

Model M261B02

Triax force link, ICP®, 1000 lb (Fx,y,z), 2.5 mV/lb (z), 5.0 mV/lb (x,y), ground isolated

Installation and Operating Manual

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

Toll-free: 716-684-0001 24-hour SensorLine: 716-684-0001 Fax: 716-684-0987 E-mail: info@pcb.com Web: www.pcb.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

	有害物 质								
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	厚膜基板 O O X O O O O								
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									
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。			
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	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.

ICP® 3-COMPONENT FORCE LINK OPERATION MANUAL

1

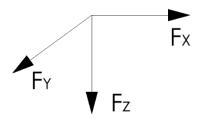
Table of Contents

Section		Page
1.0	Introduction	2
2.0	Description	2
3.0	Installation	2
4.0	Operation	3
5.0	Polarity	3
6.0	Low Frequency Monitoring	3
7.0	Discharge Time Constant	4
8.0	Calibration	4
9.0	Troubleshooting	5
10.0	Maintenance	5
<u>Figure</u>		Page
1	3-Component Force Link Axis Definition	2
2	ICP® 3-Component Force Link	2
3	Cable Strain Relief	3
4	Characteristic Discharge Time Constant Curve	4
5	Step Function Response	4

MANUAL NUMBER: 29015 MANUAL REVISION: A ECO NUMBER: 52446

1.0 INTRODUCTION

PCB Piezotronics 3-component force link sensors are designed to simultaneously measure dynamic and quasistatic force measurements in three orthogonal directions; Fx, Fv, and F2. (Figure 1) The sensors utilize an array of precision aligned, quartz sensing crystals stacked in a preloaded arrangement.



2.0 DESCRIPTION

A link consists of a standard PCB 3-component force sensor, preloaded between two precision ground plates. (Figure 2) The plates are internally threaded to facilitate fixturing for both tensile and compressive force measurements. External preloads are not required with these sensors, as they are internally preloaded during manufacture.



Figure 2 - ICP® 3-Component Force Link

Caution: Loosening or tightening of the hex nuts will change the internal preload of the sensor. At this point, the sensitivity provided on the calibration certificate will 110 longer represent that of the sensor.

If this should occur, refer to the service and repair document for proper information.

Measurements along the z-axis are proportional to applied compression, tension, and impact forces. Measurements along the x- and y-axis are proportional to shear forces imposed upon the sensor.

ICP® force link sensors contain built-in, microelectronic signal conditioning circuitry to provide clean, low-impedance output signals that can be transmitted over low cost cables and in adverse, industrial environments. Multi-pin connectors facilitate a single point hookup with common, multi-conductor cable.

Power to operate ICP® sensors is generally in the form of a low cost, 24-27 VDC, 2-20 mA constant current supply. PCB offers a number of AC or battery-powered, single or multi-channel power/signal conditioners, with or without gain capabilities for use with force sensors. In addition, many data acquisition systems now incorporate constant current power for directly powering ICP® sensors. Because static calibration or quasi-static short-term response lasting up to a few seconds is often required, PCB manufactures signal conditioners that provide DC coupling.

If questions arise regarding the operation or characteristics of the force sensor products as outlined in this manual, feel free to contact an experienced applications engineer from the Force/Torque Division of PCB toll-free 888-684-0004.

3.0 INSTALLATION

CAUTION! Please read all instructions before attempting to operate this product. Damage to built-in amplifier

due to incorrect power or misapplication is NOT covered by warranty

Refer to the installation/outline drawing supplied with this manual for specific outline dimensions and installation details for your particular model. The specification is also included to provide details of the sensor's characteristic properties.

The condition of the mating surfaces can adversely affect the sensitivity of the sensor. It is essential that all surfaces be clean, rigid and perfectly flat to avoid erroneous data. A good mating surface may be obtained by lapping, turning, spot-facing, or surface grinding. Surface flatness should be held to within 0.001 (TIR) over the entire mating surface. The protective cap should remain on the connector during installation to prevent contamination or damage.

A light coating of silicon grease (DC-4 or equivalent) on the mating surface enhances the coupling between the mounting base and mounting surface and provides the best high-frequency response.

Connect one end of the interconnect cable to the sensor connector and the other end to the XDCR jack on the signal conditioner. Make sure to tighten the cable connector to the sensor. <u>DO NOT</u> spin the sensor onto the cable, as this fatigues the cable pins, resulting in a shorted signal and a damaged cable.

For installation in dirty, humid, or rugged environments, it is suggested that the connection be shielded against dust or moisture with shrink tubing or other protective material. Strain relieving the cable/sensor connection can also prolong cable life. Mounting cables to a test structure with tape, clamps, or adhesives minimizes cable whip. See **Figure 3**.

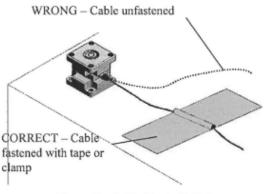


Figure 3 - Cable Strain Relief

4.0 OPERATION

ICP® force link sensors require a constant-current excitation voltage for operation. The enclosed specification sheet provides specific power requirements. Required supply voltage is normally 20 to

30 VDC, while the constant current required ranges from 2 to 20 mA.

PCB standard battery-powered signal conditioners are factory set at 2 mA and may be used to adequately drive a signal for 100 feet. PCB line signal supplies are factory set at 4 mA (and adjustable from 2 to 20 mA), enabling signals to be transmitted over hundreds of feet.

It is necessary to supply the sensor with a 2 to 20 mA constant current at +20 to +30 VDC through a current-regulating diode or equivalent circuit, contained in all PCB signal conditioners. See Guide G-000IE for powering and signal conditioning information pertaining to all ICP® instrumentation.

Most of the signal conditioners manufactured by PCB have an adjustable current feature allowing a choice of input currents from 2 to 20 mA. In general, for lowest noise (best resolution), choose the lower current ranges. When driving long cables (to several thousand feet), use The higher current, up to 20 mA maximum. Consult the factory to determine if higher current settings are required.

Operation requires the connection of the force sensor first to a signal conditioner, then to a readout device (oscilloscope, meter, recorder, or A-to-D board) or to a readout device with built-in ICP® sensor excitation. Tighten the cable to the sensor by hand to ensure good electrical contact.

