

BICM Amplifier

Datasheet
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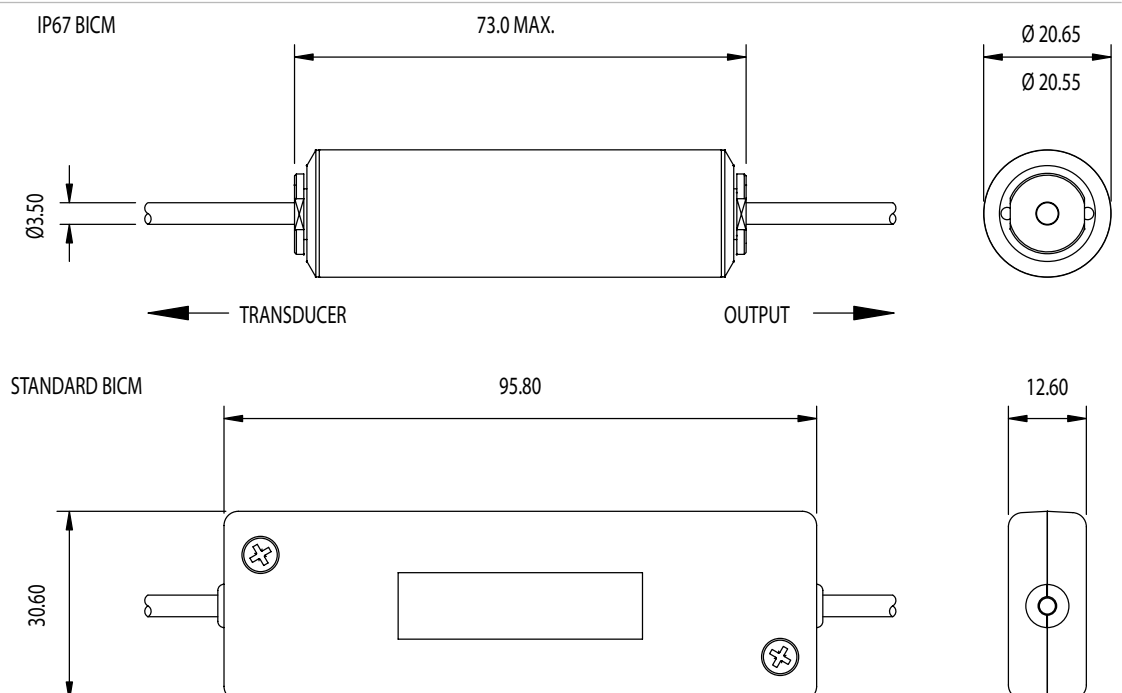
Features

- ▶ Rugged and compact
- ▶ Easy to use
- ▶ IP67 version available
- ▶ Customer or factory fit

The BICM in-line conditioning module is the recommended solution for realising DC operation in harsh environments. These are processes where the electronics may not be subjected to extreme temperatures for example. The cable length from the transducer to the BICM can be up to 10 m (32 feet approx.) and up to 100 metres (320 feet approx.) from the BICM to the processing unit or display. In both cases the user must ensure the performance of the system is adequate and that any noise pickup on such long cables is not a problem.

This innovative solution enables customers to condition LVDT inputs/outputs quickly and efficiently in applications where traditional drive electronic solutions may not be suitable. Solartron Metrology can also offer the BICM pre-wired to the transducer and fit gain setting components to achieve a nominal ± 10 V output. Alternatively, a set of components suitable for most transducers can be supplied with the BICM to be installed by the customer.

Mechanical Outline



	Standard BICM		IP67 BICM
	Bipolar Supply	Unipolar Supply	Bipolar Supply
Power Requirement			
Voltage	$\pm 15 \text{ V} \pm 1.5 \text{ V}$	$24 \text{ V} \pm 2.4 \text{ V}$	$\pm 15 \text{ V} \pm 1.5 \text{ V}$
Current	$\pm 15 \text{ mA nominal}$	30 mA nominal	$\pm 15 \text{ mA nominal}$
Transducer Excitation			
Primary Voltage	2 Vrms nominal		
Primary Frequency ¹	5 kHz typical		
Primary Current	10 mA nominal		
Signal Input			
Input Voltage Range	Up to 2.5 Vrms		
Input Load Resistance	100 kW		

Signal Output			
Voltage Output	Up to $\pm 10 \text{ V}$		
Current Output	11 mA		
Output Ripple	<14 mVrms		
Output Offset	100%		
Temp Co. Gain	<0.03% FRO / °C		
Temp. Co. Offset	<0.025% FRO / °C		
Warm up Time	15 minutes recommended		
Linearity ² (electronics only)	<0.1% FRO		
Bandwidth (-3 dB) ³	250 Hz typical		

¹ Other frequencies are available on request.

² The electronics has a specification of <0.1%, the overall linearity is dominated by the transducer.

³ Other bandwidths available on request.

Environmental			
Operation Temperature Range	0 - 70 °C		
Storage Temperature Range	-20 to +85 °C		
IP Rating	IP40	IP67	
Mechanical and Connections			
Connections	Solder pad or factory fit	Factory fit only	
Enclosure Size	98.5 x 30.5 x 13.0 mm	73.0 x 20.6 mm	
Weight	30 g	75 g	
Material	ABS	400 Series Stainless Steel	

Cable Lengths

All specification limits assume a nominal 3 m cable length between transducer and BICM. The BICM can be mounted up to 10 m from the transducer, but this may result in reduced performance. Not all transducers can cope with long cable lengths. Cable from the BICM to the processing unit or display should be limited to 100 m.