

## DIGITAL Memosens Protocol



## SE 656N Toroidal Conductivity Sensor

**Universal and precise conductivity sensor with maximum chemical resistance to highly oxidizing media.**

**Digital with Memosens protocol.**

The SE 656N toroidal conductivity sensor is a sturdy and corrosion-resistant sensor that, thanks to its high chemical resistance and durability when exposed to aggressive media, is particularly suitable for applications in the chemical industry. A combination of a large sensor opening and dirt-repellent material prevents blockages and deposits in media with a high pollution degree. The inductive measuring principle enables full galvanic isolation of the measurement from the medium.

The sensor is an all-rounder, suitable for a multitude of applications with a range covering six decades. Equipped with Memosens protocol as a digital version, it offers considerable process and data security, and ensures reliable data recording.

### Applications

Concentration measurement, in particular of highly oxidizing acids and bases, online quality monitoring of chemical products in tanks and pipes, phase separation of product mixtures, paper manufacturing (high fiber concentration), heavily soiled media and wastewater, fouling media.

### Facts and Features

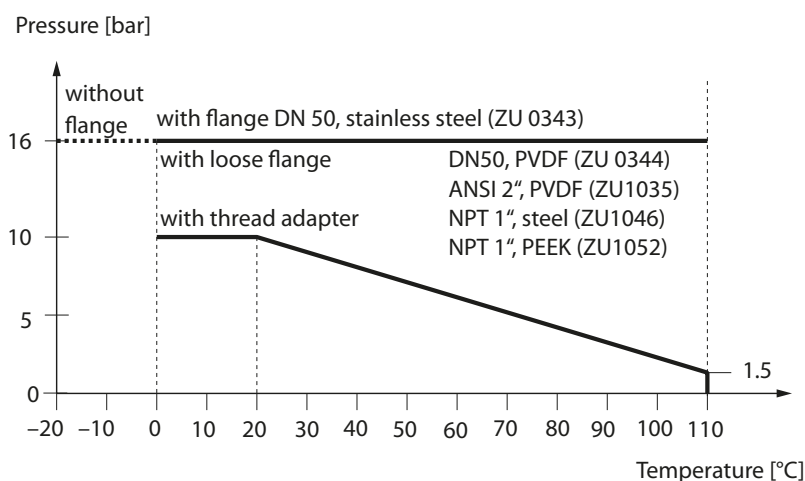
- Process-wetted material: PFA
- Sturdy design
- Resistant to contamination and fouling
- Range of six decades
- Inductive measuring principle, full galvanic isolation of sensor coils from process medium
- Digital with Memosens protocol

### Specifications

|                                                 |                                                                          |
|-------------------------------------------------|--------------------------------------------------------------------------|
| Cell factor:                                    | 1.98/cm (≥ 30 mm wall clearance)                                         |
| Measuring range:                                | 0 ... 2,000 mS/cm                                                        |
| Resolution:                                     | 0.002 mS/cm                                                              |
| Measurement error (–20 ... +100 °C):            | ± 0.005 mS/cm + 0.5 % of measured value                                  |
| Measurement error (>100 °C):                    | ± 0.010 mS/cm + 0.5 % of measured value                                  |
| Material:                                       | PFA                                                                      |
| Temperature detector:                           | Pt1000 (Class A in acc. with IEC 60751)                                  |
| Temperature response time $t_{90}$ (DIN 746-1): | approx. 11 min                                                           |
| Process temperature:                            | –20 ... 110 °C                                                           |
| Ambient temperature:                            | –20 ... +60 °C                                                           |
| Storage temperature:                            | –20 ... +80 °C                                                           |
| Relative process pressure:                      | 0 ... 16 bar<br>(see pressure/temperature diagram)                       |
| Cable:                                          | Fixed cable, 7 m with ferrules                                           |
| Protection (EN 60529):                          | IP 68 (sensor mounted, with original gasket)                             |
| Mounting:                                       | G ¾" (nut A/F 36 and FFKM (Chemraz) gasket included in package contents) |

# SE 656N Digital Toroidal Conductivity Sensor

## Pressure/Temperature Diagram



## Product Line

### Sensor

SE 656N conductivity sensor

Digital, with Memosens protocol

7 m cable

### Order no.

**SE 656N -GEFTW0KM**

### Accessories

NPT 1" adapter

Material: stainless steel

Material: PEEK

**ZU 1046**

**ZU 1052**

Flange DN 50 PN 16<sup>1)</sup>

Material: 316 L

**ZU 0343**

Flange, DN 50 PN 10

Material: PVDF

**ZU 0344**

Flange ANSI 2", 150 lbs

Material: PVDF

**ZU 1035**

Gasket set B

Nut + FFKM O-ring (1 pc)  
Replacement for SE 656N-GEFTW0KM

**ZU 0341N**

Sealing kit C

PTFE washer DN 50  
(protects ZU 0343 flange against aggressive media)

