

FEATURES

- Converts single current input to two independently isolated current outputs
- Input current range of 4 mA to 20 mA
- Minimum operating temperature of 0°C
- Maximum operating temperature of +45°C
- Red LED 'power on' indicator
- DIN rail mounting
- Screw-type termination for easy installation
- Maintains full 3-port isolation

RS PRO 4 → 20 mA Input, 2 x 4 → 20 mA Output

RS Stock No.: 466-2264



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

Product Description

By using this signal conditioner from RS PRO, you can convert a single mA or voltage input into two independently isolated current or voltage outputs. The analogue-to-analogue signal conditioner suits applications that need local operation as well as remote monitoring and control. Its three-port (input/output/supply) isolation effectively eliminates ground loop currents and electrical noise. The DIN-rail mountable BM320 conditioner supports DC inputs ranging from 4 mA to 20 mA. The innovative design and robust construction use high-quality components to allow this converter to handle temperatures of 0°C to +45°C. Thanks to screw-type termination, installation in the field is quick and easy, with no need for specialised tools.

General Specifications

Module Type	Converter
Signal Conditioner Type	Analogue to Analogue
Input Type	Analogue
Input Range	4mA to 20mA
Output Type	Analogue
Output Range	2 x 4mA to 20mA
Linearity	Proportional to input $\pm 0.1\%$ of Span
Response Time	<50mS – Step 0% to 65%, -3dB at 4.5KHz
Indication	Red LED
Special Features	Status Indicator
Applications	Local operation as well as remote monitoring and control

Electrical Specifications

Supply Voltage	9V dc to 30V dc
Power Consumption	<3W
Termination	Screw
Isolation	600 Volts > 20Mohms
Potentiometer Input	0kohm to 10kohms

Mechanical Specifications

Mounting Type	DIN Rail
Weight	195g

Operation Environment Specifications

Operating Temperature Range	0°C to 45°C
Minimum Operating Temperature	0°C
Maximum Operating Temperature	45°C
Storage Temperature	-20°C to +60°C

Approvals

Compliance/Certifications	EN61340
----------------------------------	---------





SPECIFICATIONS																																																									
<p>INPUTS: Please note that the following are typical ranges. Other ranges available, please contact sales office.</p> <p>DC Current Standard Ranges 0 to 10mA into 100 ohms 4 to 20mA into 62 ohms Optional Ranges 0 to 1mA into 100 ohms 0 to 10mA into 10 ohms 4 to 20mA into 10 ohms Option: Upscale drive on loss of 4 to 20mA input signal Other current inputs as required Minimum current 10µA Maximum current 100mA</p> <p>D C Voltage Between -250 and +250 Volts DC Minimum voltage span 5mV Maximum voltage span 500V Input Impedance: 1MΩ greater</p> <p>A C Current 0 – 1A</p> <p>A C Voltage 0 – 250 V</p>	<p>Resistance (2 wire) Between 0 and 20K ohms Minimum span 5 ohms Maximum span 20K ohms</p> <p>Potentiometers (3 wire) Between 0 and 10K ohms Minimum span 10 ohms Maximum span 10K ohms</p> <p>Resistance Thermometers (RTDs, PT100s) 2 or 3 wire 100 or 130 ohms at 0°C Measurable range, -200°C to +800°C Minimum temperature span 10°C Maximum temperature span 600°C Input is linearised</p> <p>Thermocouples Type B, E, J, K, N, R, S & T Temperature covered: Type Range MinTemp Change B 600 to 1800°C 400°C E -260 to 1000°C 65°C J -200 to 1200°C 80°C K -260 to 1370°C 100°C N 0 to 1300°C 150°C R 50 to 1760°C 400°C S 80 to 1760°C 400°C T -260 to 400°C 100°C Automatic cold junction compensation Open circuit thermocouple monitoring upscale or downscale drive</p>	<p>OUTPUTS: DC Current 0 to 10mA into 10 to 1500 ohms 4 to 20mA into 10 to 750 ohms Other ranges as required Minimum span 1mA Maximum span 20mA</p> <p>DC Voltage The voltage output is derived from passing a mA signal through an internal resistor 0 to 1 Volt DC thru 51 ohms 0 to 10 Volt DC thru 510 ohms 1 to 5 Volt DC thru 240 ohms Other ranges as required Minimum span 1 Volt DC Maximum span 10 Volt DC</p> <p>Input/Output/Supply Isolation 600 Volts > 20M ohms</p> <p>N.B. Each output can be of a different type and range i.e. 1 x 4 to 20mA and 1 x 1 to 5 Volts</p>	<p>SUPPLY: Power Supplies 9 to 30 Volt DC with converter to maintain signal to power supply isolation</p> <p>Power Required 3 Watts Maximum</p> <p>Pilot Light Red LED shows Power ON</p> <p>GENERAL: Linearity Error Proportional to input ±0.1% of span</p> <p>Response Time ~50mS - Step 0 to 65% -3dB at 4.5KHz</p> <p>Temperature Coefficient ±0.1% of span / Δ10°C</p> <p>Operating Storage / Temperature Range 0 to +45°C / -20 to +60°C</p> <p>Weight 195 gms</p>																																																						
<p>MECHANICAL DETAILS</p>	<p>TERMINATION DETAILS</p> <table border="1"> <thead> <tr> <th>Terminal</th> <th>Terminal</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>8 Output B Active -ve / Passive +ve</td> </tr> <tr> <td>2 Inputs - See below</td> <td>9 Output B Active +ve</td> </tr> <tr> <td>3</td> <td>10 Output B Passive -ve</td> </tr> <tr> <td>4 Unused</td> <td>11 Unused</td> </tr> <tr> <td>5 Output A Passive -ve</td> <td>12 Power Supply +ve</td> </tr> <tr> <td>6 Output A Active +ve</td> <td>13 Unused</td> </tr> <tr> <td>7 Output A Active -ve / Output A Passive +ve</td> <td>14 Power Supply -ve</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Inputs</th> <th>AC Current</th> <th>AC Volts</th> <th>DC mA</th> <th>DC mV/V</th> <th>T/Cs</th> <th>2 Wire Slidewire</th> <th>3 Wire Pot</th> <th>Resistance Thermometer</th> <th>Dual Inputs</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>~</td> <td>~</td> <td>-ve</td> <td>-ve</td> <td>-ve</td> <td>0%</td> <td>0%</td> <td></td> <td>B+</td> </tr> <tr> <td>2</td> <td>~</td> <td>~</td> <td>+ve</td> <td>+ve</td> <td>+ve</td> <td>100%</td> <td>Wiper</td> <td></td> <td>A+</td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>100%</td> <td></td> <td>Common</td> </tr> </tbody> </table>	Terminal	Terminal	1	8 Output B Active -ve / Passive +ve	2 Inputs - See below	9 Output B Active +ve	3	10 Output B Passive -ve	4 Unused	11 Unused	5 Output A Passive -ve	12 Power Supply +ve	6 Output A Active +ve	13 Unused	7 Output A Active -ve / Output A Passive +ve	14 Power Supply -ve	Inputs	AC Current	AC Volts	DC mA	DC mV/V	T/Cs	2 Wire Slidewire	3 Wire Pot	Resistance Thermometer	Dual Inputs	1	~	~	-ve	-ve	-ve	0%	0%		B+	2	~	~	+ve	+ve	+ve	100%	Wiper		A+	3							100%		Common
Terminal	Terminal																																																								
1	8 Output B Active -ve / Passive +ve																																																								
2 Inputs - See below	9 Output B Active +ve																																																								
3	10 Output B Passive -ve																																																								
4 Unused	11 Unused																																																								
5 Output A Passive -ve	12 Power Supply +ve																																																								
6 Output A Active +ve	13 Unused																																																								
7 Output A Active -ve / Output A Passive +ve	14 Power Supply -ve																																																								
Inputs	AC Current	AC Volts	DC mA	DC mV/V	T/Cs	2 Wire Slidewire	3 Wire Pot	Resistance Thermometer	Dual Inputs																																																
1	~	~	-ve	-ve	-ve	0%	0%		B+																																																
2	~	~	+ve	+ve	+ve	100%	Wiper		A+																																																
3							100%		Common																																																
<p>ORDERING DETAILS</p> <p>a) Give identification code, i.e. BM320</p> <p>b) Give details of input signal, i.e. input type (as listed above) and range. If thermocouple input please specify upscale or downscale drive for open circuit protection. For 4 to 20mA input, please specify if upscale drive required on loss of input signal.</p> <p>c) Give outputs required, both type and range, i.e. 2 x 4 to 20mA</p>																																																									

