

SPECIFICATION SHEET

BS11-043E

General

This instrument is the residual chlorine monitor for drinking water consisting of the transmitter, electrode, and measurement cell. It is the most suitable for continuous monitoring of end hydrants of city water featuring small compact design, low sample consumption and simple operation. For the measured value output, either 4 ~ 20mADC or 1 ~ 5VDC can be selected.

Standard specifications

Name of product: Reagentless free chlorine monitor
Model: CLG-1 (Generic nomenclature of system)
 Indicator/transmitter; CD-36D
 Electrode;
 CLV-1 (leadless) + Lead or
 CLV-2 (with leads)
 Lead length is 1m for each type.
 Measurement cell;
 CLZ-1 (Standard) or
 CLZ-2 (For pure water measurement)

Measurement object: Free chlorine of drinking water, swimming pool water

Measurement method: Polarograph with vibrating micro-electrode

Electrode cleaning method: Beads cleaning utilizing vibration of micro-electrode

Measurement range: 0 ~ 2mg/liter (Standard), 0 ~ 1mg/liter, 0 ~ 3mg/liter
 3-range selection by internal switch.

Display: LCD digital display
Indication range: 0.00 ~ 19.99mg/liter
Temperature compensation range: 0 ~ 40°C

Calibration method: Comparing with manual analysis such as orthotolidine method.

Sample conditions: pH; 6.5 ~ 7.5pH
 Conductivity;
 Not less than 80μS/cm
 Temperature 0 ~ 40°C
 Pressure; 0.1 ~ 1.5kgf/cm²G
 Consumption; 50 ~ 200ml/min (with CLZ-1 measurement cell)



Ambient conditions: Temperature; -10 ~ 55°C
 Relative humidity; 95% or less

Transmission output: Isolated output
 4 ~ 20mADC (max. load 600 ohms) (Standard)
 1 ~ 5VDC (min. load 50kilo-ohms)
 Specify one of the above.

Power requirements: 100VAC ±10% 50/60Hz (Standard)
 110VAC ±10% 50/60Hz
 115VAC ±10% 50/60Hz
 Specify one of the above.

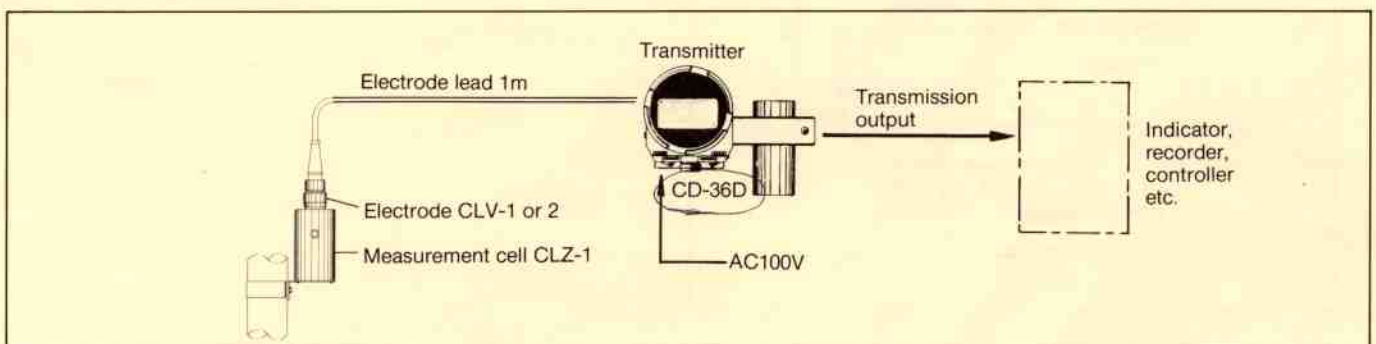
Power consumption: 5VA

Pipe connection: Sample inlet; Rc1/4 (PT1/4)
 Drain port; Rc1/4 (PT1/4)
 (With CLZ type measurement cell)

Construction: Outdoor installation, rainproof
Mounting: Mounted on 50A (outer diameter 60.5mm) steel pipe

Main materials: Transmitter
 AC7A (cast aluminum), metallic silver and blue painting
 Sensor
 Measurement cell; Clear acryl resin (PMMA)
 Electrode; Hard PVC, SUS304
 Indicator/transmitter;
 3.5kg Approx.
 Sensor; 1.5kg Approx.

