

Residual Chlorine / pH Analyzer

CT-6110-POL Intelligence Advanced, Dual Channel

The CT-6110-POL is a non-reagent type, motor-driven, self-cleaning chlorine/pH analyzer. The pH measurement allows real-time pH compensation to free available chlorine measurement. It also provides 2 analog output and 2 relays for residual chlorine and pH each. There is also a RS-485 Modbus interface for digital communications.



Product Specifications

Measurement Parameter	:	Free available chlorine (free chlorine) of water, and pH value of water, temperature of water
Free Chlorine Measurement Principle	:	Polarographic method by rotating electrode (no reagent needed for measurement)
Free Chlorine Measurement Range	:	0.00~3.00 mg/l (ppm), (highest measurement up to 5 mg/l) (Free Chlorine corresponding range adjustable for graphical display, such as 0~1 / 0~2 / 0~3 mg/l)
Display	:	LCM (graphic menu display) with auto/manual illumination function, available for Text mode, Trace mode, and Chart mode
Text Mode	:	Digit text reading, simultaneous displays free chlorine, pH, temperature reading
Trace Mode	:	Set up from 3 minutes to 4 weeks duration of the free chlorine value trend graph to master the process history as well as the display of real-time free chlorine reading at the bottom.
Chart Mode	:	3 minutes real-time dynamic free chlorine measurement graph to monitor recent development in control as well as the display of real-time free chlorine reading at the bottom.
Output Signal	:	Two isolated DC 0/4~20 mA corresponding to <ul style="list-style-type: none"> • Free chlorine • pH or temperature, max load 500Ω One RS-485 (MODBUS RTU or MODBUS ASCII) interface
Relay Contact	:	Two individual relays corresponding to free chlorine or pH, Hi/Lo selectable, limited programmable, 240 VAC, 0.5A max. (recommended)
Operating pH Range	:	pH 5~9 with optional pH sensor for automatic compensation, or pH 6.5~7.5 without pH compensation
Sample Solution Temperature	:	Temp.:0~50°C (compensation range: 0~45°C)
Sample Solution Inlet Pressure	:	0.01 ~ 2 kgf/cm ² (no overflow as the criteria)
Sample Solution Flow Rate	:	0.1~2 L/min (no overflow as the criteria)

Sample Solution Conductivity	: 100 ~ 500 $\mu\text{S}/\text{cm}$ (depends on sample quality)
Sample Solution Suspended Solids	: S.S. ≤ 10 mg/L
Electrode	: 2 in 1 rotating electrode (Indicator electrode: gold; Counter electrode: silver) with relative slope index for electrode aging determination
Temperature Probe	: NTC 30K
Electrode Cleaning	: Ceramic beads offering automatic self-cleaning
Wetted Materials	: • Flow-chamber: PC (Polycarbonate) • Sensor body: PEEK • Fitting: Nylon
Power Supply	: • CT-6110-POL-01: AC 220V(-15~+10%) / 60Hz • CT-6110-POL-02: AC 220V(-15~+10%) / 50Hz • CT-6110-POL-03: AC 110V(-15~+10%) / 60Hz
Power Consumption	: Approx. 35W
Installation	: Wall mounting
Ambient Temperature	: 0 ~ 50°C
Weight	: Approx. 4.0 kg
System Dimensions	: ~316 mm \times 301 mm \times 211 mm (H x W x D)
Construction	: Indoor, drip-proof
Operating Humidity Range	: 5~95%RH
Repeatability	: $\pm 2\%$ Full Scale
Linearity	: $\pm 5\%$ Full Scale
Accuracy	: $\pm 2\%$ Full Scale
Response Time	: <60 sec for 0~2mg/l, or < 90 sec for 2~3mg/l (90% response time)
Flow Chamber Connection	: Inlet: 1/4" NPT thread, Drain: 3/8" NPT thread
Pipping Connections	: Inlet: 3/8"(ID), Drain: 3/8"(ID)
Motor Protection	: Auto motor shut-down against overheating
Water Outage Diagnosis	: Auto motor shut-down and hold the control and output
Optional pH Measurement Range	: -2.00~16.00pH(with an optional pH sensor set)
Temperature Measurement Range	: 0.0~60.0°C , $\pm 0.2^\circ\text{C}$ (± 1 Digit) with temp. error correction function

