

iSeries Common Specifications (All i/8, i/16, i/32 DIN)

Universal Temperature & Process Input (Model "i")

Accuracy: $\pm 0.5^{\circ}\text{C}$ temp; 0.03% reading process

Resolution: $1^{\circ}/0.1^{\circ}$; $10\ \mu\text{V}$ process

Temperature Stability:

1) RTD: $0.04^{\circ}\text{C}/^{\circ}\text{C}$

2) TC @ 25°C (77°F): $0.05^{\circ}\text{C}/^{\circ}\text{C}$ - Cold Junction Compensation

3) Process: 50 ppm/ $^{\circ}\text{C}$

NMRR: 60 dB

CMRR: 120 dB

A/D Conversion: Dual slope

Reading Rate: 3 samples per second

Digital Filter: Programmable

Display: 4-digit 9-segment LED

21 mm (0.83"): i8

10.2 mm (0.40"): i32, i16, i16D, i8DV

10.2 mm (0.40") and 21 mm (0.83"): i8DH

red, green and amber programmable colors for process variable, set point and temperature units

Input Types: Thermocouple, RTD, Analog Voltage, Analog Current

Thermocouple Lead Resistance:

100 ohm max

Thermocouple Type (ITS 90): J, K, T, E, R, S, B, C, N, L

RTD Input (ITS 68): 100/500/1000 ohm Pt sensor, 2-, 3- or 4-wire; 0.00385 or 0.00392 curve

Voltage Input: 0 to 100 mV, 0 to 1 V, 0 to 10 Vdc

Input Impedance: 10 Mohm for 100 mV
1 Mohm for 1 or 10 Vdc

Current Input: 0 to 20 mA (5 ohm load)

Configuration: Single-ended

Polarity: Unipolar

Step Response: 0.7 sec for 99.9%

Decimal Selection: None, 0.1 for temperature. None, 0.1, 0.01 or 0.001 for process

Setpoint Adjustment: -1999 to 9999 counts

Span Adjustment: 0.001 to 9999 counts

Offset Adjustment: -1999 to 9999

EXCITATION

(Not included with Communication):

24 Vdc @ 25 mA (Not Available for Low Power Option)

Universal Strain & Process Input (Model "iS")

Accuracy: 0.03% reading

Resolution: $10/1\ \mu\text{V}$

Temperature Stability: 50 ppm/ $^{\circ}\text{C}$

NMRR: 60 dB

CMRR: 120 dB

A/D Conversion: Dual slope

Reading Rate: 3 samples per second

Digital Filter: Programmable

Input Types: Analog Voltage, Analog Current

Voltage Input: 0 to 100 mVdc,
-100 mVdc to 1 Vdc, 0 to 10 Vdc

Input Impedance: 10 Mohm for 100 mV;
1 Mohm for 1 V or 10 Vdc

Current Input: 0 to 20 mA (5 ohm load)

Linearization Points: Up to 10
Linearization Points

Configuration: Single-ended

Polarity: Unipolar

Step Response: 0.7 sec for 99.9%

Decimal Selection: None, 0.1, 0.01 or 0.001

Setpoint Adjustment: -1999 to 9999 counts

Span Adjustment: 0.001 to 9999 counts

Offset Adjustment: -1999 to 9999

Excitation (optional in place of Communication): 5 Vdc @ 40 mA;
10Vdc @ 60mA

Control

Action: Reverse (heat) or direct (cool)

Modes: Time and Amplitude Proportional Control Modes; selectable Manual or Auto PID, Proportional, Proportional with Integral, Proportional with Derivative with Anti-reset Windup and ON/OFF

Rate: 0 to 399.9 seconds

Reset: 0 to 3999 seconds

Cycle Time: 1 to 199 seconds; set to 0 for ON/OFF operation

Gain: 0.5 to 100% of span;
Setpoints 1 or 2

Damping: 0000 to 0008

Soak:

00.00 to 99.59 (HH:MM), or OFF

Ramp to Setpoint:

00.00 to 99.59 (HH:MM), or OFF

Auto Tune:

Operator initiated from front panel

Control Output 1 & 2

Relay: 250 Vac or 30 Vdc @ 3 A (Resistive Load); configurable for on/off, PID and Ramp and Soak

Output 1: SPDT type, can be configured as Alarm 1 output

Output 2: SPDT type, can be configured as Alarm 2 output

SSR: 20-265 Vac @ 0.05 - 0.5 A (Resistive Load); continuous

DC Pulse: Non-Isolated;
10 Vdc @ 20 mA

Analog Output (Output 1 only):

Non-Isolated, Proportional 0 to 10 Vdc or 0 to 20 mA; 500 Ω max

Network and Communications (Optional -C24, -C4EI, -EI)

Ethernet: Standards Compliance
IEEE 802.3 10Base-T

Supported Protocols:

TCP/IP, ARP, HTTPGET

RS-232/RS-422/RS-485: selectable from menu; both ASCII and Modbus protocol selectable from menu. Programmable 300 to 19.2 K baud; complete programmable setup capability; program to transmit current display, alarm status, min/max, actual measured input value and status

RS-485: Addressable from 0 to 199

Connection: Screw terminals

Alarm 1 & 2 (programmable)

Type: Same as Output 1 & 2

Operation:

High/low, above/below, band, latch/unlatch, normally open/normally closed and process/deviation; front panel configurations

Analog Output (programmable):

Non-Isolated, Retransmission 0 to 10 Vdc or 0 to 20 mA, 500 Ω max (Output 1 only). Accuracy is $\pm 1\%$ of FS when following conditions are satisfied.

1) Input is not scaled below 1% of Input FS.

2) Analog Output is not scaled below 3% of Output FS.

General

Power: 90-240 Vac $\pm 10\%$, 50-400 Hz*, 110-375 Vdc, equivalent voltage

Low Voltage Power Option: 24 Vac**, 12 - 36 Vdc, power for i8, i8C, i16, i32; 20 - 36 Vdc, power for i8DH, i8DV, i16D from qualified safety approved source

Insulation

Power to Input/Output:

2300 Vac per 1 minute test

1500 Vac per 1 minute test

(For Low Voltage Power Option)

Power to Relays/SSR Outputs:

2300 Vac per 1 minute test

Relays/SSR to Relay/SSR Outputs:

2300 Vac per 1 minute test

RS-232/485 to Input/Outputs:

500 Vac per 1 minute test

Environmental Conditions:

90% RH non-condensing

All models: 0 to 55°C (32 - 131°F)

i8DV, i8DH, i16D: 0 to 50°C (32 to 122°F) for UL only

Protection:

Front bezel: i8C, i16, i16D, i32 NEMA4 / Type4 (IP65); i8, i8D NEMA1/Type1

Approvals: FM, UL, C-UL, CE per EN61010- 1:2001

Dimensions

i/8 Series: 48 H x 96 W x 127 mm D (1.89 x 3.78 x 5")

i/16 Series: 48 H x 48 W x 127 mm D (1.89 x 1.89 x 5")

i/32 Series: 25.4 H x 48 W x 127 mm D (1.0 x 1.89 x 5")

Panel Cutout

i/8 Series: 45 H x 92 mm W (1.772" x 3.622"), 1/8 DIN

i/16 Series: 45 mm (1.772") square, 1/16 DIN

i/32 Series: 22.5 H x 45 mm W (0.886" x 1.772"), 1/32 DIN

Weight

i/8 Series: 295 g (0.65 lb)

i/16 Series: 159 g (0.35 lb)

i/32 Series: 127 g (0.28 lb)

* No CE compliance above 60 Hz

** Units can be powered safely with 24Vac power, but no certification for CE/UL are claimed

iSeries
change color
at any set point*

Totally Programmable Color Displays

RED
AMBER
GREEN