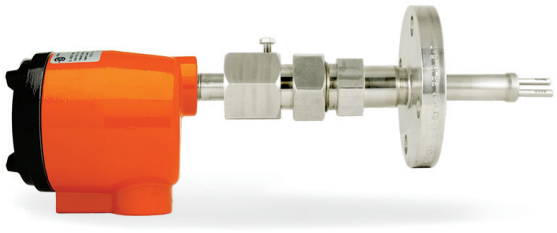
CLASSIC™ 814 Flanged Retractable Packing Gland



Flow, Level, Interface & Temperature Switch & Transmitter

- Flanged Retractable Process 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 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

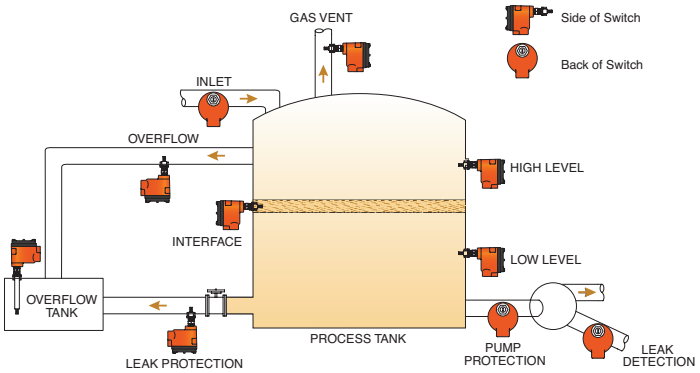
Configuration Mode Features:

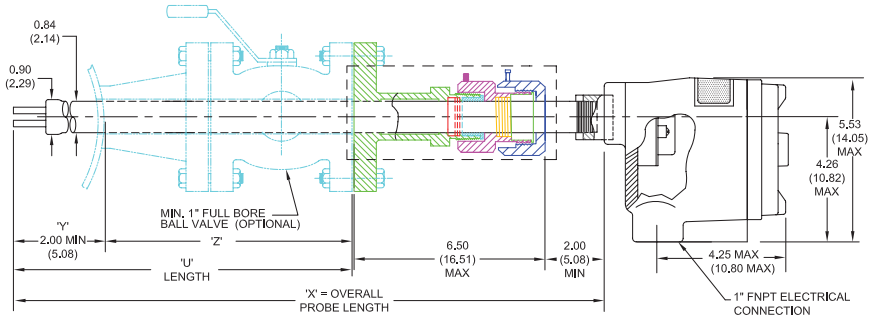
- Adjustable Sensitivity
- Zero & Span Adjustment
- Modbus Addressable

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)

Doc. #: TSML-814-004-[009] February 2020

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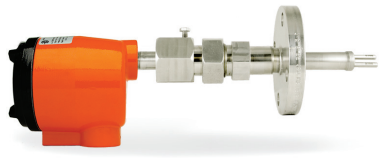

Flow, Level, Interface & Temperature Switch & Transmitter

814	CODE	Sensor Type
	R	-45°C to +160°C (-50°F to +320°F) Continuous Service

CODE	Sensor Material
A	316/316L Stainless Steel
X	Titanium Gr. 2
T	Hastelloy C-276

CODE	Process Connection - Flange Type
A	Raised Face
B	RTJ - Ring Type Joint

CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI
	1-1/2"		2"		3"		4"		5"		6"		8"		10"
131	150	141	150	151	150	161	150	171	150	181	150	191	150	201	150

CODE	Flange Material		
A	316/316L SST	X	Titanium Gr. 2
T	Hastelloy C-276		

CODE	Retraction Assembly
T	Low Pressure; 316/316L Stainless Steel (MWP 50 psi)
J	Low Pressure c/w Retaining Chain; 316/316L Stainless Steel (MWP 125 psi)
X	Medium Pressure; 316/316L Stainless Steel (MWP 275 psi)

CODE	Insertion 'U' Lengths 2.5" - 120" (6.4 cm - 305 cm) in 1/2" (1.0 cm) increments.
IXXXX	Custom 'U' Lengths: Use 4 digits preceded by an 'I' (i.e. 3.5" 'U' = I0035) ('M' = 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 / Sensor 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	$_{c}$CSA$_{us}$ (UL Standards)
9	FM

CODE	Language
E	English

814	R	A	A	131	A	T	I0035	C		1	G	0A	9	E	

Model Number Legend
DOC#: ML-814-004

ML-814-004-[012]

***Sensor only.** The Packing Gland Assembly is available as standard in 316/316L Stainless Steel. For exotic alloys contact Kayden.

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 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**
  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)