**ZU 0342N**

O-rings

Material: FKM  
Material: EPDM-FDA  
Material: FFKM

**O-ring 30x2.5 FKM**  
**O-ring 30x2.5 EPDM-FDA**  
**O-ring 30x2.5 FFKM**

Conductivity standard<sup>2)</sup>

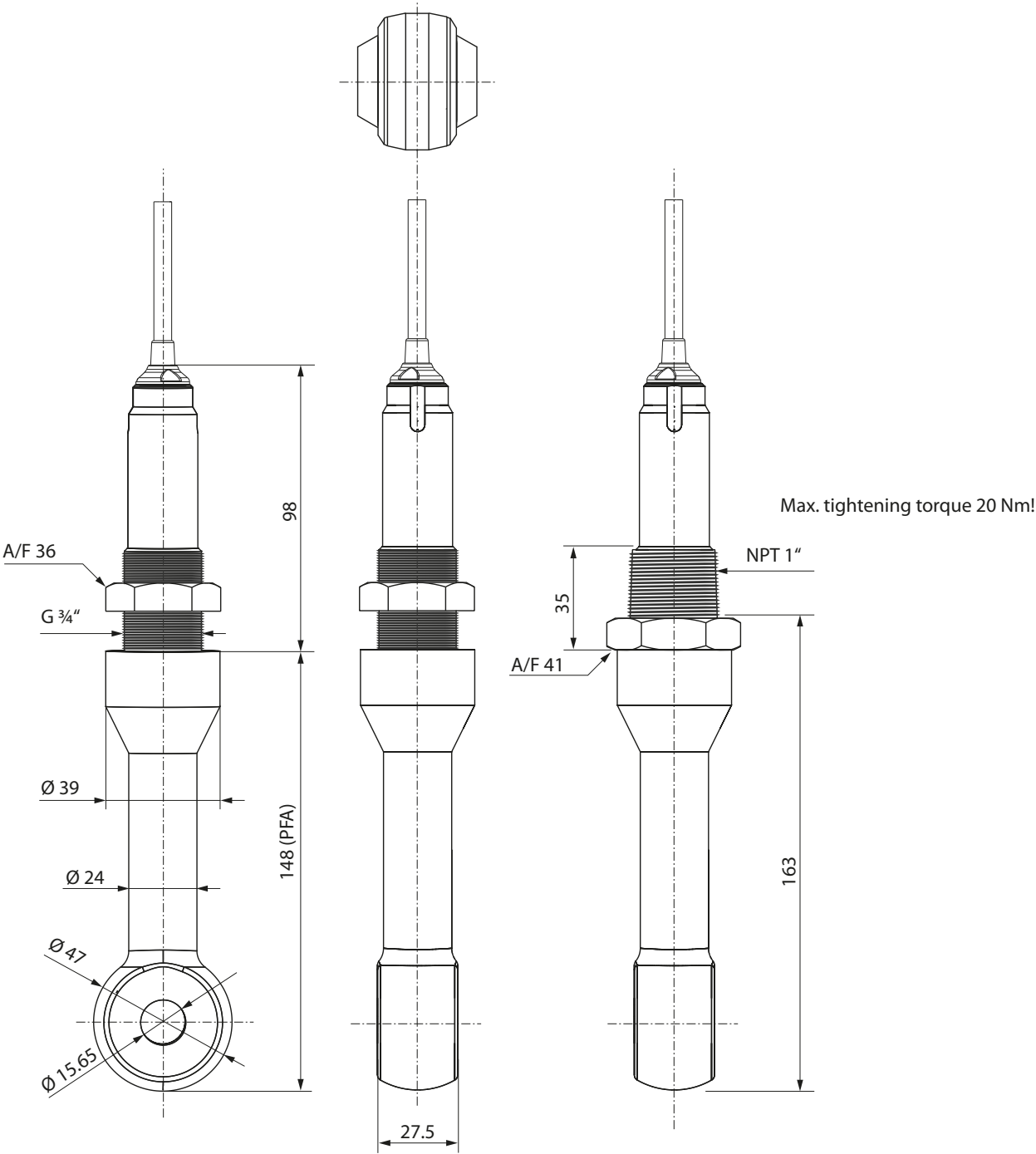
KCl 0.1 mol/l 12.88 mS/cm ±1.5 % 500 ml

**CS-C12880K/500**

<sup>1)</sup> When measuring in aggressive media, sealing kit C is additionally required

