

## Isolated Frequency to Current/Voltage Converter BM200

**IEC61508: Typically, SIL2.** (Please contact Sales Office for details).

Function: Conversion of an input frequency to a linearly proportional, isolated output current or voltage. The BM200 can be used to monitor the speed of rotating machinery and can be followed by a BM100/BM120 trip amplifier to give alarm, control or shutdown facilities at preset levels of speed. It is ideally suited for use with turbine flow meters to give an analogue measurement of flow rate, and with proximity detectors for non-contact speed measurement. The BM200 incorporates both a sensitivity adjustment and a reference voltage to allow a variety of sensor types to be used.

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### SPECIFICATIONS

Please note that the following are typical standard ranges. We will manufacture instruments to cater for other ranges too, within certain limitations. Please contact our internal sales department for further clarification.

#### INPUTS:

##### Frequency Range

Minimum 0 to 5 Hz  
Maximum 0 to 20 KHz

##### Voltage

Min 15 mV RMS up to 10KHz  
Min 25 mV RMS up to 20KHz  
Maximum 50 Volts RMS

##### Sensitivity

For minimum sensitivity wind sensitivity potentiometer fully anti-clockwise

#### 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

3 Port Isolation  
600V > 20M ohms

#### SUPPLY:

##### Power Supplies

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

##### Power Required

2.0 Watts Maximum

##### Pilot Light

Red LED indicates Power ON

##### Transducer Power Supply

8 Volt DC @ 3mA suitable for use with Namur proximity sensors and various other transducers

#### GENERAL:

##### Temperature Coefficient

$\pm 0.1\%$  of span /  $\Delta 10^\circ\text{C}$

##### Linearity Error

Better than 0.1% between 5 and 100% of span

##### Operating Temperature Range

0 to  $+45^\circ\text{C}$

##### Storage Temperature Range

$-20$  to  $+60^\circ\text{C}$

##### Operating Humidity Range

0 to 95% RH non-condensing

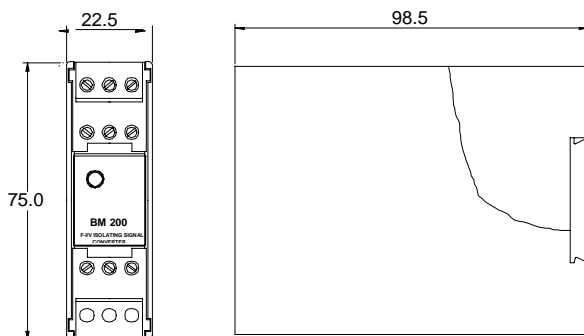
##### Storage Humidity Range

0 to 95% RH non-condensing

##### Weight

100 gms

### MECHANICAL DETAILS



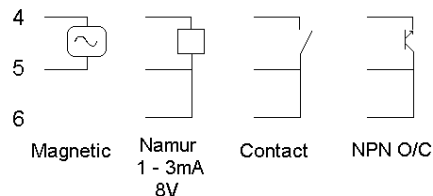
### TERMINATION DETAILS

#### Terminal

- 1 Power Supply -ve
- 2 Power Supply +ve
- 3 Power Supply Screen
- 4 0 Volt reference
- 5 ~ AC input signal
- 6 1K ohm internal resistor from 8V reference

#### Input Variations

##### Terminal



#### Terminal

- 7 Active o/p -ve / Passive +ve
- 8 Active o/p +ve
- 9 Passive o/p -ve
- 10 Unused
- 11 Unused
- 12 Unused

### ORDERING DETAILS

- a) Give identification code, i.e. BM200
- b) Give all details of input signal, i.e. input type (as listed above) and frequency range
- c) Give details of output required, both type and range, i.e. 4 to 20mA



LEE-DICKENS LTD, Rushton Road, Desborough, Kettering, Northants, NN14 2QW Tel: 01536-760156