System arrangement



Characteristics

Linearity:
repeatability:

Within $\pm 5\%$ FS
Within $\pm 0.1\text{mg/liter}$

Note:

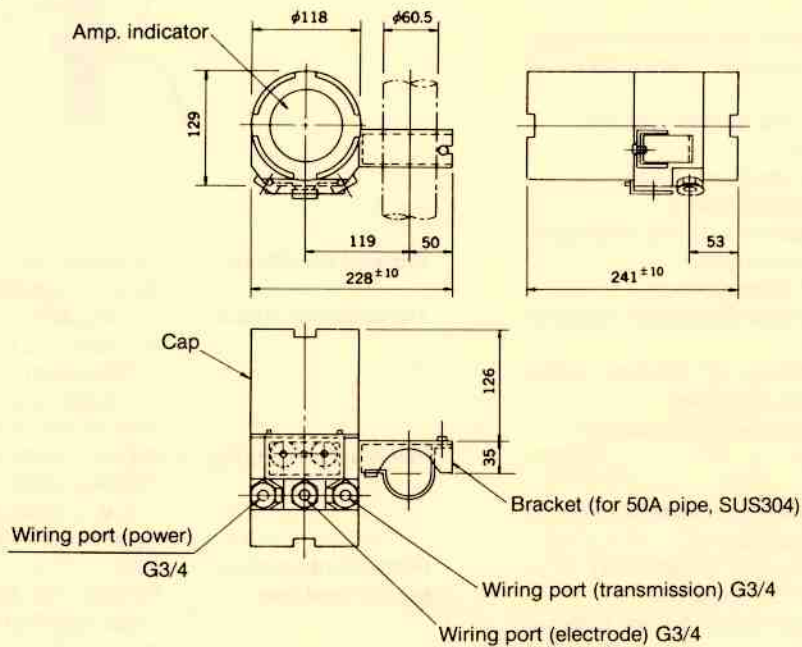
When sample conductivity is lower than $80\mu\text{S/cm}$, a large error may result in measurement of 2mg/liter or higher concentration.

Dimensions Unit: mm

● CD-36D Indicator/transmitter

General tolerance: ± 5

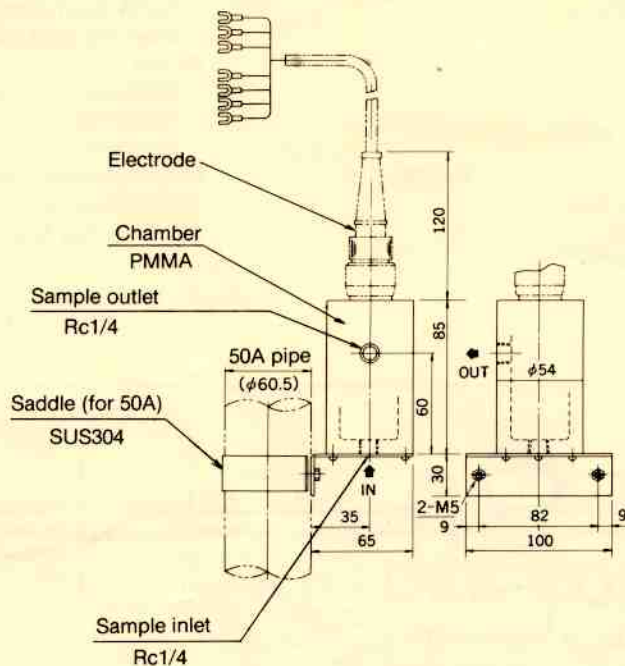
(CLF3-543529-1A)



● CLZ-1 Measurement cell

General tolerance: ± 10

(CLF4-560980-2A)



Optional

Column for pure water measurement CLZ-2:

The conditioner used for stable Cl_2 measurement of pure water of less than $80\mu\text{S/cm}$ by adding NaCl and thus raising the sample conductivity.