5.0 POLARITY

Compressive forces upon an ICP® 3-component force link produce a positive-going voltage output. Tensile forces produce a negative-going voltage output. Sensors with reversed polarity are available upon request.

6.0 LOW-FREQUENCY MONITORING

Force link sensors used for applications in short term, steady state monitoring, such as sensor calibration, or short term, quasistatic testing should be powered by signal conditioners that operate in DC-coupled mode. PCB Series 484 Signal Conditioner operates in either AC or DC-coupled mode and may be supplied with gain

features or a zero "clamped" output often necessary in repetitive, positive polarity pulse train applications.

If you wish to learn more about ICP® sensors, consult PCB's General Signal Conditioning Guide (G-000IE), a brochure outlining the technical specifics associated with piezoelectric sensors. This brochure is available from PCB by request, free of charge.

7.0 DISCHARGE TIME CONSTANT

The discharge time constant (DTC) of the entire transduction system from sensor to readout must be considered when attempting to calibrate an ICP® force sensor by static methods. In order to take full advantage of the long DTC built into the force sensor, it is best to DC couple from the sensor to the readout device. Several dual-mode PCB signal conditioners (e.g., Series 484) use direct coupling techniques to decouple the output signal from the sensor bias voltage. With the output of the signal conditioner coupled to a DC readout, such as a digital voltmeter (**DVM**) or oscilloscope, the time constant of the sensor is not compromised by AC coupling elsewhere in the system.

When DC coupling to a system, it is important to DC couple the entire system and not just from the sensor to the signal conditioner. The system time constant is determined by the shortest t ime constant in the system. For this reason, the signal conditioner, as well as the readout device, must be DC coupled.

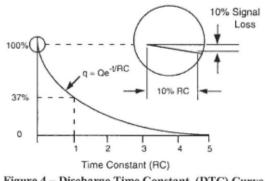


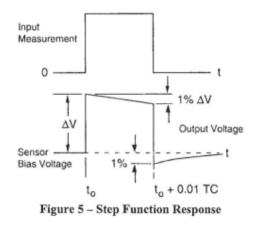
Figure 4 - Discharge Time Constant (DTC) Curve

The discharge time constant represents the decay rate of an input signal. One DTC represents the amount of time taken for the signal to decay to 37% of the initial peak value. As illustrated in **Figure 4**, this is an exponential decay. Approximately five DTC intervals are needed for a peak signal to naturally decay back to zero.

The rule of thumb for signal discharge, as outlined in **Figure 4**, is this: for the first 10% of the DTC, the signal lost is approximately proportional to the time elapsed.

Step Function Response

For example, a sensor with a 500-second DTC loses approximately 1% of its output level the first five seconds (I% of 500) after the application of a steady state force within the measuring range. In this case, the output reading must be taken within five seconds of the force application for I% accuracy. If it is impossible to avoid AC coupling somewhere in the sensing system, try to keep the coupling DTC at least an order of magnitude longer than the DTC of the force sensor. This avoids compromising the sensor DTC.

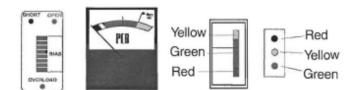


8.0 CALIBRATION

Institute of Standards A NIST (National and Technology) traceable calibration graph is supplied with each force sensor certifying its voltage sensitivity (m V /lb). Calibration procedures follow accepted guidelines as recommended by ANSI (American National Standards Institute), ISA (Instrument Society of America), and ISO (International Organization for provide the Standardization). These standards establishment and management of complete calibration systems, thus controlling the accuracy of a sensor's specifications by controlling measuring and test equipment accuracy. PCB is A2LA accredited for technical competence in the field of calibration, meeting of ISO/IEC 17025-1999 and the requirements ANSI/NCSL 2540-1-1994.

9.0 TROUBLESHOOTING

When a PCB signal conditioner with any of the following indicators are used, tum the power on and observe the voltmeter (or LED's) on the front panel.



NORMAL OPERATION

INDICATOR	DVM READING	OPERATION			
GREEN (Mid-Scale)	8 to 14 V	Proper range for most ICP [®] sensors.			
GREEN (Low End)	3 to 7 V	Proper range for low bias ICP [®] sensors.			
GREEN (High End)	15 to 17 V	Proper range for high bias ICP [®] sensors.			
RED	0 Volts	Short in the sensor, cable, or connections.			
YELLOW	24 to 28 V	Open circuit in the sensor, cable, or connections. (Excitation voltage is being monitored.)			

Output voltage moves from YELLOW to GREEN slowly until charging is complete. AC coupled signal conditioners require sufficient time to charge the internal coupling capacitor. Allow signal conditioner to charge for approximately 5 discharge time constants for stable operation.

Note: Most PCB force sensors have an output bias of 8-14 VDC. Refer to the specification sheet with this manual for the bias range of the model you are using. If you are using a low bias sensor, the indicator will be at the bottom end of the green portion of the dial indicator, and may even be in the red portion. This is the expected

