

# TECHNICAL INFORMATION



## flow - captor Type 412-.1-

The flow-captor 412-.1- is a family of compact, metering flow switches with adjustable set-point and analog display. They operate based on the new calorimetric principle. The flow-captor allows to set an exact flow set-point and to measure simultaneously the flow rate up to the lowest conditions.

- Precise switching flow monitor for water or oil - based solutions up to **100 bar**
- High accuracy also under low flow conditions
- Separate adjustments for "Range" and "Set-point"
- Analog display of actual flow and display of adjusted set-point
- LED display for output status
- **ISO 9002** certified manufacturing
- **CE** approval



### Technical Data

Type	4120.12/.13	4121.12/.13
Medium	water-based solutions	oil-based solutions

### Sensor Data

Measuring range	0-20 cm/s to 0-300 cm/s, cont. adjust <sup>1)</sup>	0-30 cm/s to 0-300 cm/s, cont. adjust <sup>2)</sup>
Set-point range	approx. 15%-90% of measuring range setting	approx. 15%-90% of measuring range setting
Medium temperature	-20 °C to +80 °C	
Ambient temperature	-20 °C to +70 °C	
Pressure	up to 100 bar	up to 100 bar
Response time	2 s to 10 s, acc. to range setting	2 s to 15 s, acc. to range setting
Linearity deviation	< 5% <sup>1)</sup>	< 5% <sup>2)</sup>
Repeatability	< 2%	< 2%
Hysteresis	approx. 10 %	approx. 10 %

### Mechanical Data

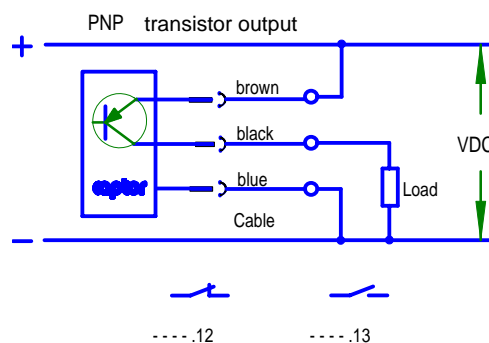
Protection class	IP 65 (IP 67 on request)	
Housing material	PBTP, glassfibre reinforced ( Ultradur <sup>®</sup> ), also available in stainless steel WN 1.4305	
Sensor head	stainless steel 1.4305 (A:1.4571; B:Titanium; C:Hastelloy <sup>®</sup> C4; D:Hastelloy <sup>®</sup> C22)	
Thread	G ½ A ( ½ " BSP) or ½" - 14 NPT	
Connection	integrated plug connection with PG 9 fitting, 2m oilflex cable 3x0,5 mm <sup>2</sup> (M12x1 plug on request)	

### Electrical Data (Electronic housing)

Operating voltage	18 to 30 V DC, incl. residual ripple	
Switching current	≤ 400 mA	
Initial operation	approx. 10 s after connection of power	
Electrical output	PNP n.c. <sup>3)</sup> : 4120.12 PNP n.o. <sup>4)</sup> : 4120.13	PNP n.c. <sup>3)</sup> : 4121.12 PNP n.o. <sup>4)</sup> : 4121.13

Notes: <sup>1)</sup> data applies to water <sup>2)</sup> depends on oil solution type <sup>3)</sup> switch open with flow <sup>4)</sup> switch closed with flow

### Connection Diagram:



**weber**

Sensors GmbH Strohdreich 32 D-25377 Kollmar Tel.:+49 4128-591 Fax:-593

Member of the captor Group

eMail: info@captor.de • www.captor.com

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