

General Specifications

Model SM29
Industrial Redox Electrodes

GS 12C06J01-10EN-P

■ Overview

The heart of a redox measuring loop is the electrode system. Yokogawa has designed a wide range of electrodes to ensure this heart keeps beating under the most severe conditions.

Redox measurements are a potentiometric measurement of the oxidizing/reducing power of a liquid.

To be able to measure this equilibrium of reversible redox reactions the electrodes used should be inert. Noble electrodes such as Platinum (Pt) are widely used for this purpose and approximate the behavior of an ideal inert electrode.

Platinum is one of the most widely used noble metal and has excellent chemical resistance.

The dimensions and design meet the requirements of DIN 19263 (excluding the refillable types). A high degree of standardization makes it possible to mount any electrode in the standard program of fittings.

The combination of electrode plug and cable socket is watertight and temperature is resistant up to 130°C. The design has been optimized to meet the requirements of IP65.

■ Features

- High resistance glass for chemical resistance
- Dimensions and design meet the requirements of DIN 19263
- Maximum pressure: 1000 kPa (10 barg)
- Metal foil screening



■ 1. General Specifications SM29

Redox measurements are used to monitor chemical reactions, to quantify ion activity or to determine the oxidizing or reducing properties of a solution. Redox measurements are a potentiometric measurement of the oxidizing/reducing power of a liquid.

1.1 Measuring elements

Sensor type : Redox glass electrode

1.2 Wetted parts construction materials

Sensor body : Glass
O-rings : N/A
ORP / Liquid Earth : Platinum (Pt)

1.3 Operating range

ORP : -1500 mV ... 1500 mV

Temperature : -10°C ... 130°C

Pressure : 1,5 ... 1000 KPa

Conductivity : > 50 µS/cm

1.5 Shipping Details

Package size (LxWxH) : 260 x 45 x 45 mm
: (10.2 x 1 x1 inch)

1.6 Environmental conditions

Storage temp. : -10 to 50 °C
: (14 to 122 °F)

1.7 Regulatory standards

CE

- RoHS Directive 2011/65/EU
Commission Delegated Directive (EU) 2015/863
amending Annex II as regards the list of restricted substances, and by applying the following standards:
EN-IEC 63000: 2018 Technical documentation
for the assessment of electrical and electronic products
with respect to the restriction of hazardous substances.

UKCA

- RoHS The restriction of the Use of
Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

■ 2. Dimensions (Units in mm)

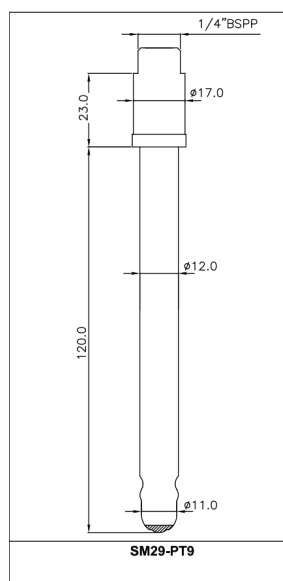


Figure 1: Dimensional drawing SM29-PT9

■ 3. Model Codes and Parts

Table 1: Model & Suffix codes SM29

Model	Suffix Code	Option code	Description
SM29			Metal electrodes
	-PT9		Solid Platinum beaker

Table 2: Redox electrodes spare part list

Product	Description
K1520JL	Adapter Y-CAP PG13.5 SS
K1523JA	Adapter PG13.5 in F840 PPO
K1523JB	Adapter PG13.5 to ¼"NPT PPO
K1523JC	Adapter PG13.5-sensors in F*40 SS
K1523JD	Adapter PG13.5 to ¼" NPT SS
K1524AA	O-ring Sil. 10.77x2.62&Slide Ring (1 pc.)
K1598AC	Flow fitting (3.1), for SC4A
K1500DW	Set of 12 cable nuts for WU20

■ 4. Cables

Table 3: Model & Suffix codes WU20

Model	Suffix Code	Option code	Description
WU20			Industrial pH/ORP cable
	-PC		Coax
		01	1 meter cable
		02	2 meter cable
		05	5½ meter cable
		10	10 meter cable
		15	15 meter cable
		20	20 meter cable
		25	25 meter cable

■ Addendum 1: Typical Installations

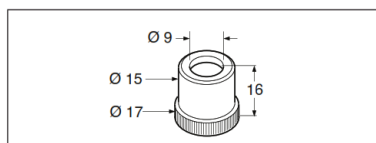


Figure 2: K1500DW (set of 12 cable nuts)

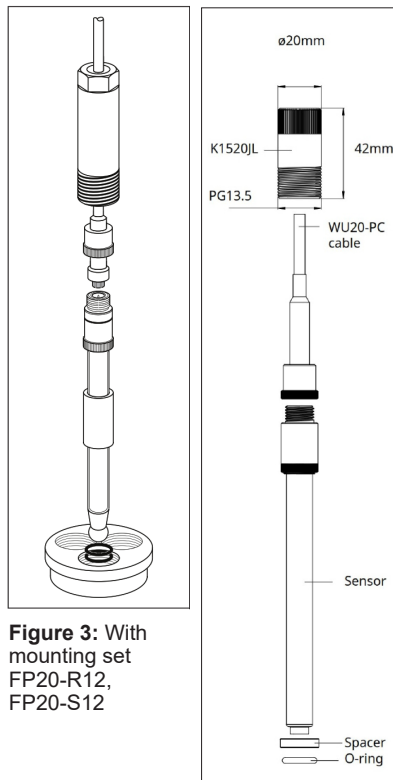


Figure 3: With mounting set FP20-R12, FP20-S12

Figure 4: Mounting PG13.5 for Y-CAP sensors

■ Addendum 2: Available Model Codes

Table 4: SM29 Redox Electrode Available models

MS-code	SM29-PT9

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