

SPECIFICATION SHEET



DISSOLVED OXYGEN ANALYZER /TRANSMITTER

ODM-135A (2 wire system)
ODM-136A (4 wire system)

This is an on-site dissolved oxygen meter transmitter with small robust aluminum case, and simple operation.

Available for continuous measurement control of dissolved oxygen concentration at sewage and human waste treatment plants and factory wastewater treatment facilities. There are 2 wire system (DC 24V power) and 4 wire system (AC free power) types.

Combined electrodes are such as polarograph type 7533L. Please refer to the spec sheets of other detectors for more details.

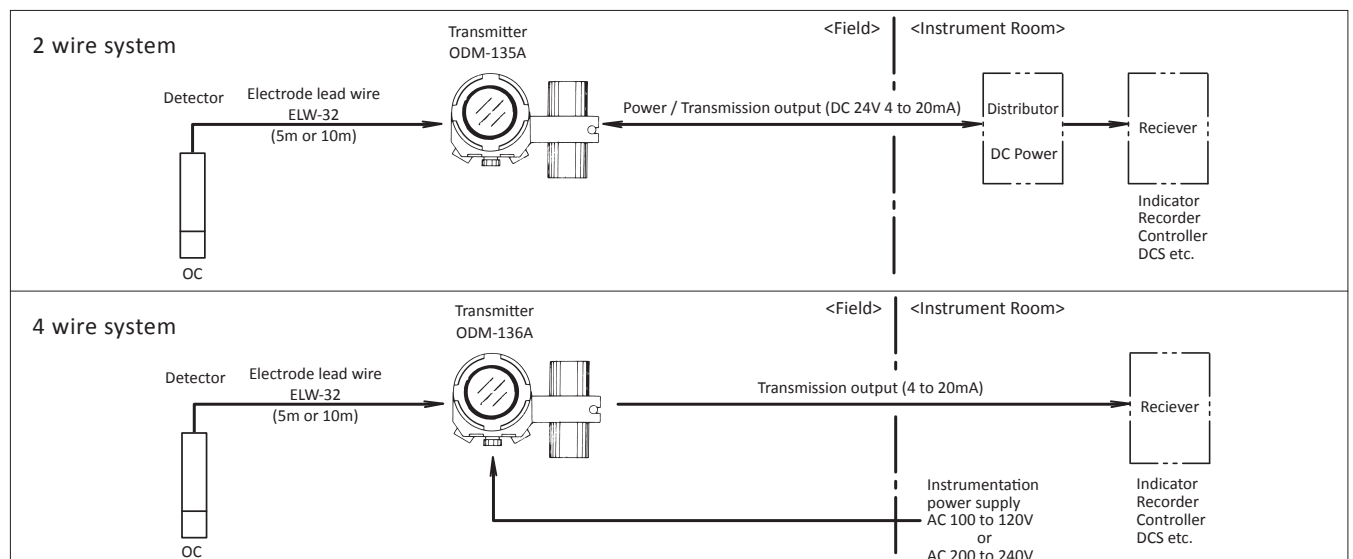


Features

- Transmission output measurement range
Selectable from 9 ranges from minimum of 0 to 1mg/L to maximum of 0 to 50mg/L
- Automatic determination of electrode condition during calibration
Shows message such as zero slope abnormal or poor response when normal calibration is unavailable.
- Easy operation
All operation is possible by 3 switches placed underside. Span calibration can be conducted by single touch as it has Saturated dissolved oxygen data memorized.
- Holds transmission output value during maintenance
In maintenance mode (ST-BY), the transmission output is held at the value immediately before switching, so there is no need to worry about disturbing the control system.

- Adjustment of measured value
The measured value can be matched with the DO value for operation management.
- Self-diagnosis
Equipped with a burnout function that notifies the user of the error by swinging the transmission output to the upper or lower limit when an error such as disconnection or short circuit of the temperature measurement resistor, hardware error, or data error occurs.
- Automatic return to measurement mode
After 2 hours in maintenance mode, it can be automatically returned to measurement mode.