10.0 MAINTENANCE

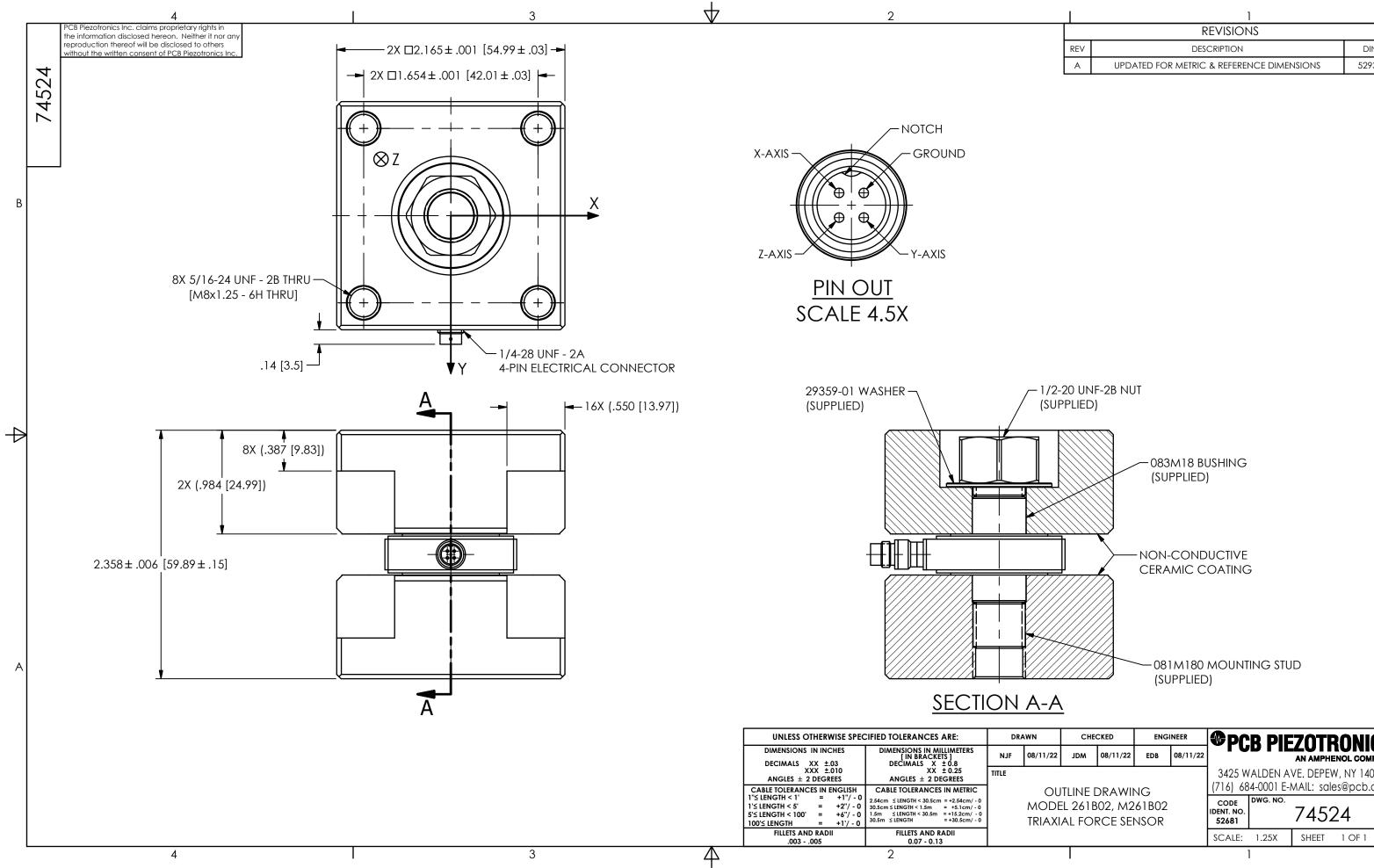
The sensor connector must be kept clean, especially if it is operating in a dusty and/or wet environment. Because the force sensor is of welded construction, it should be returned to the factory for servicing in the event of serious malfunction.

Observe the following precautions in using the sensor:

- Do not exceed the maximum load levels for the force sensor (see specification sheet).
- Do not subject the sensor to temperatures exceeding that of the specification, normally 250°F (121°C).
- Do not apply voltage to the sensor without currentlimiting diodes or other current protection.
- Do not apply more than 20 mA of current to the force sensor.
- When mounting the force sensor, observe installation procedures detailed in Section 3.0 and as outlined on the specific sensor installation/outline drawing to avoid overtorquing when mounting.
- Do not apply more than 30 volts to the sensor.
- Avoid metal-to-metal impacts during applications, which can produce high frequency ringing. Electrical low-pass filtering or a damping material can help reduce such effects.
- Do not spin the sensor onto the cable. This may fatigue the cable pins, causing cable damage. Always insert the cable pin into the sensor and tighten the knurled cable nut to the sensor.

ICP® is a registered trademark of PCB Piezotronics, Inc.

