INNOVATIVE MEASUREMENT TECHNOLOGY LTD.

Transducer Catalogue

@IMTLtd_Uk
#IMT

About us

Having individually over 30 years' experience IMT Ltd is one of the leading manufacturers and distributors of high accuracy and quality metrology products globally for a broad range of applications.

IMT Ltd enjoys the confidence of many companies within the metrology industry, known for as reliable suppliers of precision engineered measurement products and gaining new customers every day.

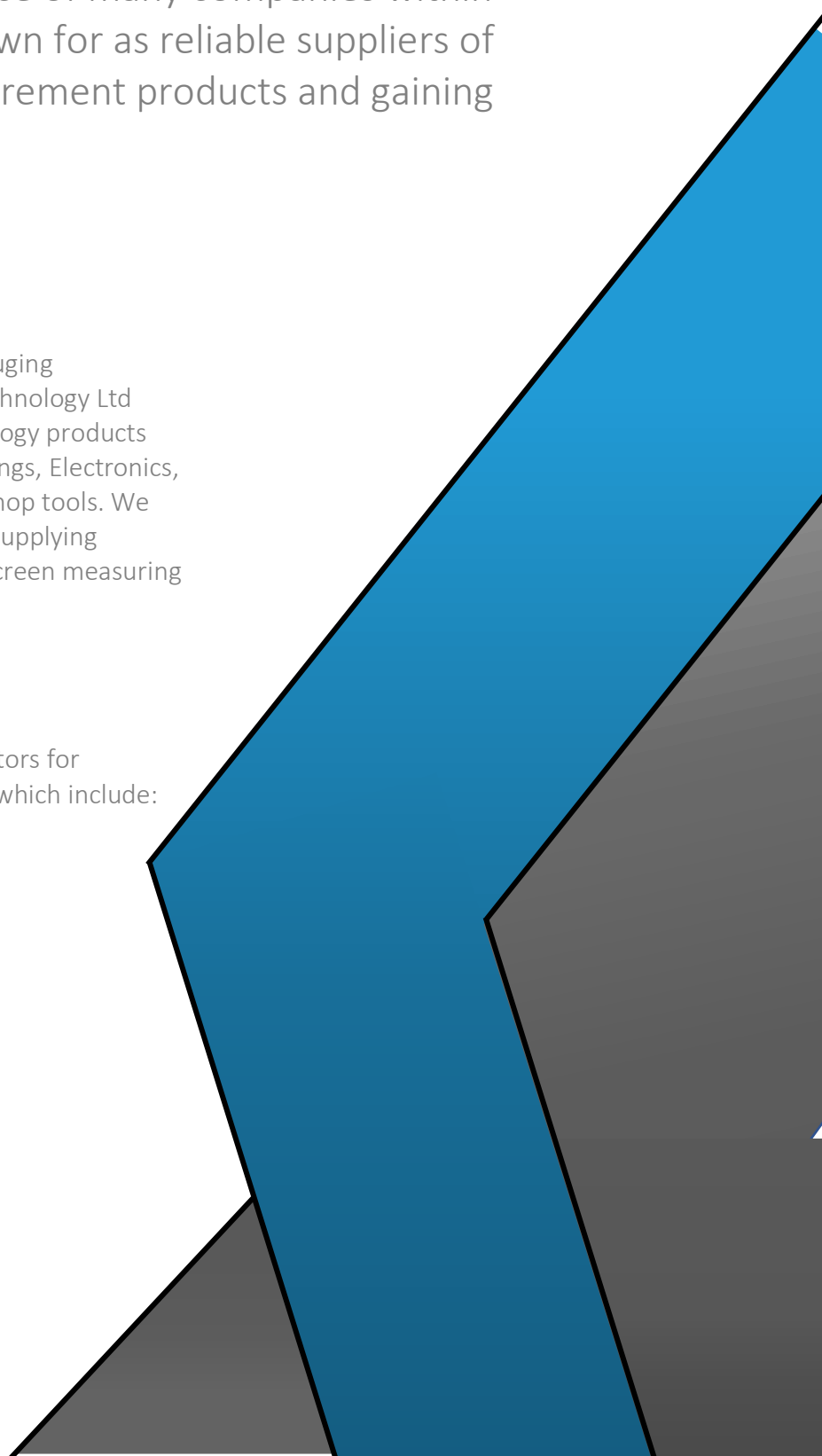
Products

Originally specialising in high accuracy Gauging Transducers Innovative Measurement Technology Ltd now supply a wide range of quality metrology products including Thread Gauges, Linear Ball bearings, Electronics, Bore gauges, Encoders and Hand / Workshop tools. We are also the UK distributor for IBR GmbH supplying anything from Column Gauges to Touch screen measuring computers.

