

Hybrid IC Isolation Amplifiers 20 Series

ISOLATION AMPLIFIER

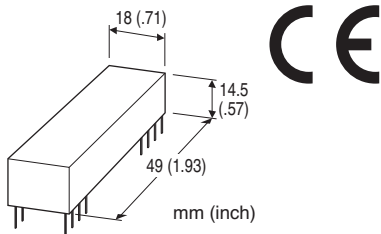
(for narrow span, input isolation)

Functions & Features

- Being used for printed wiring board installation
- Isolating between input and output, input and power
- Built in surge protectors
- Isolation between input and output up to 2000 V AC
- Power 15 V DC

Typical Applications

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



MODEL: 20VS2-3-U

ORDERING INFORMATION

- Code number: 20VS2-3-U

Narrow span input range: -10 - +100 mV DC

Input range: 0 - 5 V DC

Output range: 0 - 10 V DC

POWER INPUT

DC Power

U: 15 V DC

GENERAL SPECIFICATIONS

Construction: Hybrid IC

Housing material: Flame-resistant resin (black)

Isolation: Input or reference voltage source to output or power supply

INPUT SPECIFICATIONS

■ Voltage Input

Narrow span input range: -10 - +100 mV DC

Input range: 0 - 5 V DC

Input resistance: $\geq 1 \text{ M}\Omega$ (10 k Ω in power failure)

Overload input voltage: 30 V DC continuous

Input offset voltage: $\pm 15 \text{ mV}$

Input bias current: 15 nA TYP. (@25°C)

OUTPUT SPECIFICATIONS

■ Voltage Output

Output range: 0 - 10 V DC

Load resistance: $\geq 2 \text{ k}\Omega$

Output impedance: $\leq 1 \Omega$

REFERENCE VOLTAGE SOURCE

Output voltage: $\pm 11 \text{ V DC} \pm 5 \%$

Load current: $\leq 5 \text{ mA}$

INSTALLATION

Power input

• **DC:** Operational voltage range: Rating $\pm 2 \%$; approx. 10 mA with no load; ripple 2 %p-p max.

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: 20 g (0.71 oz)

PERFORMANCE in percentage of span

Linearity: $\pm 0.05 \%$

Temp. coefficient: Offset drift 40 ppm/°C

span drift 80 ppm/°C

Frequency characteristics:

Approx. 2 Hz -3dB (narrow span input)

Approx. 1 kHz -3dB (not narrow span input)

Response time:

$\leq 200 \text{ ms}$ (narrow span input)

$\leq 450 \text{ microseconds}$ (not narrow span input)

Conversion gain: $\times 0.4 \pm 1 \%$

Line voltage effect: $\pm 0.05 \%$ over voltage range

Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC

Dielectric strength: 2000 V AC @ 1 minute

(input or reference voltage source to output or power supply)

STANDARDS & APPROVALS

EU conformity:

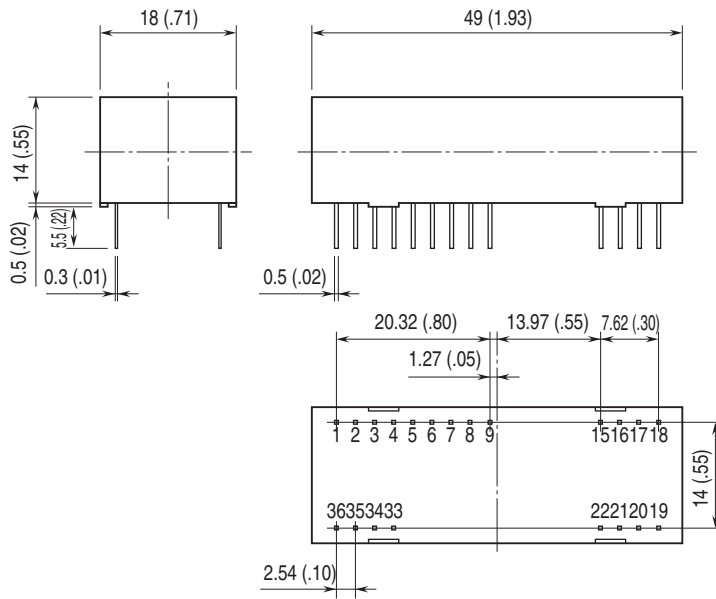
EMC Directive

EMI EN 61000-6-4

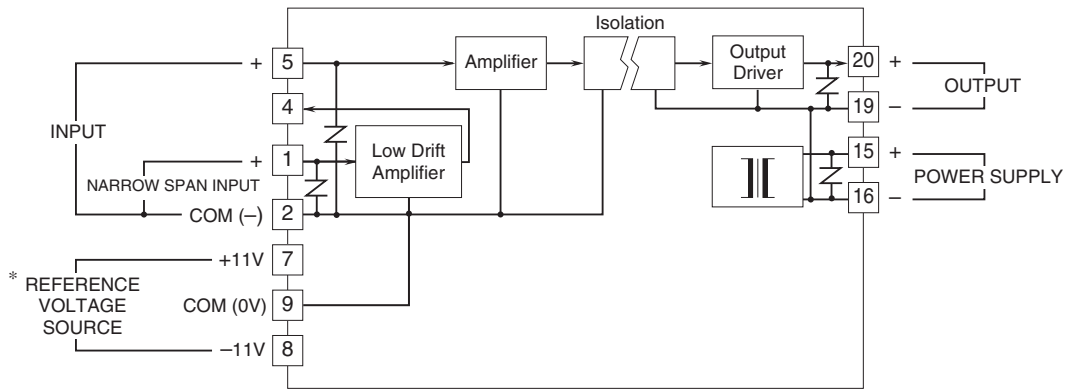
EMS EN 61000-6-2

RoHS Directive

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



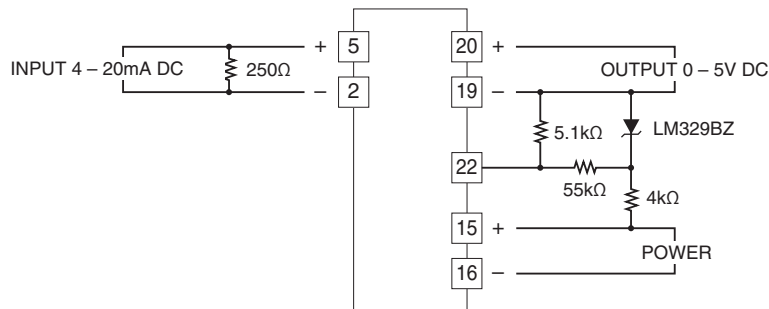
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*To be used in the printed wiring board on which the unit is mounted.

APPLICATION EXAMPLE

Input: 4 - 20 mA DC
Output: 0 - 5 V DC



Specifications are subject to change without notice.