Performance Generating 2 Style of Value Sensitivity 2 Style of Value Sensitivity 2 Style of Value Manuar mer Registry 2 Style of Value Manuar Manuar Manuar Value Manuar Manuar Manuar Value Manuar Manuar Manuar Value					FORCE SEI			E	CN #: 53868
Specific V V Value 1.25 mV/V 0.55 mV/V 0.55 mV/V Mathematic Value V Value 1.000 b 4.45 mV 1.000 b 4.45 mV Mathematic Value V Value 1.000 b 4.45 mV 1.000 b 1.000 b<	erformance	ENGUSH	¢1			01	PTIONAL VERSIO		
Construction Construction<	nsitivity(± 20 %)(Z Axis)		0.56 mV/N		Optional versions h				ndard model ex
Measurement Indiged Availation 1000b 44544 Measurement Indiged Availation 1000b 44544 Measurement Indiged Availation 1000b 44544 Measurement Indiged Availation 64004 Measurement Indiged Availation 64004 <	nsitivity(+ 20%)(X or Y Axis)								
Magument biographic or Y Aring 1.000 b 4.44 HI Magument biographic or Y Aring 1.000 b 4.46 HI Marrian Moment Z, Aring 0.10 b 5.48 HI Marrian Moment Z, Aring 0.10 b 5.48 HI Marrian Moment Z, Aring 0.00 B rmm 0.01 B More Hand Moment Z, Aring 0.00 B rmm 0.01 B More Hand Moment Z, Aring 0.00 B rmm 0.01 B More Hand Moment Z, Aring 0.00 B rmm 0.01 B More Hand Moment Z, Aring 1.10 KS 0.10 B rmm More Hand Moment Z, Aring 1.10 KS 0.10 B rmm More Hand Moment Z, Aring 1.10 KS 0.10 B rmm More Hand Moment Z, Aring 1.10 KS 0.10 B rmm More Hand Moment Z, Aring 1.10 KS 0.10 B rmm More Hand Moment Z, Aring 1.10 KS 1.10 KS 1.10 KS More Hand Moment Z, Aring 1.10 KS 1.10 KS 1.10 KS More Hand Moment Z, Aring 1.20 KS 1.00 KS 1.00 KS More Hand More MAND 2.20 KS 0.000 KS 1.00 KS<	easurement Range(Z Axis)							,	
With Market Ma	easurement Range(X or Y Axis)				M - Metric Mour	it			
Advance Advisor Advisor SiZe high Advance 10 0038 hrms 00 10 Monitories 0011 tr 0011 tr 0011 tr 10 Monitories 11 % 5 12 % 7 -54 hold 10 % 7 10 Molecontres 12 % VC 12 % VC 12 % VC 12 % VC Molecontres 10 % VC 10 % VC 10 % VC 10 % VC Monitor 10 % VC 10 % VC 000020 Writ 000020 Writ 000020 Writ Monitor 10 % VC 000020 Writ 000020 Writ 000020 Writ 000020 Writ 000020 Writ Monitor 10 % VC 000020 Writ	aximum Force(Z Axis)	1,320 lb	5.87 kN						
district Address 0000 Provide Reports 5000 France Francord Reports 5000	aximum Force(X or Y Axis)		4.89 kN		W - Water Resist	ant Cable			
Conduction devolution Z Avia manufacture devolution Z Avia our fequency Reports: 5 X/K Or Y Avia our fequency Reports: 5 X	aximum Moment(Z Axis)	40 ft-lb	54.2 Nm						
Insolution K or Y Aval QUBB b-ms QUB b-ms QUB b-ms QUB b-ms		70 ft-lb							
Constant Constant Constant <td></td> <td></td> <td></td> <td>[1]</td> <td></td> <td></td> <td></td> <td></td> <td></td>				[1]					
Normany Normany Normany 1 many 1 many 1 many 1 many				[1]					
Distribution 1 % 15 1 % 15 1 % 15 1 % 15 Distribution 1 % 15 3 % 1 % 15 1 % 15 1 % 15 Distribution 1 % 15 3 % 1 % 15 1 % 15 1 % 15 Distribution 1 % 15 3 % 10 1 % 15 1 % 15 1 % 15 Distribution 1 % 15 <td>w Frequency Response(- 5 %)(Z-Axis)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	w Frequency Response(- 5 %)(Z-Axis)								
Outs Tablebaseen X and Y Akija Dialbabaseen X and Y Akija Dialbabaseen X and Y Akija Dialbabaseen X and Y Akija Dialbabasen X and Y Akija Dialb									
NOTES: Tillpickaning Lange 25 bit/nig/min Market Connection 2 bit/nig/min Market Connection 3 bit Market Connection	on-Linearity			[2]					
nviro mental moreture in Structure in S	oss Talk(between X and Y Axis)								
Imperature Range 6-5 to -200 fr 5-14 to -121 °C If Citro Comparison 12 SUP Comparison 12 SUP Comparison 12 SUP Comparison If Super Time Construct Assigners 3 Super Comparison 12 Super Comparison 12 Super Comparison If Super Time Construct Assigners 3 Super Comparison 12 Super Comparison 12 Super Comparison If Super Time Construct Assigners 3 Super Comparison 12 Super Comparison 12 Super Comparison If Super Time Construct Assigners 3 Super Comparison 12 Super Comparison 12 Super Comparison Super Time Construct Assigners 3 Super Comparison 12 Super Comparison 12 Super Comparison Super Time Super Time Construct Assigners 3 Super Comparison 12 Super Comparison 12 Super Comparison Super Time Super Time Super Comparison 3 Super Comparison 11 Super Comparison 11 Super Comparison Super Time Super Time Super Comparison 3 Super Comparison 11 Super Comparison 11 Super Comparison Super Time Super Comparison 3 Super Comparison 11 Super Comparison 11 Super Comparison Super Time Super Comparison 3 Super Compare Super Comparison 11 Super Comparison<		± 5 %	± 5 %						