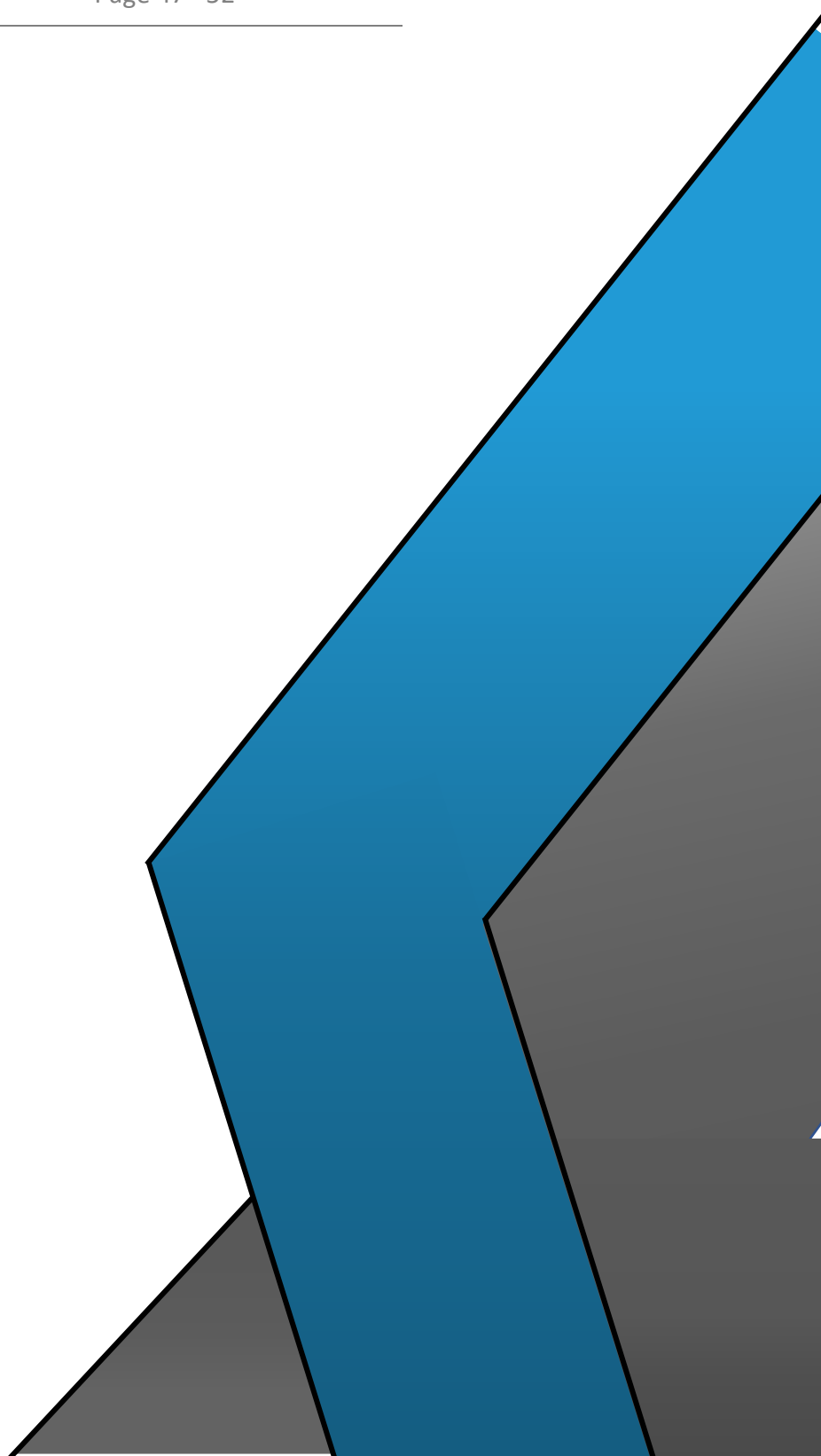
Areas

We serve a wide spectrum of industry sectors for applications requiring exacting standards which include:

- Manufacturing
- Engineering
- Materials Handling
- Research and Development
- Marine
- Rail
- Motorsport
- Aerospace
- Medical
- Force Measurement
- Load Monitoring
- Stress Analysis
- Weighing



Contents



Transducers

Innovative Measurement Technology supply gauging transducers for high precision measurement applications.

The transducer series are available in accordance with the measurement and installation requirements with different measuring strokes of ± 1 mm, ± 2 mm and ± 5 mm in four variations. Spring feed, Vacuum retract (V), Pneumatic push (P) and Pneumatic push with air gap seal (L). Available as axial or radial cable exits.

Types

- Standard
- Pluggable
- Digital

Standard Transducers

Overview Sheet

Spring Push	Vacuum Retract	Pneumatic Push Bellow Sealed	Pneumatic Push Air Gap Seal	Cable Exit	Short Description
3TLX07A 3TLX07R	3TLX07RV	3TLX07RP	3TLX07RL	Axial Radial	Halfbridge ±1 mm measuring stroke (TESA® compatible)
3TLX10A 3TLX10R	3TLX10AV 3TLX10RV	3TLX10AP 3TLX10RP	3TLX10AL 3TLX10RL	Axial Radial	Halfbridge ±1 mm measuring stroke (TESA® compatible)
