Isolation amplifier

2284

- Galvanically separated input, output, and supply
- Bipolar current / voltage input
- Signal conversion
- Current and voltage output
- 24 VDC supply or universally supplied
- Applicable in PELV/SELV circuits

Advanced features

- Programmable input and output ranges using internal DIP-switches.
- Front panel fine adjustment of 0 and 100% values for special ranges.

Application

- Galvanic separation of analog signals.
- Measurement of floating signals.

Technical characteristics

- Analog signal conditioning with microprocessor based gain and zero offset with a fast response time of less than 25 ms.
- Signal conversion within the ranges: -250...+250 VDC or -50...+50 mA on the input and 0...10 (20) VDC and 0...20 mA on the output.
- Galvanically separated between input, supply, and output.
- 2-wire transmitter supply and a reference voltage of 2.5 VDC, max. 15 mA for short circuit-protected supply of potentiometers.
- Buffered voltage output 0...20 V, 10 mA.
- The output can be ordered for standard 0/4...20 mA, and 0/1...5 mA or special currents and selectable voltages within the signal range 0...1 VDC or and ranges 0...10 VDC.
- Output signal reversal.
- Mounting for a standard 11-pole socket which can be adapted for DIN rail or plate use with PR’s 7023 adaptor and 7024 mounting keying.

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Environmental Conditions
Operating temperature.................................... -20°C to +60°C
Calibration temperature................................ 20...28°C
Relative humidity............................................ < 95% RH (non-cond.)
Protection degree.......................................... IP50

Mechanical specifications
Dimensions (HxWxD).................................... 80.5 x 35.5 x 84.5 mm (D is without pins)
Weight DC / universally supplied.................. 125 g / 165 g

Common specifications
Supply
Supply voltage........................................... 19.2...31.2 VDC
Supply voltage, universal.......................... 21.6...253 VAC, 50...60 Hz or 19.2...300 VDC
Max. required power.................................. ≤ 2.4 W (2284–D)
Max. required power.................................. ≤ 2.5 W (2284–P)
Isolation voltage
Isolation voltage, test / working.................. 3.75 kVAC / 250 VAC
PELV/SELV.................................................. IEC 61140

Response time
Response time (0…90%)............................... < 25 ms

Signal / noise ratio....................................... Min. 60 dB
Effect of supply voltage change.................. < 0.005% of span / VDC
2-wire transmitter supply
(pin 7...5).................................................. 19…28 VDC / 20…0 mA
Auxiliary voltages: Reference voltage........... 2.5 VDC ±0.5% / 15 mA
Temperature coefficient............................. < ±0.01% of span / °C
Linearity error......................................... < 0.1% of span
EMC immunity influence......................... < ±0.5% of span

Input specifications
Common input specifications
Max. offset.............................................. 50% of max. value

Current input
Measurement range................................. -50...+50 mADC
Min. measurement range (span).................. 0.53 mADC
Input resistance.................................... Nom. 50 Ω

Voltage input
Measurement range................................. -250...+250 VDC
Min. measurement range (span).................. 27 mVDC
Input resistance..................................... >1 MΩ...<10 MΩ

Output specifications
Current output
Signal range........................................... 0…20 mA
Min. signal range................................. 4 mA
Load (@ current output)............................. ≤ 1000 Ω
Load stability....................................... ≤ 0.01% of span / 100 Ω
Current limit.......................................... 23…28 mA
Voltage output through internal shunt.............. See manual for details

Observed authority requirements
EMC.................................................. 2014/30/EU
LVD.................................................. 2014/35/EU
EAC.................................................. TR-CU 020/2011

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<th>Output</th>
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