

Hybrid IC Isolation Amplifiers 20 Series

ISOLATION AMPLIFIER

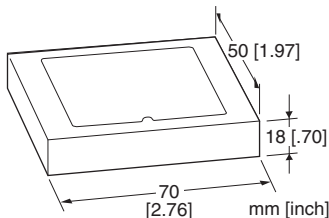
(3-port isolation)

Functions & Features

- Being used for printed wiring board installation
- Isolating between input, output and power
- 24 V DC or 15 V DC power supply

Typical Applications

- Isolating the field and input or output circuit of microprocessor to reduce noise from field
- Available for manufacturers of small-lot products to omit the development of isolation circuit



VOLTAGE OUTPUT TYPE

MODEL: 20VS-4W4W-[1]

ORDERING INFORMATION

- Code number: 20VS-4W4W-[1]
- Specify a code from below for [1].
(e.g. 20VS-4W4W-R)

INPUT

Voltage

4W: -10 – +10 V DC (Input resistance 1 MΩ min.)

OUTPUT

Voltage

4W: -10 to +10 V DC (Load resistance 3.5 kΩ min.)

[1] POWER INPUT

DC Power

R: 24 V DC

U: 15 V DC

GENERAL SPECIFICATIONS

Construction: Hybrid IC

Housing material: Flame-resistant resin (black)

Isolation: Input or preamp drive power to output to power

Zero adjustment: -0.5 to +0.5 % (bottom)

Span adjustment: 95 to 105 % (bottom)

OUTPUT SPECIFICATIONS

Preamp driver power: ±15 V, 5 mA

INSTALLATION

Power input

- **DC Power:** Operational voltage range rated voltage ±2% (ripple 2% p-p max.)

Approx. 20mA (load resistance 1MΩ)

30mA max. (24V DC, load resistance 3.5kΩ)

40mA max. (15V DC, load resistance 3.5kΩ)

Operating temperature: 0 to 60°C (32 to 140°F)

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

Mounting: Soldering to the printed wiring board

Weight: 50 g (1.76 oz)

PERFORMANCE in percentage of span

Accuracy: ±0.1 %

Temp. coefficient:

Offset drift 50 ppm/°C

Span drift 100 ppm/°C

Frequency characteristics: Approx. 1 kHz, -3 dB

Response time: Approx. 0.6 msec. (0 – 90 %)

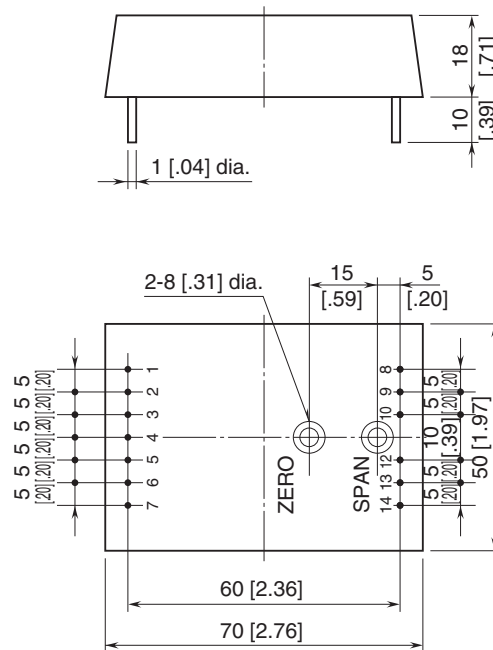
Line voltage effect: ±0.1 % over voltage range

Insulation resistance: ≥ 100 MΩ with 500 V DC

Dielectric strength: 1000 V AC @1 minute

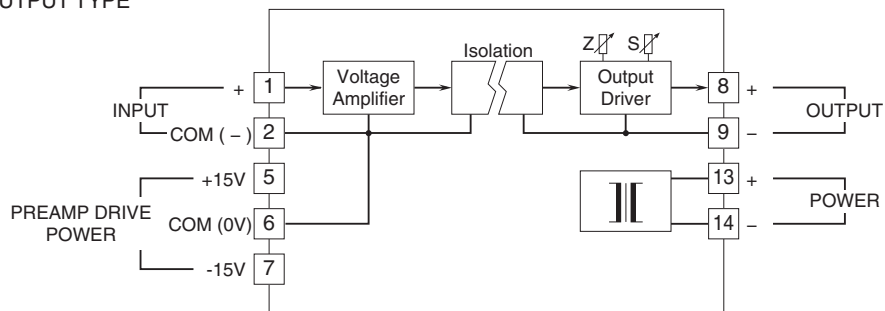
(Input or preamp drive power to output to power)

EXTERNAL DIMENSIONS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

■ VOLTAGE OUTPUT TYPE



CURRENT OUTPUT TYPE**MODEL: 20VS-[1]A-[2]****ORDERING INFORMATION**

- Code number: 20VS-[1]A-[2]

Specify a code from below for each of [1] and [2].