Calibration Method

- Zero:
 1. Electrode open-circuited calibration
 2. Activated charcoal filtered water (residual chlorine free water) calibration
 3. Pure water calibration
- Span:
 1. Input sampling DPD measurement result for calibration
 2. Use standard buffers for calibration
- Clean/Auto Zero: Relay contact, ON: 0~99min. 59 sec. / OFF:0~999 hours 59 minutes

Standard Components:

- Transmitter
- Sensor assembly (including Cl₂ electrode, temperature probe, and motor & driving device)
- Flow-through chamber
- Measuring cup for free chlorine sensor
- Ceramic beads pack x 2 (User needs to put one pack of the ceramic beads into the measuring cap themselves and note that the ceramic beads should not contact the silver electrode. The other pack is regarded as a spare part.)
- Inlet/Drain couplings(including inlet ball valve fitting)
- Wall mounting frame
- Transmitter mounting plate
- Cable gland (If the original glands are not enough for wiring, there will be an additional one available at the back of the transmitter where the waterproof plug should be removed in advance.)

Model Code

(Non-Reagent Type, Free Available Chlorine Analyzer)

Order Number	Description
CT-6110-POL-01	AC 220V (-15~+10%) / 60Hz
CT-6110-POL-02	AC 220V (-15~+10%) / 50Hz
CT-6110-POL-03	AC 110V (-15~+10%) / 60Hz

Optional Component

Order Number	Description
103720	pH combination electrode
8-41	Housing of pH sensor for chlorine flow-chamber
8-03	pH buffer solution, pH4.01, 500ml
8-04	pH buffer solution, pH 7.00, 500ml
8-23	pH buffer solution, pH 10.00, 500ml
5332026	Motor shield cover

Spare Parts

Order Number	Description
8-CL-01	2 in 1 Free chlorine electrode
8-40	Ceramic beads pack
5490015	Measuring cup of flow-chamber(PC)
8-CT6110-POL-FC	Flow-chamber(PC) of CT-6110-POL (Incl. fitting set)
8-CT-6110-POL-MOX	Motor & Decelerator Maintenance Kit (Specific order number needed for power supply)
8-26-3	ATC probe (NTC 30K), 1.3m

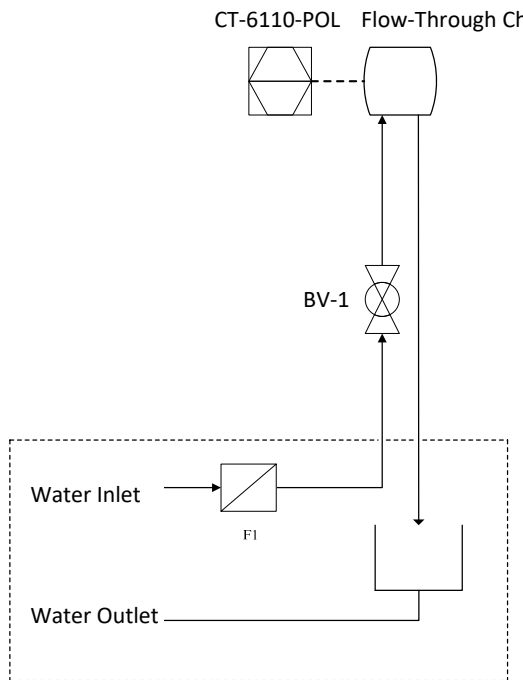
Flow Schematic:

BV-1: Ball valve

F1: Filter

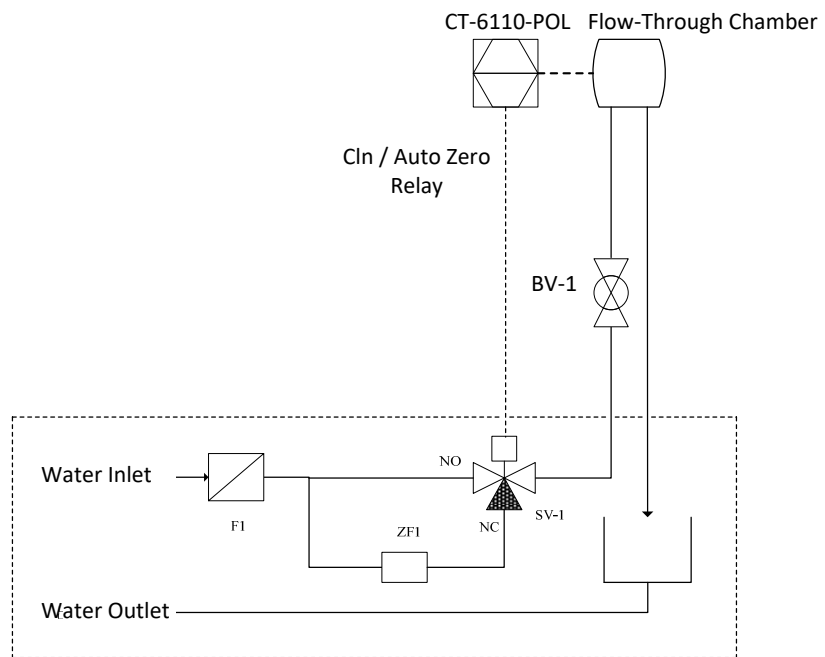
ZF1: Activated charcoal filter/ Zero filter