Isettical # 2.5 VDC # 2.5 VDC Visite and print constant/2 using # 2.5 VDC # 5 VDC Visite and print constant/2 using # 2.5 VDC # 5 VDC Visite and print constant/2 using # 2.5 VDC # 5 VDC Visite and print constant/2 using # 2.5 VDC # 5 VDC Visite and print constant/2 using # 2.5 VDC # 5 VDC Visite and print first is the constant/2 using # 2.5 VDC # 5 VDC Visite and print first is the constant/2 using # 2.5 VDC # 5 VDC Visite and print first is the constant/2 using # 2.5 VDC # 5 VDC Visite and print first is the constant/2 using # 2.5 VDC # 5 VDC Visite and print first is the constant/2 using # 5 VDC # 5 VDC Visite and print first is the constant/2 using # 5 VDC # 5 VDC Visite and the constant/2 using # 5 VDC # 5 VDC # 5 VDC Visite and the constant/2 using # 5 VDC # 5 VDC # 5 VDC Visite and the constant and the constant # 5 VDC # 5 VDC # 5 VDC Visite and the constant and the constant # 2 S DF/DF		CE 1	541						
If Sale Output/D Infection) ± 25 VDC ± 25 VDC If Sale Output/D And V Dection) ± 55 VDC ± 55 VDC Isola Output/D Infection) ± 55 VDC ± 55 VDC Isola Output/D Infection) ± 55 VDC ± 55 VDC Isola Output/D Infection) ± 55 VDC ± 55 VDC Isola Output/D Infection) ± 55 VDC ± 55 VDC Isola Output/D Infection) ± 55 VDC ± 55 VDC Isola Output/D Infection) ± 55 VDC ± 55 VDC Isola Output/D Infection) ± 55 VDC ± 55 VDC Isola Output/D Infection) ± 55 VDC ± 55 VDC Isola Output/D Infection) ± 55 VDC ± 65 VDC Isola Output/D Infection) ± 10 VDC ± 60 VDC Isola Output/D Infection) ± 10 VDC ± 60 VDC Isola Output/D Infection) ± 10 VDC ± 60 VDC Isola Output/D Infection) ± 10 VDC ± 60 VDC Isola Output/D Infection) ± 10 VDC ± 60 VDC Isola Output/D Infection) ± 10 VDC ± 60 VDC Isola Output/D Infection) ± 10 VDC ± 60 VDC Isola Output/D Infection) ± 10 VDC <t< td=""><td></td><td>-65 to +250 F</td><td>-54 to +121 °C</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>		-65 to +250 F	-54 to +121 °C						
If Safe Output/K and Y Direction) ± 5 VDC ± 5 VDC If Safe Output/K and Y Direction) ± 5 VDC ± 5 VDC Kinder Output/K and Y Direction) ± 5 VDC ± 5 VDC Kinder Output/K and Y Direction) ± 5 VDC ± 5 VDC Kinder Output/K and Y Direction) ± 5 VDC ± 5 VDC Kinder Output Sak Voltage(II channel) ± 0 20 mA ± 0 20 mA Kinder Output Sak Voltage(II channel) ± 100 Ohm ± 100 Ohm Kinder Output Sak Voltage(II channel) ± 0 0003 IN/Hz 0 0003 IN/Hz Sectral Nois(II OHZ) K YI 0 0003 IN/Hz 0 0003 IN/Hz Sectral Nois(II OHZ) K YI 0 00008 IN/Hz 0 0002 IN/Hz Sectral Nois(II OHZ) K YI 0 00002 IN/Hz 0 0002 IN/Hz Sectral Nois(II OHZ) (2) 0 0002 IN/Hz 0 0002 IN/Hz Sectral Nois(II OHZ) (2) 0 0002 IN/Hz 0 0002 IN/Hz Sectral Nois(II OHZ) (2) 0 0002 IN/Hz 0 0002 IN/Hz Sectral Nois(II OHZ) (2) 0 0002 IN/Hz 0 0002 IN/Hz Sectral Nois(II OHZ) (2) 0 0002 IN/Hz 0 0002 IN/Hz Sectral Nois(II OHZ) (2) 0 0002 IN/Hz 0 0002 IN/Hz Sectral Nois(II OHZ) (2)		+ 25 VDC	+ 25 VDC						
ischarge film Contant(Z, Aki) 3:50 sec 3:50 sec ontant (Z, Aki) 0:0005 ki/Hz 0:0005 ki/Hz ontant (Z, Aki) 0:0005 ki/Hz 0:00022 ki/Hz ontant (Z, Aki) 0:0002 ki/Hz 0:00022 ki/Hz ontant (Z, Aki) 0:0002 ki/Hz 0:00022 ki/Hz ontant (Z, Aki) 0:00005 ki/Hz 0:00022 ki/Hz ontant (Z, Aki) 3:60 ki/Hz 0:00022 ki/Hz ontant (Z, Aki) 3:46 Sit/Hr/adian 1:15 Hr/adian ontif Hittlesk (X or Kaki) 3:46 Sit/Hr/adian 1:15 Hr/adian ontif Hittlesk (X or Kaki) 3:46 Sit/Hz 3:36 ki/Hz									
isistange lime Constant(X or Y Akis) 2:500 sec 2:000 solve isistange lime Constant(X or Y Akis) 2:000 N/H 2:000 N/H viput limestance 3:1000 N/H 3:000 N/H viput limestance 0:000 N/H 0:000 N/H viput limestance 0:000 N/H 0:0000 N/H viput limestance 0:000 N/H 0:0000 N/H viput limestance 0:0000 N/H 0:0000 N/H viput limestance 0:0000 N/H 0:00000 N/H viput limestance 0:00000 N/H 0:00000 N/H viput limestance 0:00000 N/H 0:000000 N/H	scharge Time Constant/7 Avid)								
Control 20 to 30 VDC 20 to 30 VDC Bask Correct Excitational channels) 2 to 20 mA 2 to 20 mA Bask Correct Excitational Channels) 8 to 14 VDC 8 to 14 VDC Bask Correct Excitational Channels) 8 to 14 VDC 8 to 14 VDC Bask Correct Excitational Channels) 9 to 20 NHz 00001 Bi/VHz Docate House (14 K2K W) 00000 Bi/VHz 000000 Bi/VHz Docate House (14 K2K W) 00000 Bi/VHz 000000 Bi/VHz Docate House (14 K2K W) 00000 Bi/VHz 0000000000 Bi/VHz Docate House (14 K2K W) 000000 Bi/VHz 000000000000000000000000000000000000	scharge Time Constant(Z AXIS)								