5TLX10A 5TLX10R	5TLX10AV 5TLX10RV	5TLX10AP 5TLX10RP	5TLX10AL 5TLX10RL	Axial Radial	LVDT ± 1 mm measuring stroke Marposs® & Mahr® compatible as an option
3TL10A 3TL10R	3TL10RV	3TL10RP	3TL10RL	Axial Radial	Halfbridge ± 1 mm measuring stroke (TESA® compatible)
3TLX20A 3TLX20R	3TLX20AV 3TLX20RV	3TLX20AP 3TLX20RP	3TLX20AL 3TLX20RL	Axial Radial	Halfbridge ± 2 mm measuring stroke (TESA® compatible)
3TL400DA 3TL400DR	-	-	-	Axial Radial	Halfbridge, OEM module, ± 1 mm measuring stroke (TESA® compatible)
5TL400DA 5TL400DR	-	-	-	Axial Radial	LVDT, OEM module, ± 1 mm measuring stroke
3TLX50A 3TLX50R	3TLX50AV 3TLX50RV	3TLX50AP 3TLX50RP	3TLX50AL 3TLX50RL	Axial Radial	Halfbridge ± 5 mm measuring stroke (TESA® compatible)
3TLX50/2A 3TLX50/2R	3TLX50/2AV 3TLX50/2RV	3TLX50/2AP 3TLX50/2RP	3TLX50/2AL 3TLX50/2RL	Axial Radial	Halfbridge ± 2 mm measuring stroke with 8 mm stroke after electrical zero, setting 1:2 (TESA® compatible)
3TLX50/1A 3TLX50/1R	3TLX50/1AV 3TLX50/1RV	3TLX50/1AP 3TLX50/1RP	3TLX50/1AL 3TLX50/1RL	Axial Radial	Halfbridge ± 1 mm measuring stroke with 8 mm stroke after electrical zero, setting 1:1 (TESA® compatible)
3BG10A 3BG10R	-	-	-	Axial Radial	Halfbridge ± 1 mm measuring stroke (TESA® compatible)
5BG10A 5BG10R	-	-	-	Axial Radial	LVDT ± 1 mm measuring stroke

