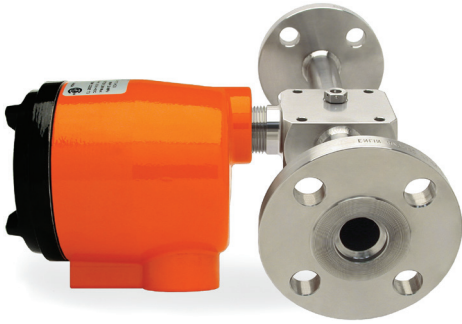


CLASSIC™ 832 In-Line Flanged



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
- 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:

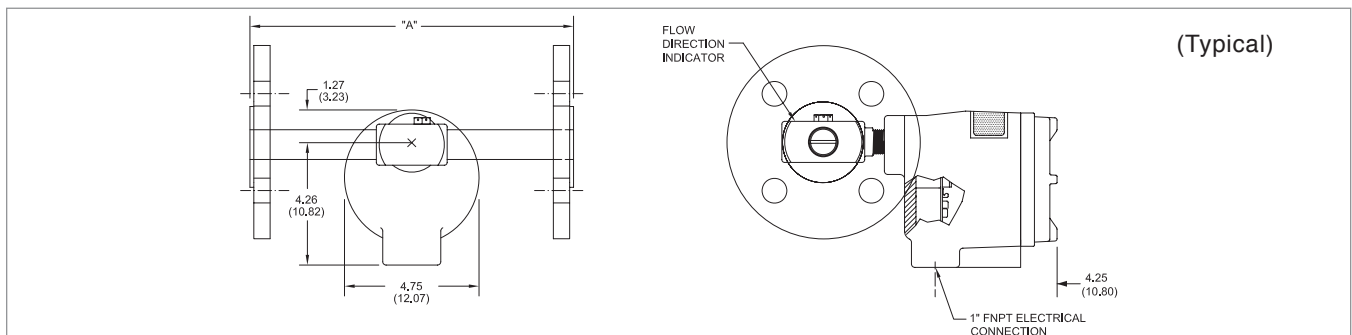
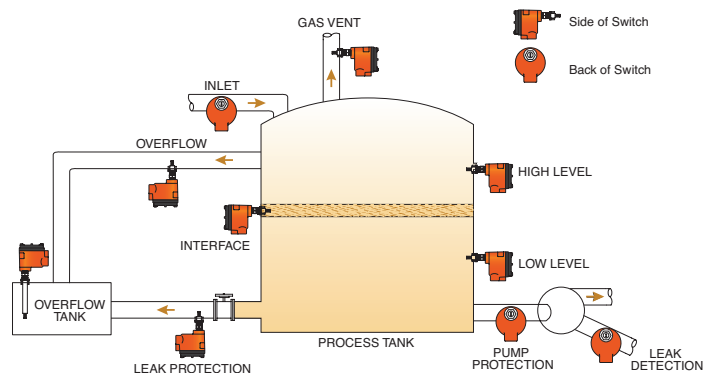
- Adjustable Sensitivity
- Zero & Span Adjustment
- Modbus Addressable

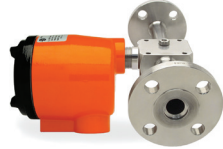
Electronics Modules Feature:

- 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:



| | | | | | | | | | | | | | | | | | | | | | |
|--|-------------|---|-------------|---|---------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|--|--|
| 832 | | CODE | | Sensor Type | | | | | | | | | | | | | | | | | |
| | R | -45°C to +200°C (-50°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 | | | | | | | | | | | | | | | | | |
|  <p>Flow, Level & Temperature Switch & Transmitter</p> | | | | | | | | | | | | | | | | | | | | | |
| CODE | ANSI | CODE | ANSI | CODE | ANSI | CODE | ANSI | CODE | ANSI | CODE | ANSI | CODE | ANSI | CODE | ANSI | CODE | ANSI | | | | |
| | 3/4" | | 1" | | 1-1/2" | | 2" | | 3" | | 4" | | 5" | | 6" | | 8" | | 10" | | |
| 111 | 150 | 121 | 150 | 131 | 150 | 141 | 150 | 151 | 150 | 161 | 150 | 171 | 150 | 181 | 150 | 191 | 150 | 201 | 150 | | |
| 112 | 300 | 122 | 300 | 132 | 300 | 142 | 300 | 152 | 300 | 162 | 300 | 172 | 300 | 182 | 300 | 192 | 300 | 202 | 300 | | |
| 113 | 600 | 123 | 600 | 133 | 600 | 143 | 600 | 153 | 600 | 163 | 600 | 173 | 600 | 183 | 600 | 193 | 600 | 203 | 600 | | |
| 114 | 900 | 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 | | | | | | | | | | | | | | | | | |
| | | CODE | | 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 | | UL & CSA | | | | | | | | | | | | | | | | | |
| | | 9 | | FM | | | | | | | | | | | | | | | | | |
| | | CODE | | Language | | | | | | | | | | | | | | | | | |
| | | E | | English | | | | | | | | | | | | | | | | | |
| 832 | R | A3 | A | 131 | A | I0060 | A | H | 0 | C | | 1 | G | 0A | 9 | E | | | | | |

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Model Number Legend
DOC#: ML-832-004

ML-832-004-[011]

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
- 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 4 / 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:**

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

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 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 - 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 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);
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 kayden.com for details)