



Model 691B35

Interface Box

Installation and Operating Manual

**For assistance with the operation of this product,
contact PCB Piezotronics, Inc.**

**Toll-free: 800-959-4464
24-hour SensorLine: 716-684-0001
Fax: 716-684-3823
E-mail: imi@pcb.com
Web: www.imi-sensors.com**



Repair and Maintenance

PCB guarantees Total Customer Satisfaction through its “Lifetime Warranty Plus” on all Platinum Stock Products sold by PCB and through its limited warranties on all other PCB Stock, Standard and Special products. Due to the sophisticated nature of our sensors and associated instrumentation, **field servicing and repair is not recommended and, if attempted, will void the factory warranty.**

Beyond routine calibration and battery replacements where applicable, our products require no user maintenance. Clean electrical connectors, housings, and mounting surfaces with solutions and techniques that will not harm the material of construction. Observe caution when using liquids near devices that are not hermetically sealed. Such devices should only be wiped with a dampened cloth—never saturated or submerged.

In the event that equipment becomes damaged or ceases to operate, our Application Engineers are here to support your troubleshooting efforts 24 hours a day, 7 days a week. Call or email with model and serial number as well as a brief description of the problem.

Calibration

Routine calibration of sensors and associated instrumentation is necessary to maintain measurement accuracy. We recommend calibrating on an annual basis, after exposure to any extreme environmental influence, or prior to any critical test.

PCB Piezotronics is an ISO-9001 certified company whose calibration services are accredited by A2LA to ISO/IEC 17025, with full traceability to SI through N.I.S.T. In addition to our standard calibration services, we also offer specialized tests, including: sensitivity at elevated or cryogenic temperatures, phase response, extended high or low frequency response, extended range, leak testing, hydrostatic pressure testing, and others. For more information, contact your local PCB Piezotronics distributor, sales representative, or factory customer service representative.

Returning Equipment

If factory repair is required, our representatives will provide you with a Return Material Authorization (RMA) number, which we use to reference any information you have already provided and expedite the repair process. This number should be clearly marked on the outside of all returned package(s) and on any packing list(s) accompanying the shipment.

Contact Information

PCB Piezotronics, Inc.
3425 Walden Ave.
Depew, NY14043 USA
Toll-free: (800) 828-8840
24-hour SensorLine: (716) 684-0001
General inquiries: info@pcb.com
Repair inquiries: rma@pcb.com

For a complete list of distributors, global offices and sales representatives, visit our website, www.pcb.com.

Safety Considerations

This product is intended for use by qualified personnel who recognize shock hazards and are familiar with the precautions required to avoid injury. While our equipment is designed with user safety in mind, the protection provided by the equipment may be impaired if equipment is used in a manner not specified by this manual.

Discontinue use and contact our 24-Hour Sensorline if:

- Assistance is needed to safely operate equipment
- Damage is visible or suspected
- Equipment fails or malfunctions

For complete equipment ratings, refer to the enclosed specification sheet for your product.

Definition of Terms and Symbols

The following symbols may be used in this manual:



DANGER

Indicates an immediate hazardous situation, which, if not avoided, may result in death or serious injury.

**CAUTION**

Refers to hazards that could damage the instrument.

**NOTE**

Indicates tips, recommendations and important information. The notes simplify processes and contain additional information on particular operating steps.

The following symbols may be found on the equipment described in this manual:



This symbol on the unit indicates that high voltage may be present. Use standard safety precautions to avoid personal contact with this voltage.



This symbol on the unit indicates that the user should refer to the operating instructions located in the manual.



This symbol indicates safety, earth ground.



PCB工业监视和测量设备 - 中国RoHS2公布表

PCB Industrial Monitoring and Measuring Equipment - China RoHS 2 Disclosure Table

部件名称	有害物质					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
住房	0	0	0	0	0	0
PCB板	X	0	0	0	0	0
电气连接器	0	0	0	0	0	0
压电晶体	X	0	0	0	0	0
环氧	0	0	0	0	0	0
铁氟龙	0	0	0	0	0	0
电子	0	0	0	0	0	0
厚膜基板	0	0	X	0	0	0
电线	0	0	0	0	0	0
电缆	X	0	0	0	0	0
塑料	0	0	0	0	0	0
焊接	X	0	0	0	0	0
铜合金/黄铜	X	0	0	0	0	0
本表格依据 SJ/T 11364 的规定编制。						
0：表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。						
X：表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。						
铅是欧洲RoHS指令2011/65/ EU附件三和附件四目前由于允许的豁免。						

