General Specifications

DO70G
Optical Dissolved Oxygen Sensor

GS 12J05D04-01E

■ GENERAL

DO70G optical dissolved oxygen sensor is designed for using in water treatment plants such as sewage treatment works and effluent activated sludge process.

This optical sensor has a fast response time and good long term stability, and features replaceable sensor cap and cable for easy maintenance. A temperature sensor is incorporated for compensation. The DO70G sensor can be used in either the PB350G/PB360G floating ball holder or in the DOX8HS submersion type holder.

DO70G Optical Dissolved Oxygen Sensor

■ FEATURES

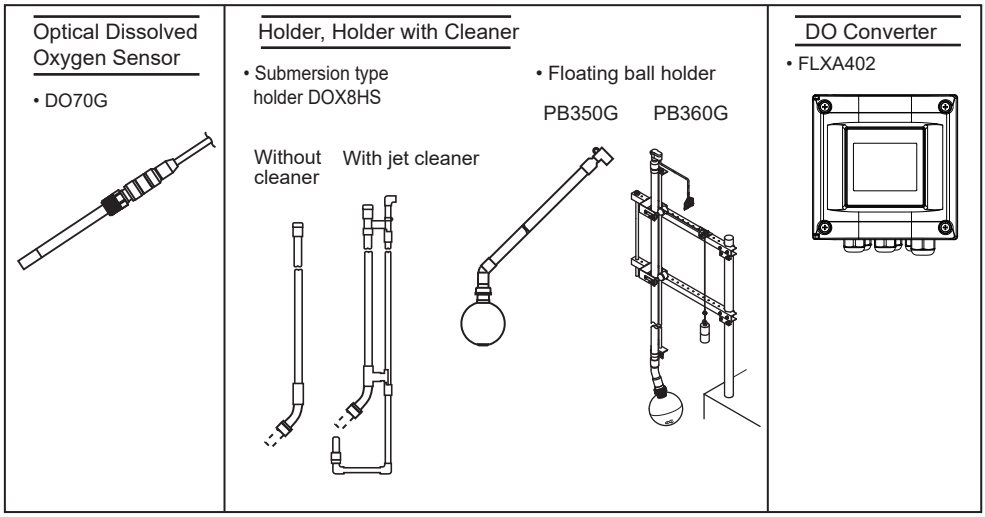
DO Sensor with Long-term Stability and Short Stabilization Time

- A Optical DO sensor that uses a phase measurement method and realizing stable measurements over a long period of time.
- Measuring range of 0 to 25 mg/L.
- A sensor cap that is easily replaceable by anyone.

FLXA402 4-Wire Converter (DO)

■ SYSTEM

Refer to GS 12J05D02-00E for DO402G dissolved oxygen converter and GS 12J05C02-00E for Holders



CAUTION

Installation Location of Holders (Submersion Type, etc)
The holder should be used in a place that is as vibration free as possible.
Using the holder in a place where it is affected by vibration, may result in damage to the holder.

YOKOGAWA ◆

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■ GENERAL SPECIFICATIONS

Object of Measurement:
Concentration of oxygen dissolved in sewage and drainage (water); cannot be used with organic solvents.
Principle of Measurement:
Optical (fluorescence) measurement method
Measurement Range: 0 to 25 mg/L
Note: The measurement range must be entered through the dissolved oxygen converter.
Temperature of Measurement water: 0 to 50°C
Flow rate: 2 m/sec or less
Pressure: 0 to 500 kPa
Resistance Temperature Detector (RTD): NTC 22k
Construction:
Sensor unit; Stainless steel (316L SS)
O-ring; Ethylene Propylene Rubber (EPDM)
Permeable membrane; Silicone resin
Cable shielding; Heat-resistant flexible PVC
Sensor Cable:
For code -03E, -05E, -10E
Length; 3 m, 5 m, 10 m
Terminal shape;
pin (for converter),
M4 Ring (for power supply unit)
For code -05D, -10D, -15D, -20D
Length; 5 m, 10 m, 15 m, 20 m
Terminal shape; pin
Weight:
Sensor; Approx. 0.1 kg
Cable;
For -□□E: Approx. 0.1 kg/m + 0.1 kg
For -□□D: Approx. 0.8 kg/m + 0.8 kg