<sup>2)</sup> Check the user manual (field conditions)

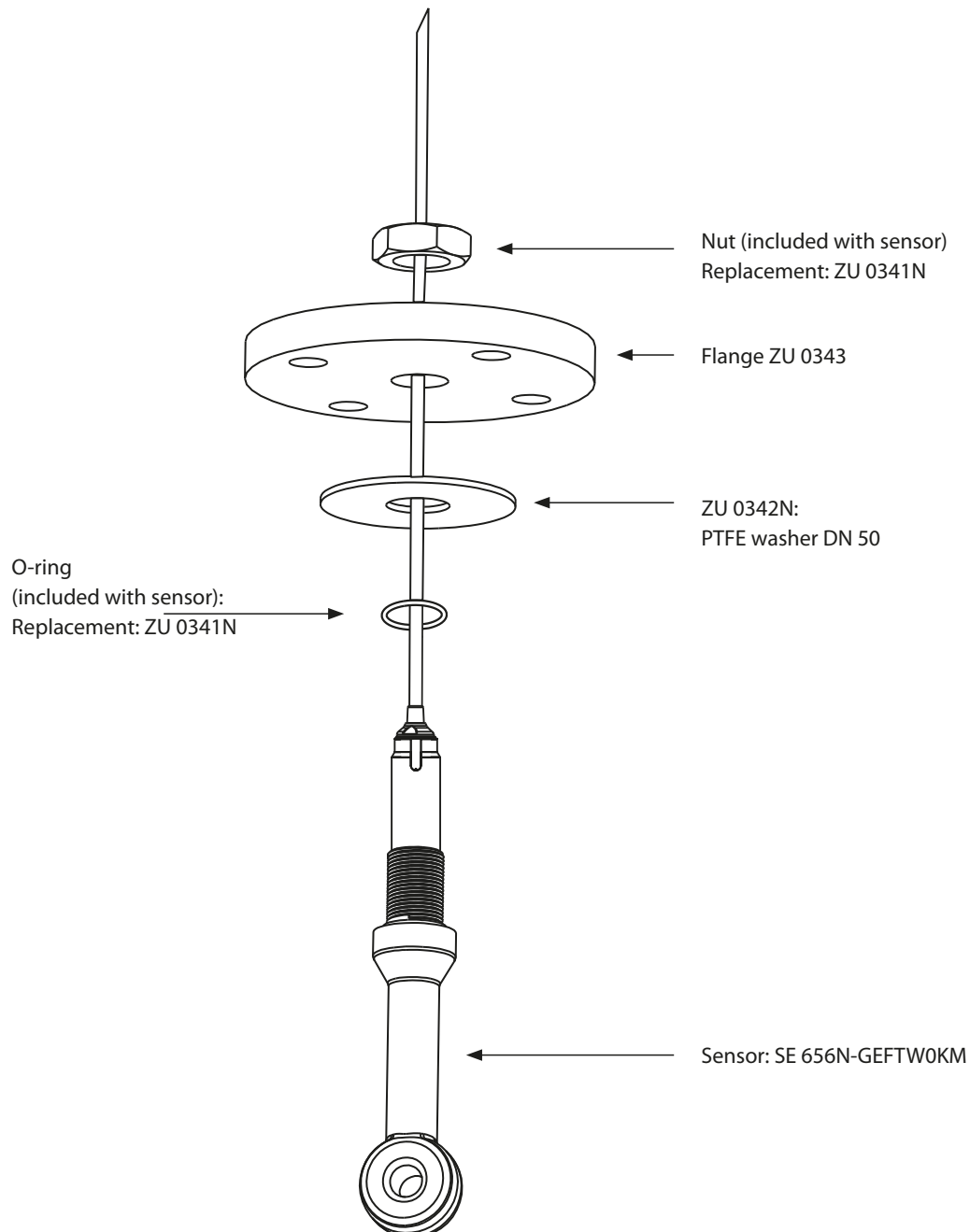
Dimension Drawing



# SE 656N Digital Toroidal Conductivity Sensor

## Overview of Accessories and Installation

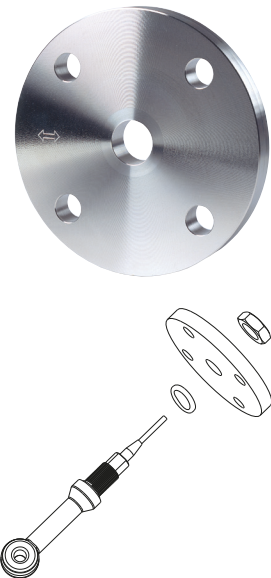
Example: Flange DN 50 stainless steel, with PTFE washer