CHINA RoHS COMPLIANCE

Component Name	Hazardous Substances					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Chromium VI Compounds (Cr(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Housing	O	O	O	O	O	O
PCB Board	X	O	O	O	O	O
Electrical Connectors	O	O	O	O	O	O
Piezoelectric Crystals	X	O	O	O	O	O
Epoxy	O	O	O	O	O	O
Teflon	O	O	O	O	O	O
Electronics	O	O	O	O	O	O
Thick Film Substrate	O	O	X	O	O	O
Wires	O	O	O	O	O	O
Cables	X	O	O	O	O	O
Plastic	O	O	O	O	O	O
Solder	X	O	O	O	O	O
Copper Alloy/Brass	X	O	O	O	O	O

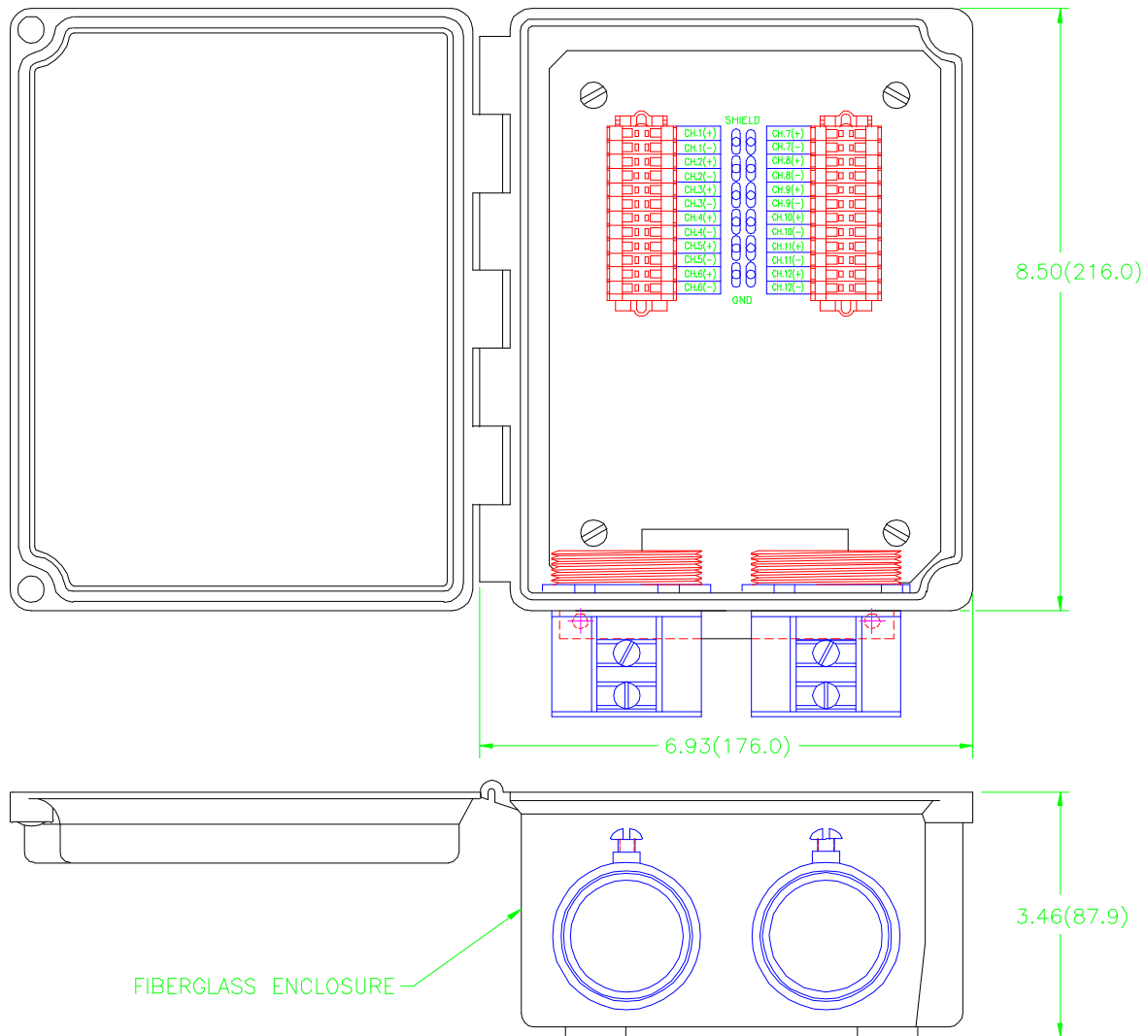
This table is prepared in accordance with the provisions of SJ/T 11364.

