



Signal conditioning

420V

LOOP POWERED ISOLATOR



- Generates 0-10V signal from 4-20mA
- Loop powered drops only 5.5V from loop
- 1kV Isolation
- High Accuracy
- Low Cost Solution

Description

The 420V is used to generate an isolated 0-10Vdc signal from an existing 4-20mA loop. The unit is loop-powered, generating its supply from the 4-20mA loop but only dropping a maximum of 5.5V from the existing loop, effectively having a 275 Ω input impedance.

The 420V has zero and span potentiometers which allow the unit to be adjusted in the field.

As well as the standard 0-10V output the unit can be used to generate other outputs such as 0-5V, 1-5V etc.

The device is housed in an ultra-compact DIN rail mounted enclosure, only 18mm wide.

For further information and ordering please see overleaf.

General specifications

Recommended Operating Conditions

Input Current	0(4)-20mA
Output Voltage	0 - 10Vdc
Output Resistance	>2500 Ω .
Overload Capacity	\pm 50mA Input Current

Environmental Conditions

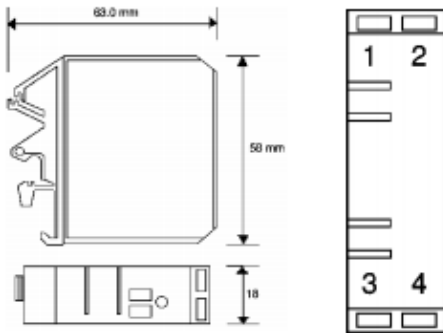
Storage Temperature	-40 to 100 $^{\circ}$ C
Operating Ambient	-15 to 70 $^{\circ}$ C
Relative Humidity	0-90 % RH

Other Considerations

The Voltage drop across the device at 20mA input is



Technical Specifications				
Parameter	Min	Typ	Max	Comments
Supply Voltage		Loop Power		
Input Current	-50mA	0-20mA	+50mA	
Full Scale Volt Drop ^{see note}		5.0V	5.5V	At 20mA Input
Output Linearity Error			±0.1%	
Temp Coefficient			90ppm/°C	
Load Resistance Error			-200nA/Ω	0 < R _L < 600Ω
Time Constant (10-90%)		30ms		
Operating Ambient	-15°C		70°C	
Relative Humidity	0%		90%	
Isolation Voltage	1kV			
Supply Voltage		Loop Power		
Surge Voltage	2.5kV for 50μS		Transient of 10kV/μS	
Notes	<p>Absolute maximum ratings indicate sustained limits beyond which damage to the device may occur.</p> <p>Device is protected against reverse polarity connection.</p> <p>Accuracy figures based on 0-20mA input, 250Ω load resistance, and an ambient temperature of 20°C.</p> <p>Add volt drop due to load: $0.02 \times R_L$ e.g. 250Ω load total volt drop = $3.5 + (0.02 \times 250) = 8.5V$</p>			



Installation data	
Mounting	DIN Rail TS35
Orientation	Any
Connections	Screw Clamp with pressure plate
Conductor size	0.5-4.0mm
Insulation Stripping	12mm
Weight	Approx 50g

Connection details	
1.	Output Channel +ve
2.	Output Channel -ve
3.	Input Channel +ve
4.	Input Channel -ve

Ordering information	
Please supply:	
Part Number:	
4-20mA In 0-10V Out	420V
Other options available	Please enquire