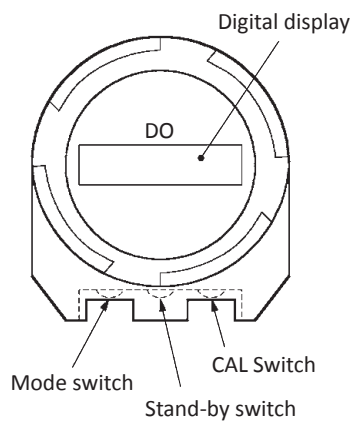
Composition



Standard Spec

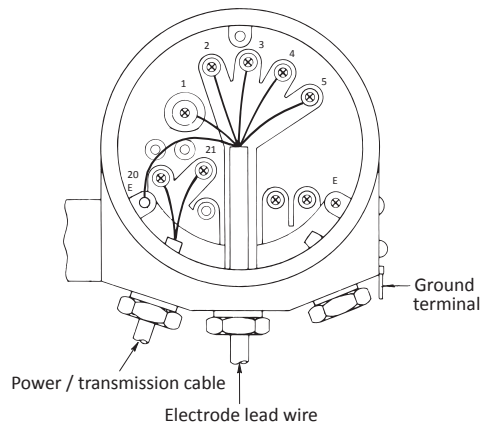
Product	Dissolved oxygen meter transmitter	
Model	ODM-135A (2 wire system)	ODM-136A (4 wire system)
Measurement range	DO: 0.00 to 1.00/2.00/5.00/10.00/15.00/20.00/25.00/30.00/50.00mg/L SAT: 0.0 to 150.0% O ₂ : 0.0 to 30.0% TEMP: 0.0 to 100.0°C These do not have transmission output but only display	
Display method	Liquid crystal digital	
Function (without detector)	Linearity: within $\pm 1\%$ FS (at equivalent input) However, 0 to 1, 0 to 2mg/L ranges are within ± 0.05 mg/L Temperature compensation range: 0 to 45°C Temperature compensation accuracy: within $\pm 3\%$ FS (with equivalent input)	
Transmission output	DC 4 to 20mA insulated resistance load 650Ω or less	
Power	DC 24V $\pm 10\%$	AC 90 to 132V or AC 180 to 264V 50/60Hz
Power consumption	0.6VA or less	Approx. 3VA
Ambient temperature / humidity	-20 to 55°C, 99% (RH) or less (no condensation)	
Structure	Outdoor installation, IP55 (dust-proof, anti-flow type)	
Mounting method	50A pipe installation	
Weight	Approx. 3kg	
Wiring port	G3/4 (PF3/4 F) 3 places	
Material	Main body	Aluminum alloy casting
	Window	Resin
	Bracket	SUS 304
Coating color	Metallic silver and blue	

Control switch / display

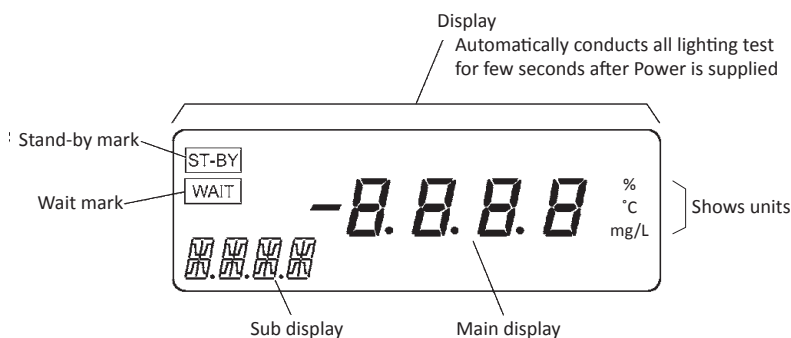
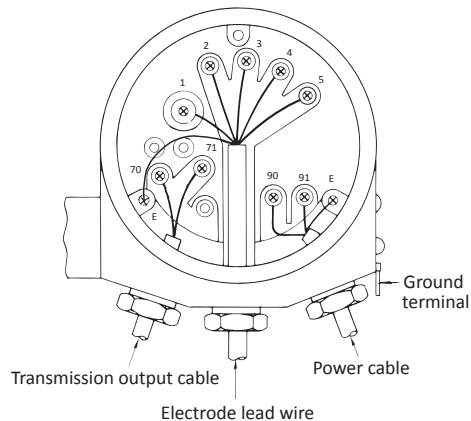


