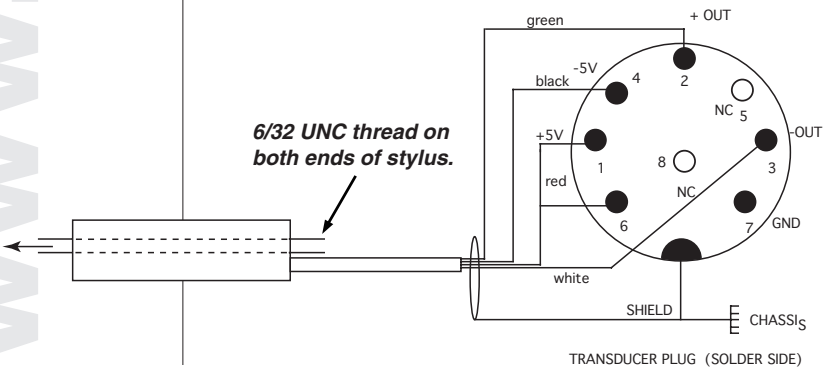
DSPL

Linear Displacement Transducer

Operation and Use

Displacement transducer DSPL smoothly converts motion of the stylus along its axis into a proportional voltage with virtually infinite resolution and essentially zero frictional drag. Since the output voltage range vs displacement is large, zeroing the baseline is best accomplished by physically adjusting the initial position of the transducer's body relative to the stylus. Alternatively, the output recorder's baseline may be adjusted at the recording system if a wide range of zero offset is available. DSPL's operation is based on the Hall effect which uses a magnetic sensor. Avoid placing a strong magnet near the transducer.

The sketch below displays the wiring connections for WPI's 8-pin connector. This connector is compatible with **Transbridge** (WPI Part #TBM4M), a four-channel transducer amplifier manifold, and **Bridge-8** (rack-mountable amplifier modules). If the user wishes to rewire the transducer to a different plug, the color coded wires should be connected to conform to the required DC voltage, polarity and signal output connections as shown.



Specifications

Displacement
±12 mm

Output Voltage Range
16 mv/mm (±10% @ 10 VDC)

Output Resistance
10 KΩ, differential

Noise
0.5 mV p/p typical (10 KHz bw)

Drift
05%FS/deg C max

Excitation Voltage
7 V DC min. to 12 V DC max.

Current Drain
10 mA typical, 20 mA max.

Maximum Linear Deviation
2 % over 10 mm

Stylus Weight
2.5 grams

Stylus Static Friction
< 1.0 gram

Total Weight
120 grams (4.2 oz) with cable and plug

Warning

Model DSPL is not hermetically sealed. Corrosive vapors, fluids and water may permanently impair its operation. Do not lubricate the stylus bushing. If the bushing through which the stylus moves becomes soiled, stylus friction may increase. Do not exceed the maximum rated DC voltage of the device.

Warranty

WPI (World Precision Instruments, Inc.) warrants to the original purchaser that this equipment, including its components and parts, shall be free from defects in material and workmanship for a period of one year* from the date of receipt. WPI's obligation under this warranty shall be limited to repair or replacement, at WPI's option, of the equipment or defective components or parts upon receipt thereof f.o.b. WPI, Sarasota, Florida U.S.A. Return of a repaired instrument shall be f.o.b. Sarasota.

The above warranty is contingent upon normal usage and does not cover products which have been modified without WPI's approval or which have been subjected to unusual physical or electrical stress or on which the original identification marks have been removed or altered. The above warranty will not apply if adjustment, repair or parts replacement is required because of accident, neglect, misuse, failure of electric power, air conditioning, humidity control, or causes other than normal and ordinary usage.

To the extent that any of its equipment is furnished by a manufacturer other than WPI, the foregoing warranty shall be applicable only to the extent of the warranty furnished by such other manufacturer. This warranty will not apply to appearance terms, such as knobs, handles, dials or the like.

WPI makes no warranty of any kind, express or implied or statutory, including without limitation any warranties of merchantability and/or fitness for a particular purpose. WPI shall not be liable for any damages, whether direct, indirect, special or consequential arising from a failure of this product to operate in the manner desired by the user. WPI shall not be liable for any damage to data or property that may be caused directly or indirectly by use of this product.

