

## CLASSIC™ 828 Sanitary Flanged



**Flow, Level, Interface & Temperature  
Switch & Transmitter**

- 3A Compliant - Tri-Clamp® Connection
- Exotic Alloys, Custom 'U' Lengths and Remote Mounted Electronics Available
- Digital Microprocessor Technology - Settings configurable by user for Flow, Level, Interface & Temperature Sensing
- No Jumpers - All Configurable Options are stored in Non-Volatile Memory
- FM Explosion-proof Class I, Div. 1, Groups B, C & D
- CSA/ANSI UL Flameproof Class I, Div. 1, Groups B, C & D

### Display Panel & Intelligent User Interface

The **KAYDEN CLASSIC 800** Series Electronics Module is designed for quick and easy setup. All **CLASSIC 800** models, regardless of the type of sensor, use the same Electronics Module.

### Display Panel Indicators:

- Relay 1 & 2 / Set Point 1 & 2
- Fault Alarm
- Run Mode
- Start-up Bypass Timer (for pump control)
- LED Bar Graph for Flow Rate, Level or Interface Indication

### Configuration Mode Features:

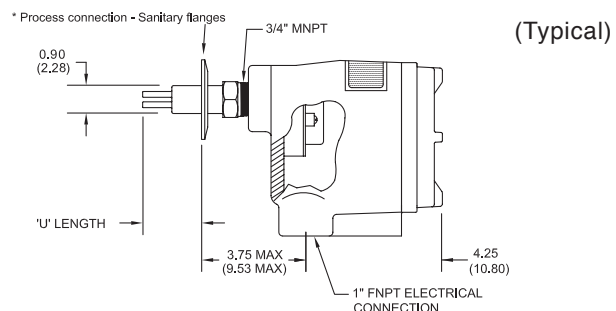
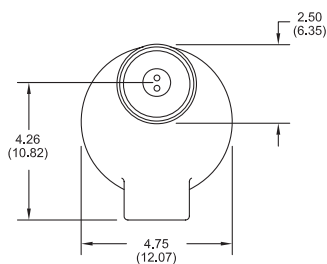
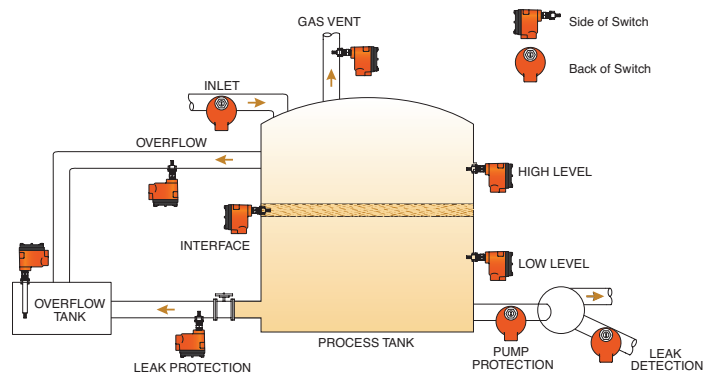
- Adjustable Sensitivity
- Zero & Span Adjustment
- Modbus Addressable

### Electronics Modules Feature:

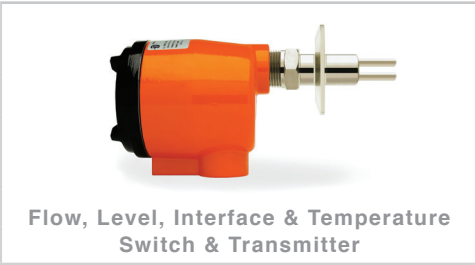
- Easy setup; no jumpers or trim pots
- Continuous Self-test Diagnostics with Fault Indicator
- Temperature Compensation

- Universal Power 12-24 VDC & 115-230 VAC standard
- Two SPDT Relays - independently adjustable
- 4-20 mA Analog Output
- "Smart Heater" function for power economy and increased heater life
- Start-up Bypass Timer (for pump control)