Terminal

● ODM-135A (2 wire system)

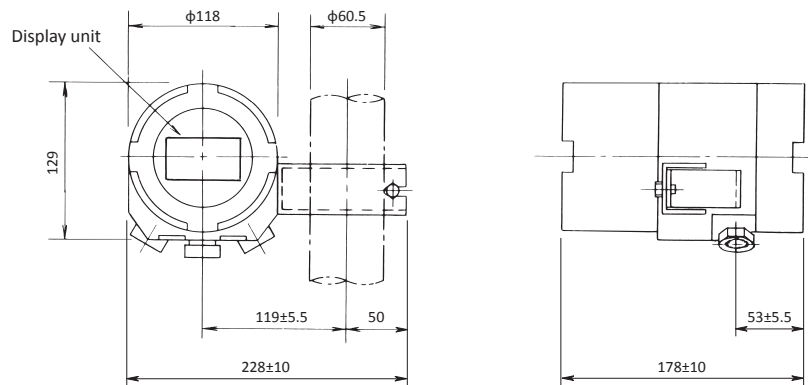


● ODM-136A (4 wire system)

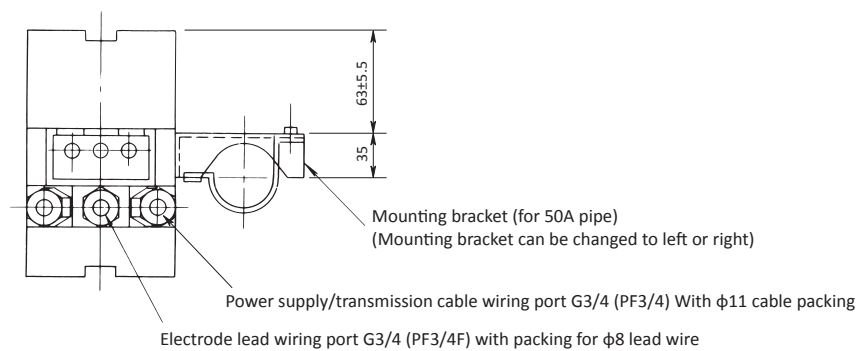


Dimensions

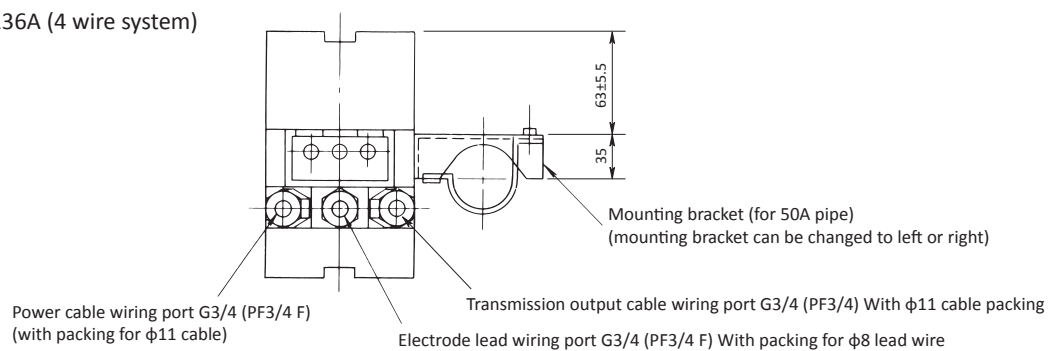
Unit : mm



● ODM-135A (2 wire system)



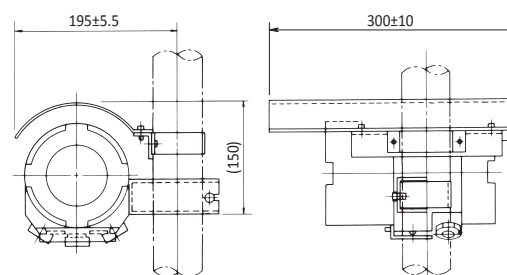
● ODM-136A (4 wire system)



