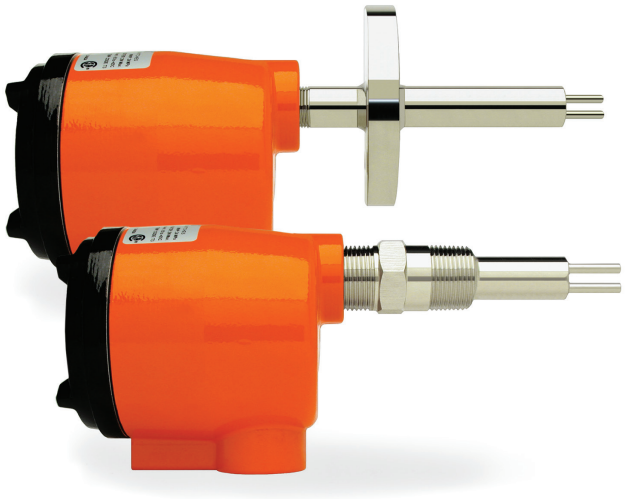
## Technical Specifications Sheet



# CLASSIC™ Series

## Thermal Flow, Level, Interface & Temperature Switches & Transmitters

C US

CRN
Canadian
Registration
Number

FM APPROVED

KAYDEN®
Helping the World Switch™

# 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 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

  **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)