onstant Current Excitational (channels) 2 to 20 mA 2 to 20 mA uput Big Voltage 8 to 14 VOC 8 to 14 VOC uput Big Voltage 8 to 14 VOC 8 to 14 VOC uput Big Voltage 8 to 14 VOC 8 to 14 VOC uput Big Voltage 8 to 14 VOC 8 to 14 VOC uput Big Voltage 8 to 14 VOC 8 to 14 VOC uput Big Voltage 8 to 14 VOC 8 to 14 VOC uput Big Voltage 8 to 14 VOC 8 to 14 VOC uput Big Voltage 8 to 14 VOC 00003 Bi/Hz uput Big Voltage 00000 Bi/Hz 000002 N/Hz uput Big Voltage 2 b/pin 12 b/pin uput Big Voltage 2 b/pin 12 b/pin 11 Bis Vortradian 11 Bis Vortradian 11 Bis Vortradian 11 Bis Voltage 11 Bis Vortradian 11 Bis Vortradian 12 Binless Steel Stainless Steel Stainless Steel Usual Binle Stainless Steel Stainless Steel Usual Binle Hermetic Hermetic 4 binle Stainless Steel Stainles Steel Usual Binle Hermetic Staie 2 big									
uput Impedance s 100 Ohm s 100 Ohm uput Ibis Volks 8 to 14 VDC 80 to 14 VDC uput Ibis Volks 0.000 Ib/Hz 0.000 Ib/Hz uput Ibis Volks 0.000 Ib/Hz 0.000 Ib/Hz uput Ibis Volks 0.000 Ib/Hz 0.000 Ib/Hz uput Ibis Volks 0.0000 Ib/Hz 0.0000 Ib/Hz uput Ibis Volks 2.8 Ib/In/nain 1.15 Wr/main 118 uput Ibis Volks 2.3 Ib/In/nz/in 1.11 Wr/main 118 uput Ibis Volks 3.2 Ib/In/nz/in 111 Wr/main									
Unjut Bis Voltage B to 14 VDC B to 14 VDC B to 14 VDC extertal Noise(11):2X & Y) 0.0003 Bi/Hz 0.0013 N/Hz 0.0013 N/Hz extertal Noise(11):2X & Y) 0.0003 Bi/Hz 0.0003 N/Hz 0.0003 N/Hz extertal Noise(11):0X & Y) 0.0002 Bi/Hz 0.0008 N/Hz 0.0002 N/Hz extertal Noise(10):0X & Y) 0.0002 Bi/Hz 0.0002 Bi/Hz 0.0002 Bi/Hz extertal Noise(10):0X & Y) 0.0002 Bi/Hz 0.0002 Bi/Hz 0.0002 Bi/Hz extertal Noise(10):0X & Y) 0.0002 Bi/Hz 0.0002 Bi/Hz 0.0002 Bi/Hz extertal Noise(10):0X & Y) 0.0002 Bi/Hz 0.0002 Bi/Hz 0.0002 Bi/Hz extertal Noise(10):0X & Y) 0.0002 Bi/Hz 0.0002 Bi/Hz 0.0002 Bi/Hz extertal Noise(10):0X & Y) 0.0002 Bi/Hz 0.0002 Bi/Hz 0.0002 Bi/Hz y State 72 Bi/In/nadian 3.25 N/m/radian [1] 113 iffreestQ Arei Y 9.45 Ei bi/in/nadian 3.25 N/m/radian [1] 113 upped fifteestQ Arei Y Arei S 9.4 Ei bi/Hz 10.0000 Bi/Hz 117 Digital upped fifteestQ Arei Y Arei S 9.4 Ei bi/Hz									
Design H-B2K & Y) DODI Ib/Hz DODI Ib/Hz DODI Ib/Hz ectral Noise(10 H2/K & Y) 0.0008 b/Hz 0.0002 b/Hz 0.0008 b/Hz <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
Cectral Nois(10Hz)(X & Y) 0.0008 II/VHz 0.00133 NHz extral Nois(10Hz)(X & Y) 0.0008 II/VHz 0.0008 II/VHz 0.0008 II/VHz extral Nois(10Hz)(X Y) 0.0008 II/VHz 0.0008 II/VHz 0.0008 II/VHz extral Nois(10Hz)(X Y) 0.0008 II/VHz 0.0008 II/VHz 0.0008 II/VHz extral Nois(10Hz)(Z) 0.0008 II/VHz 0.0008 II/VHz 0.0008 II/VHz extral Nois(10Hz)(Z) 0.0008 II/VHz 0.0002 II/VHz 0.0008 II/VHz extral Nois(10Hz)(Z) 0.0008 II/VHz 0.0002 II/VHz 0.0002 II/VHz extral Nois(10Hz)(Z) 0.0008 II/VHz 0.0002 II/VHz 0.0002 II/VHz iptit Nois(10Hz)(Z) 0.0008 II/VHz 0.0002 II/VHz 0.0002 II/VHz iptit Nois(10Hz)(Z) 0.0008 II/VHz 0.0002 II/VHz 0.0002 II/VHz iptit Nois(10Hz)(Z) 28 ID/Vin/adian 3.25 INT/vdain III3 iptit Nois(10Hz)(Z) 2.25 ID/Vin/µin 3.25 INT/vdain III3 upded Stiffnesk(Z or Vais) 2.25 ID/Vin/µin 3.25 INT/vdain III3 aling Retrail Alexial Stale Stale III II									
Dectral Noisi(100 Hz)(X & Y) 0.0000 Bi/VHz 0.00036 MVHz Dectral Noisi(100 Hz)(X & Y) 0.0000 Bi/VHz 0.0008 MVHz Dectral Noisi(100 Hz)(Z) 0.0000 Bi/VHz 0.0000 Bi/VHz Dectral Noisi(100 Hz)(Z) 0.0000 Bi/VHz 0.0002 Bi/VHz Dectral Noisi(100 Hz)(Z) 0.0000 Bi/VHz 0.0000 Bi/VHz Deptide Stiffness(X or V Asis) 2.9 Eb/Ji/In . 1.20 DN/Im Tiffness(X or V Asis) 2.3 Eb/Mi/In addian 1.13 Tiffness(X or V Asis) 3.25 Bi/Ti/Vi/In . 1.12 DN/Im Upded Stiffness(X or V Asis) 3.25 Bi/Ti/Vi/In . 1.13 Stainles Steel Stainles Steel Stainles Steel Stainles Steel Stainles Steel Stai	ectral Noise(10 Hz)(X & Y)								
Discrit Nois(1,000 Hz)X & Y) 0.0002 Ib/VHz 0.0002 B/VHz Outs(1) Visit (Hz)Z) 0.0002 B/VHz 0.0002 B/VHz Discrit Nois(1) Hz)Z 2.8 fb/Hz 1.15 NHz/Hz Discrit Nois(1) Hz)Z 2.8 fb/Hz 1.15 NHz/Hz Discrit Nois(1) Hz)Z 2.8 fb/Hz 1.15 NHz/Hz Discrit Nois(1) Hz									
Discretar Noise(1 Hz/Z) 0.002 Bi//Hz 0.0028 N/Hz Outs(10 Hz/Z) 0.0002 Bi//Hz 0.0008 N/Hz Discretar Noise(100 Hz/Z) 0.0002 Bi//Hz 0.0008 N/Hz Discretar Noise(100 Hz/Z) 0.0002 Bi//Hz 0.0008 N/Hz Discretar Noise(100 Hz/Z) 0.0000 Fi//Hz 0.0008 N/Hz Discretar Noise(100 Hz/Z) 0.0000 Fi//Hz 0.0008 N/Hz Discretar Noise(100 Hz/Z) 0.0000 Fi//Hz 0.0008 N/Hz Discretar Noise(100 Hz/Z) 2.0000 Fi//Hz 0.0008 N/Hz Discretar Noise(100 Hz/Z) 2.0000 Fi//Hz 0.0008 N/Hz Discretar Noise(100 Hz/Z) 2.2.5.1.5.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.									
Startal Koist(100 Hz/2) 0.0002 Ib/Hz 0.00028 NVHz Juput Bolariy Positive Positive Positive Positive Positive Position 2 Bib/In/Junian 118 Position Stainless Steel Stainless Steel Position Stainless Steel Stainless <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>									