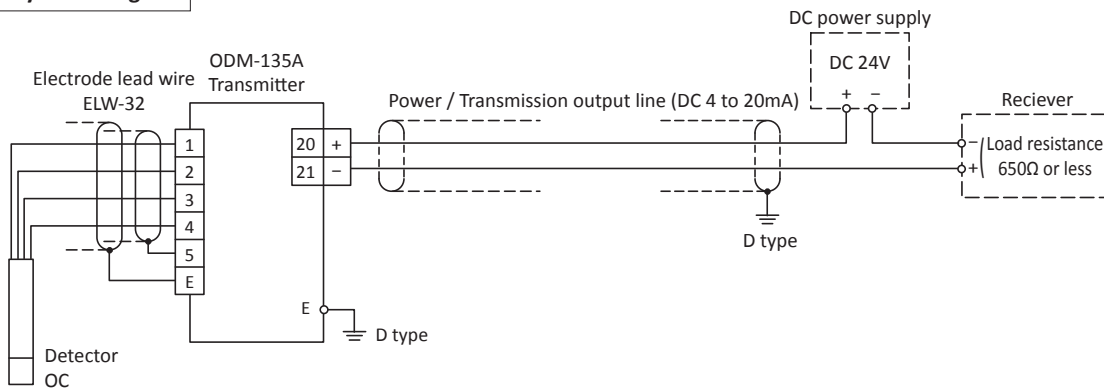
● Hood (option)

Recommended for outdoor installations in direct sunlight.

Material : SUS 304
 Mounting method : 50A pipe installation
 Code No. : 544493K

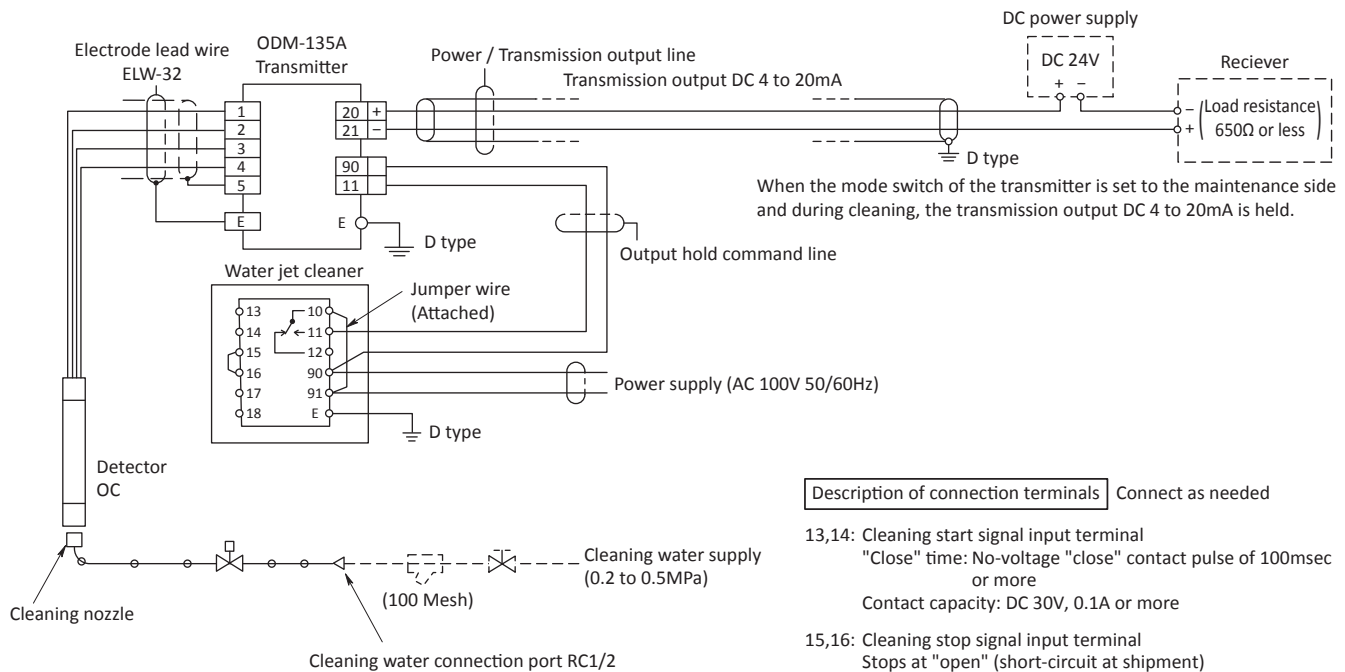


2 wire system diagram



<Water jet cleaner JOC-7C type combination system connection example>

With output hold external input terminal (#90 - #11 option)

