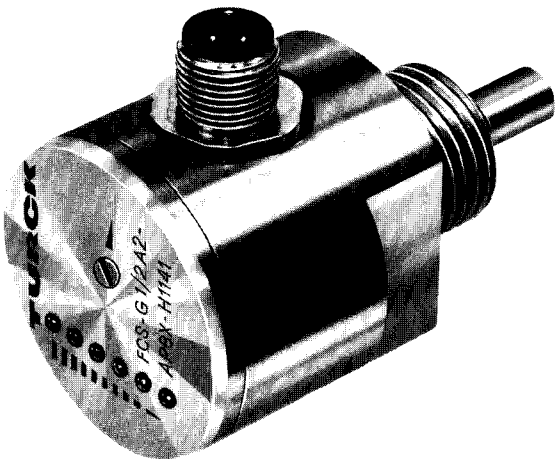


Self-contained Devices  
(operating on the  
insertion principle)



- **Sensor and signal processor in one compact housing**
- **Pressure resistance up to 60 (100) bar**
- **Enclosure meets IP 67**
- **Maximum switch-point accuracy during changes in flow temperature**
- **Simple adjustment by means of potentiometer**
- **npn/npn transistor output, short-circuit protected**

The units are made of A2 or A4 type stainless steel, provide either G 1/4-, G1/2-,GL1/2- or NPT1/2 thread mounting and are rated for pressures up to 60 (100) bar.

These sensors feature a short-circuit protected transistor output (pnp/npn). Set-point adjustments (in reference to flow rate) are achieved by means of a potentiometer located under the protective screw cap on the front of the device.

6 LEDs indicate the actual flow conditions relative to set-point (preset range):

- red LED: flow is below set-point
- yellow LED: flow is at or above set-point
- green LEDs: degree of set-point overrange (1, 2, 3 or 4 LEDs are lit)

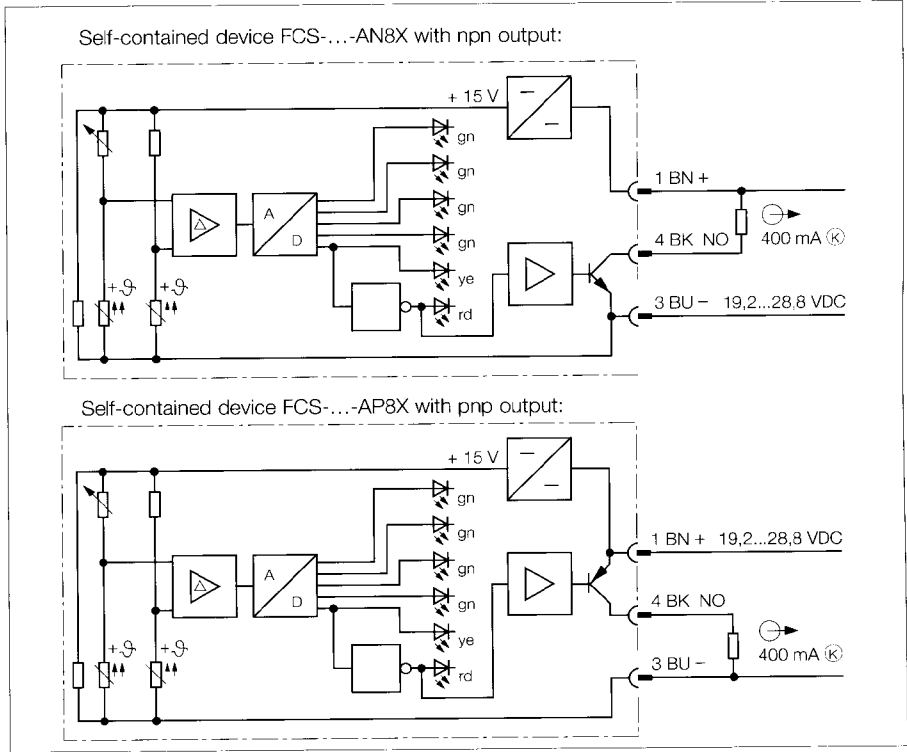
When the red LED illuminates, the output is de-energised; when the yellow LED illuminates, the output is energised.

With the FCS series self-contained devices, the sensor and the signal processor are incorporated in one compact housing. These devices are ideal for monitoring liquid flows in the 1...300 cm/s range and gas flows in the 2...30 m/s range.

The device is designed to be installed directly into the flow lines, with the sensing probe inserted into the flow. This makes it suitable for various pipe diameters.

