

## Quick Start Guide

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# APFCL

Chlorine (Free or Total) / Turbidity Analyzer Panel

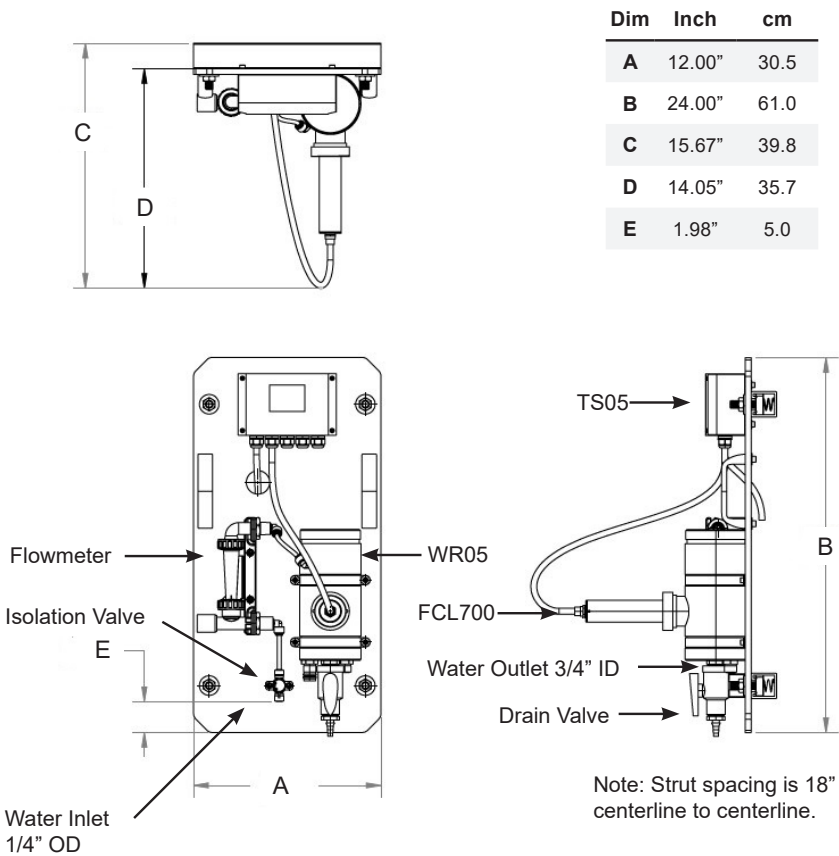
# Congratulations on your purchase on a APFCL Chlorine analyzer!

The APFCL Analyzer Panel is specifically designed as a ‘Turn-Key’ monitoring solution for clean water applications including drinking water networks, secondary water supply and decorative/swimming water applications.

The APFCL series offers highly accurate, real-time measurement, display and data-logging of Free Chlorine or Total Chlorine, pH and Temperature utilizing proprietary smart sensor technology, coupled with a color display and data logging terminal. The APFCL is compliant with EPA 334.0 / ISO 7393 standards.

Reference the below dimensional drawings for installation.

## APFCL Series Panel Dimensions



# IMPORTANT

## Safety instructions



Follow these instructions before installing your analyzer to avoid failure. Read this guide and Instruction Manual before using.



The APFCL is designed to be installed and operated by qualified personnel only. Please note that warranty coverage does not include damage due to misuse or improper installation.



Always wear eye protection when using chemicals.



Do not exceed maximum pressure. High pressure and temperature will damage the system.

## PRE-INSTALLATION

### Before you begin

#### In the Box

- APFCL Analyzer Panel
- Pre-Mounted Struts
- Pre-mounted Flow Meter
- Chlorine Sensor
- 1/4" tubing OD
- 3/8" tubing OD
- 3/4" tubing ID
- Concrete Anchors
- Electrical Schematics
- Quick Start Guide

#### Tools Needed

- Phillips Screwdriver
- Adjustable wrench

#### Planning

Ensure location of Analyzer complies with existing codes and regulations. Location of mounting must be strong enough to support weight of Analyzer and water. Analyzer and mounts are not designed to support any other structures, piping, or equipment.

#### Wiring

To access the wiring terminal, open the enclosure by loosening the four screws with the screwdriver. The Analyzer must be powered by 100~240VAC 50/60Hz. Communication wiring should be 20-24 AWG(American Wire Gauge) shielded cable.

#### Plumbing

Incoming water supply and drainage piping should be planned before installing the Analyzer. Additional components may be required to connect to the provided tubing.

Need more information. Please contact customer service with questions.  
[customerservice@blue-white.com](mailto:customerservice@blue-white.com) 714-893-8529

## Scan QR code to download full Instruction Manual.



# Installation Requirements

**Power Supply:** 100~240VAC 50/60Hz

**Water Supply:** Inlet water pressure should be from 7.25 – 30 psi (0.05-0.2MPa) with an inlet feedwater line diameter of ¼-inch O.D. Tubing. The APFCL is provided with an inlet Rotameter and flow regulating valve for sample water inlet flow control and limited pressure regulation. The range of inlet flow for the WR05 should be consistently maintained between 200 and 400 mL per minute.