• CHARACTERISTICS

Repeatability: 0.1 mg/L or 3% FS, whichever is greater
Temperature Compensation Error:
Within ±3% FS for a ±5°C change in the range of 0 to 40°C
Response Time: Within 120 sec. (90% response) (including sensor)

■ MODEL AND SUFFIX CODES

1. Optical Dissolved Oxygen Sensor

Model	Suffix Code	Option Code	Description
DO70G	••••••••••••••	•••••••••	Optical dissolved oxygen sensor (*1)
Insert length	**-120**	•••••••••	120 mm
Type	**-E**	•••••••••	Always -E
Cable length	**-00N**	•••••••••	No cable
	-03E	•••••••••	3 m (*2)
	-05E	•••••••••	5 m (*2)
	-10E	•••••••••	10 m (*2)
	-05D	•••••••••	Digital 5 m (*3)
	-10D	•••••••••	Digital 10 m (*3)
	-15D	•••••••••	Digital 15 m (*3)
	-20D	•••••••••	Digital 20 m (*3)
—	**-N**	•••••••••	Always -N
Option		**/SCT**	Stainless steel tag plate

*1: When using DO70G with DOX8HS/PB350G/PB360G, a dedicated adaptor is required.

When ordering DO70G with the holder, refer to the combination table below and select an adaptor according to the Holder Option Code.

If you order only DO70G, please make a separate order for the adaptor by Part No. in the table below. However, if you are already using DOX8HS/PB350G/PB360G and DO70G, you can use the existing adaptor. In this case, you do not need to make an additional order for the adaptor.

Holder-Adaptor Combination

Holder Model	Holder Option Code	Part No.
Submersion Type Holder DOX8HS	/D72S (Stainless Steel, Holder material: -S3)	K9148NA
	/D72P (Polypropylene, Holder material: -PP)	K9148NB
Slant Type Float Holder PB350G	/D72 (Polypropylene)	K9679CA
Vertical Type Float Holder PB360G	/D72 (Polypropylene)	K9679CA

*2: The power cable is +1.5 m. (Refer to "DIMENSION")
For connection to DO402G
*3: For connection to FLXA402

2. Power Supply Unit

Used when the converter is connected to DO402G (obsolete model)

Model	Suffix Code	Option Code	Description
DOX10	••••••••••••••••••••••••	•••••••••	Power supply unit
Power supply	**-U**	•••••••••	Always -U
Cable length	**-00**	•••••••••	No cable
	-15	•••••••••	1.5m (DO402G power supply use)
-	**-N**	•••••••••	Always -N
Option	Mounting bracket	**/P**	Pipe mounting bracket
		/W	Wall mounting bracket
	Tag plate	**/SCT**	Stainless steel tag plate
	Conduit work adaptor	**/CB1**	G1/2, 1pcs
		/CD1	1/2 NPT, 1pcs
		/CF1	M20 x 1.5, 1pcs

Note: The DOX10 may not be usable depending on the relevant standard of your region.

3. Spare Parts

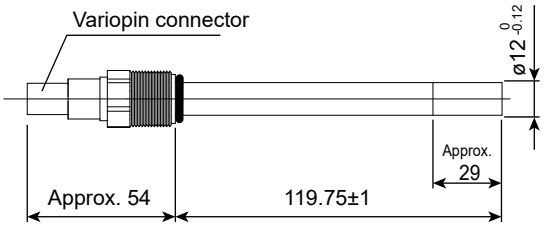
Part Name	Part No.	Remarks
Sensor cap	K9679AN	Please shade the light during safe keeping. The recommendation exchange cycle of a sensor cap is 1 time in 6 to 12 months.
Zero adjusting reagent	L9920BR	Sodium sulfite 500g
O-Ring (EPDM)	K9691KB	For Adaptor Mounting
Adaptor	K9148NA	For submersion type holder (stainless steel)
	K9148NB	For submersion type holder (polypropylene)
	K9679CA	For float type holder (polypropylene)
Sensor cable	K9679BA	3 m (Cable length: -03E)
	K9679BB	5 m (Cable length: -05E)
	K9679BC	10 m (Cable length: -10E)
	K9679BD	5 m (Cable length: -05D)
	K9679BE	10 m (Cable length: -10D)
	K9679BF	15 m (Cable length: -15D)
	K9679BG	20 m (Cable length: -20D)