Claims and Returns

• Inspect all shipments upon receipt. Missing cartons or obvious damage to cartons should be noted on the delivery receipt before signing. Concealed loss or damage should be reported at once to the carrier and an inspection requested. All claims for shortage or damage must be made within 10 days after receipt of shipment. Claims for lost shipments must be made within 30 days of invoice or other notification of shipment. Please save damaged or pilfered cartons until claim settles. In some instances, photographic documentation may be required. Some items are time sensitive; WPI assumes no extended warranty or any liability for use beyond the date specified on the container.

• WPI cannot be held responsible for items damaged in shipment en route to us. Please enclose merchandise in its original shipping container to avoid damage from handling. We recommend that you insure merchandise when shipping. The customer is responsible for paying shipping expenses including adequate insurance on all items returned.

• Do not return any goods to WPI without obtaining prior approval and instructions (RMA#) from our returns department. Goods returned unauthorized or by collect freight may be refused. The RMA# must be clearly displayed on the outside of the box, or the package will not be accepted. Please contact the RMA department for a request form.

• Goods returned for repair must be reasonably clean and free of hazardous materials.

• A handling fee is charged for goods returned for exchange or credit. This fee may add up to 25% of the sale price depending on the condition of the item. Goods ordered in error are also subject to the handling fee.

• Equipment which was built as a special order cannot be returned.

• Always refer to the RMA# when contacting WPI to obtain a status of your returned item.

• For any other issues regarding a claim or return, please contact the RMA department

Warning: This equipment is not designed or intended for use on humans.

** Electrodes, batteries and other consumable parts are warranted for 30 days only from the date on which the customer receives these items.*

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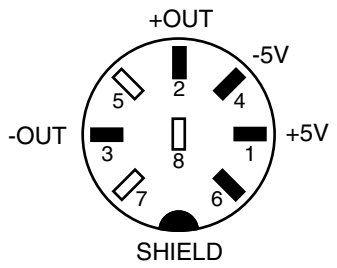
3492

8-Pin Female DIN



8-pin DIN (female), solder side

Pins 5, 7, and 8 not connected, pin 6 used only for WPI TBM4 Transbridge and BP-1 Pressure Monitor

This accessory is included with your WPI transducer to facilitate its adaptation to non-WPI bridge-type amplifiers. You should make certain before proceeding that your amplifier is compatible with the transducer requirements as explained below and on your transducer specification sheet.

OPERATION AND USE

The information contained in the diagram above and the paragraphs below should let you quickly reconfigure your WPI transducer to any compatible third-party bridge amplifier.

Your WPI transducer is supplied ready to use with our TBM4 Transbridge and BP-1 Pressure Monitors and can be quickly connected to the DA100 Differential Amplifier module available for the MP100WS data acquisition system via the optional TCI102 Transducer Connector Interface. In addition, if you need to, you can adapt the transducer to most non-WPI bridge amplifiers. Along with the pin-out information for your WPI transducer, you need to know the pin-out information for your particular bridge amplifier's required connector.

We recommend that you first use the female DIN connector provided as an intermediate step to test the transducer/amplifier combination before permanently removing our 8-pin DIN and replacing it with the required connector (if you wish to make the modification permanent).

WPI transducers require two excitation voltage inputs, a positive 5 volt input connected to pin 1 and a negative 5 volt input connected to pin 4. These two input voltages "excite" or power the bridge transducer. To record the transducer's output signal also requires two pins. Pin 2 carries the positive signal "out" of the transducer and Pin 3 carries the negative signal "out. of the transducer. The diagram to the left shows these connections as they would be made on the solder side of the female 8-pin DIN (WPI part number 3492). Therefore, pins 1, 4, 2, and 3 are the relevant connectors for adaptation to non-WPI equipment. The connection between pins 1 and 6 found in the male DIN connector attached to the end of all WPI transducers should not be duplicated on the 8-pin female DIN as it is useful only in conjunction with WPI bridge amplifiers. Finally, if you do choose to make the modification permanent by replacing the male 8-pin DIN with your amplifier's connector, you must also make sure that the shield is connected from the WPI transducer's cable to your new connector.

Note: For your convenience, WPI has available for sale the same shielded cable stock used for our transducers in 25-ft lengths, part number 5385.

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