

## Hybrid IC Isolation Amplifiers 20 Series

### ISOLATION AMPLIFIER

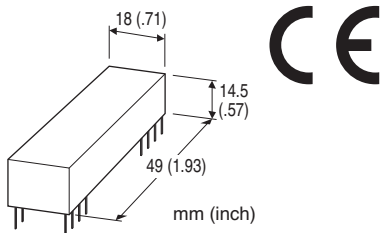
(high speed response, input isolation)

#### Functions & Features

- Ultra-high speed response 80 microseconds
- 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: 20VF-1-U

#### ORDERING INFORMATION

- Code number: 20VF-1-U

INPUT RANGE -10 - +10 V DC

OUTPUT RANGE -10 - +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

■ DC Voltage

Input : -10 - +10 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

■ DC Voltage: -10 - +10 V DC

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

Output impedance:  $\leq 1 \Omega$

#### REFERENCE VOLTAGE SOURCE

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

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

#### INSTALLATION

##### Power input

• DC: Operational voltage range: Rating  $\pm 2 \%$ ; approx. 30 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 50 ppm/°C

Frequency characteristics: Approx. 5 kHz, -3 dB

Response time:  $\leq 80 \mu\text{sec}$ . (0 - 90 %)

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

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

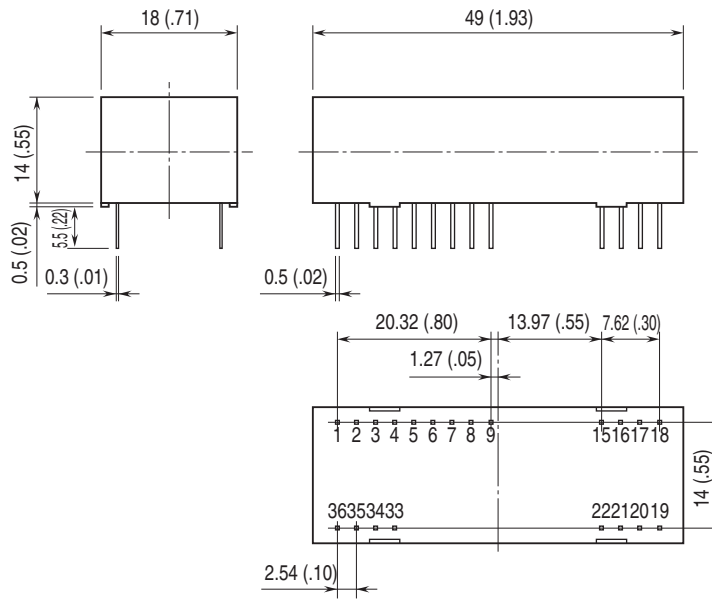
EMI EN 61000-6-4

EMS EN 61000-6-2

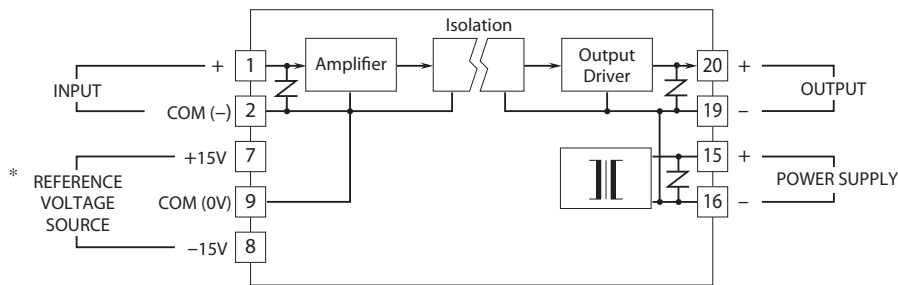
RoHS Directive

EN 50581

## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

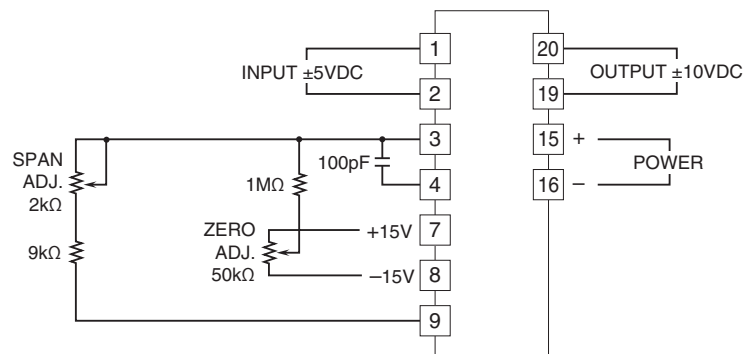


\*To be used in the printed wiring board on which the unit is mounted.

## APPLICATION EXAMPLE

### External circuit of zero/span adjustment

**Input:**  $\pm 5V$  DC  
**Output:**  $\pm 10V$  DC  
**Zero adjustments:** approx.  $\pm 0.5\%$   
**Span adjustments:** approx.  $\pm 1\%$



Specifications are subject to change without notice.