SV-1: 3-way solenoid valve



Suggestion

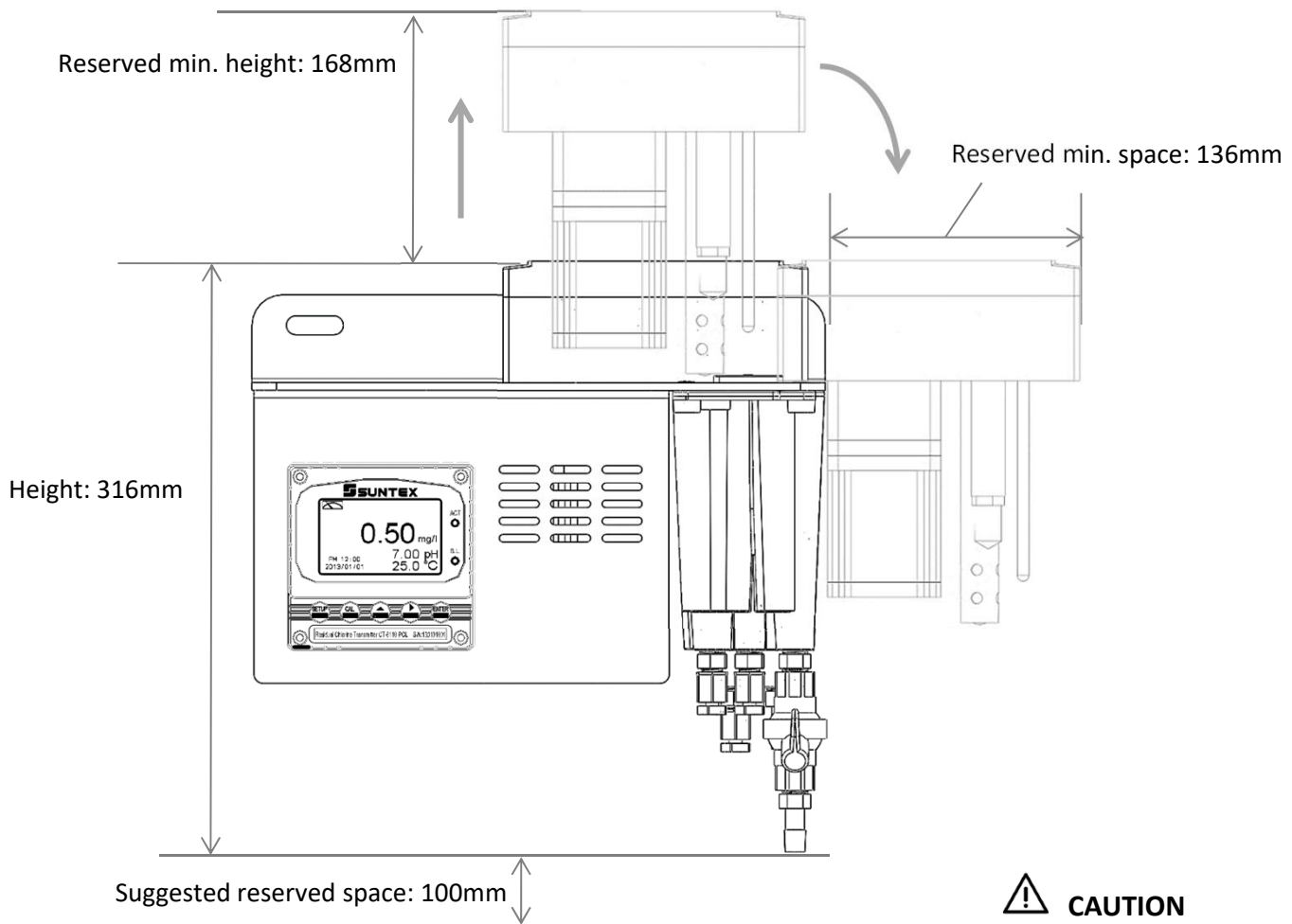
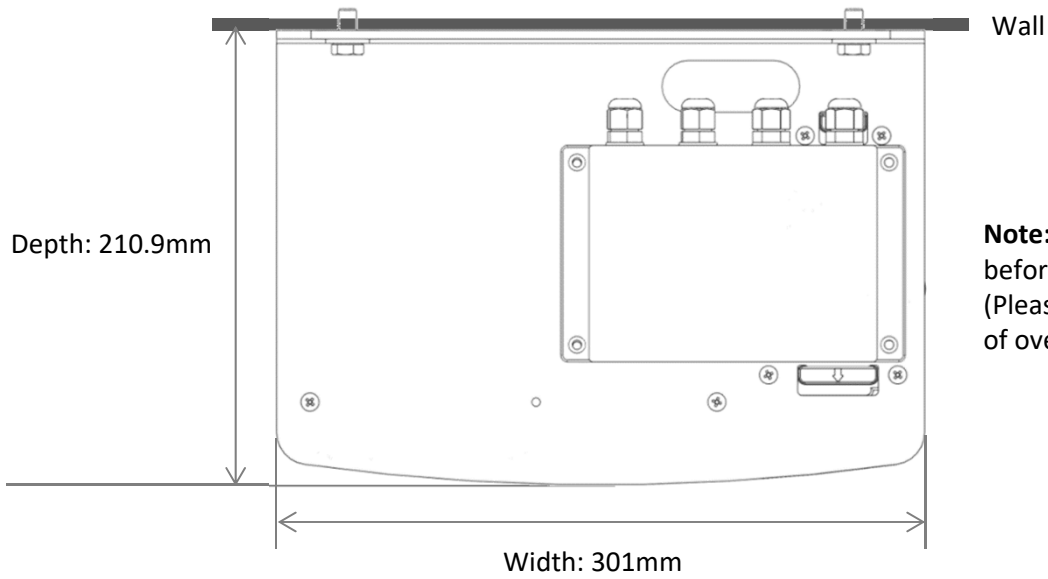
(A) General piping configuration



Suggestion

(B) Auto-Zero calibration piping configuration

Installation Dimensions:



⚠ CAUTION

Do not operate products before consulting instruction manual.