O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.

X: Indicates that said hazardous substance contained in at least one of the homogeneous materials for this part is above the limit requirement of GB/T 26572.

Lead is present due to allowed exemption in Annex III or Annex IV of the European RoHS Directive 2011/65/EU.

The Model 691B35 12 Channel Interface Enclosure



Operating Guide with Enclosed Warranty Information

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MANUAL NUMBER: 18418
 MANUAL REVISION: NR

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introduction

The Model 691B35 is a 12 Channel Interface Enclosure designed to decrease the cost of cable installation. The Series 691B35 is housed in a NEMA 4X (IP65) enclosure. The SS691B35 is also housed in a NEMA 4X (IP65) enclosure, however, is for use in the food industry or when a composite enclosure is not recommended.

installation

The interface box was designed for use in conjunction with the Series 691 Junction Boxes. The interface boxes can be located near the machine that needs monitoring. Twelve sensors and cables can then be wired to the input terminal strip. The output of the interface box is available using the other side of the terminal strips.

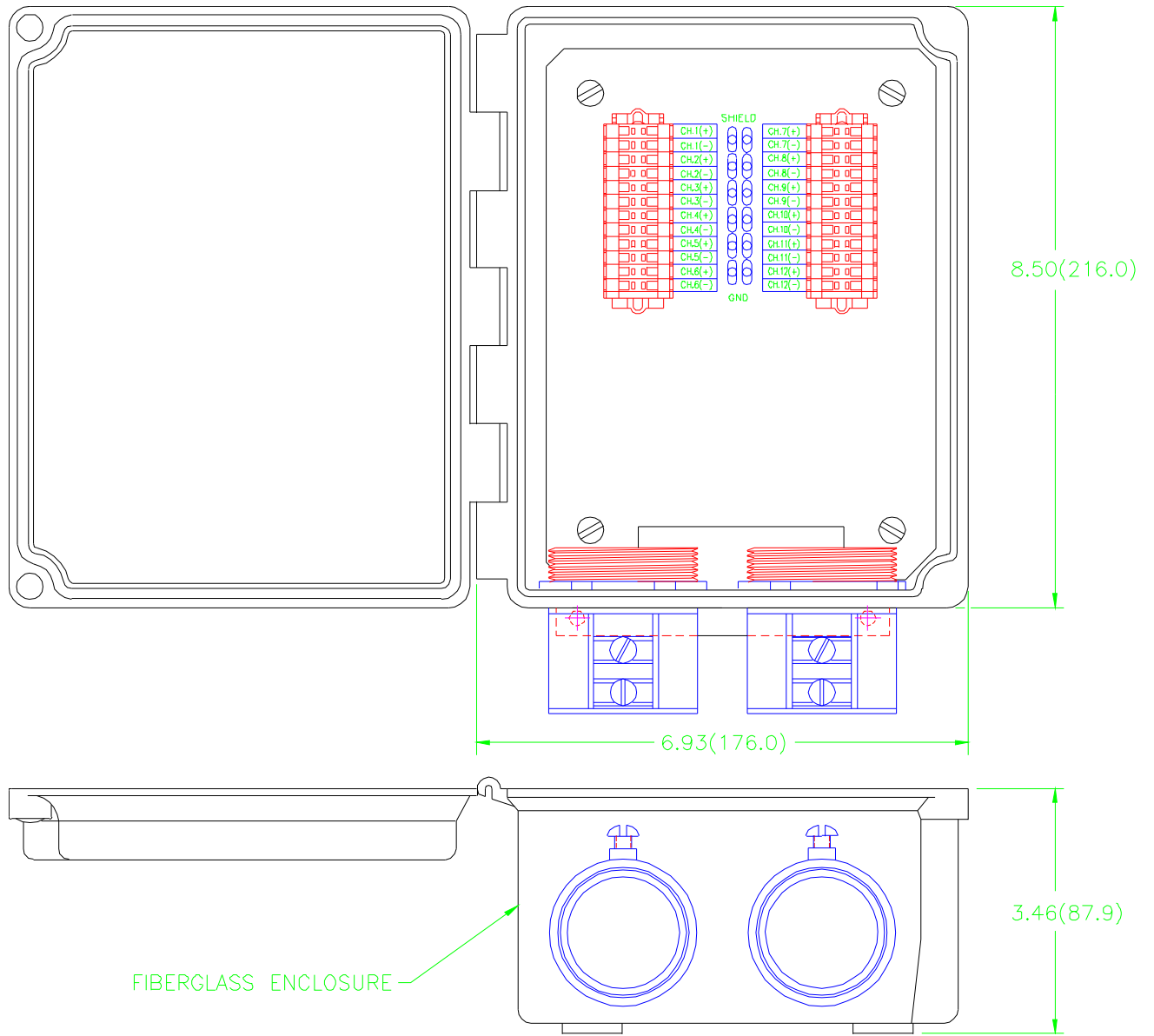
Establish an easily accessible location for installation and keep in mind where the cabling will be oriented. Once the unit has been mounted, begin making the appropriate connections for the interface cables.

