

# 534FTB-CL2

## TECHNICAL SPECIFICATIONS

The Kurz CL2 in-line flow meter for chlorine applications includes the qualities and features found in all Kurz constant temperature thermal flow meters that make them outperform all other currently available thermal mass flow meters, including:

- Exceptionally low end-to-end pressure drop provides a high turndown ratio for chlorine (US patent 7,509,880)
- The highest repeatability, accuracy, and reliability available
- The fastest response to temperature and velocity changes in the industry
- Constant temperature anemometer — sensor signal increases with increasing flow
- Continuous self-monitoring electronics that verify the integrity of sensor wiring and measurements
- Sensor does not overheat at zero flow using a patented constant temperature control method and power limiting design
- Sensor lead length independent circuitry
- Zero velocity as a valid data point
- Completely field configurable using the flow meter user interface or via a computer connection
- Velocity-temperature mapping for wide ranging velocity and temperature
- Patented digital sensor control circuit (US 7,418,878)
- PVC flow body



The Kurz 534FTB-CL2 thermal flow meter for chlorine applications offers:

- Exceptional immunity to upstream and downstream flow disturbances
- High turndown ratio
- Flexibility with the transmitter-separate design allows installing the controls in a convenient location
- A variety of supported pipe sizes – 1", 1.5", and 2"
- Low flow noise
- An alternative to stainless steel applications where corrosion is an issue

Kurz Instruments is dedicated to manufacturing and marketing the best thermal mass flow meters available and to support our customers in their efforts to improve their businesses.

## 534FTB-CL2 Technical Specifications

### Specifications

- **Mass rate**  
 1" pipe at 2,100 or 7,300 PPD  
 1.5" pipe at 15,900 PPD  
 2" pipe at 27,600 PPD
- **Pressure drop at max flow and STD conditions (14.69 PSIA / 77°F)**  
 18.4 in. H<sub>2</sub>O
- **Flow accuracy**  
 ± (3% of reading +30 SPM)
- **0.25% reading repeatability**
- **Velocity time constant**  
 1 second for velocity changes at 6,000 SPM (constant temp)
- **Process temperature time constant**  
 10 seconds for temp changes at 6,000 SPM (constant velocity)
- **Electronics operating temperature**  
 -40°F to 149°F ( -40°C to 65°C)  
 (remote display)

### Process Conditions

- **Process pressure rating**  
 Up to 54 PSIG (3.67 BARg)
- **Process temperature rating**  
 32°F to 140°F (0°C to 60°C)

### Approvals

- **EPA mandatory GHG certification**  
 CFR 98.34(c)(1)
- **Alarm output conformity**  
 NAMUR NE43
- **European Union CE compliance**  
 EMC, LVD, PED, WEEE, and ROHS
- **ATEX approvals pending for Nonincendive**  
 EN IEC 60079-0, EN IEC 60079-15,  
 EN IEC 61241-1

### Transmitter Features

- **Two optically-isolated loop-powered 4-20 mA outputs**  
 12-bit resolution and accuracy  
 Maximum loop resistance is 300Ω at 18 VDC, 550Ω at 24 VDC, 1400Ω at 36 VDC
- **One 4-20mA non-isolated analog input**
- **Input power**  
 AC (85-265V 47/63 Hz), 24 watts max or DC (24V) (± 10%)
- **Remote user interface**
- **Easy-to-use interface**  
 Backlit display / keypad  
 2-lines of 16-characters each
- **User-configurable flow display (scrolling or static)**
- **User-configurable English or metric units for mass flow rate, mass velocity, and process temperature** (°C, °F, KGH, KGM, NCMH, NLPM, NMPS, PPD, PPH, PPM, SCFH, SCFM, SCMh, SFPm, SLPM, SMPS)
- **Flow valve PID controller and configurable control application**  
 Permits controlling set point velocity or flow rate through available control valve, damper, or 4-20 mA interface
- **Built-in flow totalizers and elapsed time**
- **User-configurable digital filtering from 0 to 600 seconds**
- **Configuration/data access**  
 USB or RS-485 Modbus
- **Meter memory**  
 200 recent events, top 20 min/max, and 56 hours of trends
- **3-year warranty**