### Applications:



<b>828</b>	<b>CODE</b>	<b>Sensor Type</b>								
	<b>R</b>	-45°C to +200°C (-50°F to +392°F) Continuous Service								
	<b>CODE</b>	<b>Sensor Material</b>								
	<b>A6</b>	316/316L Stainless Steel								
	<b>CODE</b>	<b>Process Connection - Tri-Clamp</b>								
	<b>E</b>	1"								
	<b>G</b>	1.5"								
	<b>H</b>	2"								
	<b>J</b>	2.5"								
	<b>K</b>	3"								
	<b>L</b>	3.5"								
	<b>CODE</b>	<b>Insertion 'U' Lengths</b>								
	<b>0020</b>	2" (5.0 cm)	Custom 'U' Lengths: 2.5" - 120" (6.0 cm - 305 cm) Available in 1/2" (1.0 cm) increments.							
	<b>0030</b>	3" (7.5 cm)								
	<b>0040</b>	4" (10.1 cm)								
	<b>0060</b>	5" (15.2 cm)								
	<b>IXXXX</b>	Custom 'U' Lengths: Use 4 digits preceded by an 'I' (i.e. 3.5" 'U' = I0035) (Use 'M' for cm)								
	<b>CODE</b>	<b>Input Power</b>								
	<b>1</b>	12-24 VDC and 115-230 VAC, 50 to 60 Hz								
		<b>Electronics</b>								
		Microprocessor Controlled with User Interface.								
		Two SPDT sealed relay contacts. Modbus via RS-485. 4-20 mA current loop.								
	<b>CODE</b>	<b>Local Enclosure</b>								
	<b>1</b>	Flameproof - Aluminum								
	<b>CODE</b>	<b>Cover - For Local Enclosure</b>								
	<b>B</b>	Blind Cover - Flameproof								
	<b>G</b>	Glass Lens Cover - Flameproof								
	<b>CODE</b>	<b>Remote Electronics Enclosure &amp; Cover</b>								
	<b>0A</b>	Not Required								
	<b>1B</b>	Blind Cover - Flameproof								
	<b>1G</b>	Glass Lens Cover - Flameproof								
	<b>CODE</b>	<b>Agency Approvals</b>								
	<b>1</b>	UL & CSA								
	<b>9</b>	FM								
	<b>CODE</b>	<b>Language</b>								
	<b>E</b>	English								
<b>828</b>	<b>R</b>	<b>A6</b>	<b>E</b>	<b>0020</b>	<b>C</b>	<b>1</b>	<b>G</b>	<b>0A</b>	<b>9</b>	<b>E</b>



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Model Number Legend  
DOC#: ML-828-004

ML-828-004-[008]

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## CLASSIC™ 800 Specifications

### Applications:

- Flow, Level, Interface & Temperature

### Process Connections:

- 1/2", 3/4", 1", 1 1/4", 1 1/2" & 2" MNPT
- 3/4" FNPT & Flanged In-Line
- Flanged & Sanitary 1" to 3.5" Tri-Clamp®
- Threaded (1" MNPT) & Flanged Retractable Packing Glands

### Insertion 'U' Lengths:

- **Imperial:**  
1.2", 2", 3", 4", 6", 9", 12" & 18" standard Model 828 (Sanitary) - 2", 3", 4" & 6" only
- **Metric:**  
3, 5, 7.5, 10, 15, 23, 30 & 45 cm standard Model 828 (Sanitary) - 5, 7.5, 10 & 15 cm only
- **Custom Lengths:**  
Available in 1/2" or 1 cm increments  
Min. 1.2" - Max. 120" (3.0 - 305 cm) model dependant

### Wetted Materials:

- 316/316L Stainless Steel - standard
- Titanium Gr. 2, Hastelloy® C-276
- 316/316L Stainless Steel c/w Nickel Braze (830 & 832 In-Line Models)
- Highly Saturated Nitrile (Pressure Seal - 814 & 816 Packing Gland Models)

### Enclosure Material:

- Copper-free aluminum (does not exceed 0.4% copper)
- Powder coated Polyester TGIC (polyester triglycidyl isocyanurate)
- NEMA 4X / Type 4 / IP55
- 1" FNPT Conduit Connection
- Buna O-ring on Cover

### Temperature Range – Continuous Service:

- **Sensors:**  
-45°C to +200°C (-50°F to +392°F)  
(Models 814 & 816: -45°C to +160°C [-50°F to +320°F])

- **Electronics:**

-55°C to +65°C (-67°F to +149°F)

**Note:** For temperatures above +65°C (+149°F) electronics must be remotely mounted.

- **Storage:**

-55°C to +75°C (-67°F to +167°F)

