

Multiple Output Isolating Signal Converter

BM330 – BM340 – BM350 - BM360

Iss 4

Sep 14

Function: Conversion of a single process signal input into three, four, five or six independently isolated mA or voltage outputs. The outputs come as standard with both active and passive signals. The BM3?0 maintains all port isolation with the input stage and all output stages powered from separate secondaries of a number of transformers and the input isolated from the outputs using opto-isolation.

Input option for Adder, Subtractor or Averager on mA or Voltage inputs only. The BM3?0 can only accept two inputs.

- BM330 – Three Output Isolating Signal Converter
- BM340 – Four Output Isolating Signal Converter
- BM350 – Five Output Isolating Signal Converter
- BM360 – Six Output Isolating Signal Converter



SPECIFICATIONS

Please note that the following are typical ranges. Other ranges available, please contact sales office.

INPUTS:

DC Current

Standard Range
4 to 20mA into 10 ohms
Optional Headered Ranges
0 to 1mA into 100 ohms
0 to 10mA into 10 ohms
Default: Downscale Drive
Option: Upscale drive on loss of 4 to 20mA input signal
Other current inputs as required
Minimum current 10µA,
Maximum current 100mA

DC Voltage

Between -250 to +250 Volt DC
Minimum voltage span 5mV
Maximum voltage span 500V

Input Impedance

1M ohms or greater

AC Current

0 to 1 Amp

AC Voltage

0 to 250 Volt

Resistance (2 wire)

Between 0 and 20K ohms
Minimum span 5 ohms
Maximum span 20K ohms

Potentiometer (3 wire)

Between 0 and 10K ohms
Minimum span 10 ohms
Maximum span 10K ohms

Resistance Thermometers (RTDs, PT100s)

2 or 3 wire, 100 or 130 ohms at 0°C
Minimum temperature span 10°C
Measurable range, -200°C to +800°C
Maximum temperature span 600°C
Input is linearised

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

OUTPUTS:

Up to six independently isolated outputs -

DC Current

0 to 10mA into 10 to 2000 ohms
4 to 20mA into 10 to 1000 ohms
Other ranges as required
Minimum span 1mA
Maximum span 20mA

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

Input/Output/Supply Isolation

600 Volts > 20M ohms

N.B. Each output can be of a different type and range i.e. 5 x 4 to 20mA and 1 x 0 to 10 Volts

SUPPLY:

Power Supplies

9 to 30 Volt DC
with converter to maintain signal to power supply isolation

Power Required

4.0 Watts Maximum

GENERAL:

Temperature Coefficient

±0.1% of span/ Δ10°C
(for inputs > 100mV)
+ Cold junction error, for thermocouple inputs

Operating Temperature Range

0 to +50°C

Storage Temperature Range

-20 to +60°C

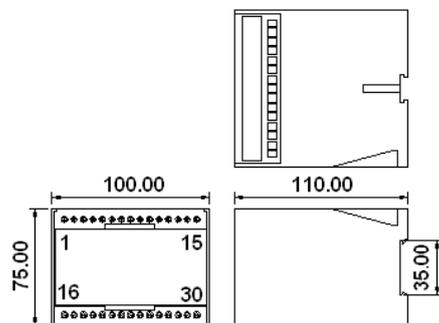
Operating / Storage Humidity Range

0 to 95% RH non-condensing

Weight

350 gms

MECHANICAL DETAILS



TERMINATION DETAILS

Inputs	AC Current	AC Volts	DC mA	DC mV/V	T/Cs	2 Wire Slidewire	3 Wire Pot	Resistance Thermometer	Inputs
1	~	~	-ve	-ve	-ve	0%	100%		B+
2	~	~	+ve	+ve	+ve	100%	Wiper		A+
3							0%		Common
4 }		Passive -ve				16 }		Active -ve / Passive +ve	
5 }	Output A	Active +ve				17 }	Output E	Active +ve	
6 }		Active -ve / Passive +ve				18 }		Passive -ve	
7]		Passive -ve				19 -			
8]	Output B	Active +ve				20 -			
9]		Active -ve / Passive +ve				21 -			
						22 -			
						23 -			
10 }		Passive -ve				24]		Active -ve / Passive +ve	
11 }	Output C	Active +ve				25]	Output F	Active +ve	
12 }		Active -ve / Passive +ve				26]		Passive -ve	
						27 -			
13]		Passive -ve				28]	Power Supply	+ve	
14]	Output D	Active +ve				29]		Earth	
15]		Active -ve / Passive +ve				30]	Power Supply	-ve	

ORDERING DETAILS

- Give identification code, i.e. BM360
- Give details of input signal, i.e. input type (as listed above) and range, i.e. 3 wire PT100 0 to 50°C
- Give details of outputs required: For each of the six outputs please specify the required type and range, i.e. 5 x 4 to 20mA and 1 x 0 to 10V DC