If necessary, use the supplied putty to fill in the gaps after all cabling has been attached. This will prevent any foreign matter from entering the box and contaminating the connections.

All user connections are made to the terminal strips attached to the inside rear panel of the unit. Observe the labels when making the connections. These labels identify the channel location for the appropriate screw anchored terminal connections. Each transducer input has three connections which are made on the terminal strip; one for the signal/power (usually red wire, +), another for ground (usually black or blue wire, -), and the third is for the shield (usually a drain wire, SHIELD GND). If the cabling does not have a shield, use only the SIGNAL and GND screw terminals.

The unit is designed so that low cost multiconductor cable (12 individual pairs) can be used to interface the box to the power supply. Since the unit is made from a composite material, except the SS version, the shields should be earth grounded using any of the four screws that hold the internal plate to the enclosure. A grounding strap should also be used on the SS version when the enclosure is not mounted to a good earth ground.

figure 1 – model 691B35 interface enclosure – transducer wiring

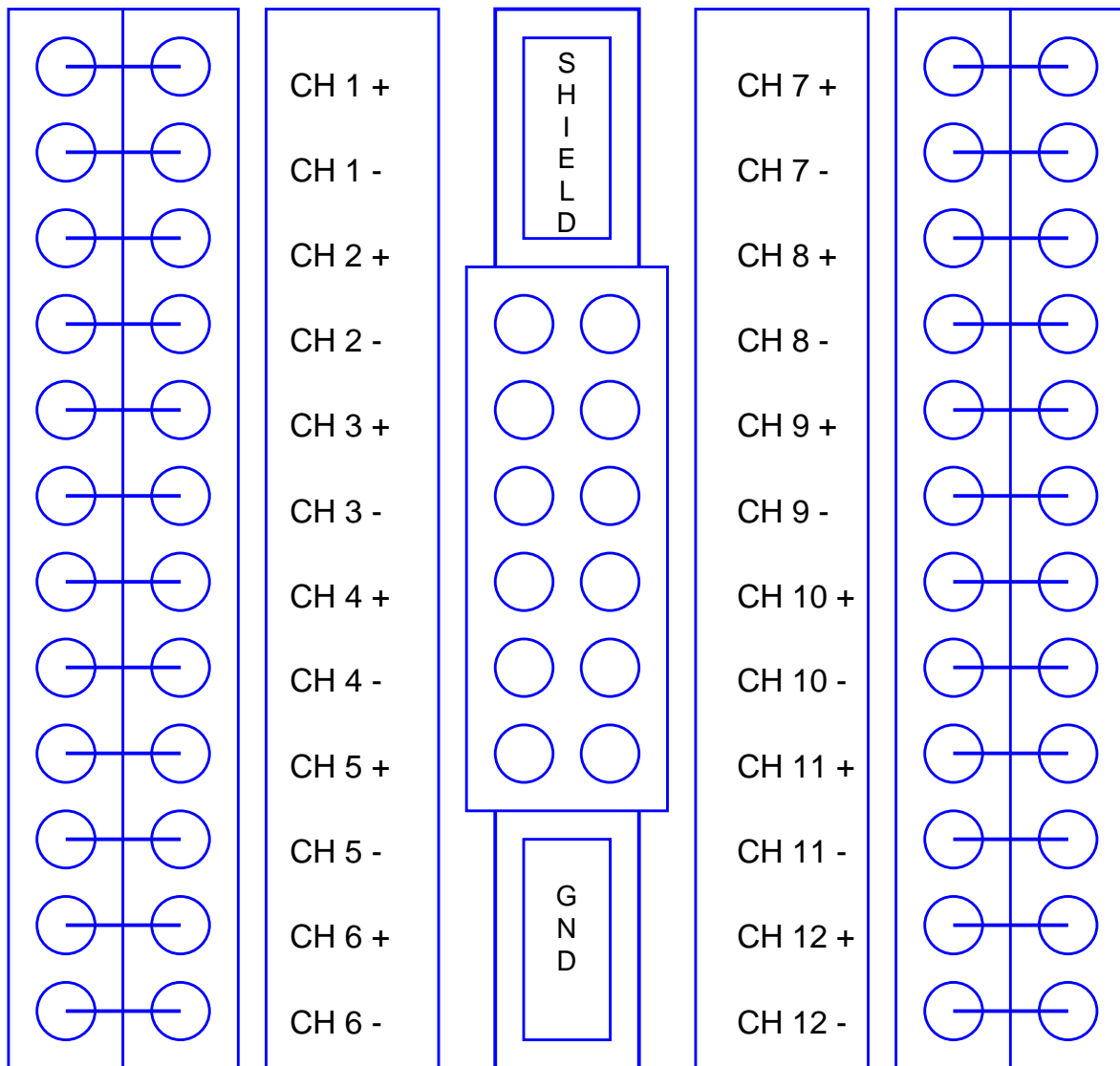


wiring

Insert the appropriate wire, stripped of its insulation, into its terminal strip. To attach the shield wire, remove the spade lug connector and insert shield. Crimp shield using a crimping tool or a set of pliers. Strip back only enough cable insulation so as to permit the terminal connection. Using a small screwdriver, secure the wire in place by turning the screw on the top of the terminal. Check to be sure that no bare or exposed wiring is crossed which may cause a shock. It is not required to utilize all transducer inputs.

To connect outputs, follow above procedure and connect to other side of the terminal strip.

figure 2 – transducer wiring



warning 1 – ESD sensitivity

The power supply/signal conditioner should not be opened by anyone other than qualified service personnel. This product is intended for use by qualified personnel who recognize shock hazards and are familiar with the safety precautions required to avoid injury.