■ DIMENSION

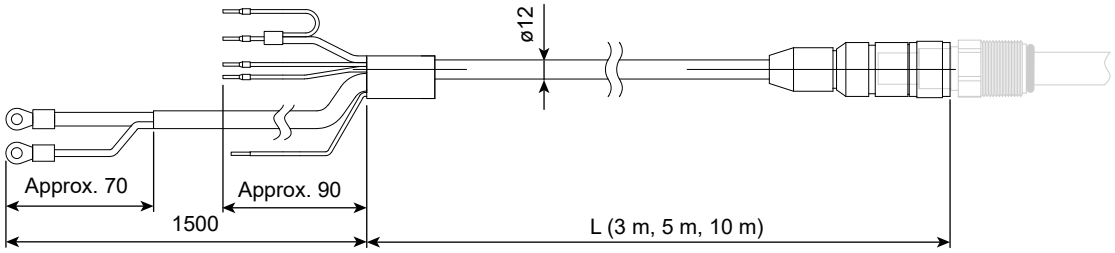
DO70G Optical Dissolved Oxygen Sensor

No cable type

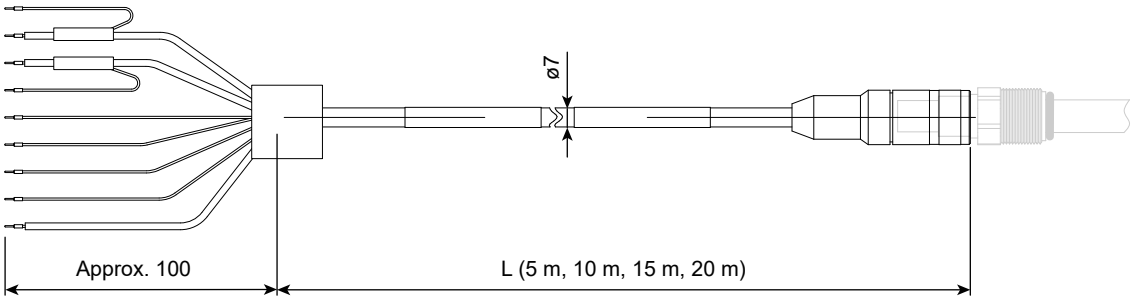
Unit: mm



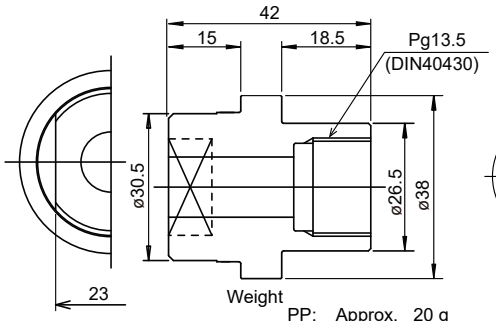
Cable length (code): -03E, -05E, -10E



Cable length (code): -05D, -10D, -15D, -20D



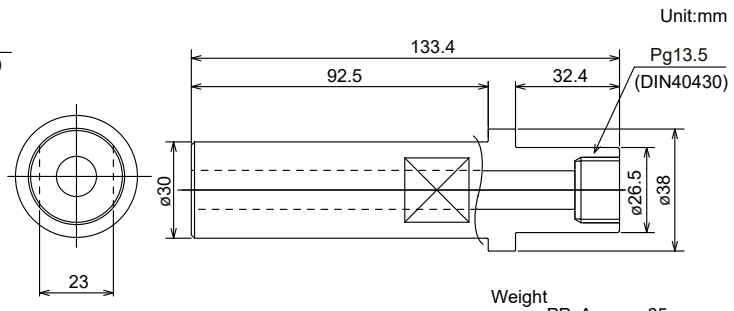
Adaptor (/S3, /PP)



