



SB-68 Ver.03

PRESSURE TRANSDUCER



SB68V03-01T-20482-2601

Have this manual in the palm of your hand through the FG Finder app.

1. DESCRIPTION

Pressure transducers are used in refrigeration systems, air conditioning, heat pumps, and other systems that require pressure monitoring. The **SB-68** pressure transducers (female thread) are powered by a 10 to 30 Vdc supply and provide a 4–20 mA output signal proportional to the measured pressure. The **SB-68** transducers enable control and ensure that the system operates under safe and stable conditions. They feature a high-performance digital circuit, good signal linearity, and low influence from ambient temperature.

2. APPLICATIONS

- Applicable to all common HCFC, HFC, HFO refrigerants, such as: R22, R134A, R404A, R407A, R407F, R407C, R410A, R448A, R449A, R450A, R452A, R513A, R507A;

- Installation position: preferably with the axis in a vertical position and the sensor facing upward.

Nota: Flammable refrigerants R32, R290, R1234ze(E), and R1234yf are available upon request.
For the natural refrigerant R744 (CO₂), use high-pressure models.

Applicable to fluids and refrigerants of Group 2* or Group A1 (**).

* According to Directive 2014/68/EU ** According to ANSI/ASHRAE 34-2010

3. TECHNICAL SPECIFICATIONS

MODEL	CO ₂ (High Pressure)			
	SB68-232A	SB68-650A	SB68-1305A	SB68-2175A
Pressure range	0 a 232.0 psi 0 a 16.0 bar	0 a 650.0 psi 0 a 44.8 bar	0 a 1305.0 psi 0 a 89.9 bar	0 a 2175.0 psi 0 a 149.9 bar
Supply voltage	10V a 30Vdc		10V a 30Vdc	
Output signal	4 a 20mA		4 a 20mA	
Voltage dependency	<0.05% FS / 10V		<0.05% FS / 10V	
Current limiting	28mA (Linear output signal up to 1.5x nominal range)		28mA (Linear output signal up to 1.5x nominal range)	
Accuracy	± 0,8% F.S		± 0,4% F.S	± 0,4% F.S
Insulation resistance	Minimum 100MΩ		Minimum 100MΩ	
Protection class	IP66		IP67	
Ambient temperature	-40°C / +80°C		-20°C / +80°C	
Relative humidity	From 0 to 95%		From 0 to 95%	
Maximum accuracy temperature range	± 0,8% F.S -40°C ~ +80°C		± 4,0% F.S -20°C ~ +80°C	± 4,0% F.S -20°C ~ +100°C
Max. pressure (MOP)	5.25 MPa	7.50 MPa	9.0 MPa	15.0 MPa
Thread size	7/16-20UNF-2B female		7/16-20UNF-2B female	
Torque (Nm)	12.7 ~ 16.7		12.7 ~ 16.7	
Torque (lbf.ft)	9.3 ~ 12.2		9.3 ~ 12.2	

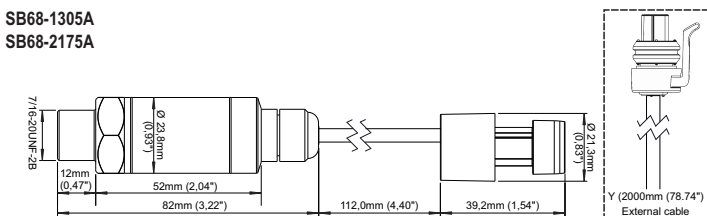
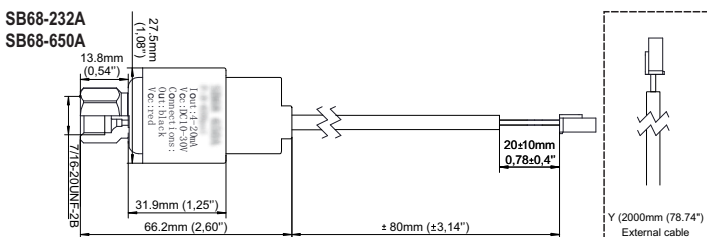
4. ELECTRICAL CONNECTION