3TLX07 Series

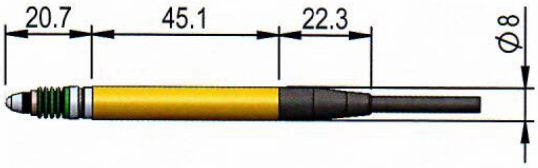
Halfbridge ± 1.0mm Measuring Stroke

Technical Data

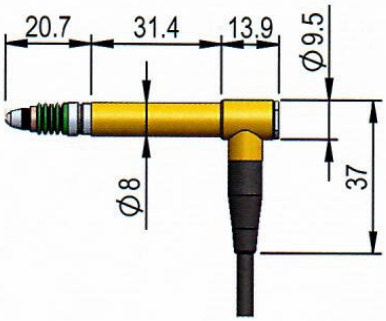
Cable exit: 'A' Axial 'R' Radial	3TLX07A / 3TLX07R	3TLX07RV	3TLX07RP	3TLX07RL
Total stroke	2.2 mm	2.2 mm	2.2 mm	4.6 mm
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Pre-travel Default Setting	Adjustable -1.1 mm	Adjustable -1.1 mm	Adjustable +1.1 mm	Adjustable +1.1 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Cable	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20% (at electrical zero)	0.63 N ±20% (at electrical zero)	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 0.8 bar (Both at electrical zero)	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 1.1 bar (Both at electrical zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.6 % FS ± 1000 µm range (at 20°C ±1°C)	0.6 % FS ± 1000 µm range (at 20°C ±1°C)	0.6 % FS ± 1000 µm range (at 20°C ±1°C)	0.6 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

Drawing (Scale 1:2)

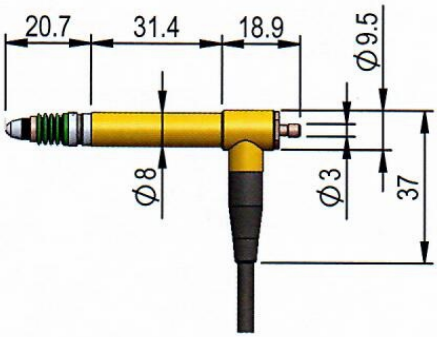
3TLX07A



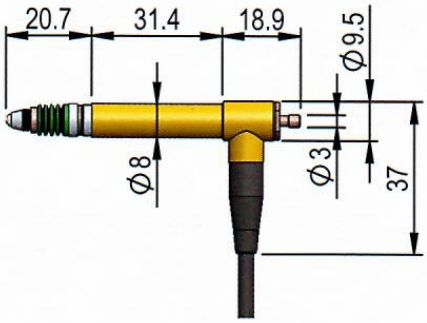
3TLX07R



3TLX07RV



3TLX07RP



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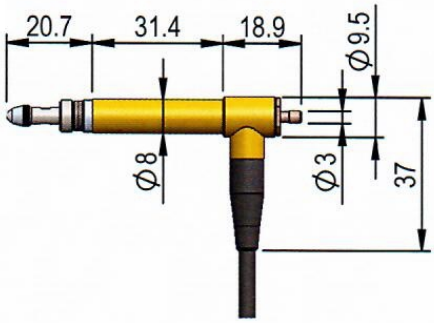