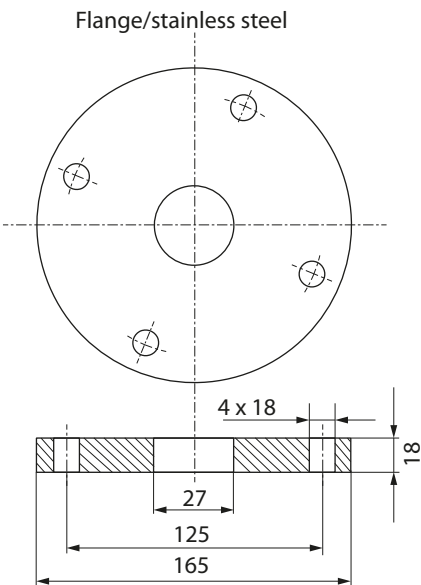
Accessories/Specifications

Flange 316 L  
ZU 0343

DN 50 PN 16



Dimension drawing:

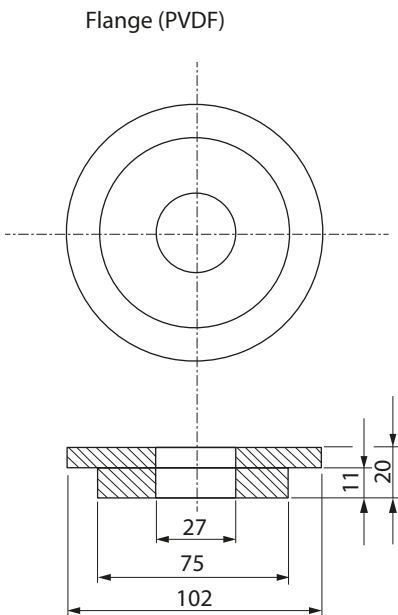
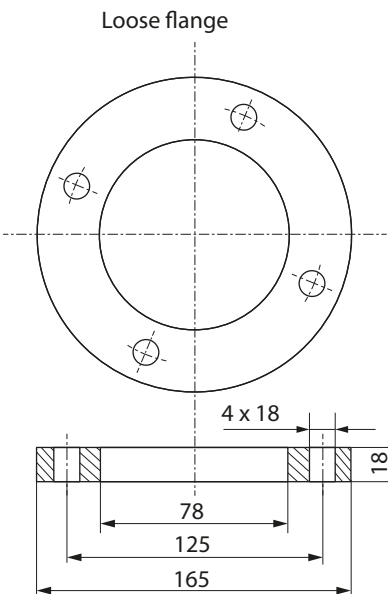


Flange PVDF  
ZU 0344

DN 50 PN 10



Dimension drawings:



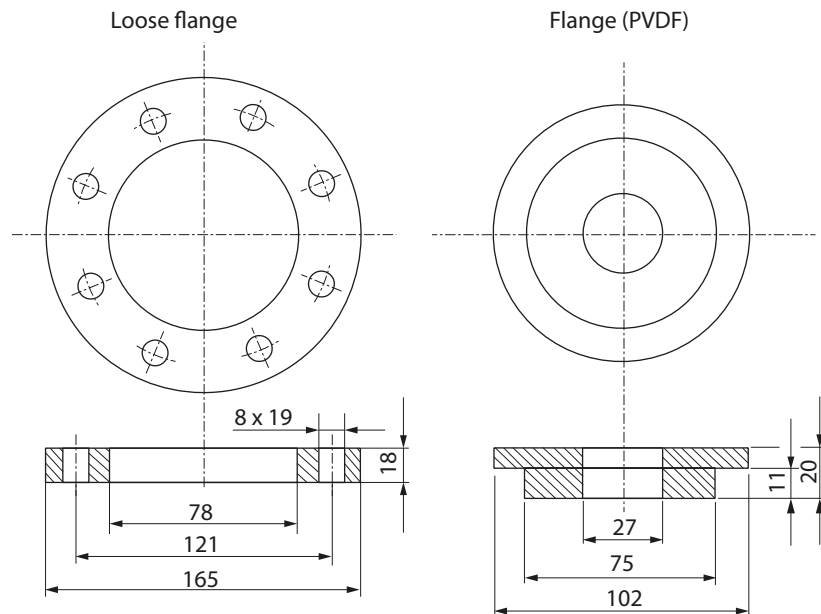
# SE 656N Digital Toroidal Conductivity Sensor

## Accessories/Specifications

Flange ANSI 2"  
ZU 1035

150 lbs

Dimension drawings:



NPT 1" adapter

Stainless steel ZU 1046  
PEEK ZU 1052

Dimension drawing:

