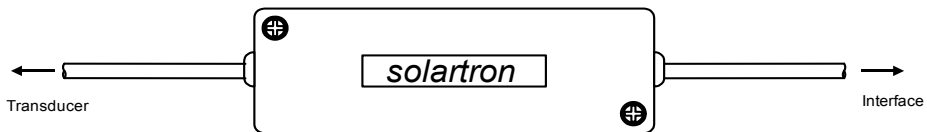


BICM

(Boxed Inline Conditioning Module)



user leaflet

General

The BICM is a transducer conditioning unit pre-wired and calibrated to a transducer. There are no internal user adjustments.

It is available in two factory configured supply voltage versions:

Bipolar Supply (+/-15 V) or Unipolar Supply (24 V)

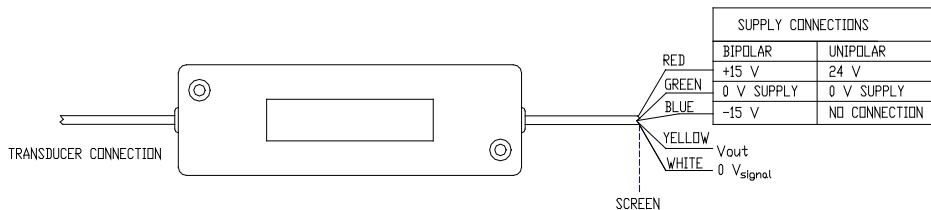
Ensure that your product is wired up correctly, see drawing below.



**The case should not be opened. There are no user adjustable parts inside.
Ensure that you do not apply greater than 15 V to either of the Bipolar supply inputs.**

This Leaflet describes BICM connected to any transducer. Depending on the transducer fitted there may be small changes in specification. See specification section or consult your supplier.

Connections



Note: For best 0 V output, adjust transducer position.

Electrical Connections for Standard Solartron Probes

Lumberg 5-Pin I 240° DIN Connector

	BICM TYPE	
Plug	+/-15 V	24 V
Pin No.	BiPolar	UniPolar
1	+15 V	24 V
2	-15 V	0 V
3	0 V supply	N/C
4	V out	V out
5	0 V signal	0 V signal
Body	Cable Screen	

Technical Specification

		Standard BICM	
		Bipolar Supply	Unipolar Supply
Power Requirement			
Voltage		$\pm 15 \text{ V} \pm 1.5 \text{ V}$	$24 \text{ V} \pm 2.4 \text{ V}$
Current		$\pm 15 \text{ mA}$ nominal	30 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 k Ω	

Technical Specification

		Standard BICM	
		Bipolar Supply	Unipolar Supply
Signal Output			
Voltage Output		Up to ± 10 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.

Technical Specification

		Standard BICM	
		Bipolar Supply	Unipolar Supply
Environmental			
	Operation Temperature Range	0 - 70 °C	
	Storage Temperature Range	-20 to +85 °C	
	IP Rating	IP40	
Mechanical and Connections			
	Connections	Solder pad or factory fit	
	Enclosure Size	98.5 x 30.5 x 13.0 mm	
	Weight	30 g	
	Material	ABS	

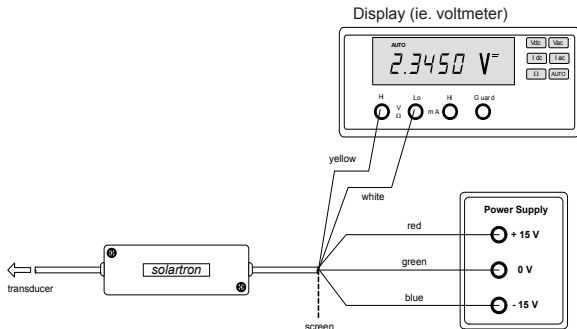
Cable Lengths

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.

Application Notes

$0 V_{\text{signal}}$ (green) and $0 V_{\text{supply}}$ (white) are connected together at the BICM.

Use of the separate $0 V$ connections will minimise power supply currents affecting signal output readings.



It is usual to connect cable screen to power supply $0 V$.

Unipolar supply connections are shown.

This may not be the best option for all installations as it depends on the arrangement of $0 V$ connections, ground connections etc.