3TLX10 Series

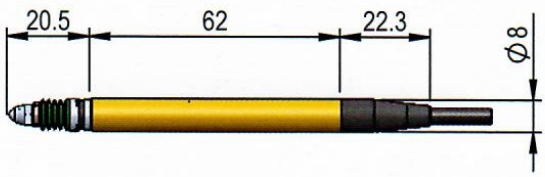
Halfbridge ± 1.0mm Measuring Stroke

Technical Data

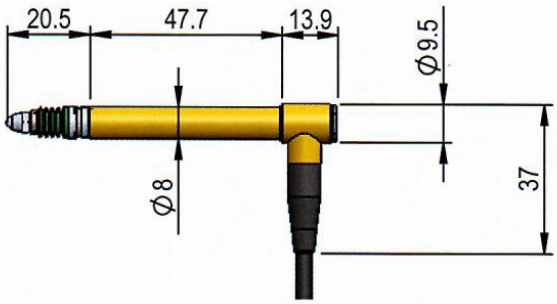
Cable exit: 'A' Axial 'R' Radial	3TLX10A / 3TLX10R	3TLX10AV / 3TLX10RV	3TLX10AP / 3TLX10RP	3TLX10AL / 3TLX10RL
Total stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Pre-travel Default Setting	Adjustable -1.2 mm	Adjustable -1.2 mm	Adjustable +2.8 mm	Adjustable +2.8 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Cable	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20% (at electrical zero), values from 0.25 to 4N as option	0.63 N ±20% (at electrical zero), 0.25 and 1N as option	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 0.8 bar (Both at electrical zero)	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 1.1 bar (Both at electrical zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

Drawing (Scale 1:2)

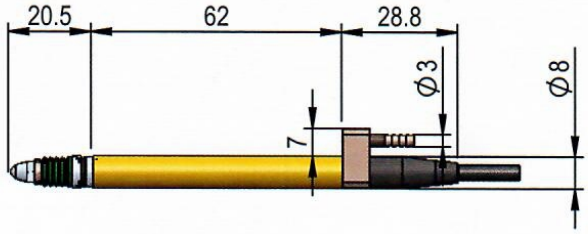
3TLX10A



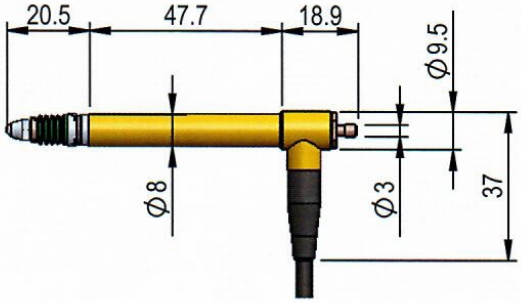
3TLX10R



3TLX10AV



3TLX10RV



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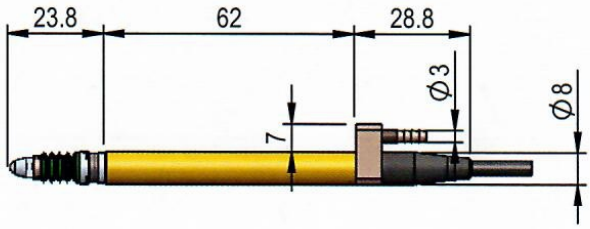
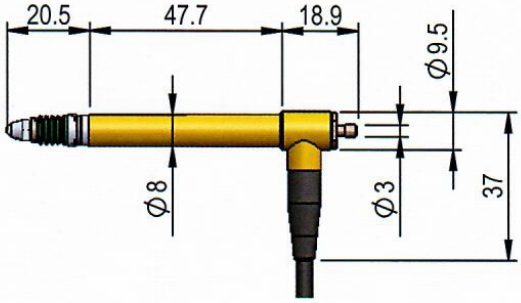
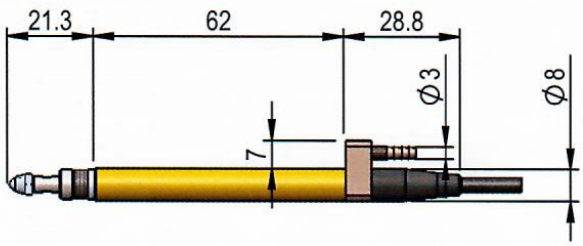