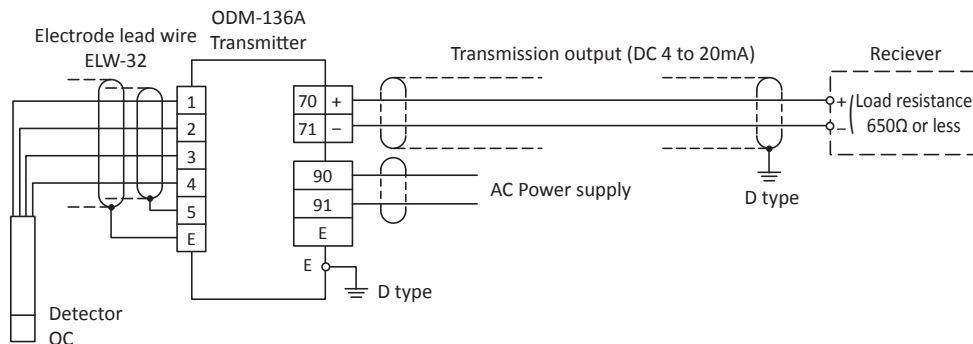


Description of connection terminals

Connect as needed

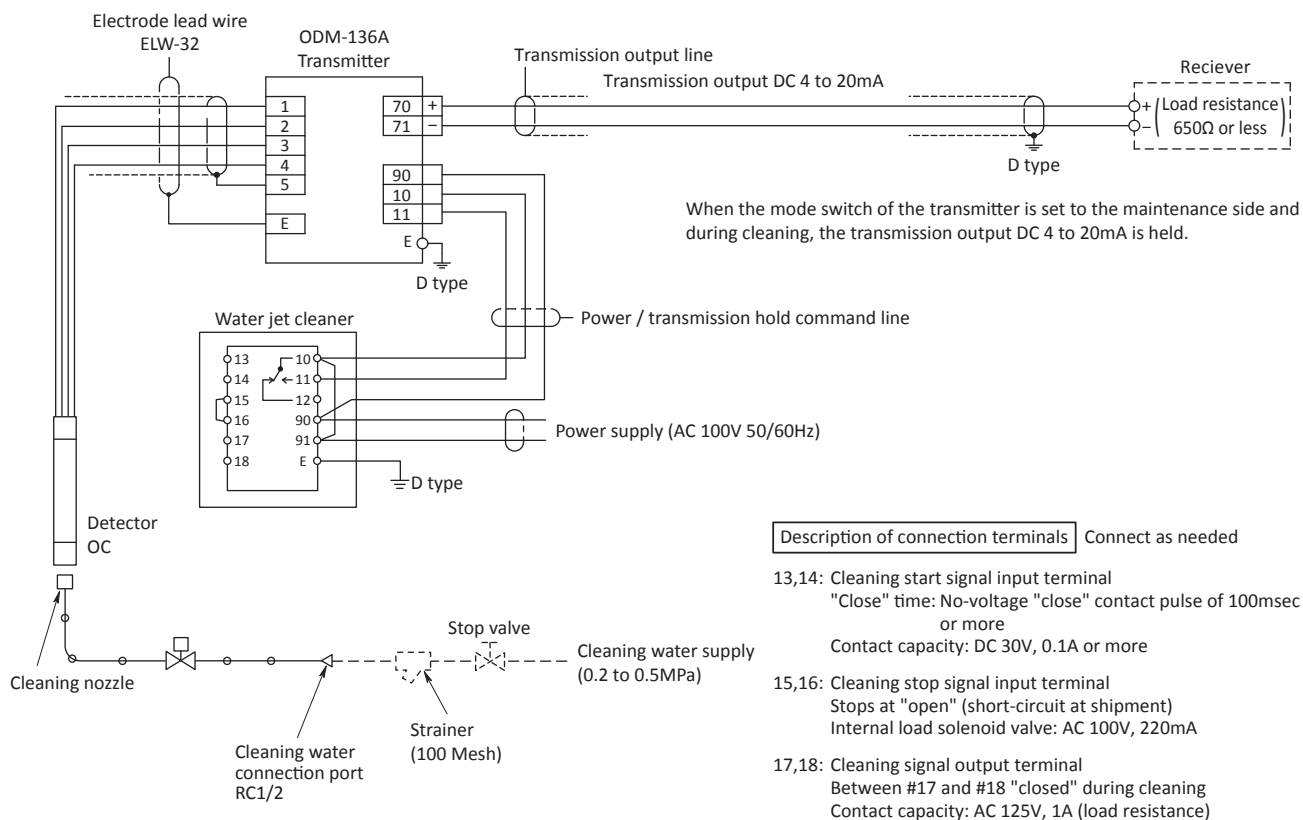
- 13,14: Cleaning start signal input terminal
"Close" time: No-voltage "close" contact pulse of 100msec or more
Contact capacity: DC 30V, 0.1A or more
- 15,16: Cleaning stop signal input terminal
Stops at "open" (short-circuit at shipment)
Internal load solenoid valve: AC 100V, 220mA
- 17,18: Cleaning signal output terminal
Between #17 and #18 "closed" during cleaning
Contact capacity: AC 125V, 1A (load resistance)

