

Model 66332APZ1

ICP® TO-8 Accelerometer

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: <u>info@pcb.com</u> Repair inquiries: <u>rma@pcb.com</u>

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

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	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	Х	0	0	0	0	0			
电气连接 器	0	0	0	0	0	0			
压电晶 体	х	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	Х	0	0	0			
电线	0	0	0	0	0	0			
电缆	Х	0	0	0	0	0			
塑料	0	0	0	0	0	0			
焊接	Х	0	0	0	0	0			
铜合金 /黄 铜	Х	0	0	0	0	0			
本表格依据 SJ/T 1	L 1364 的 规定	E编制。							
0: 表示 该有害物	勿质在该部件	所有均同	気材料中	的含量均在 GB/T 26	572 规定的限量要求以	下。			
				材料中的含量超出(3目前由于允许的豁	6B/T 26572 规定的限量 免。	要求。			

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	0	0	0	0	0	0			
PCB Board	Х	0	0	0	0	0			
Electrical Connectors	0	0	0	0	0	0			
Piezoelectric Crystals	Х	0	0	0	0	0			
Ероху	0	0	0	0	0	0			
Teflon	0	0	0	0	0	0			
Electronics	0	0	0	0	0	0			
Thick Film Substrate	0	0	Х	0	0	0			
Wires	0	0	0	0	0	0			
Cables	Х	0	0	0	0	0			
Plastic	0	0	0	0	0	0			
Solder	Х	0	0	0	0	0			
Copper Alloy/Brass	Х	0	0	0	0	0			

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.

Model Number 66332APZ1	ICP [®] TO-8 ACCELEROMETER							evision: C CN #: 50920
	EN CUICU	<u></u>			01	TIONAL VERSI		
erformance ensitivity(± 20 %)	ENGLISH 1,000 mV/g	SI 102 mV/(m/s²)	[1][2]	Optional versions h	ave identical specific	ations and accesso	ries as listed for the sta	ndard model exce
leasurement Range	±5g	$\pm 50 \text{ m/s}^2$	[1][2]	optional verbions i	where noted belo	ow. More than one	ries as listed for the sta option may be used.	
requency Range(± 3 dB)	0.25 to 5k Hz	0.25 to 5k Hz	[3][4]					
esonant Frequency	> 16 kHz	> 16 kHz	[4]	temperatures	erature, extends norm	hal operation		
roadband Resolution	38 µg rms	$373 \mu\text{m/sec}^2 \text{rms}$	[5]	Temperature Range(Operating		-65 to 250 °F	-5	4 to 121 °C
	≤ 1 %			Range(Operating	1)			
lon-Linearity ransverse Sensitivity	≤1% ≤7%	≤1% ≤7%	[6]	RH - RoHS Com	oliant			
nvironmental	5770	S / 70						
cceleration Sensitivity(± 20 %)	1,000 mV/g	102 mV/(m/s ²)	[2]					
verload Limit(Shock)	5,000 g pk	49k m/s ² pk	[4]					
emperature Range(Operating)	-65 to +185 °F	-54 to +85 ℃						
emperature Response	See Graph	See Graph	[5]					
lectrical			[-]					
ettling Time(within 1% of bias)	≤ 30 sec	≤ 30 sec						
ischarge Time Constant	≥ 0.65 sec	≥ 0.65 sec						
xcitation Voltage	18 to 28 VDC	18 to 28 VDC						
onstant Current Excitation	2 to 20 mA	2 to 20 mA						
output Impedance	< 550 Ohm	< 550 Ohm						
utput Bias Voltage	8 to 12 VDC	8 to 12 VDC						
pectral Noise(10 Hz)	1.9 μg/√Hz	18.6 (µm/sec ²)/√Hz	[5]					
pectral Noise(100 Hz)	0.6 µg/√Hz	5.9 (µm/sec ²)/√Hz	[5]					
pectral Noise(1 kHz)	0.4 µg/√Hz	3.9 (μm/sec ²)/√Hz	[5]					
hysical	0 µg, <u>2</u>	3.9 (µm/sec)/vHz	[0]					
ize (Lip Diameter x Height)	0.64 in x 0.57 in	16.3 mm x 14.5 mm						
leight	0.88 oz	25 gm						
lounting	Adhesive/Solder	Adhesive/Solder						
ensing Element	Ceramic	Ceramic						
ensing Geometry	Shear	Shear						
lousing Material	Stainless Steel	Stainless Steel						
ealing	Welded Hermetic	Welded Hermetic						
lectrical Connector	Header Pins	Header Pins						
lectrical Connection Position	Bottom	Bottom		NOTES:				
lectrical Connections(Pin 1)	Signal / Power	Signal / Power			ctor 1g = 9.81 m/s ² .			
lectrical Connections(Pin 2)	Ground	Ground			t along Z-axis (in upw	vard direction when	nin mounted)	
lectrical Connections(Pin 3)	No Connection	No Connection					of the specified freque	ncv
					depends on mounting		or the specifical freque	
				[5]Typical.		5		
					ast-squares, straigh	t line method.		
				[7]See PCB Decla	ration of Conforman	ce PS023 or PS060	for details.	
	 Typical Sens 	itivity Deviation vs Temp	erature					
	(* Typical Sens	SUPPLIED AC	CESSORIES:					
	·턆 30		Model ICS-2 NIST-traceable single-point amplitude response calibration at 6000 cpm (100 Hz) for each axis (1)					
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	å ' <u>o</u>		_					
	> 15							
	≩ -15							
	:€ -30 +							
	ີສູ -75 -25	25 75 125 17	5 225 275					
	6,							
		Temperature (°F)		Entered: LK	Engineer: NJF	Sales: MC	Approved: NJF	Spec Number:
				Date: 07/07/2020	Date: 07/07/2020	Date: 07/07/202	0 Date: 07/07/2020	47329
				A		Dharre	800-959-4464	
						Fax: 71	6-684-3823	
					DENSUKS		6-684-3823 imi@pcb.com	
Il sperifications are at room temporature	a unless otherwise specified			A PCB PIE	DENSUKS			
Il specifications are at room temperatur 1 the interest of constant product improv		hange specifications without	notice		DENSORS ZOTRONICS DIM nue, Depew, NY 1404	E-Mail:		