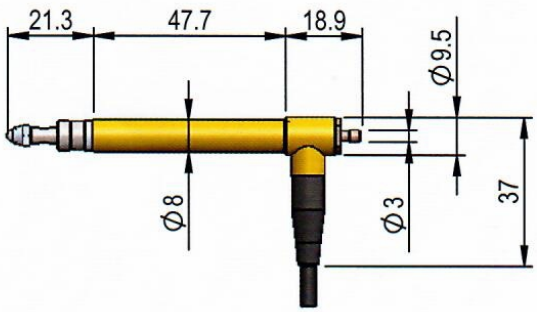
3TLX10RP



3TLX10AL



3TLX10RL



5TLX10 Series

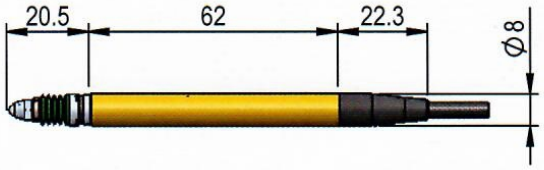
Fullbridge (LVDT) ± 1.0mm Measuring Stroke

Technical Data

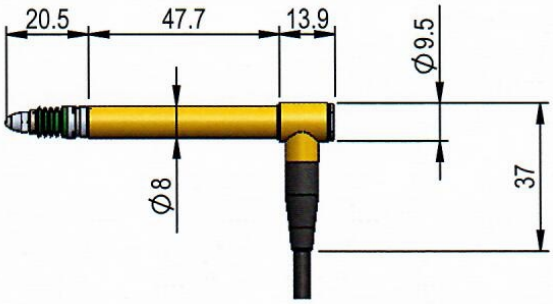
Cable exit: 'A' Axial 'R' Radial	5TLX10A / 5TLX10R	5TLX10AV / 5TLX10RV	5TLX10AP / 5TLX10RP	5TLX10AL / 5TLX10RL
Total stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Pre-travel Default Setting	Adjustable -1.2 mm	Adjustable -1.2 mm	Adjustable +2.8 mm	Adjustable +2.8 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Cable	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20% (at electrical zero), values from 0.25 to 4N as option	0.63 N ±20% (at electrical zero), 0.25N and 1N as option	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 0.8 bar (Both at electrical zero)	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 1.1 bar (Both at electrical zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	150 mV/(Vmm) (into R = 100kOhm)	150 mV/(Vmm) (into R = 100kOhm)	150 mV/(Vmm) (into R = 100kOhm)	150 mV/(Vmm) (into R = 100kOhm)
Drive frequency	5 kHz ± 5%	5 kHz ± 5%	5 kHz ± 5%	5 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Fullbridge (LVDT)	Fullbridge (LVDT)	Fullbridge (LVDT)	Fullbridge (LVDT)
Optional	Marposs® compatible / Mahr® Compatible. Please Contact us for more details			

Drawing (Scale 1:2)