Weight
PP: Approx. 20 g
SUS: Approx. 173 g

Adaptor (/FPP)

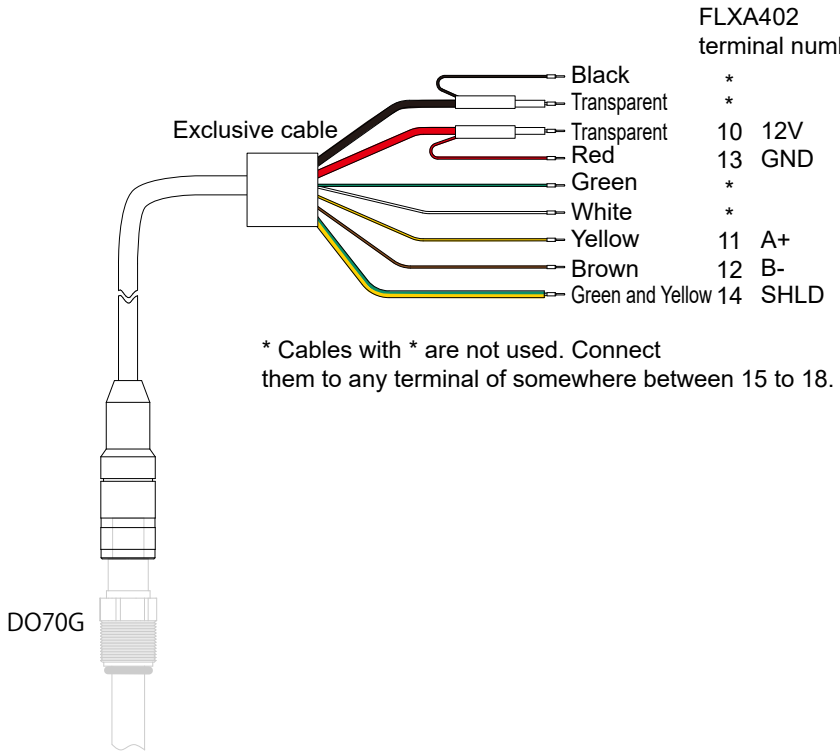
Unit:mm



Weight
PP: Approx. 65g

■WIRING DIAGRAM EXAMPLE

Example with FLXA402



* Cables with * are not used. Connect them to any terminal of somewhere between 15 to 18.

Inquiry Specifications Sheet for Optical Dissolved Oxygen Sensor
For inquiry on the Yokogawa optical dissolved oxygen sensor, please tick (✓) the appropriate box (☐) and fill up the relevant information in the blanks.

1. General

Name of your company: _____
Name of inquirer : _____ Dept. or sect : _____ (Telephone; _____)
Name of plant : _____
Measuring point : _____
Purpose of use : ☐ Indication ☐ Recording ☐ Alarm ☐ Control
Power supply : _____V AC

2. Measurement Conditions

(1) Liquid temperature : _____ to _____, normal _____ [°C]
(2) Liquid pressure : _____ to _____, normal _____ [kPa]
(3) Flow rate : _____ to _____, normal _____ [m/s]
(4) Name of liquid to be measured : _____
(5) Components of liquid to be measured : _____
(6) Other conditions : _____

3. Installation environment

(1) Ambient temperature: _____
(2) Location : ☐ Outdoors ☐ Indoors _____
(3) Other information : _____

4. Requirements

(1) Measurement range : ☐ 0 to 25 mg/L ☐
(2) System component selection: ☐ Sensor ☐ Converter ☐ Power supply unit ☐ Holder ☐ Cleaning system ☐ Calibration set
(3) Length of sensor cable : ☐ 3 m ☐ 5 m ☐ 10 m
(4) Type of holder : ☐ Submersion ☐ Floating ball
(5) Cleaning method : ☐ No cleaning ☐ Jet cleaning
(6) Other requirements :