

Sensors for Conductivity Measurement

Chem

Energy

Pharm

Food

Water

DIGITAL Memosens Protocol



SE 680 Toroidal Conductivity Sensor

High-precision sensor made of FDA-approved PEEK with an extremely large measuring range. Steam-sterilizable.

The joint- and gap-free, sealless design and stain-resistant surface made of Virgin PEEK make the SE 680 a heavy-duty sensor. The inductive technology is not influenced by polarization and does not have any sensor surfaces subject to corrosion.

Applications

Fresh water technology, dairy products, breweries, soft drink manufacturing, electroplating, air-conditioning, CIP monitoring in the beverage industry, pharmaceutical applications, cooling tower monitoring, on-site wastewater treatment plants, monitoring concentrations of salt solutions, alkalis and acids, washers, and rinsing processes

Facts and Features

- Compact design
- Competitively priced
- Large measuring range
- Quick-reacting temperature detector
- Digital data transfer
- Completely molded surface
- Ra < 0.4 µm
- Virgin PEEK, FDA type

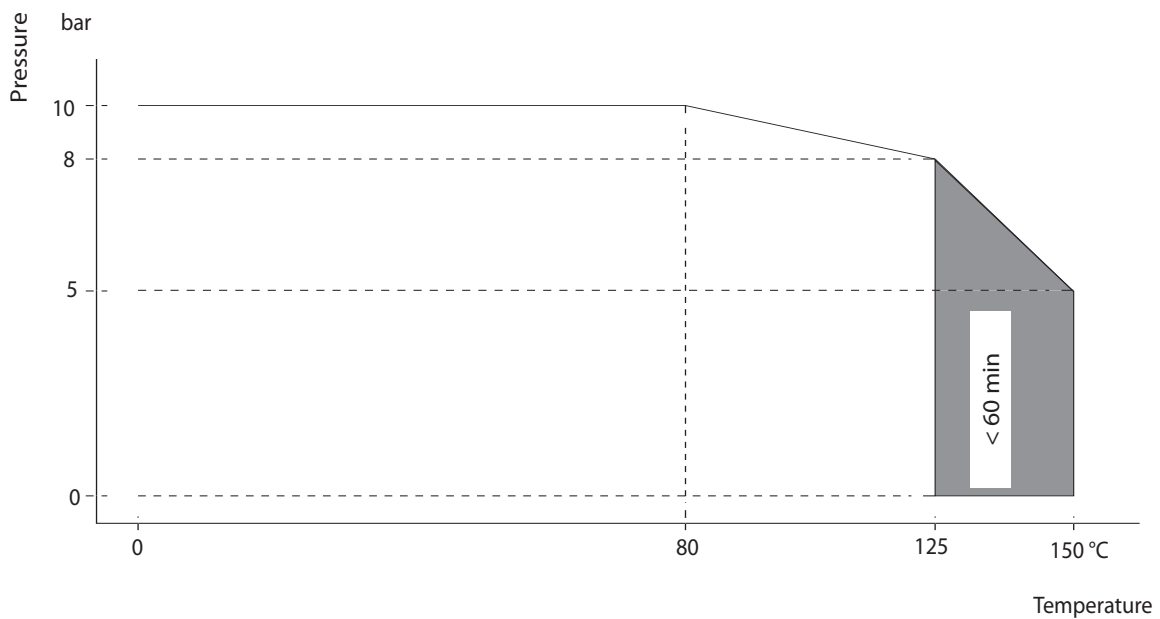
Specifications

Cell factor:	c ≈ 5.0/cm
Installation factor:	1 (adjustable)
Measuring range:	0.002 ... 2000 mS/cm
Error:	± 1 % meas. val. + 0.002 mS/cm, ± 0.02 %/K
Materials with process contact:	Virgin PEEK, FDA type
Materials without process contact:	PP-ESD
Temperature sensor:	Pt1000
Response time:	T ₉₀ approx. 30 s
Process temperature:	-10 ... +125 °C (see PT diagram)
Sterilization:	≤ 5 bar / ≤ 150 °C / ≤ 60 min
Ambient temperature:	-20 ... +60 °C
Pressure range P _{rel} :	-0.1 ... 10 bar (see PT diagram)
Surface roughness: (process-wetted parts)	Ra < 0.4 µm
Electrical connection:	M12 plug, 4-pin; cable length max. 100 m

Specifications

Certificates:	FDA CFR 177.2415; material testing acc. to USP IV 121 °C USP <87> and <88> class VI
Explosion protection: SE680X-*****M	IECEX TUN 15.0026 X Ex ia IIC T6/T4/T3 Ga TÜV 15 ATEX 154534 X Ⓜ II 1 G Ex ia IIC T6/T4/T3 Ga
Temperature class:	Ambient and process temperature range
T6	-20 °C ≤ Ta ≤ +75 °C
T4	-20 °C ≤ Ta ≤ +125 °C
T3	-20 °C ≤ Ta ≤ +150 °C

Pressure/Temperature Diagram



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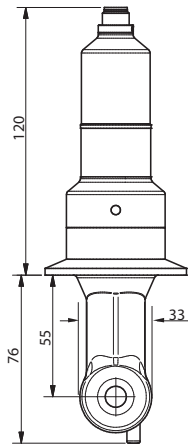
Product Range		Order No.	
		SE 680-	<input type="checkbox"/> - <input type="checkbox"/> N4U00M
Explosion protection	Safe area Ex Zone 1	N X	
Process connection	Dairy pipe DN50 Varivent pipe ≥ DN50 Clamp 2" for ARF 210/215		C1 V1 J2 K8

Accessories

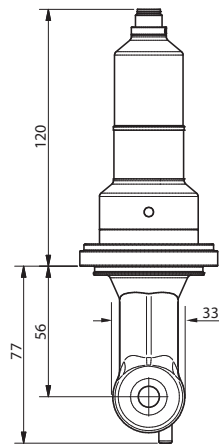
		Order No.	
Digital cable with M12 socket	5 m	CA/M12-005NA	
	10 m	CA/M12-010NA	
	20 m*	CA/M12-020NA	
Conductivity standard	KCl 0.1 mol/l 12.88 mS/cm ± 1.5 %	250 ml	Order No. ZU 0348

* Greater lengths on request (max. 100 m)

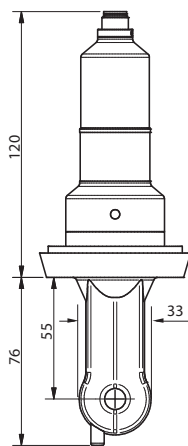
**Dimension Drawings / Process Connections /
Order References**



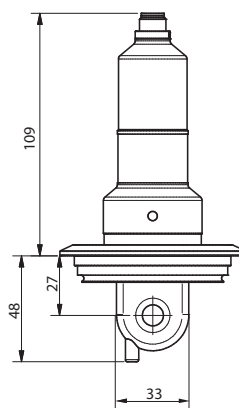
Clamp 2"
SE680(N/X)-J2N4U00M



for ARF 210/215
SE680(N/X)-K8N4U00M



Dairy pipe DN 50
SE680(N/X)-C1N4U00M



Varivent DN 50 or larger
SE680(N/X)-V1N4U00M