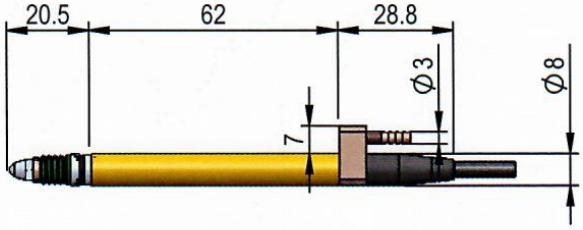
5TLX10A



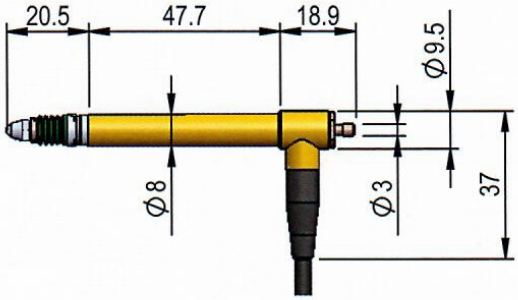
5TLX10R



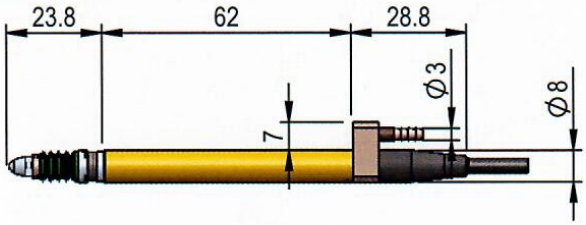
5TLX10AV



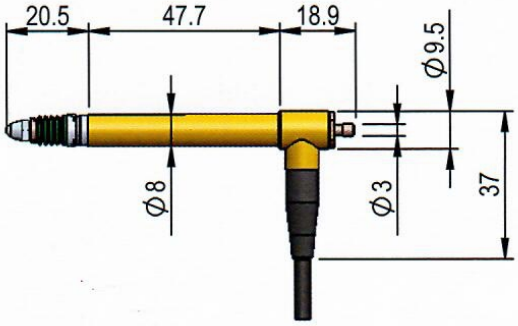
5TLX10RV



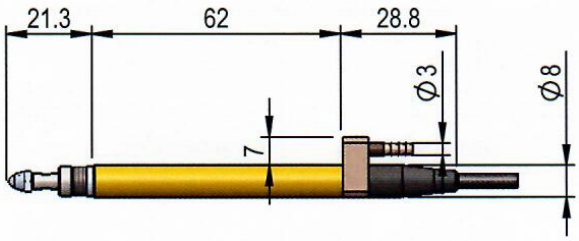
5TLX10AP



5TLX10AP



5TLX10AL



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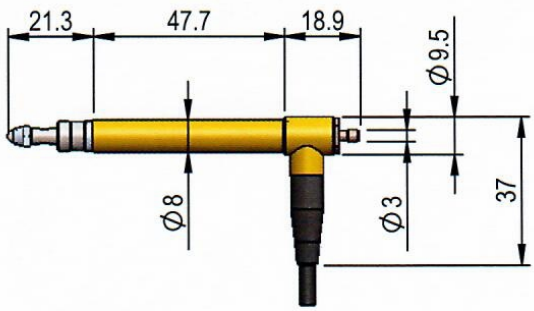


3TL10 Series

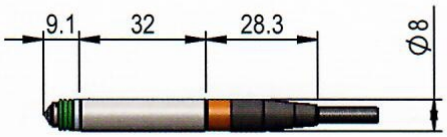
Halfbridge ± 1.0mm Measuring Stroke

Technical Data

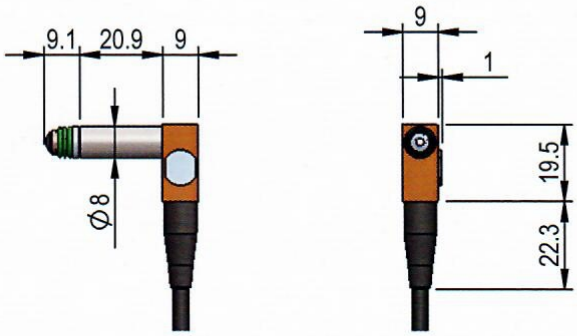
Cable exit: 'A' Axial 'R' Radial	3TL10A / 3TL10R	3TL10RV	3TL10RP	3TL10RL
Total stroke	2.5 mm	2.5 mm	2.5 mm	2.5 mm
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Pre-travel	Not Adjustable	Not Adjustable	Not Adjustable	Not Adjustable
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	2 mm tungsten carbide ball	2 mm tungsten carbide ball	2 mm tungsten carbide ball	2 mm tungsten carbide ball
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Cable	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.4 N ±50% (at electrical zero)	0.4 N ±50% (at electrical zero)	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 0.8 bar (Both at electrical zero)	Approx. 0.6N at 0.8 bar, Approx. 1.0N at 1.1 bar (Both at electrical zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.6 % FS ± 1000 µm range (at 20°C ±1°C)	0.6 % FS ± 1000 µm range (at 20°C ±1°C)	0.6 % FS ± 1000 µm range (at 20°C ±1°C)	0.6 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