Inlet Water: Connect the ¼-inch inlet water tubing to the quick adapter provided. Consistent flow of 200-400mL is required.

**Drainage:** The WR05 outlet tube (3/4" ID Tubing) located on the bottom of the WR05, as well as the WR05 weir overflow (3/8-inch O.D. Tubing) located on the bottom of the WR05, should both be connected to a discharge drain via gravity flow.

Weir Overflow: Connect the 3/8-inch weir overflow tubing.

Outlet Line: Connect 3/4" ID tubing to the outlet drain. This is the sample water outlet flow. **This line must be diverted to drain.**

**Wall Mount Space:** The APFCL analyzer panel size is roughly 12" H x 24" W x 10" D in dimension. Please accommodate sufficient space for mounting. The panel is equipped with pre-installed rear unistrut for simple wall mounting.

**Wall Mount Weight:** Approximately 45 lbs (20kg). Please use appropriate mounting hardware.

## Wiring



The APFCL analyzer has universal AC power supply equipment allowing users simply to plug the power supply into a 100~240V AC 50/60Hz power outlet for normal operation.

The process of electrical connection to contact the 220V single-phase power supply, should be operated by personnel with an electrician's license. Failure to operate according to the electrical code of practice may result in electric shock injury or even death. **Note: When in doubt regarding your electrical installation, contact a licensed electrician.**

# INSTALLATION

## Step-By-Step

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### 1 Measure

Use the provided drawing dimensions to determine best mounting location of panel.

Measure wall and locate mounting holes. Panels should be mounted at an elevation to allow for easy access to control unit.

Wall Mount Weight: 45 lbs

### 2 Install Strut

Use the provided strut and hardware to mount the panel.

Strut to be mounted securely to wall using appropriate hardware.

Strut spacing is on 18" centerline.

If using provided anchor bolts, drill holes in concrete and clean thoroughly. Locate strut and mount with appropriate tools.

Check to make sure strut is secure and level.

### 3 Mount Panel

Mounting panel will require 2 or 3 persons.

Mount panel to strut using provided hardware.

Be sure panel is level before securing.

Check spacing and panel before connecting electrical and piping.

### 4 Connect Electrical and Tubing

Use provided electrical diagram to connect power and communication wiring.

Consult with electrical profession before performing any electrical work.

### 5 Power Up System

Check all electrical connections before powering on system.

Check piping connections for leaks.

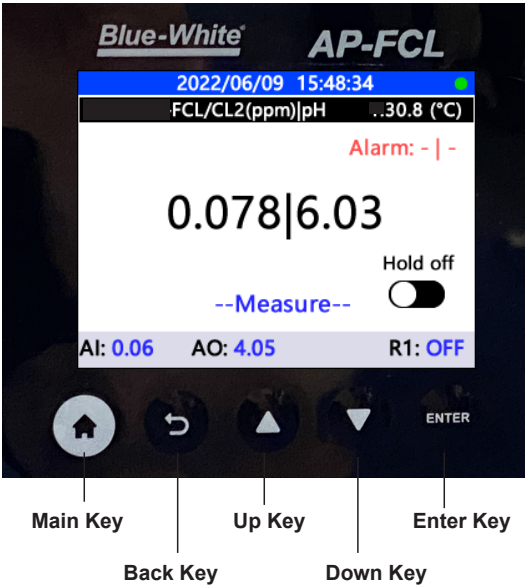
System is activated when power is applied.

# Start-Up and Operation

After the TS05 is turned on, the main interface will display the chlorine residual, pH value, and temperature of the solution. The green dot indicates that the communication between the TS-05 and the probe is normal. To access other options, press the BACK Key and refer to Instruction Manual for more information regarding features and user management.

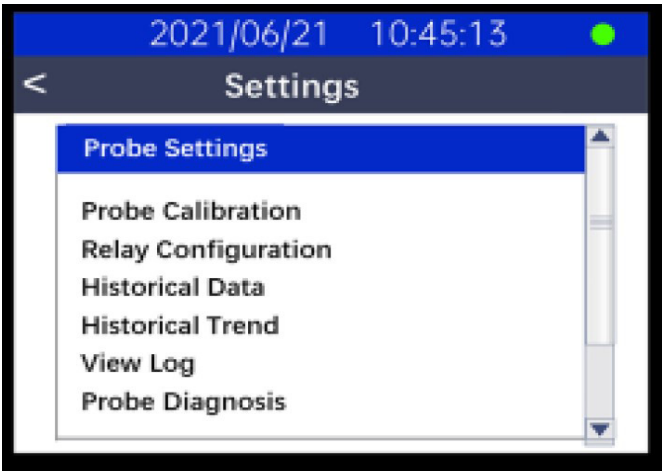
**NOTE:** The FCL Sensor has a 5 minute “Initialization period” before readings begin.

