

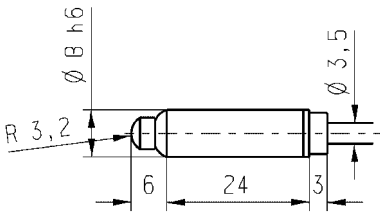
Accessories

E-115 LVDT Position Sensors

E-115.11 and E-115.21 LVDT (linear variable differential transformer) position sensors can be used with E-509.L1, E-509.L3, E-610.L0 and E-662.LR PZT position servo-controllers for quasi-static, closed-loop operation of piezo

actuators and piezo Nano-Positioning systems. **When ordering, please specify the required positioning range and operating direction** (increasing displacement = tip moving inwards or outwards, see drawing on page 6-41),

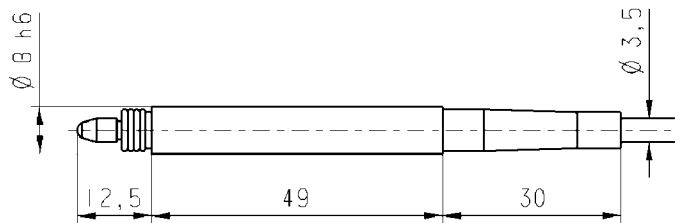
since the sensor circuit on the servo-controller has to be adjusted accordingly. Resolution is on the order of 10^{-4} of the selected measuring range. For operating principle, see "Tutorial: Piezoelectrics in Positioning" section.



E-115.21 dimensions (in mm)



E-115.11 (l) and E-115.21 (r)
LVDT position sensors



E-115.11 dimensions (in mm)

Technical Data

Models	E-115.11	E-115.21
Function	LVDT Position Sensor	LVDT Position Sensor
Measuring range	Max. ± 1 mm	Max. ± 0.5 mm
Bandwidth	5 Hz	5 Hz
Measurement force at zero position	0.63 N	0.63 N

P-895.00 Extension Board

The board is used for the extension of the 32 pin connector of all PI E-500 and E-501 electronics (except E-516.i3). It is required for calibration and maintenance

work. To allow the measurements of electrical current, all traces on the board are jumpered.



P-895.00

Cables, Connectors & Adapters for LVPZT Translators

Notes

Unless stated otherwise, PI LVPZT translators and NanoPositioners are equipped with LEMO connectors and 1 m cables. The voltage connector is an FFS.00.250.CTCE24 as shown on the P-890.10 cable. The sensor connector is an FFA.0S.304.CLAC32 as shown on the P-892 cable (p. 6-45), at the right. Insulation materials are Teflon for the voltage cable and PUR for the sensor cable.

P-891.xx LVPZT Extension Cable

Plug (left): LEMO
FFS.00.250.CTCE31

Coupling (right): LEMO
PCS.00.250.CTL.CTME31

Cable: RG 174 (PVC)
P-891.01 1 m
P-891.02 2 m
P-891.03 3 m
P-891.05 5 m
P-891.10 10 m

P-890 LVPZT Cable LEMO/ Solderable End

Plug: FFS.00.250.CTCE24
(fits LVPZT amplifiers, e.g.
E-505.00)

Cable: RG 178 (Teflon)

This cable can be soldered to
PZTs with pigtails

P-890.10 1 m
P-890.20 5 m

P-210.20 BNC Cable

BNC plug / solderable end.
Cable: RG 174 (PVC), 1m. This
cable can be soldered to PZTs
with pigtails

P-894.30 BNC/LVPZT Adapter

LEMO receptacle / BNC fe-
male, adapter

Type: ABA.00.250.NTL

Allows a cable with LEMO
FFS.00.250 male plug to be
attached to a device with BNC
socket (e.g. direct operation of
an LVPZT from a signal genera-
tor).