MODEL	CO ₂ (High Pressure)			
	SB68-232A	SB68-650A	SB68-1305A	SB68-2175A
Output	Black		Black	
VCC	Red		Red	
GND	-		-	
Connector type	SXH-001T-P0.6		Packard	
Cable length	2000mm (78,74")		2000mm (78,74")	
External cable (Y) ^{(1) (2)}	2000mm (78,74")		2000mm (78,74")	

⁽¹⁾ The External Cable (Y) is supplied with the purchased sensor;

⁽²⁾ The External Cable (Y), can also be purchased separately.

5. DIMENSIONS



NOTE

CHECK THE TYPE OF ELECTRONIC CONNECTION OF THE ELECTRONIC CONTROLLER. IF NECESSARY, REMOVE THE CABLE END CONNECTOR.

IMPORTANT

TO AVOID DAMAGE TO THE PRESSURE TRANSDUCER, DISCONNECT IT FROM THE COOLING SYSTEM DURING THE VACUUM STAGE.

IMPORTANT

TO AVOID ACCUMULATION OF LIQUID IN THE PRESSURE TRANSDUCER, IT IS RECOMMENDED TO INSTALL IT IN A VERTICAL POSITION (90°).

IMPORTANT

THE USE OF THE SENSOR IN HYDRAULIC NETWORKS IS NOT RECOMMENDED DUE TO THE RISK OF WATER HAMMER.



ENVIRONMENTAL INFORMATION

Packing:
The materials used in the packing of Full Gauge products are 100% recyclable. Try to dispose of it through specialized recycling agents.

Product:
The components used in Full Gauge controllers can be recycled and reused if disassembled by specialized companies.

Disposal
Do not incinerate or dispose the controllers that have reached the end of their service as household garbage. Observe the laws in your area regarding disposal of electronic waste. If in doubt, please contact Full Gauge Controls.

WARRANTY - FULL GAUGE CONTROLS

Products manufactured by Full Gauge Controls, from May 2005, have a warranty period of 10 (ten) years direct from the factory and 01 (one) year from accredited retailers, starting from the consignment date on the sales invoice. After this year, the warranty will continue to be honored for purchases from retailers if the device is sent directly to Full Gauge Controls. This period is valid in Brazil. Other countries provide a guarantee for 2 years. The products are guaranteed in the event of a manufacturing fault that makes them unsuitable or inappropriate for the uses to which they were intended. The warranty is limited to the maintenance of devices manufactured by Full Gauge Controls, regardless of any other form of costs, such as any indemnity due to damage caused to other equipment.

EXCEPTIONS TO WARRANTY

The warranty does not cover expenses incurred for freight and/or insurance when sending products with signs of defect or faulty functioning to an authorized provider of technical support services. The following events are not covered either: natural wear and tear of parts, external damage caused by falls or inadequate packaging are products.

LOSS OF WARRANTY

Products will automatically lose its warranty in the following cases:
- The instructions for assembly and use found in the technical description and installation procedures in Standard IEC60364 are not obeyed;

- The product is submitted to conditions beyond the limits specified in its technical description;
- The product is violated or repaired by any person not a member of the technical team of Full Gauge Controls;
- Damage has been caused by a fall, blow and/or impact, infiltration of water, overload and/or atmospheric discharge.

USE OF WARRANTY

To make use of the warranty, customers must send the properly packaged product to Full Gauge Controls together with the invoice or receipt for the corresponding purchase. As much information as possible in relation to the issue detected must be sent to facilitate analysis, testing and execution of the service.

These procedures and any maintenance of the product may only be provided by Full Gauge Controls Technical Support services in the company's headquarters at Rua Júlio de Castilhos, 250 - CEP 92120-030 - Canoas - Rio Grande do Sul - Brasil

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