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
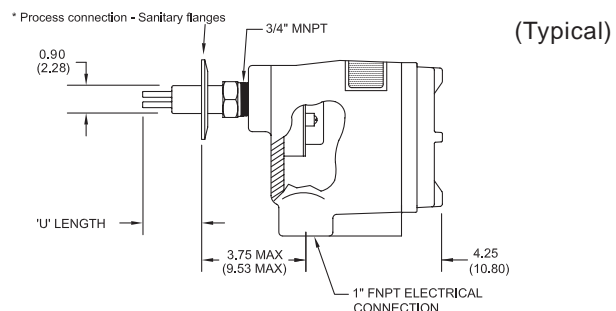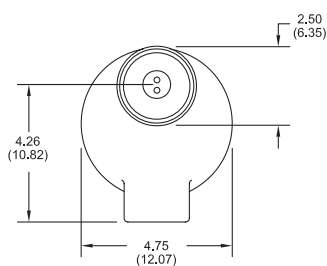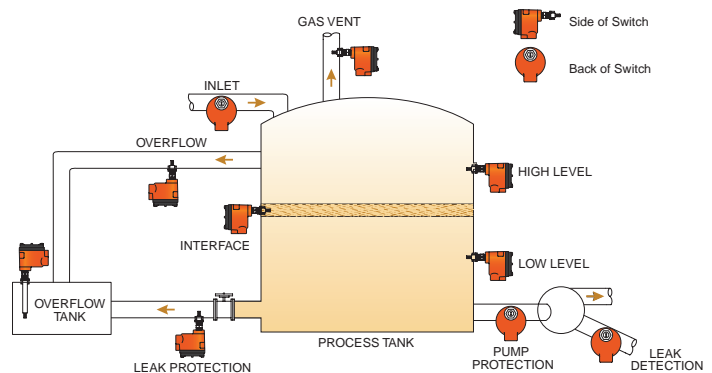
Configuration Mode Features:

- Adjustable Sensitivity
- Zero & Span Adjustment
- Modbus Addressable

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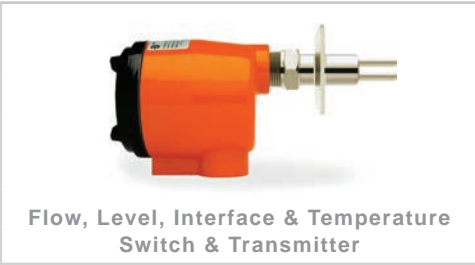
- Easy setup; no jumpers or trim pots
- Continuous Self-test Diagnostics with Fault Indicator
- Temperature Compensation

- 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:

(Typical)

828	CODE	Sensor Type									
·	**R**	-45°C to +200°C (-50°F to +392°F) Continuous Service									

Flow, Level, Interface & Temperature Switch & Transmitter

		CODE	Sensor Material
·	·	**A6**	316/316L Stainless Steel

			CODE	Process Connection - Tri-Clamp
·	·	·	**E**	1"
·	·	·	**G**	1.5"
·	·	·	**H**	2"
·	·	·	**J**	2.5"
·	·	·	**K**	3"
·	·	·	**L**	3.5"

				CODE	Insertion 'U' Lengths	
·	·	·	·	**0020**	2" (5.0 cm)	Custom 'U' Lengths:
·	·	·	·	**0030**	3" (7.5 cm)	2.5" - 120" (6.0 cm - 305 cm)
·	·	·	·	**0040**	4" (10.1 cm)	Available in 1/2" (1.0 cm) increments.
·	·	·	·	**0060**	5" (15.2 cm)	
·	·	·	·	**IXXXX**	Custom 'U' Lengths: Use 4 digits preceded by an 'I' (i.e. 3.5" 'U' = I0035) (Use 'M' for cm)	

					CODE	Input Power
·	·	·	·	·	**1**	12-24 VDC and 115-230 VAC, 50 to 60 Hz

						Electronics
·	·	·	·	·	·	Microprocessor Controlled with User Interface.
·	·	·	·	·	·	Two SPDT sealed relay contacts. Modbus via RS-485. 4-20 mA current loop.

							CODE	Local Enclosure
·	·	·	·	·	·	·	**1**	Flameproof - Aluminum

								CODE	Cover - For Local Enclosure
·	·	·	·	·	·	·	·	**B**	Blind Cover - Flameproof
·	·	·	·	·	·	·	·	**G**	Glass Lens Cover - Flameproof

									CODE	Remote Electronics Enclosure & Cover
·	·	·	·	·	·	·	·	·	**0A**	Not Required
·	·	·	·	·	·	·	·	·	**1B**	Blind Cover - Flameproof
·	·	·	·	·	·	·	·	·	**1G**	Glass Lens Cover - Flameproof

										CODE	Agency Approvals
·	·	·	·	·	·	·	·	·	·	**1**	UL & CSA
·	·	·	·	·	·	·	·	·	·	**9**	FM

											CODE	Language
·	·	·	·	·	·	·	·	·	·	·	**E**	English

828	R	A6	E	0020	C		1	G	0A	9	E

Model Number Legend
DOC#: ML-828-004

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 InLine

- 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 InLine 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 (InLine 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[1]

- Relay Actuation Delay Timer

  - Independently configurable for both On and Off, increasing or decreasing

  - Adjustable from 0 - 5,000 seconds

- Start-up Bypass Timer[1]

  - Adjustable from 0 - 100 seconds

- Relay Mode Configuration[1]

  - Energized above or below set point

- Relay Temperature Mode Configuration

- Heater Power setting[1]

- Zero and Span settings[1]

- Analog (4-20 mA) output configuration[1]

- View and Print Graphing (Trend) function

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

- Fault Event Log

  Note:[1] 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

  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 Telematic

Warranty:

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