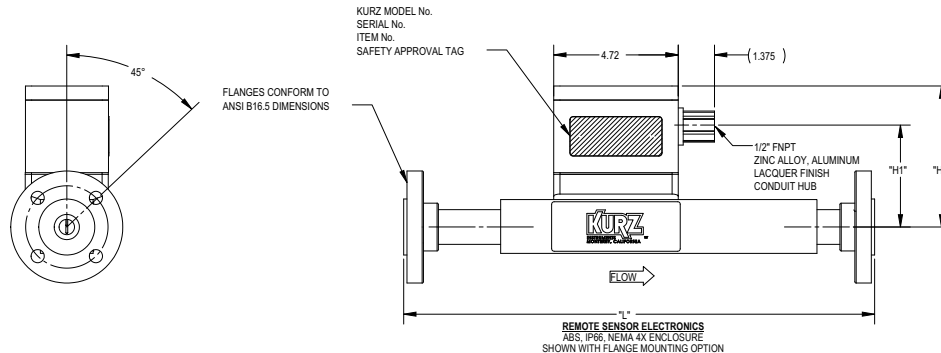
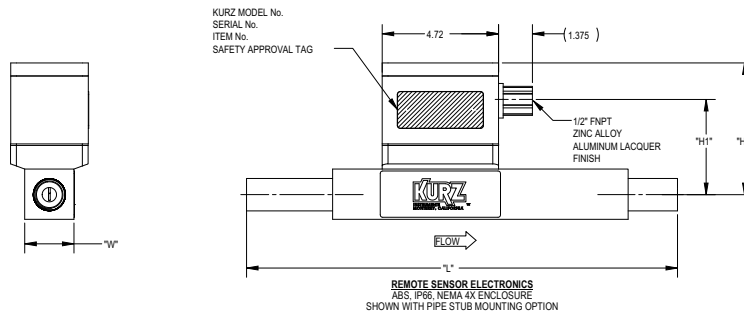
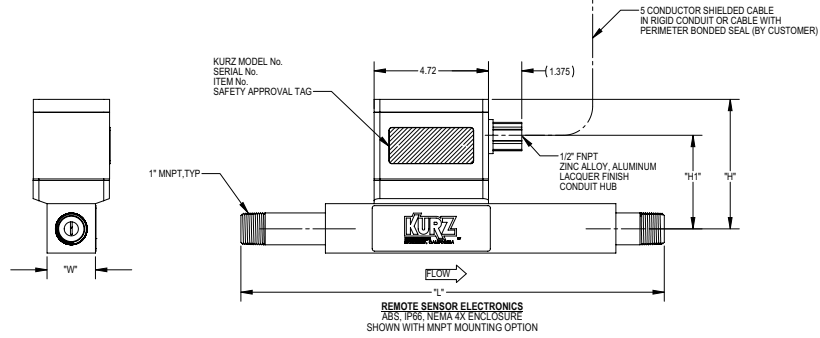
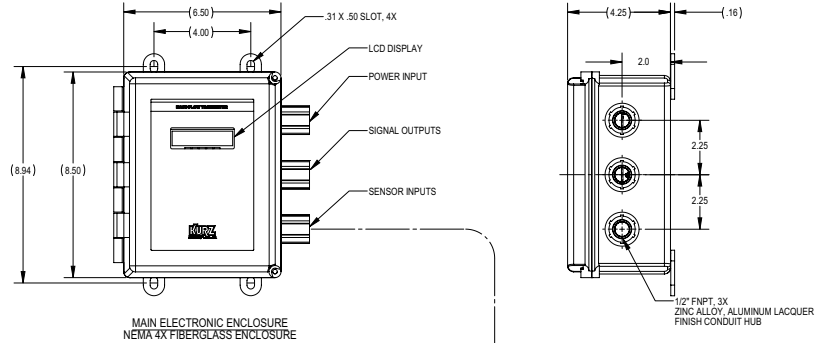
### Wetted Materials

- **PVC flow body**
- **Sensor material**  
 C-276 alloy all-welded sensor construction (standard)
- **Flourosilicone O-ring**

### Options

- **HART communication**  
 Process control industry standard allows remote configuration, diagnostic monitoring, and online testing with handheld configurators
- **Two optically isolated solid-state relays / alarms**  
 Configurable as alarm outputs, pulsed totalizer output, or air purge cleaning
- **Pulsed output as a remote flow totalizer**
- **Hardware accessories**  
 Available hardware includes flanges, cable glands, conduit seals, and cable

	H1	H	W
534FTB-CL2-06C	3.81	5.35	2.0
534FTB-CL2-08C	3.87	5.35	2.0
534FTB-CL2-12C	3.56	5.10	2.5
534FTB-CL2-16C	3.79	5.33	2.75





## 534FTB-CL2 Insertion Flow Meter Order Configuration

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<b>Parent Number</b>	<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>	<b>F7</b>

Parent Number	Model	Length (L)		Line Size		Max. Flow Rate		Pressure Drop at Max. Flow and STP Conditions
		PPD	SCFM					
755740	534FTB-CL2-06C	12"	(304 mm)	1"	(25 mm)	2,100	8.1	(14.69 PSIA/77°F) 18.4 In. H <sub>2</sub> O
755743	534FTB-CL2-08C	18"	(457 mm)	1"	(25 mm)	7,300	28.0	
755746	534FTB-CL2-12C	23"	(584 mm)	1.5"	(38 mm)	15,900	61.0	
755749	534FTB-CL2-16C	41"	(1041 mm)	2"	(51 mm)	27,600	106.0	

F1	Option	Material
	2	PVC

F2	Option	Process Connection
	FL	Class 150 ANSI B16.5 flanges (CL150)
	PT	Male NPT pipe ends (MNPT)
	SE	Stub end

F3	Option	Keypad/Display
	1	Keypad / display
	2	Blind

F4	Option	Power
	A	AC (85-265V 47/63 Hz, 24 watts max)
	D	DC (24V ±10%)

F5	Option	Analog and Digital Inputs/Outputs	
	2	Standard	Two 4-20 mA isolated outputs
	3	Full	Two 4-20 mA isolated outputs, two relays, two digital inputs, one non-isolated 4-20 mA input
	5	HART	HART communication protocol, one 4-20 mA isolated output, two relays, two digital inputs, one non-isolated 4-20 mA input

F6	Option	Approvals <small>(Approvals Pending)</small>
	N	Non-Incendive (NI), CSA, ATEX, and IECEx Ex nA II, T6, T5, T4 or T150°C (electronics enclosure) Ex nA II, T5 or T3 (sensing element)

F7	Option	Gas Type
	68	Dry chlorine gas correlation
	99	Other (contact Kurz)