4 wire system diagram



<Water jet cleaner JOC-7C type combination system connection example>

With output hold external input terminal (#10 - #11 option)



Product code

ODM135A-1-□□□□□□□□□□									
									Transmission output (DC 4 to 20mA) range *1
A									0 to 1.00mg/L
B									0 to 2.00
C									0 to 5.00
D									0 to 10.00
E									0 to 15.00
F									0 to 20.00
G									0 to 25.00
H									0 to 30.00
J									0 to 50.00
0									Output hold external input *2 None
1									Equipped
									Combined electrode *3
A									For general use 7533L (7699L)
B									For human waste 7536L, 7546L (Float type) (7696L)
C									For fermentation 765xL, 766xL
									Surface finish (paint) *4
A									Standard coat
B									Heavy anti-corrosion coating
									Built-in arrester *5
0									None
1									Equipped
									Built-in wiring port adapter
0									None G3/4 (PF3/4) Standard
1									G1/2 (PF1/2) SUS304
2									NPT1/2 SUS304
3									NPT3/4 SUS304
									Electrode lead wire drawing method *6
A									ELW-32 (φ8) direct connection
B									ELW-1 or ELW-4 (φ6) Dedicated cable for direct connection
C									EC-22 (φ8) FC-4 combined
									Hood (sun shade)
0									None
1									Equipped (Code No.544493K)
									Language
A									Japanese (standard)
B									English

ODM136A-1-□□□□□□□□□□									
									Power voltage *1
1									AC 90V to 132V 50/60Hz
2									AC 180V to 264V 50/60H
									Transmission output (DC 4 to 20mA) range *2
A									0 to 1.00mg/L
B									0 to 2.00
C									0 to 5.00
D									0 to 10.00
E									0 to 15.00
F									0 to 20.00
G									0 to 25.00
H									0 to 30.00
J									0 to 50.00
0									Output hold external input *3 None
1									Equipped
									Combined electrode *4
A									For general use 7533L(7699L)
B									For human waste 7536L, 7546L (Float type) (7695L)
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1									G1,2 (PF1/2) SUS304
2									NPT1/2 SUS304
3									NPT3/4 SUS304
									Electrode lead wire drawing method *7
A									ELW-32 (φ8) direct connection
B									ELW-1 or ELW-4 (φ6) Dedicated cable for direct connection
C									EC-22 (φ8) FC-4 combined
									Hood (sun shade)
0									None
1									Equipped (Code No.544493K)
									Language
A									Japanese (standard)
B									English

*1. Please select from 9 types of range (DC 4 to 20mA), A through J for transmission output. The unit is in mg/L.

*2. Select "Equipped" for combining with JOC type cleaner. The transmission output will be held during cleaning.

*3. 7695L, 7699L are electrodes for JOC-7B which is an old type of electrode holder with water jet cleaner.

