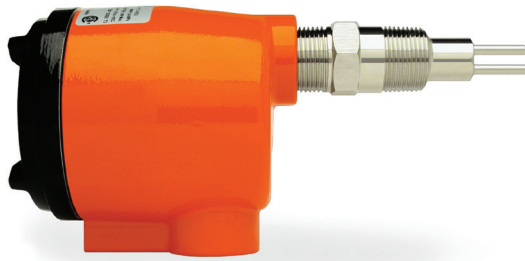


CLASSIC™ 810 Threaded



Flow, Level, Interface & Temperature Switch & Transmitter

- Threaded Process Connections - 316/316L Stainless Steel sensor standard
- 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 Flameproof Class I, Div. 1, Groups B, C & D
- 316/316L SST & Exotic Alloy versions designed to ASME Section VIII Div. 1 Latest Addenda and/or to be inserted in system complying with ASME/ANSI B31.3 Latest Addenda. Canadian Registration Number (CRN): 0F09437.2

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:

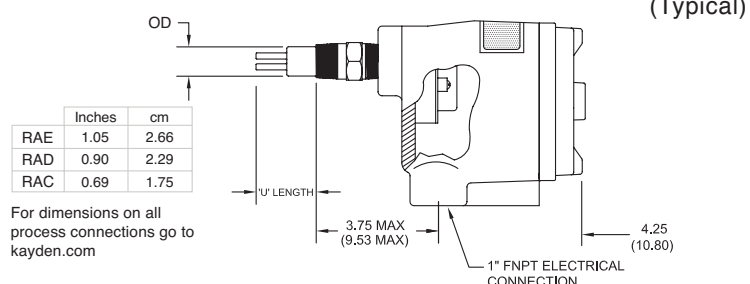
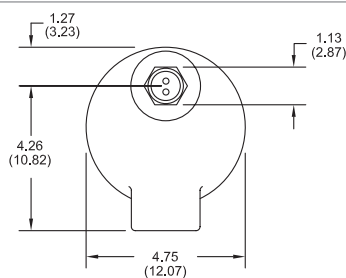
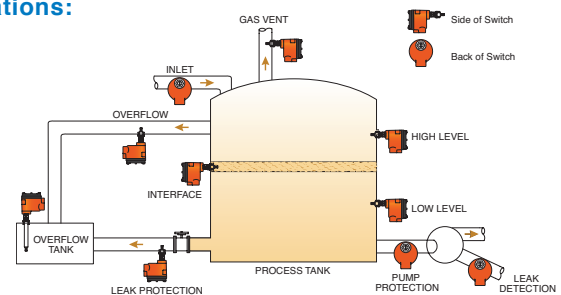
- Adjustable Sensitivity
- Zero & Span Adjustment
- Modbus Addressable

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:



810	CODE	Sensor Type								
	R	-45°C to +200°C (-50°F to +392°F) Continuous Service								
	CODE	Sensor Material								
	A	316/316L Stainless Steel								
	X	Titanium Gr. 2								
	T	Hastelloy C-276								
	CODE	Process Connection - MNPT								
	C	1/2"								
	D	3/4"								
	E	1"								
	F	1-1/4"								
	G	1-1/2"								
	H	2"								
	CODE	Insertion 'U' Lengths								
	0012	1.2" (3.0 cm)								
	0020	2" (5.0 cm)								
	0030	3" (7.5 cm)								
	0040	4" (10.1 cm)								
	0060	6" (15.2 cm)								
	0090	9" (23 cm)								
	0120	12" (30 cm)								
	0180	18" (46 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								
	C	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	cCSA _{US} (UL Standards)								
	3	cCSA _{US} (UL Standards) & CRN								
	9	FM								
	CODE	Language								
	E	English								
810	R	A	D	0020	C	1	G	0A	9	E



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Model Number Legend
DOC#: ML-810-004

ML-810-004-[012]
This is a Controlled Document and cannot be changed without the Approval of the Quality Control Manager.

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
- Threaded (1" MNPT) & Flanged Retractable Packing Glands

Insertion 'U' Lengths:

- **Imperial:**
1.2", 2", 3", 4", 6", 9", 12" & 18" standard
- **Metric:**
3, 5, 7.5, 10, 15, 23, 30 & 45 cm standard
- **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 / IP67
- 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:**

Product should be stored in a clean and dry environment between -30° and +60° C (-34.5° and 140° 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

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 configuration¹
- Relay Actuation Delay Timer
 - Independently configurable for both On and Off, increasing or decreasing
 - Adjustable from 0 - 5,000 seconds
- Start-up Bypass Timer¹
 - Adjustable from 0 - 100 seconds
- Relay Mode Configuration¹
 - Energized above or below set point
- Relay Temperature Mode Configuration
- Heater Power setting¹
- Zero and Span settings¹
- Analog (4-20 mA) output configuration¹
- 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**
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



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

- **CRN**
Canadian Registration Number



Note: CRN approvals available.
Visit kayden.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)



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 kayden.com for details)