

Super-mini Signal Conditioners F2 Series

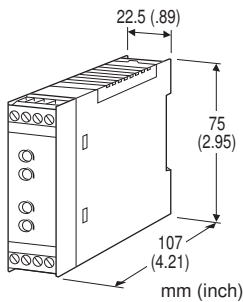
INPUT LOOP POWERED ISOLATOR

Functions & Features

- Loop-powered design eliminates output loop power supply
- Two isolators housed in one enclosure
- 350 Ω output drive with 4 - 20 mA

Typical Applications

- Isolation between control room and field instrumentation, between telemetering system and input device
- Eliminates ground problems in existing systems thanks to easiness of application without requiring additional power wiring



MODEL: F2SN-[1][2][3][4]

ORDERING INFORMATION

- Code number: F2SN-[1][2][3][4]
- Specify a code from below for each of [1] through [4].
(e.g. F2SN-2AA/CE/Q)
- Specify the specification for option code /Q
(e.g. /C01)

[1] NO. OF CHANNELS

- 1: 1 channel
- 2: 2 channels

[2] INPUT

- Current
- A: 4 - 20 mA DC
 - H: 10 - 50 mA DC

[3] OUTPUT

- Current
- A: 4 - 20 mA DC
- Voltage
- 6: 1 - 5 V DC

[4] OPTIONS (multiple selections)

Standards & Approvals (must be specified)

/N: Without CE

/CE: CE marking

Other Options

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

GENERAL SPECIFICATIONS

Construction: Stand-alone; terminal access at the front

Connection: Euro type connector terminal
(applicable wire size: 0.2 to 2.5 mm², stripped length 7 mm)

Housing material: Flame-resistant resin (black)

Isolation: Input to output; between channels

Zero adjustment (front)

Voltage output: -3 % to +3 %

Current output: -0.5 % to +0.5 %

Span adjustment (front)

Voltage output: 95 to 105 %

Current output: 98.5 to 101.5 %

INPUT & OUTPUT

■ Input 4 - 20 mA DC / Output 1 - 5 V DC

Equivalent input impedance: Approx. 250 Ω with 20 mA input

Operational range: 3 - 22 mA DC

(Accuracy is assured within 4 - 22 mA)

Load resistance: ≥ 50 kΩ

■ Input 10 - 50 mA DC / Output 1 - 5 V DC

Equivalent input impedance: Approx. 100 Ω with 50 mA input

Operational range: 7 - 55 mA DC

(Accuracy is assured within 8 - 55 mA)

Load resistance: ≥ 50 kΩ

■ Input 4 - 20 mA DC / Output 4 - 20 mA DC

Equivalent input impedance: 230 Ω plus load resistance with 20 mA input

Operational range: 3 - 22 mA DC

(Accuracy is assured within 4 - 22 mA)

Load resistance: 50 - 350 Ω (min. 50 Ω required for adequate operation)

■ Input 10 - 50 mA DC / Output 4 - 20 mA DC

Equivalent input impedance: 90 Ω + [load resistance × 0.16]

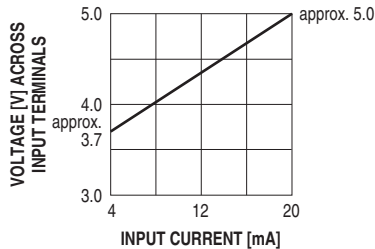
with 50 mA input

Operational range: 7 – 55 mA DC

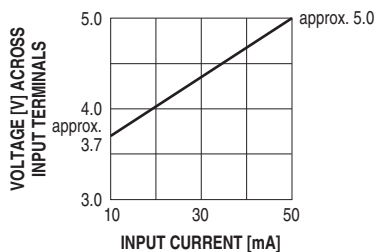
(Accuracy is assured within 8 – 55 mA)

Load resistance: 50 – 600 Ω (min. 50 Ω required for adequate operation)

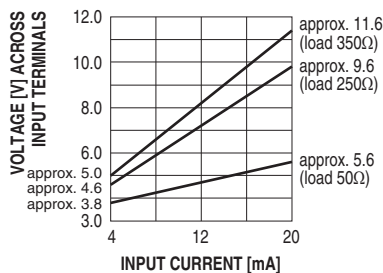
•INPUT 4 – 20 mA DC / OUTPUT 1 – 5 V DC



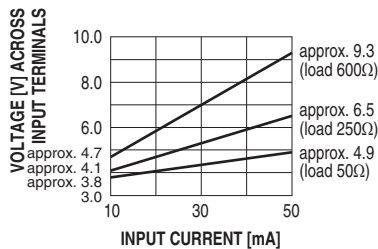
•INPUT 10 – 50 mA DC / OUTPUT 1 – 5 V DC