*4. The standard coating is a melamine resin undercoat/topcoat, average film thickness of 30μm or more, and glossiness of G40.

The heavy-duty anti-corrosion coating is an epoxy resin undercoat/intermediate coat, a polyurethane resin top coat, a film thickness of 100μm or more, and a gloss level of G80.

*5. Attach a ceramic surge arrester (simple) to the power transmission line.

*6. Electrode lead wire ELW-32 type is for 7533L, 7536L and 7546L electrodes.

ELW-1 type is for fermentation electrodes.

The ELW-4 type is for the old type 7696L and 7699L electrodes

*1. The power supply voltage is AC 100V system and AC 200V system free power supply, When combined with a JOC type cleaner, AC 100V supply is limited.

*2. Please select from 9 types of range (DC 4 to 20mA), A through J for transmission output. The unit is in mg/L.

*3. Select "Equipped" for combining with JOC type cleaner. The transmission output will be held during cleaning.

*4. 7695L, 7699L are electrodes for JOC-7B which is an old type of electrode holder with water jet cleaner.

*5. The standard coating is a melamine resin undercoat/topcoat, average film thickness of 30μm or more, and glossiness of G40. The heavy-duty anti-corrosion coating is an epoxy resin undercoat/intermediate coat, a polyurethane resin top coat, a film thickness of 100μm or more, and a gloss level of G80.

*6. Attach a ceramic surge arrester (simple) to the power transmission line.

*7. Electrode lead wire ELW-32 type is for 7533L, 7536L and 7546L electrodes.

ELW-1 type is for fermentation electrodes.

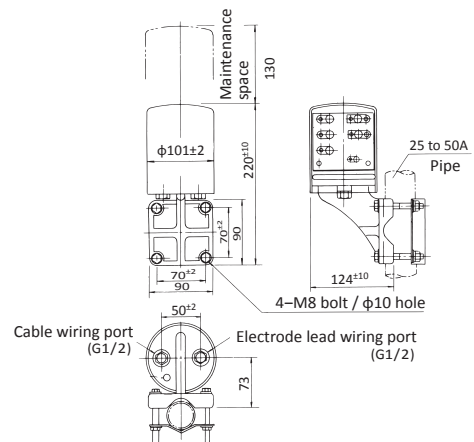
The ELW-4 type is for the old type 7696L and 7699L electrodes.

Related Equipments

● Connector box

This is used when the transmitter and electrodes are installed separately and it is not possible to wire to the transmitter with the lead wires attached to the electrodes.

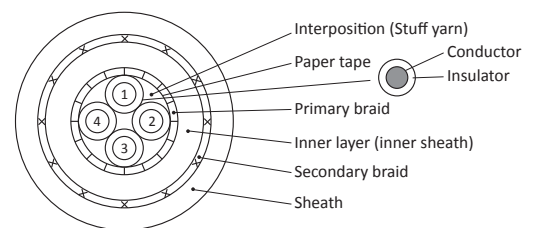
Model	: FC-4
Structure	: Outdoors
Weight	: Approx. 0.9kg
Case	: ABS resin
Base	: ABS resin
Color	: Satin chrome plating
Mounting method	: Can be mounted on 25A to 50A pipes, walls or boards



● Dedicated cables

The dedicated cable is a special cable for the DO meter and is used between the transmitter and the connector box.

Model	: EC-22
Diameter	: $\phi 8$
Insulator	: Polyethylene and vinyl
Jacket	: Vinyl
Insulation resistance	: $10^5 M\Omega$ or more /100m between core wires
Extended distance	: Maximum 100m, Unable to use intermediate relay
Standard length	: 5m unit up to 5m to 100m
Weight	: Approx. 0.5kg/5m