Detectal Noise(1,000 Hz/Z) 0.00005 Hz/Hz 0.00022 N/Hz Mysical 210 ⁶ Ohm 210 ⁶ Ohm Hitness(X or Y Axis) 2.91 Hz/ini 510 N/µm [1] Hitness(X or Y Axis) 2.91 Hz/ini 3.200 N/µm [1] Jupical 7.21 Hz/ini 3.265 N/m/radian 1.185 N/m/radian [1]8] Jupical Affiness(X or Y Axis) 2.364 E/m/radian 1.185 N/m/radian [1]8] Jupical Affiness(X or Y Axis) 2.31 Hz/main 1.185 N/m/radian [1]8] Jupical Affiness(X or Y Axis) 2.31 Hz/main 1.185 N/m/radian [1]8] Jupical Affiness(X or Y Axis) 3.21 Hz/main 1.185 N/m/radian [1]8] Jupical Affiness(X or Y Axis) 3.21 Hz/main 1.185 N/m/radian [1]8] Julica Maerial Stainless Steel Stainless Steel [3]See PCB Mine Paper WPL & Ba_1121 for details. Stainless Steel Stainless Steel Stainless Steel [4]See PCB Mine Paper WPL & Ba_121 for details. CCES [4] Entered: ND Engineer: EB Sales: BS Approved: RPF Speci DEGE [4] Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023	ectral Noise(10 Hz)(Ź)	0.0005 lb/√Hz	0.00222 N√Hz						
Upput Polarity Positive Positive Vipput Polarity 10° 0hm 210° 0hm hysical 29 lb/µin 510 N/µm [1] fiftess(X Y Axis) 23 lb/µin juin 1260 N/µm [1] fiftess(X Y Axis) 24 lb Diffin/radian 1.185 N/m/radian [1]3 jiftess(X X Y Xxis) 94 E5 Diffin/radian 1.185 N/m/radian [1]3 juiged StiftnessX or Y Xxis) 94 E5 Diffin/radian 1.185 N/m/radian [1]3 juiged StiftnessX or Y Xxis) 34 40 oz 975 gm [1]3 juiged StiftnessX or Y Xxis) 34 40 oz 975 gm [1]3 juing Hermetic Hermetic Hermetic [2]Zero-based, least-squares, straight line method. [2]Zero-based, least-squares, straight line method. 5ide Side Side Side Side Side Side [4]See PCB Diclaration of Conformance PS023 for details. [4]See PCB Jack end Entered: ND Engineer: EB Sales: BS Approved: RPF Disc (j/1) Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023	ectral Noise(100 Hz)(Z)	0.0002 lb/√Hz							
ctrical loolation ¹ 0 ⁸ Ohm ¹ 0 ⁸ Ohm hysical iffness(X or YAxis) ² 10 hyin ¹ 10 Nymn ¹ 1 iffness(X or YAxis) ² 2 8 bit ¹ n/radian ¹ 28 Si M ¹ n/radian ¹ 18 yupled stiffness(X or YAxis) ² 2 4 bit ¹ n/rudian ¹ 18 ^N OTES: upled stiffness(X or YAxis) ² 4 bit ¹ n/rudian ¹ 18 ^N OTES: upled stiffness(X or YAxis) ² 4 bit ¹ n/rudian ¹ 18 ^N OTES: upled stiffness(X or YAxis) ² 4 bit ¹ n/rudian ¹ 18 ^N OTES: upled stiffness(X or YAxis) ² 4 bit ¹ n/rudian ¹ 18 ^N OTES: upled stiffness(X or YAxis) ² 4 bit ¹ n/rudian ¹ 18 ^N OTES: upled stiffness(X or YAxis) ² 5 bit ¹ n/rudian ¹ 18 ^N OTES: upled stiffness(X or YAxis) ² 5 bit ¹ n/rudian ¹ 18 ^N Otes ¹ 17 stiff as the main term is		0.00005 lb/√Hz	0.000222 N√Hz						
hysical 2 io Ginn 2 io Ginn fiftess(2) 2 bit/pin 510 Vu/m [1] iffness(2) 7 2 bit/pin 1260 Vu/m [1] iffness(2) 2 5 bit/in/radian 1.1ES N:m/radian [1][2] iffness(2) 2 5 bit/in/radian 1.1ES N:m/radian [1][3] iffness(2) 2 5 bit/in/radian 1.1ES N:m/radian [1][3] ight 3 440 cz 975 gm [1][3] using Material stainless Steel stainless Steel [1][3] aling Hermetic Hermetic [2]Zero-based, least-squares, straight line method. [3]See PCB Mite Paper WRL 88, 1121 for details. [4]See PCB Declaration of Conformance PS023 for details. [4]See PCB Declaration of Conformance PS023 for details. [4]See PCB Declaration of Conformance PS023 for details.		Positive	Positive						
hysical iffness(X Avis) iffness(X Avis) 2 2 9 lb/µin 1 220 N/µm iffness(X Avis) 2 4 8 60 Hr/in/adian 1 125 N/m/adian 1 115 N/m/adian 1 115 N/m/adian 1 118 1 117 N/µm 1 118 1 118	ectrical Isolation	> 10 ⁸ Ohm	> 10 ⁸ Ohm						
iffness(Z vis) 2.9 lb/µin 510 N/µm [1] iffness(Z vis) 7.2 lb/µin 1.26 N/µm (1] 1.16 N/µr/vacian [1]3] upled stiffness(Z vis) 2.8 Ebl/*in/vacian 3.125 N/µr/vacian [1]3] [1]1/ypical. [2]2/zero-based, least-squares, straight line method. using Material Stainless Steel Stainless Steel Stainless Steel [3]See PCB White Paper WPL_88, 1121 for details. aling Hermetic Hermetic Hermetic [4]See PCB Declaration of Conformance PS023 for details. stirtial Connector 4-Rin 4-Pin Side Side Side Side Side Side Side	hysical	210 01111	<u> 10 0</u>						
iffness(X avis) 7.2 lb/µin 1.260 N/µm [1] iffness(X avis) 2.6 lb/Hri/radian 1.125 Nrm/radian [1][3] iffness(X avis) 9.4 Eb lb/Hin/radian 1.115 Nrm/radian [1][3] iffness(X or Y Avis) 2.5 lb/Hin/radian 1.115 Nrm/radian [1][3] using Material 34.40 oz 975 gm [1][3] aling Hermetic Hermetic [1][3] etrical Connector 4.Pin 4.Pin [4]See PCB White Paper WPL_86_1121 for details. etrical Connection Position Side Side Side [4]See PCB Declaration of Conformance PS023 for details. [4]See PCB Declaration of Conformance PS023 for details. [4]See PCB Declaration of Conformance PS023 for details. [4]See PCB Declaration of Conformance PS023 for details.	iffness(X or Y Axis)	2.9 lb/µin	510 N/µm	[1]					