warning 2 – ESD sensitivity

This equipment is designed with user safety in mind; however, the protection provided by the equipment may be impaired if the equipment is used in a manner not specified by PCB Piezotronics, Inc.

caution 1 – ESD sensitivity

Cables can kill your equipment. High voltage electrostatic discharge (ESD) can damage electrical devices. Similar to a capacitor, a cable can hold a charge caused by triboelectric transfer, such as that which occurs in the following:

- Laying on and moving across a rug,
- Any movement through air,
- The action of rolling out a cable, and/or
- Contact with a non-grounded person.

The PCB solution for product safety:

- Connect the cables only with the AC power off.
- Temporarily “short” the end of the cable before attaching it to any signal input or output.

**caution 2 – ESD sensitivity**

ESD considerations should be made prior to performing any internal adjustments on the equipment. Any piece of electronic equipment is vulnerable to ESD when opened for adjustments. Internal adjustments should therefore be done ONLY at an ESD-safe work area. Many products have ESD protection, but the level of protection may be exceeded by extremely high voltage.

warranty

IMI instrumentation is warranted against defective material and workmanship for 1 year unless otherwise expressly specified. Damage to instruments caused by incorrect power or misapplication, is not covered by warranty. *If there are any questions regarding power, intended application, or general usage, please consult with your local sales contact or distributor.* Batteries and other expendable hardware items are not covered by warranty.

service

Because of the sophisticated nature of IMI instrumentation, field repair is typically **NOT** recommended and may void any warranty. If factory service is required, return the instrumentation according to the "Return Procedure" stated below. *A repair and/or replacement quotation will be provided prior to servicing at no charge.* Before returning the unit, please consult a factory IMI applications engineer concerning the situation as certain problems can often be corrected with simple on-site procedures.

return procedure

To expedite returned instrumentation, contact a factory IMI applications engineer for a RETURN MATERIAL AUTHORIZATION (RMA) NUMBER. Please have information available such as model and serial number. Also, to insure efficient service, *provide a written description of the symptoms and problems with the equipment to a local sales representative or distributor, or contact IMI if none are located in your area.*

Customers outside the U.S. should consult their local IMI distributor for information on returning equipment. For exceptions, please contact the International Sales department at IMI to request shipping instructions and an RMA. For assistance, please call (716) 684-0003, or fax us at (716) 684-3823. You may also receive assistance via e-mail at imi@pcb.com or visit our web site at www.pcb.com.

customer service

IMI, a division of PCB Piezotronics, guarantees **Total Customer Satisfaction**. If, at any time, for any reason, you are not completely satisfied with any IMI product, IMI will repair, replace, or exchange it at no charge. You may also choose, within the warranty period, to have your purchase price refunded.

IMI offers to all customers, at no charge, 24-hour phone support. This service makes product or application support available to our customers, day or night, seven days a week. When unforeseen problems or emergency situations arise, call the **IMI Hot Line at (716) 684-0003**, and an application specialist will assist you.



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ICP® is a registered trademark of PCB Piezotronics, Incorporated,
which uniquely identifies PCB sensors that incorporate built-in microelectronics.

Model Number

691B35

INTERFACE BOX

Revision: D

ECN #: 31513

	<u>ENGLISH</u>	<u>SI</u>
Performance		
Channels	12	12
Environmental		
Enclosure Rating	Nema 4X	IP66
Physical		
Electrical Connector(Input)	Terminal Block	Terminal Block
(Output)	Terminal Block	Terminal Block
Size (Height x Width x Depth)	8 in x 6 in x 4 in	203 mm x 152 mm x 102 mm
Weight	4.7 lb	2.1 kg

All specifications are at room temperature unless otherwise specified.
In the interest of constant product improvement, we reserve the right to change specifications without notice.
ICP® is a registered trademark of PCB Group, Inc.

OPTIONAL VERSIONS

Optional versions have identical specifications and accessories as listed for the standard model except where noted below. More than one option may be used.

691000 - 12 PGME07 Cord Grips, 1 PGME29 Cord Grip

691001 - 1 PGME21 Cord Grip, 1PGME29 Cord Grip

691002 - 1 PGME36 Cord Grip, 1PGME29 Cord Grip

691003 - 2 Conduit Fittings - 1.5 inch
Supplied Accessory : Model 100-7176-90 Duct Seal (1)

691004 - 6 PGME07 Cord Grips, 1 PGME29 Cord Grip

691005 - 12 PGME07 Cord Grips, 1 Conduit Fitting - 1.5 inch
Supplied Accessory : Model 100-7176-90 Duct Seal (1)