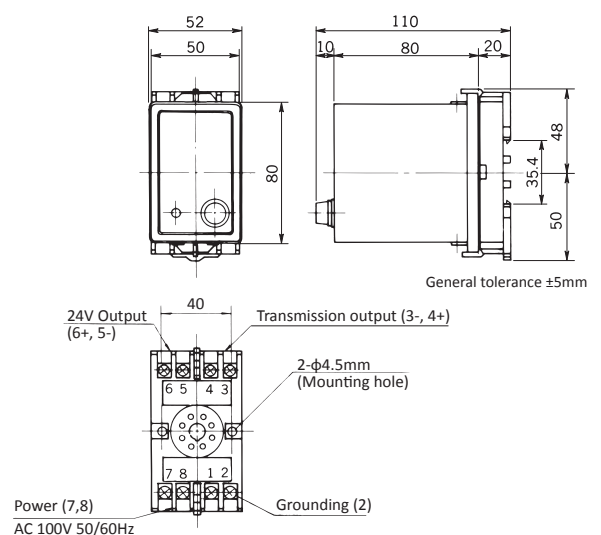


Power supply units for 2-wire transmitter and meter relays with power supply are available. Please specify if necessary.

● Power supply unit

Model	: PA-24
Output rated voltage	: DC 24V
Output rated current	: 2 to 22mA (Parallel connection of two instruments is not possible)
Supply power	: AC 100V $\pm 10\%$ 50/60Hz
Ambient temperature	: -5 to $55^\circ C$
Structure	: For indoors, Plug-in type
Weight	: Approx. 300g


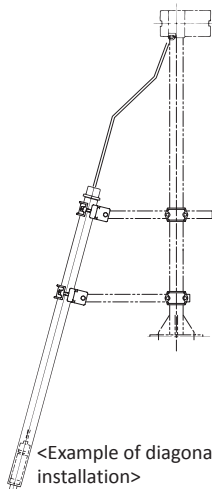
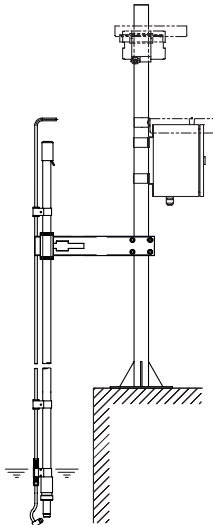
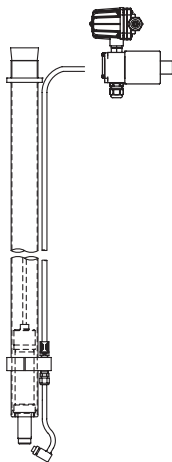
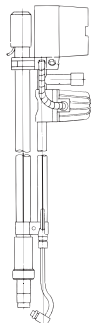
*Output transmission signal DC 4 to 20mA can be taken out from the terminal block.



Combined Detector

The model names, general specifications, and shapes of typical combined detectors are shown in the table below. Please select according to the installation and measurement conditions.

The built-in DO electrode is a polarograph type 7533L (for wastewater and sewage treatment) or 7536L (for human waste). The dedicated lead wire is ELW-32 type. For detailed specifications, see the separate spec sheet for detectors.

Product	Immersion type DO electrode holder	Drop-in type DO detector	Immersion type detector with pulse air jet cleaner	Drop-in type detector with water jet cleaner	Immersion type detector with water jet cleaner
Model	OC-711	OC-950	POC-7D	JOC-950C	JOC-711C
Structure	Outdoor waterproof type				
Automatic cleaning type	None	None	pulse air jet	Water or air jet	Water or air jet
Wetted part material	PVC	PVC / SUS304	PVC / SUS316	PVC / SUS316	PVC / SUS316
Sample temperature	0 to 45°C				
Pressure	Atmospheric pressure				
Flow rate	Electrode unit is 10cm/s or more				
Length of detector	Holder length: 0.5 to 3.5m	Length of protective tube: 2 to 6m	Holder length: 1 to 3m	Length of protective tube: 2 to 6m	Holder length: 0.5 to 3m
Weight	Approx. 1kg (length 1m)	Approx. 17kg (length 5m)	Approx. 4kg (length 1m)	Approx. 20kg (length 5m)	Approx. 7kg (length 1m)
Pressure of cleaning water or air supply	None	None	Plant air 0.2 to 0.5MPa	Industrial water 0.2 to 0.5MPa Plant air 0.05 to 0.35MPa	
Power	Not required	Not required	AC 100V 50/60Hz	AC 100V 50/60Hz	AC 100V 50/60Hz
Shape		 <Example of diagonal installation>			



DKK-TOA CORPORATION



CAUTION

Please read the operation manual carefully before using products.

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Information and specifications are subject to change without notice.

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