

## 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

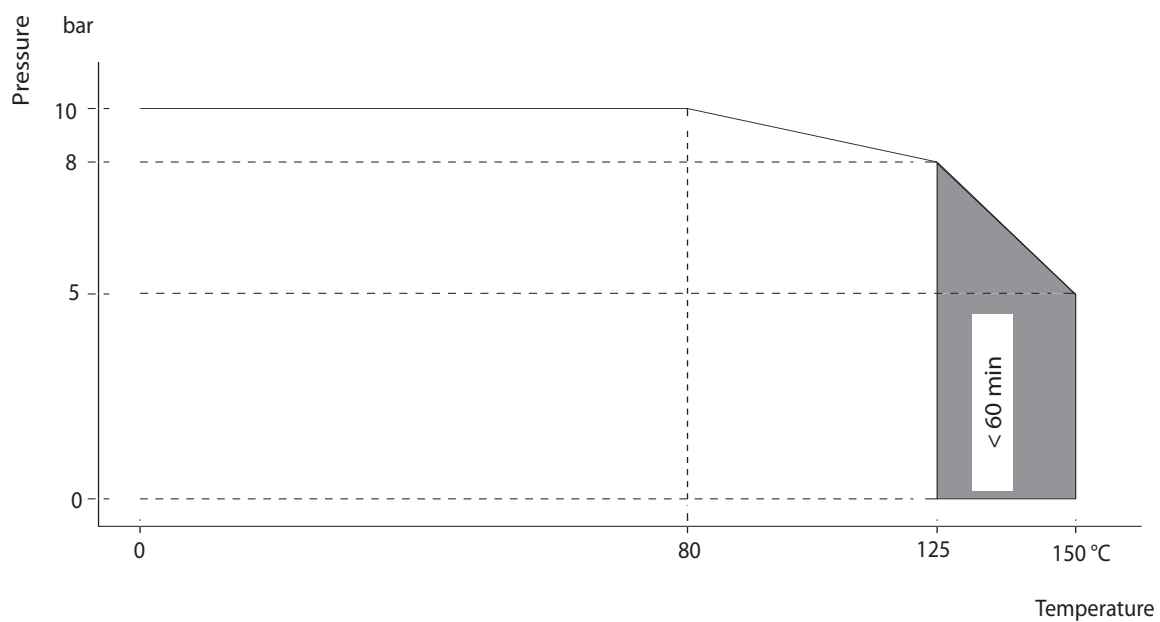
### Specifications

Cell factor:	$c \approx 5.0/\text{cm}$
Installation factor:	1 (adjustable)
Measuring range:	0.002 ... 2000 mS/cm
Error:	$\pm 1\%$ meas. val. + 0.002 mS/cm, $\pm 0.02\%$ /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:	$\leq 5$ bar / $\leq 150$ °C / $\leq 60$ 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**



## Sensors for Conductivity Measurement

Chem

Energy

Pharm

Food

Water

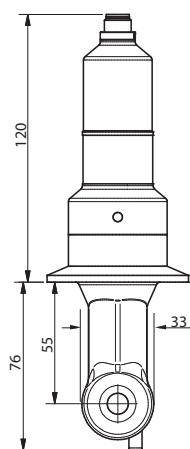
Product Range		Order No.	
		SE 680-	<input type="checkbox"/> - <input type="checkbox"/> N4U00M
Explosion protection	Safe area Ex Zone 1	N X	
Process connection	Dairy pipe DN50 Varivent pipe ≥ DN50 Clamp 2" for ARF 210/215		C1 V1 J2 K8

### Accessories

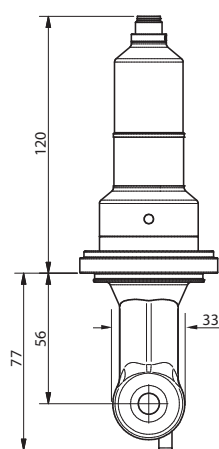
		Order No.	
Digital cable with M12 socket	5 m	CA/M12-005NA	
	10 m	CA/M12-010NA	
	20 m*	CA/M12-020NA	
Conductivity standard	KCl 0.1 mol/l 12.88 mS/cm ± 1.5 %	250 ml	Order No. ZU 0348

\* Greater lengths on request (max. 100 m)

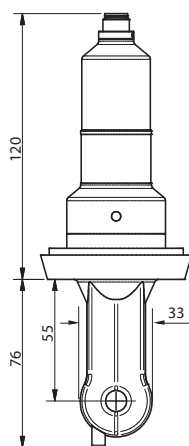
**Dimension Drawings / Process Connections /  
Order References**



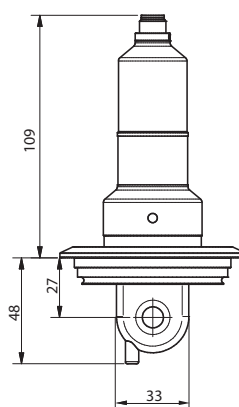
**Clamp 2"**  
SE680(N/X)-J2N4U00M



**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