P-894.10 LVPZT Adapter

LEMO plug / 2 x LEMO recep-
tacle, adapter

Type: FTL.00.250.CTF. 1 x plug
(right), 2 x coupling (left, cen-
ter)

Allows two cables with LEMO
FFS.00.250 male plugs to be
connected to a device with
LEMO 00.250 socket (e.g.
E-505.00 amplifier module) or
P-891 extension cable.

P-893.10 LVPZT/BNC Adapter Cable

LEMO Plug / BNC female,
adapter cable

Cable: RG 174 (PVC), 1 m

Plug: LEMO
FFS.00.250.CTCE31 (male)
and BNC.ST.250.NTAE31.

Allows LVPZT amplifier output
voltage (e.g. E-663) to be con-
nected to an oscilloscope, etc.



P-891.xx LVPZT extension cable



P-890 LVPZT cable LEMO/ solderable end



P-894.10 LVPZT
adapter



P-894.30 BNC
adapter



P-893.10 BNC adapter cable

Accessories (cont.)

Cables, Connectors & Adapters for HVPZT Translators

Notes

Unless stated otherwise, PI HVPZT translators and NanoPositioners are equipped with LEMO connectors and 1 m PVC cables. The voltage connector is an FFS.0A.250.CTAE31 as shown on the P-209 cable, left.

With integrated P-177.10 strain gauge, an additional sensor cable is installed. The length of the sensor cable is 1 m, the material PUR and the connector a LEMO FFA.0S.304.CLAC32 as shown on the P-892 cable (p. 6-45) at right.

P-209.xx HVPZT Extension Cable

Plug (left):
FFA.0A.250.CTAE31

Coupling (right):
PCA.0A.250.FTLE31

Cable: RG 174 (PVC)

P-209.01	1 m
P-209.02	2 m
P-209.03	3 m
P-209.05	5 m
P-209.10	10 m

P-210.10 HVPZT Cable LEMO / Solderable End

LEMO plug/solderable end, 1 m

Plug: FFS.0A.250.CTAE31
(fits HVPZT amplifiers, e.g. E-507.00)

Cable: RG 174 (PVC)

This cable can be soldered to PZTs with pigtailed

P-204.10 BNC / HVPZT Adapter

LEMO receptacle / BNC female, adapter

Type ABA.0A.250.NTL

Allows a cable with LEMO 0A.250 male plug (e.g. P-209) to be connected to device with BNC socket (e.g., for direct operation of an HVPZT from a signal generator).



P-209.xx extension cable for HVPZTs



P-210.10 HVPZT cable

P-204.30 HVPZT / BNC Adapter

BNC male/LEMO plug, adapter

Allows cable with BNC plug to be attached to device with LEMO 0A.250 socket (e.g. E-507.00 amplifier module) or to P-209 extension cable.



P-204.10 BNC adapter



P-204.30 HVPZT adapter

PZT Actuators
PZT Flexure NanoPositioners
PZT Active Optics / Steering Mirrors
Tutorial: Piezoelectrics...
Capacitive Position Sensors
PZT Control Electronics
MicroPositioners / Hexapod Systems
Photonics Alignment & Packaging Systems
Motor Controllers
Index

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Sensor Extension Cables



P-892.xx Sensor extension cables for LVDTs and strain gauges

P-892.xx Sensor Extension Cable

For strain gauge sensors or LVDTs.

Plug (right):
 FFA.0S.304.CLAC32

Coupling (left):
 PCA.0S.304.CLAC32

Cable: 4 wires; #32 AWG
 (American) \approx #35 SWG
 (British) \approx \varnothing 0.20 mm; PVC
 insulation

P-892.01	1 m
P-892.02	2 m
P-892.03	3 m
P-892.05	5 m
P-892.10	10 m

D-892 Sensor Extension Cable Set

For capacitive sensors. Set of two.

Plug (e.g., far left)
 FFA.00.250.CTLC20

Coupling (e.g., far right)
 PCA.00.250.CTAC22

Cable: LSM 75 (Teflon)

D-892.01	1 m
D-892.02	2 m
D-892.03	3 m



D-892.xx capacitive sensor extension cables