### Operating Pressure - Sensor:

#### Threaded Style:

- Maximum Working Pressure: 24 MPa (3500 psig) dependent on model and material of construction

#### Flanged Style:

- Maximum Working Pressure: per flange rating

#### Sanitary Tri-Clamp® Style:

- Maximum Working Pressure: per flange rating

### Switch / Transmitter Switch Point Range (Insertion Style - 1/2" to 2" MNPT, Flanged):

- **Water-based Liquids:**  
0.01 to 3.0 ft./sec. (0.003 to 0.9 meters/sec.)
- **Hydrocarbon-based Liquids:**  
0.01 to 5.0 ft./sec. (0.003 to 1.5 meters/sec.)
- **Gases:**  
0.25 to 254 sfps (0.076 to 77 smps)  
Standard conditions: 21°C (70°F) at 14.7 psi (1 atm)

### Switch / Transmitter Switch Point Range (In-Line Style):

- **Water-based Liquids:**  
0.015 to 50 cc/sec.
- **Hydrocarbon-based Liquids:**  
0.033 to 110 cc/sec.
- **Gases:**  
0.6 to 20,000 cc/sec.  
Standard conditions: 21°C (70°F) at 14.7 psi (1 atm)

### Accuracy:

- **Flow Service:**  
±1% set point velocity over operating range of ±28°C (±50°F)
- **Level Service:**  
±0.25 inches (±0.64 cm)

**CLASSIC™ 800 Specifications**

**Response Time:**

- Approximately 0.5 to 30 seconds

**Remote Electronics Option:**

- Maximum recommended cable length - 200 feet (60 m)
- Cable type - 24 AWG minimum - twisted pairs

**Heater Power:**

- Field adjustable to optimize performance

**Input Power:**

- Universal Power standard  
12-24 VDC and 115-230 VAC, 50-60 Hz
- Consumption: Maximum: 6.0 watts (fully configured)

**Outputs:**

- 4-20 mA current loop
- Two (2) independent SPDT sealed relay contacts rated @ 4 amps resistive 230 VAC or 30 VDC Max.; individually adjustable

**Start-Up Bypass Timer:**

- Adjustable for 0 to 100 seconds

**Communications:**

- Modbus via RS-485

**RCMS (Remote Control & Monitoring Software) Functions and Features:**

- Display Panel Lock-Out
- Set Points configuration<sup>1</sup>
- Relay Actuation Delay Timer
  - Independently configurable for both On and Off, increasing or decreasing
  - Adjustable from 0 - 5,000 seconds
- Start-up Bypass Timer<sup>1</sup>
  - Adjustable from 0 - 100 seconds
- Relay Mode Configuration<sup>1</sup>
  - Energized above or below set point
- Relay Temperature Mode Configuration
- Heater Power setting<sup>1</sup>
- Zero and Span settings<sup>1</sup>
- Analog (4-20 mA) output configuration<sup>1</sup>
- View and Print Graphing (Trend) function

- Configuring settings; write to device, save to file and print

- Fault Event Log

**Note:**<sup>1</sup> Also configurable from Display Panel

**Diagnostics:**

- Primary watchdog circuit monitors microprocessor parameter anomalies
- Secondary watchdog circuit monitors microprocessor health
- Heater monitored for out-of-range conditions
- Fault Mode de-energizes relay(s) and halts power to the heater

**Agency Approvals:**

- **CSA - ANSI/UL**  
Class I, Div. 1, Groups B, C and D; Ex d IIB + H2; AEx d IIB+H2 (Class I, Zone 1, Group IIB + H2,) T3; Enclosure Type 4 / IP55



- **Single Seal Approval**  
Per ANSI/ISA 12.27.01-2003

- **CRN**  
Canadian Registration Number



**Note:** CRN approvals available. Visit telematic.com for CRN information per model and jurisdiction.

- **FM Approvals**  
Class I, Div. 1, Groups B, C and D; Class I, Zone 1, AEx d IIB+H2 T2D (Ta=75°C); T3 (Ta=65°C); Enclosure Type 4 / IP55



**Weights and Dimensions:**

- 810 Threaded: 2" U length - 7 lbs (3.18 kg)
- Carton Size - 15" x 5" x 6" (38 cm x 13 cm x 15 cm)
- Other models/sizes - consult Kayden

**Warranty:**

- One (1) Year from shipment date from factory (see Terms & Conditions on telematic.com for details)