691006 - 1 PGME21 Cord Grip

691020 - 12 Individual Cord Grips, PGME07

PS - Painted Steel

Weight 6.7 lb 3.0 kg

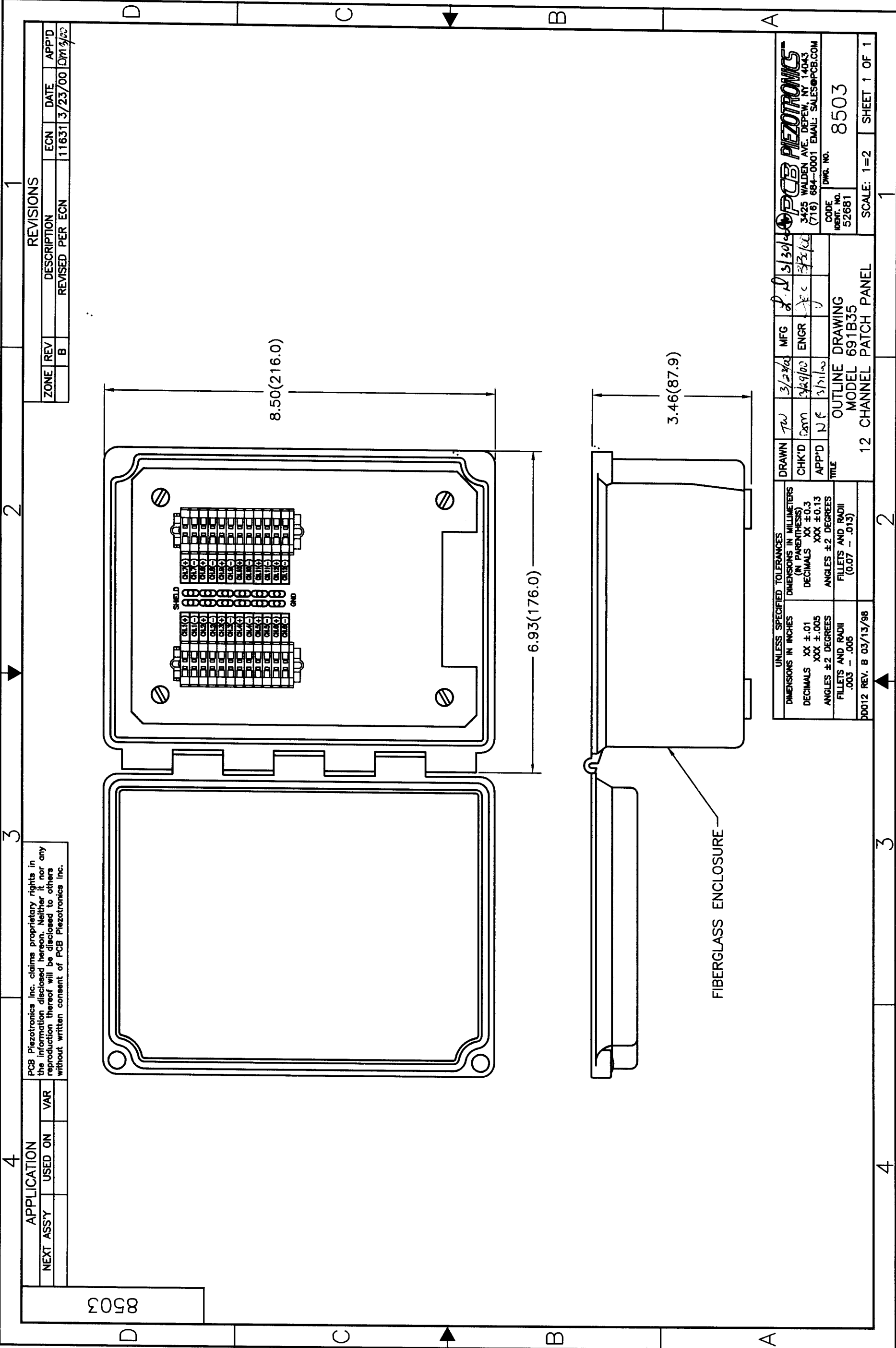
SS - Stainless Steel Enclosure

Weight 7.6 lb 3.5 kg

Entered: <i>JA</i>	Engineer: <i>nyh</i>	Sales: <i>JA</i>	Approved: <i>EB</i>	Spec Number:
Date: 10-9-09	Date: 10-7-09	Date: 10-7-09	Date: 10-7-09	8581


IMI SENSORS
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E-Mail: imi@pcb.com



REVISIONS					
ZONE	REV	DESCRIPTION	ECN	DATE	APP'D
	B	REVISED PER ECN	11631	3/23/00	DM/3/00

APPLICATION	
NEXT ASSY	USED ON
	VAR

PCB Piezotronics Inc. claims proprietary rights in the information disclosed hereon. Neither it nor any reproduction thereof will be disclosed to others without written consent of PCB Piezotronics Inc.

8503

UNLESS SPECIFIED TOLERANCES DIMENSIONS IN MILLIMETERS (IN PARENTHESES)		DRAWN	TW	3/23/00	MFG	P.A. 3/30/00	PCB PIEZOTRONICS	
DECIMALS XX ±.01	DECIMALS XX ±0.3	CHK'D	DM	3/29/00	ENGR	3/23/00	3425 WALDEN AVE. DEPEW, NY 14043	
DECIMALS XXX ±.005	DECIMALS XXX ±0.13	APP'D	NE	3/21/00			(716) 684-0001 EMAIL: SALES@PCB.COM	
ANGLES ±2 DEGREES	ANGLES ±2 DEGREES	TITLE		OUTLINE DRAWING		CODE	DWG. NO.	8503
FILLET AND RADI .003 - .005	FILLET AND RADI (0.07 - .013)	MODEL 691B35		12 CHANNEL PATCH PANEL		IDENT. NO.	52681	
DD012 REV. B 03/13/98						SCALE: 1=2		SHEET 1 OF 1