•INPUT 4 – 20mA DC / OUTPUT 4 – 20 mA DC



•INPUT 10 – 50 mA DC / OUTPUT 4 – 20 mA DC



Current output: ±0.02 %/°C (±0.01 %/°F)

Response time

Voltage output: ≤ 0.5 sec. (0 – 90 %)

Current output

4 – 20 mA DC input: Approx. 25 msec. (0 – 90 %, 50 Ω load)

10 – 50 mA DC input: Approx. 7 msec. (0 – 90 %, 50 Ω load)

Load effect (current output)

4 – 20 mA input: 0.015 %/Ω (50 – 150 Ω)

0.003 %/Ω (150 – 350 Ω)

10 – 50 mA input: 0.015 %/Ω (50 – 100 Ω)

0.003 %/Ω (100 – 600 Ω)

(The unit is calibrated with 250 Ω load at the factory.)

Insulation resistance: ≥ 100 MΩ with 500 V DC

Dielectric strength:

500 V AC @1 minute (input to output)

2000 V AC @1 minute (between channels)

2000 V AC @1 minute (input or output to ground)

STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

INSTALLATION

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: DIN rail

Weight: 150 g (0.33 lb)

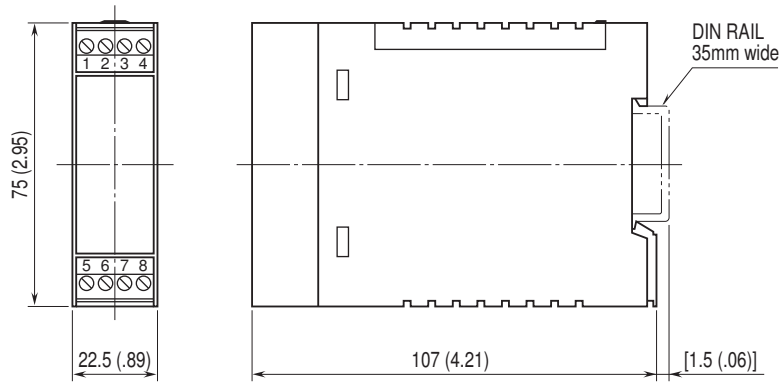
PERFORMANCE in percentage of span

Accuracy: ±0.1 %

Temp. coefficient

Voltage output: ±0.015 %/°C (±0.008 %/°F)

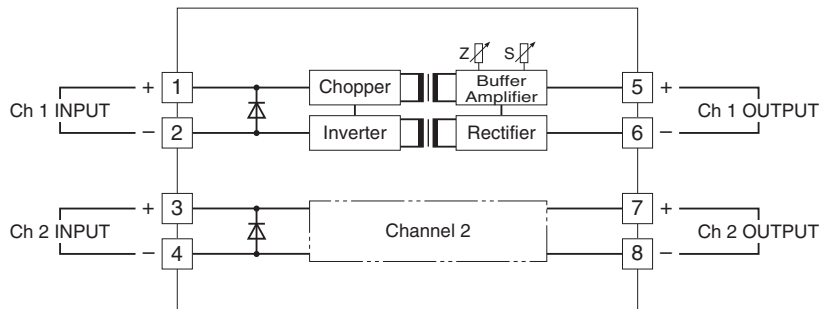
EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



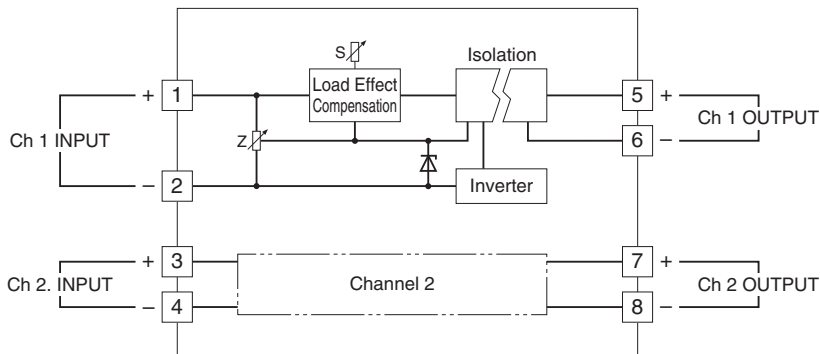
• When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

■ VOLTAGE OUTPUT



■ CURRENT OUTPUT



Specifications are subject to change without notice.