Operating ranges  
(depending on flow media)

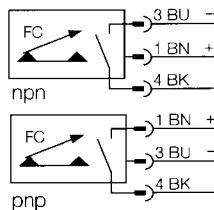
- **Water** 1...150cm/s
- **Oil** 3...300cm/s
- **Air** 2... 30 m/s



## Self-contained devices – A2/A4 Stainless Steel

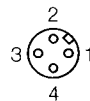
<b>Operating Voltage</b> $U_B$	19,2...28,8 VDC (including ripple)
Current consumption	≤ 65 mA
<b>Output</b>	pnp/npn transistor, short-circuit proof, reverse polarity protected
Switching current	≤ 400 mA
Voltage drop at $I_{max}$	≤ 1.5 V
<b>Temperature Range (fluid)</b>	-25...+80 °C (continuous) up to +100 °C (for approx. 10 min.)
<b>Operating range (flow rate)</b>	
– water	1...150 cm/s
– oil	3...300 cm/s
– air	2... 30 m/s
<b>Availability</b>	typ. 8 s (2 to 15 s)
Switch ON time	typ. 2 s (1 to 13 s)
Switch OFF time	typ. 2 s (1 to 15 s)
Response time to change in temperature	≤ 12 s
Temperature gradient	max. 250 K/min.
<b>Pressure Rating</b>	60 bar (100 bar)
<b>LED Functions</b>	
– Below set-point	red
– At set-point, output energized	yellow
– Above set-point	green (4), (in addition to yellow LED)
<b>Housing Material (DIN 2462/17440)</b>	A2 stainless steel (No 1.4305) / A4 (No 1.4571)
Protection type (IEC 529/DIN 40050-9)	IP 67
Ambient temperature rating	-25...+80 °C
Torque	100 Nm

**Connection**  
Connector, system *Conprox®* (see section 7)

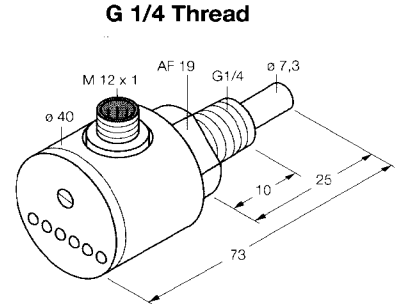


BN = brown; BU = blue; BK = black

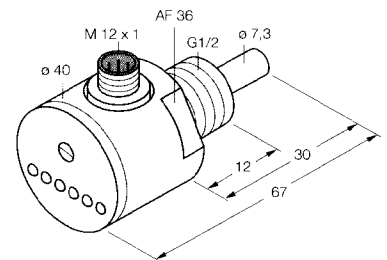
Fig. shows pin-out  
(view of contacts)



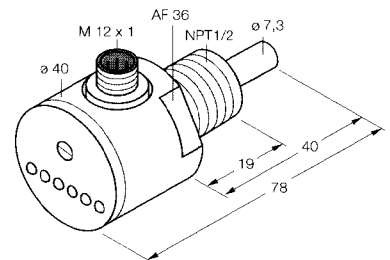
**Accessories** 2 sealing rings (for G thread) 1 screwdriver for set-point adjustment



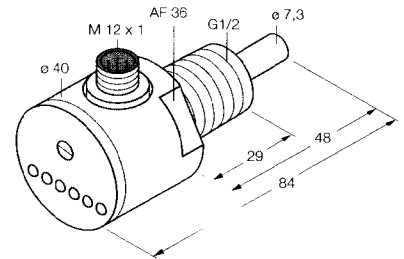
**G 1/2 Thread**



**NPT 1/2 Thread**



**GL 1/2 Thread**



Self-contained devices		Material		Output		Thread			
Type	Ident-No.	A2	A4	pnp	npn	G1/4	G1/2	GL1/2	NPT1/2
FCS-G1/4 A4-AP8X-H1141	68 701 01		•	•		•			
FCS-G1/2 A2-AN8X-H1141	68 700 32	•			•		•		
FCS-G1/2 A4-AN8X-H1141	68 700 34		•		•		•		
FCS-G1/2 A2-AP8X-H1141	68 700 02	•		•			•		
FCS-G1/2 A4-AP8X-H1141	68 700 04		•	•			•		
FCS-N1/2 A2-AN8X-H1141	68 710 03	•			•				•
FCS-N1/2 A2-AP8X-H1141	68 710 02	•		•					•
FCS-N1/2 A4-AP8X-H1141	68 710 04		•	•					•
FCS-GL1/2 A2-AP8X-H1141	68 702 02	•		•				•	
FCS-GL1/2 A4-AP8X-H1141	68 702 04		•	•				•	