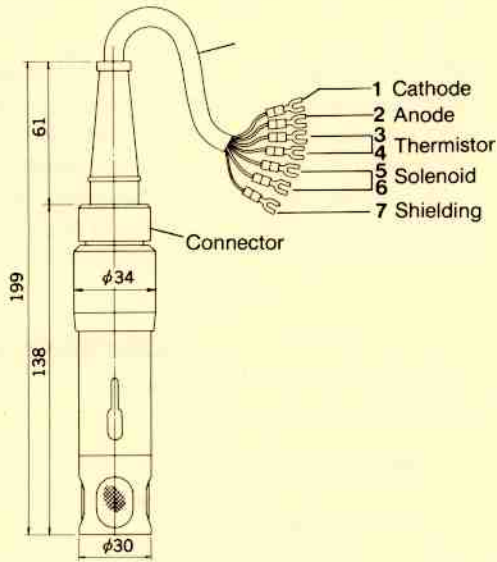
Pole frame B-150:

Transmitter (CD-36D) and the sensor (electrode and measurement cell) are assembled on this frame.

● **CLV-1 Electrode**

General tolerance: ± 2

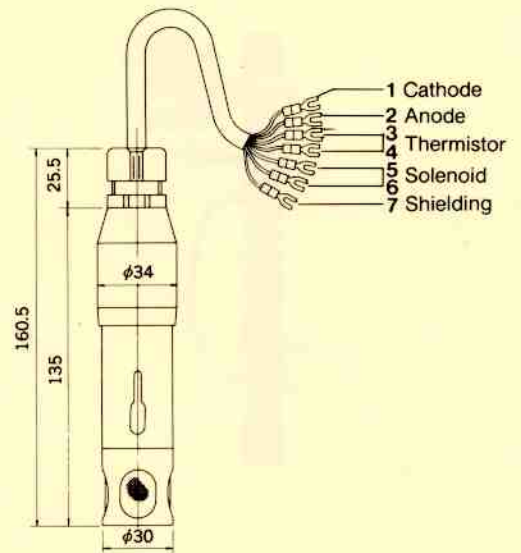
(CLV4-560194-A)



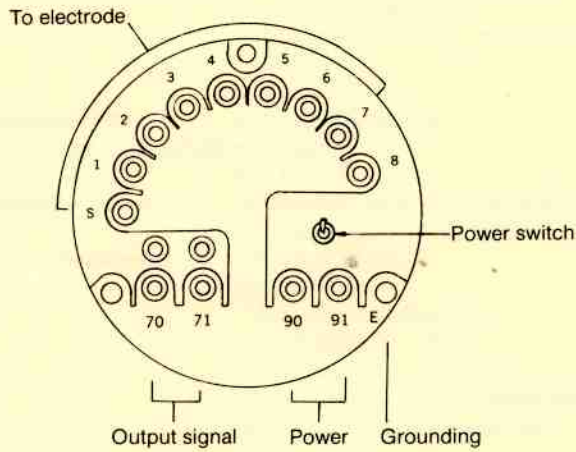
● **CLV-2 Electrode**

General tolerance: ± 2

(CLV4-561979-A)



Terminal connections



Conductivity characteristics of vibration type Cl_2 sensor

Usually, conductivity of city water is around $200\mu S/cm$ with no large variation, and little effect is exerted on chlorine measurement. But when conductivity is below $80\mu S/cm$, the Cl_2 indication is rather low, and a problem may occur in measurement of a concentration above 2mg/liter.