iffness(X) or (Y Axis) 2.8 E6 Ibf"in/radian 3.225 N*m/radian [1]3 oupled Stiffness(X) or Y Axis) 9.4 E5 Ibf"in/radian 11:E5 N*m/radian [1]3 oupled Stiffness(X) or Y Axis) 2.5 Ibf"in/ruin 11 N*m/radian [1]3 ousing Material Stainless Steel Stainless Steel Stainless Steel aling Hermetic Hermetic IS extrical Connector 4-Pin 4-Pin extrical Connection Position Side Side		7.2 lb/uin							
iffnestR2 Axis) 9.4 ES Ibf'in/ratian 1.1ES Ntm/ratian [1]3] oupled StiffnestR2 or YAxis) 2.5 Ibf'in/ratian 11/Ham/rum [1]3] keight 34.40 oz 975 gm [1]3] ousing Material 3tainless Steel Stainless Steel [1]3] aling Hermetic Hermetic [3]5ee PGB White Paper WPL, 88_1121 for details. ectrical Connector 4.Pin Side [4]See PCB Declaration of Conformance PS023 for details. CEE Side Side Side [4]See PCB Declaration of Conformance PS023 for details.	iffness(RX or RY Axis)	2.8 E6 lbf*in/radian	3.2E5 N*m/radian		NOTES				
leight 34.40 oz 975 gm 11 ousing Material Stainless Steel Stainless Steel 12/2ero-Dased, least-squares, straight line method, asling Hermetic Hermetic Hermetic 13/3ee PCB White Paper WPL_88_1121 for details. ectrical Connector 4-Pin 4-Pin 4-Pin 14/3ee Side Side Side 14/3ee 12/2ero-Dased, least-squares, straight line method, Image: Strain Less Steel 4-Pin 4-Pin 14/3ee 14/3ee Side Side Side 14/3ee 12/2ero-Dased, least-squares, straight line method, Image: Steel CB Declaration of Conformance PS023 for details. 14/3ee 14/3ee 14/3ee Image: Steel CB Declaration of Conformance PS023 for details. 14/3ee 14/3ee 14/3ee Image: Steel CB Declaration of Conformance PS023 for details. 14/3ee 14/3ee 14/3ee 14/3ee Image: Steel CB Declaration of Conformance PS023 for details. 14/3ee 14/3ee 14/3ee 14/3ee Image: Steel CB Declaration of Conformance PS023 for details. 14/3ee 14/3ee 14/3ee 14/3ee 14/3ee Image: Steel CB Declaration of Conform		9.4 E5 lbf*in/radian	1.1E5 N*m/radian	[1][3]					
Outsing Material aling extrical Connector Stainless Steel Hermetic 4-Pin Stainless Steel Hermetic 4-Pin Stainless Steel (3) See PCB Whte Paper WPL 08_1121 for details. [4] See PCB Declaration of Conformance PS023 for details. CE Side Side Side Side	oupled Stiffness(X or Y Axis)		11 N*m/µm	[1][3]	[1]Typical.				
aling* Hermetic Hermetic Hermetic 4-Pin 4-Pin (4)See PCB Declaration of Conformance PS023 for details. ctrical Connection Position Side Side	eight		975 gm		[2]Zero-based, le	ast-squares, straigh	t line method.		
aling onector i.emetic Hermetic i.i.g Connector i.emetic i.emetic setrical Connection Position Side Side Image: Side Side Side					[3]See PCB White	Paper WPL 88 112	1 for details.		
Extrical Connection Position Side Side									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523					[4]See I CD Decia		100 1 3023 101 40 4013.		
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523	ectrical Connection Position	Side	Side						
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523	• •								
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Spect Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 74523	IK								
Entered: ND Engineer: EB Sales: BS Approved: RPF Spect Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 74523									
Entered: ND Engineer: EB Sales: BS Approved: RPF Special Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 T4523									
Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 Date: 05/11/2023 74523					Entored	Engineer: FP	Salas: PS	Approved	Spec Numbe
Dhama 710 (04 0001						5			
					Date: 05/11/2023	Date: 05/11/2023	Date: 05/11/2023	Date: 05/11/2023	74523
specifications are at room temperature unless otherwise specified. the interest of constant product improvement, we reserve the right to change specifications without notice. * is a registered trademark of PCB Piezotronics, Inc.	he interest of constant product improve	nent, we reserve the right to ch	ange specifications withou	ut notice.		AN AMPHENOL	Fax: 716 E-Mail: i	-684-0987	



REVISIONS								
REV	DESCRIPTION	DIN						
Α	UPDATED FOR METRIC & REFERENCE DIMENSIONS	52939						
•								

В

 \triangleleft

А

	-							
	CHE	CKED	ENG	NEER	₽ PC	R PIF	70TE	RONICS
1/22	JDW	08/11/22	EDB	08/11/22				ENOL COMPANY
OU	TI INF [DRAWI	NG					V, NY 14043 es@pcb.com
DDEL 261B02, M261B02 AXIAL FORCE SENSOR					CODE IDENT. NO. 52681	DWG. NO.	7452	24
					SCALE:	1.25X	SHEET	1 OF 1
						1		