

# ISOLATOR

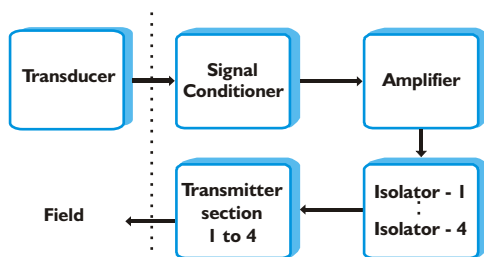
## ESD 414

### INTRODUCTION

The ESD make Signal Isolators series are used in applications where one signal is to be fed to two different instruments to avoid ground loops. ESD 41 series is a single input and single or dual output signal isolator. It accepts 4 - 20 mA input and converts it into two isolated 4 - 20 mA signals. The unit is Din Rail mounting type. Internal potentiometers for Span and Zero of each output are provide internally. The instrument has high degree of isolation between supply, input and output with respect to one another. Choice for number of outputs is available. Use of highly reliable electronic components ensures long and trouble free service. The instrument is tested for its performance under various climatic conditions.



### PRINCIPLE OF OPERATION



The ESD 41 series is based on the principle of isolating the input signal from the output signal using a high precision analog isolators.

The selection of analog isolators and its circuitry ensures linear signal transmission. Sensor compensation circuit, where automatic cold junction compensation in case of thermocouple & lead resistance compensation in case of Pt - 100 is achieved. Duly compensated signal is fed to a signal conditioning amplifier.

### APPLICATION

The ESD 41 series isolator can be used in any process control system where isolation is required between input and output signal to break the ground loop. Also in application where the input signals from the field are to be given to multiple devices like PLC / VFD etc.

### FEATURES

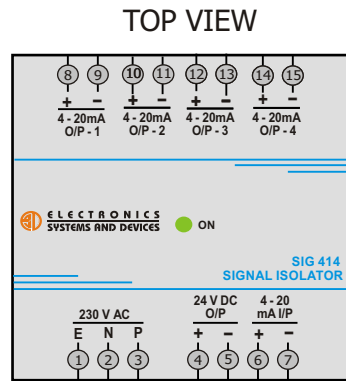
- ✓ Proven troublefree field performance
- ✓ Highly compact
- ✓ Highly stable output
- ✓ Fast response time
- ✓ DIN rail mounting
- ✓ Maximum MTBF and minimum MTTR
- ✓ Isolation between input and output
- ✓ Dust and vermin proof enclosure with epoxy powder coating
- ✓ Designed for thermocouples and RTD input
- ✓ Cold junction compensation for Thermocouple input
- ✓ Lead wire compensation for RTD input

**SPECIFICATIONS**

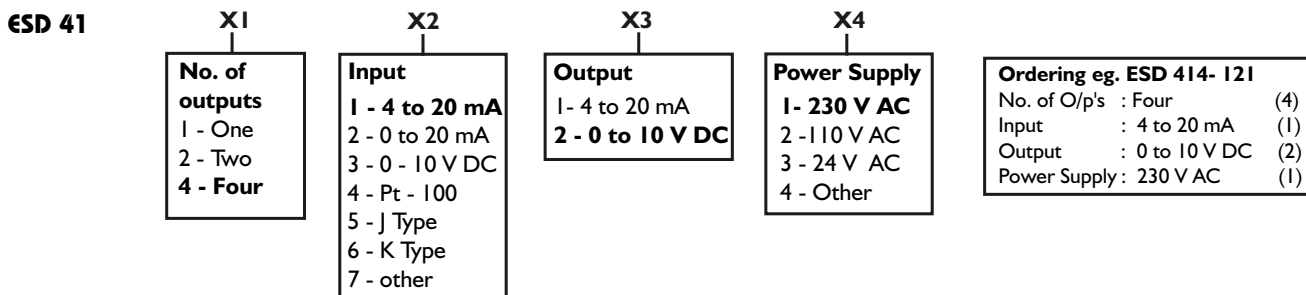
Model	: ESD 414	Load	: 400 ohms maximum for 4 to 20 mA output
Input	: Pt - 100 / Thermocouple / 4-20 mA / 0- 10 V DC	Isolation	: 1 kV between control supply, input and output with respect to one another
Ranges	: Refer chart below (other on demand)	Transmitter supply	: 24 V DC @ 30mA (for 4 to 20 mA i/p)
Input resistance	: Less than 100 ohms for 4 - 20 mA input	Recalibration (if reqd)	: By zero & span potentiometers
Output	: 4 - 20 mA / 0 - 10 V DC	Dimensions (in mm)	: 75(L) x 100(W) x 110 (H) mm
Number of outputs	: Four	Mounting	: DIN rail
Accuracy	: 0.5% (For Pt - 100 / TC ) 0.1% (For 4 - 20 mA / 0 to 10 V DC)	Enclosure	: ABS plastic
Power supply	: 230 V AC, +/- 10 %, 50 Hz with earth	Termination	: Screwed type suitable for 2.5mm <sup>2</sup> wire
Relative humidity	: Less than 90 % non condensing	Weight	: 500 grams approximately
Ambient temperature	: 0 to 55°C	Chart	:
Amb temp compensation	: Built in up to 55°C (for T/C inputs)		
Accuracy deviation due to			
a) Temperature change	: +/- 0.002 % /°C, ref at 25°C		
b) Supply variation	: +/- 0.001 % / V		

Input	Standard Ranges in °C		
Pt-100	-50 - 50	0 - 100	0 - 200
J	0 - 200	0 - 400	0 - 600
K	0 - 200	0 - 400	0 - 600
	0 - 800	0 -1000	0 - 1200

**INSTALLATION**



**ORDERING INFORMATION**



<b>ALSO SELECT ESD ..</b>	<b>BACK END</b>	<b>SAME RANGE</b>	<b>FRONT END</b>
	<ul style="list-style-type: none"> <li>✓ Pt - 100</li> <li>✓ Thermocouples</li> <li>✓ Thermowells</li> <li>✓ Compensating Cables</li> </ul>	<ul style="list-style-type: none"> <li>✓ Dual Channel Indicators</li> <li>✓ Supersize Indicators</li> <li>✓ Loop Powered Indicators</li> <li>✓ Portable Indicators</li> </ul>	<ul style="list-style-type: none"> <li>✓ Field Mounting Indicators</li> <li>✓ Flameproof Indicators</li> <li>✓ Auto Manual Station</li> </ul>

*"Intelligence is the ability to adapt to change....."*

*Stephen Hawking*

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