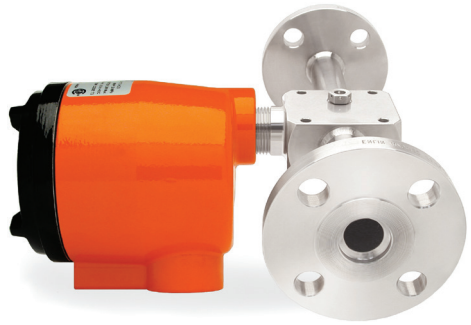
CLASSIC® 832 In-Line Flanged



Flow, Level, Interface & Temperature Switch & Transmitter

- Flanged Process Connections
- For inline mounting
- Exotic Alloys, Custom 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
- 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

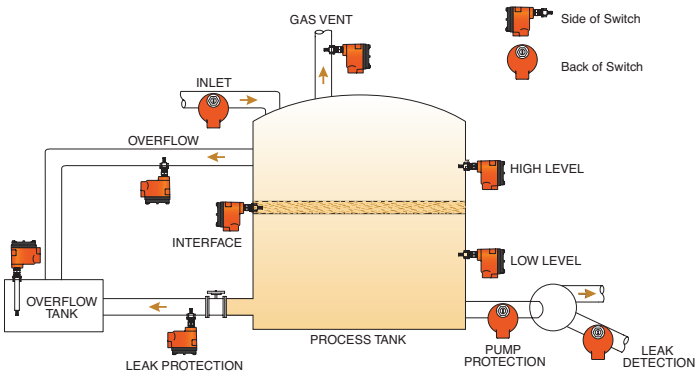
Configuration Mode Features:

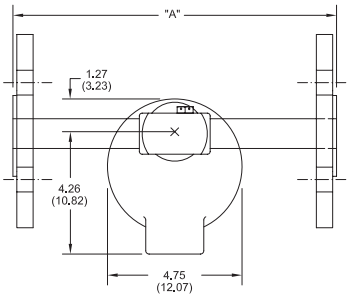
- Adjustable Sensitivity
- Zero & Span Adjustment
- Modbus Addressable

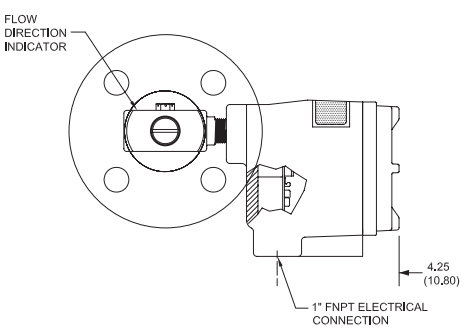
Electronics Modules Feature:

- 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:





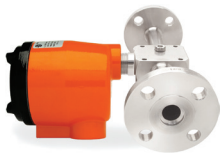


(Typical)

832	CODE	Sensor Type
	R	-55°C to +200°C (-58°F to +392°F) Continuous Service

CODE	Sensor Material
A3	316/316L Stainless Steel c/w Nickel Braze

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



Flow, Level & Temperature Switch & Transmitter

CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI	CODE	ANSI
	1"		1-1/2"		2"		3"		4"		5"		6"		8"		10"
121	150	131	150	141	150	151	150	161	150	171	150	181	150	191	150	201	150
122	300	132	300	142	300	152	300	162	300	172	300	182	300	192	300	202	300
123	600	133	600	143	600	153	600	163	600	173	600	183	600	193	600	203	600
124	900	134	900	144	900	154	900	164	900	174	900	184	900	194	900	204	900

CODE	Flange Material
A	316/316L Stainless Steel

CODE	Sensor Assembly Body Length Flange Face to Flange Face
IXXXX	Custom Body Lengths: Available in 1/2" (1.0 cm) increments. eg. 16.0" = 0160 ('M' = cm) 7" - 72" (relative to flange size/rating)

CODE	Bleed Port
A	1/4" Threaded - Standard

CODE	Sensor Orientation
H	Horizontal
V	Vertical

CODE	Pipe Schedule
0	Schedule 40
1	Schedule 80 (Standard)

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

Electronics

Microprocessor Controlled with User Interface. Two SPDT fully 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
1G	Glass Lens Cover - Flameproof

CODE	Agency Approvals
1	$_{c}$CSA$_{us}$ (UL Standards)

CODE	Language
E	English

832	R	A3	A	131	A	I0060	A	H	0	C		1	G	0A	1	E	

Model Number Legend
DOC#: ML-832-006

ML-832-006-[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
- 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. 2.5” - Max. 120” (6.0 - 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)

Enclosure Material

- Copper-free Aluminum (does not exceed 0.4% copper)
- Powder Coated Polyester TGIC (polyester triglycidyl isocyanurate)
- NEMA 4, 4X, 6P; IP65/67
- 1” FNPT Conduit Connection
- Buna O-Ring on Cover

Temperature Range – Continuous Service

- **Sensors**
  -55°C to +200°C (-58°F to +392°F)
  (Models 814 & 816: -55°C to +160°C [-58°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. Refer to Electronics Location Considerations Page 10.

- **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 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 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)
- **Repeatability**
  ±0.5% Thermal Signal
- **Hysteresis (Dead Band)**
  ±1% Thermal Signal
- **Temperature**
  ±1° C or ±2% of full-scale range, whichever is greater.

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
- DC input has reverse polarity protection
- AC & DC inputs have TVS diodes to protect against transient voltages (390 VAC, 39 VDC)
- Internal 1A self-resettable non-user-replaceable fuse

Outputs

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

Start-Up Bypass Timer

- Adjustable: 0 to 100 seconds

Communications

- Modbus RTU via RS-485

Additional Features (Configure Using Kayden RCM Software or Modbus)

- 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 - 5000 seconds
- Start-up Bypass Timer[1]
  - Adjustable from 0 - 100 seconds
- Relay Mode Configuration[1]
  - Energized above or below set point
- Relay Temperature Switch Configuration
- Heater Power setting[1]
- Lower and Upper Range Values (LRV & URV) 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

Diagnostics

- Primary watchdog circuit monitors microprocessor parameter for 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; Enclosure Type 4 / IP55
- **Single Seal Approval**
  Per ANSI/ISA 12.27.01-2003
- **CRN** - Canadian Registration Number
  - CLASSIC 810: 0F22124.2C
  - CLASSIC 812:
    - 1” & 1-1/2”: 0F13787.2C
    - 2” to 10”: 0F13773.2C

  Note: Visit kayden.com for CRN specifics.

C US

CRN
Canadian Registration Number

Factory Certifications

- Factory tested to NEMA 4, 4X, 6P; IP65/67. Contact Technical Support for reports.

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)

Note: [1] Also configurable from Display Panel