

## Hybrid IC Isolation Amplifiers 20 Series

### ISOLATION AMPLIFIER

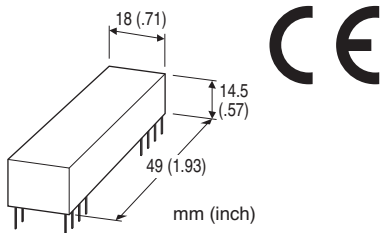
(current output, output isolation)

#### Functions & Features

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

#### Typical Applications

- Isolating the fields and output circuit of microprocessor to reduce common mode noise
- Available for manufacturers of small-lot products to omit the development of isolation circuit



### MODEL: 20VS2-4-U

#### ORDERING INFORMATION

- Code number: 20VS2-4-U

Input range: 0 - 5 V DC

Current output range: 0 - 20 mA DC

Voltage 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:** Output or reference voltage source to input or power supply

#### INPUT SPECIFICATIONS

■ **DC Voltage**

**Input :** 0 - 5 V DC

**Input resistance:**  $\geq 1 \text{ M}\Omega$  (10 k $\Omega$  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

■ **Current Output Range:** 0 - 20 mA DC

**Load resistance:**  $\leq 550 \Omega$

**Output impedance:**  $\geq 1 \text{ M}\Omega$

■ **Voltage Output Range:** 0 - 10 V DC

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

**Output impedance:**  $\leq 1 \Omega$

Note: Current output and voltage output simultaneous usage is unable.

#### REFERENCE VOLTAGE SOURCE

**Output voltage:**  $\pm 15 \text{ V DC} \pm 5 \%$

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

#### INSTALLATION

**Power input**

- **DC:** Rating  $\pm 2 \%$ ; approx. 28 mA with 20 mA output; 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 40ppm/°C  
span drift 100 ppm/°C

**Frequency characteristics:** Approx. 200 Hz (-3 dB)

**Response time:**  $\leq 2 \text{ ms}$  (0 - 90 %)

**Conversion gain**

Current output: 0 - 20 mA DC  $\pm 1 \%$

Voltage output:  $\times 0.16 \pm 1 \%$

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

#### STANDARDS & APPROVALS

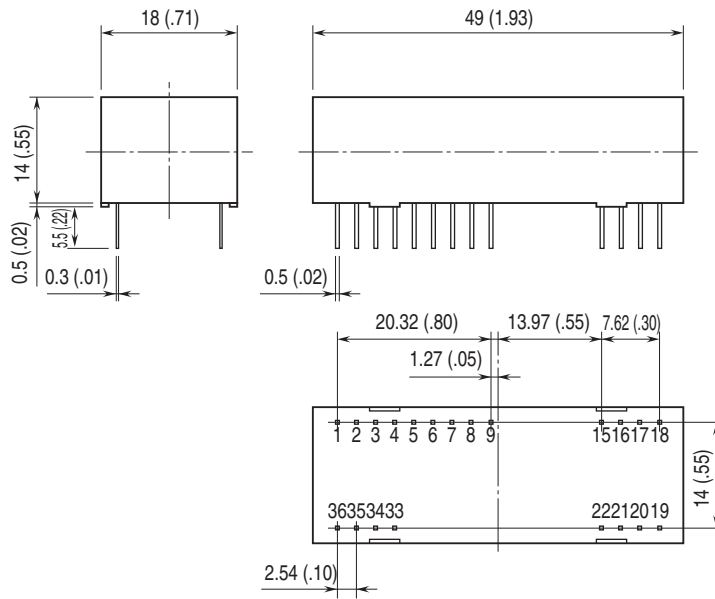
**CE conformity:**

EMC Directive (2004/108/EC)

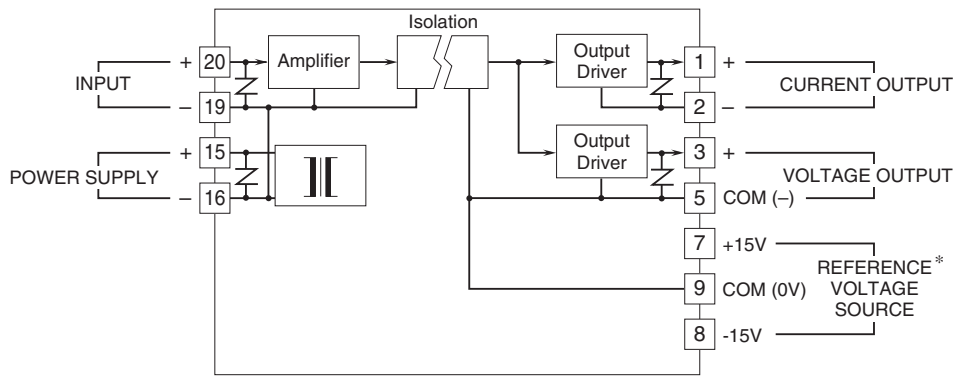
EMI EN 61000-6-4: 2007

EMS EN 61000-6-2: 2005

**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**

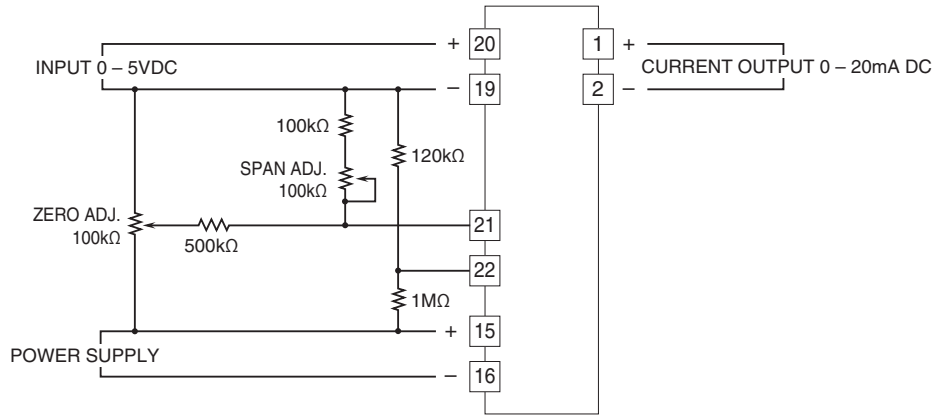
■ External circuit of zero/span adjustment

Input: 0 - 5 V DC

Output: 0 - 20 mA DC

Zero adjustments: Approx. -2.5 - +2.5 %

Span adjustments: Approx. 97.5 - 102.5 %



Specifications are subject to change without notice.