(e.g. 20VS-6A-R)

[1] INPUT**Voltage**

3: 0 – 1 V DC (Input resistance 1 MΩ min.)

5: 0 – 5 V DC (Input resistance 1 MΩ min.)

6: 1 – 5 V DC (Input resistance 1 MΩ min.)

OUTPUT**Current**

A: 4 – 20 mA DC (Load resistance 600 Ω max.)

[2] POWER INPUT**DC Power**

R: 24 V DC

U: 15 V DC

GENERAL SPECIFICATIONS**Construction:** Hybrid IC**Housing material:** Flame-resistant resin (black)**Isolation:** Input or preamp driver power to output to power supply to external power supply**Zero adjustment:** -5 to +5 % (bottom)**Span adjustment:** 95 to 105 % (bottom)**OUTPUT SPECIFICATIONS****Preamp driver power:** ±15 V, 5 mA**External power supply:** +16 V, 15 mA**INSTALLATION****Power input**

- DC: Operational voltage range rated voltage ±2% (ripple 2 % p-p or less)

Approx. 40 mA (24 V DC, load resistance 250Ω)

Approx. 60 mA (15 V DC, load resistance 250Ω)

55mA max. (24V DC, load resistance 600Ω)

80mA max. (15V DC, load resistance 600Ω)

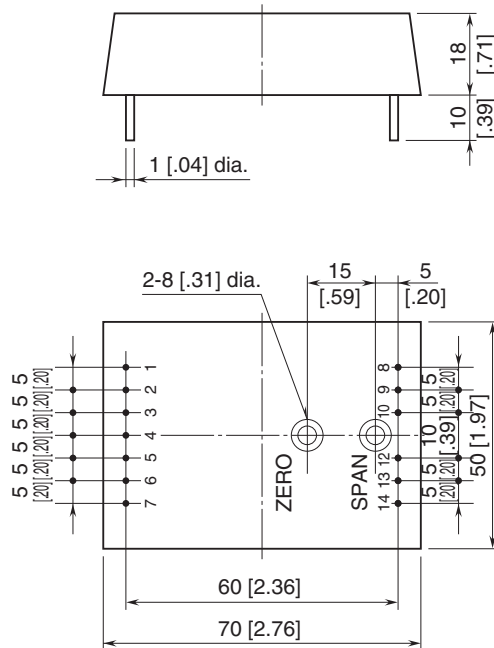
Operating temperature: 0 to 60°C (32 to 140°F)**Operating humidity:** 30 to 90 %RH (non-condensing)**Mounting:** Soldering to the printed wiring board**Weight:** 50 g (1.76 oz)**PERFORMANCE in percentage of span****Accuracy:** ±0.1 %**Temp. coefficient:**

Offset drift 50 ppm/°C

Span drift 100 ppm/°C

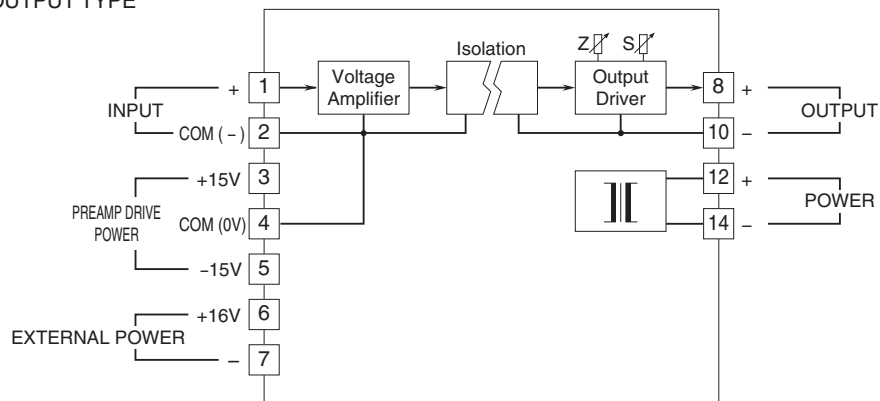
Frequency characteristics: Approx. 200 Hz (-3 dB)**Response time:** Approx. 4 ms (0 - 90 %)**Line voltage effect:** ±0.1 % over voltage range**Insulation resistance:** ≥ 100 MΩ with 500 V DC**Dielectric strength:** 1000 V AC @ 1 minute (input or preamp driver power to output to power supply to external power supply)

EXTERNAL DIMENSIONS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

■ CURRENT OUTPUT TYPE



Specifications are subject to change without notice.