## Real Time Monitoring



## Settings

Upon pushing the Back Key, the Settings options will appear. For further programming instructions and a functional overview of each section, please refer to complete Instruction Manual.



# Engineering Specifications

## Engineering Specifications

Item	APFCL
Sensor Body Material	304SS
Sensor Name	FCL700
Chlorine Range	0.00-5.00 ppm, 0.00-10.0 ppm (Free or Total)
Precision	+/- 0.01mg/L or 1% of the value w/pH compensation to 9.0
pH Range	0-14
pH Precision	+/- 0.01 pH
Sample Operating Temperature	40 – 104 °F (4 °C – 40 °C)
Sample Inlet Pressure	2 – 30 psi (0.05 – 0.2MPa) (or as needed to provide required flow rate)
Sensor Maximum Pressure	100 psi (6.9 Bar)
Sensor Response Time	T95≤60s – Free Chlorine / T95≤5s - pH
Measurement Interval	Continuous
Installation	WR05 Self-Regulating Flow Reservoir w/Rotameter & Isolation Valve - Included
WR05 Minimum Flow Rate	3.1 g/h (200 mL/minute)
WR05 Maximum Flow Rate	6.2 g/h (400 mL/minute)
WR05 Sample Inlet	1/4 - inch OD
WR05 Sample Outlet	3/4 - inch ID - To Drain
WR05 Sewage Overflow Outlet	3/8 - inch OD - To Drain
Panel Power Supply	110/220VAC 50/60 Hz, 0.6A
Panel Storage Temperature	-4 – 158 °F (-20 – 70 °C)
Panel Operating Temperature	32 – 122 °F (-0 – 50 °C)
TS05 Display	2.8" Color 320 x 240 Resolution
Input	2 x 4-20 mA (pH and Cl) / RS-485 Modbus-RTU (from sensor)
Output	3 x 4-20 mA (2 for passthrough Cl and pH (non-configurable), and 1 configurable for pH, Temp, or Cl) RS-485 Modbus-RTU 1 x Contact Relay
Data Storage	32 M Flash
USB	1 x USB host for data downloading
Relative Humidity	5% - 95% (No Condensation)
Altitude	<6,561 feet (<2,000 Meter)
Dimension (H x W x D)	Panel 24.0" x 12.0" x 15.67" (610H x 305W x 398D mm)
Approximate Weight	~ 11 lbs (5 kg)
Wet Material	UPVC / Polycarbonate
Rating	IP-65 Panel-Display / IP-67 Sensors
Compliance	EPA 334.0 / ISO 7393
Regulation	CE Marked / RoHS
Typical Electrode Service Life	2 years
Electrode Warranty	6 Months
Sensor Body Warranty	13 Months
Shipping Dimensions	29" x 17" x 13" (737H x 432W x 330D mm)

# WARRANTY

## Information

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### LIMITED WARRANTY

Your Blue-White product is a quality product and is warranted for a specific time from the date of purchase (proof of purchase is required). The product will be repaired or replaced at our discretion. Failure must have occurred due to a defect in material or workmanship and not as a result of the operation of the product other than in normal operation as defined in the product manual. Warranty status is determined by the product's serial label and the sales invoice or receipt. The serial label must be on the product and legible. The warranty status of the product will be verified by Blue-White or a factory-authorized service center.

APFCL is warranted for 13 Months from the date of purchase. Sensors are warranted for 6 months.

### WHAT IS NOT COVERED

- Freight to the factory, or service center.
- Products that have been tampered with, or in pieces.
- Damage resulting from misuse, carelessness such as chemical spills on the enclosure, abuse, lack of maintenance, or alteration which is out of our control.
- Damage by faulty wiring, power surges, or acts of nature.
- Damage that occurs as a result of: meter misalignment, improper installation, over tightening, use of non-recommended chemicals, use of non-recommended adhesives or pipe dopes, excessive heat or pressure, or allowing the unit to support the weight of related piping.

BLUE-WHITE does not assume responsibility for any loss, damage, or expense directly or indirectly related to or arising out of the use of its products. Failure must have occurred due to a defect in material or workmanship and not as a result of the operation of the product other than in normal operation as defined in the manual. Warranty status is determined by the product's serial label and the sales invoice or receipt. The serial label must be on the product and legible. The warranty status will be verified by Blue-White or a factory-authorized service center.

### PROCEDURE FOR IN-WARRANTY REPAIR

Warranty service must be performed by the factory or an authorized service center. Contact the factory or local repair center to obtain a RMA (Return Material Authorization) number. Decontaminate, dry, and carefully pack the product to be repaired. Please enclose a brief description of the problem and proof of purchase. Prepay all shipping and insurance costs. COD shipments will not be accepted. Damage caused by improper packaging is the responsibility of the sender. When In-Warranty repair is completed, the factory pays for return shipping to the dealer or customer.

P.N. #80000-187 APFCL QSG Rev. 2 20230627



**ISO 9001:2015  
CERTIFIED**



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USA**

## Have Questions?

Contact us

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[blue-white.com/contact-us](http://blue-white.com/contact-us)