Drawing (Scale 1:2)

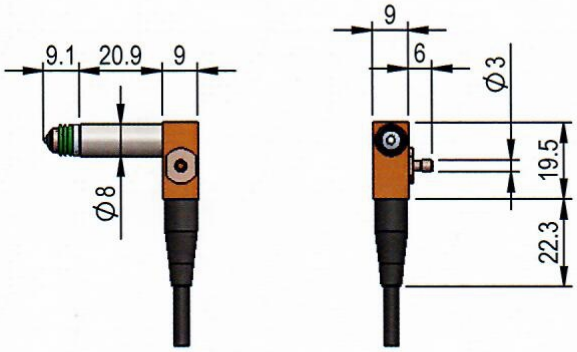
3TL10A



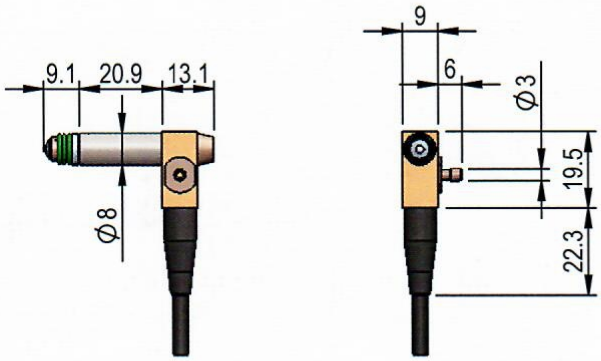
3TL10R



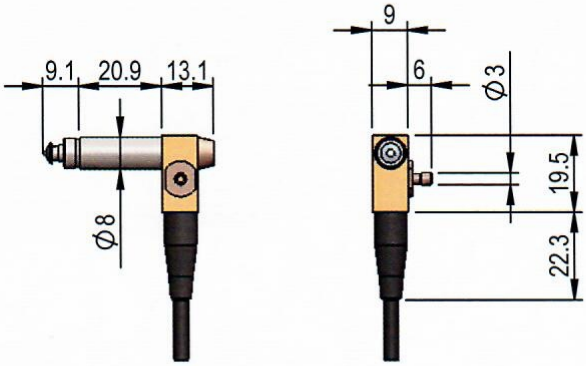
3TL10RV



3TL10RP



3TL10RL



3TLX20 Series

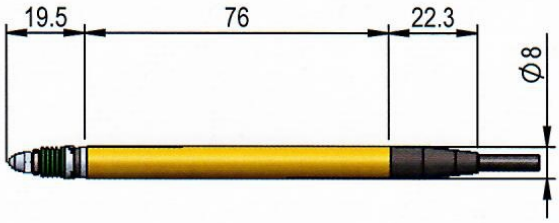
Halfbridge ± 2.0mm Measuring Stroke

Technical Data

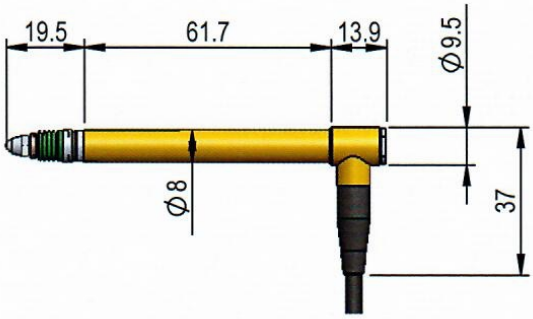
Cable exit: 'A' Axial 'R' Radial	3TLX20A / 3TLX20R	3TLX20AV / 3TLX20RV	3TLX20AP / 3TLX20RP	3TLX20AL / 3TLX20RL
Total stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke (symmetrical)	±2.0 mm	±2.0 mm	±2.0 mm	±2.0 mm
Pre-travel Default Setting	Adjustable -2.25 mm	Adjustable -2.25 mm	Adjustable +2.25 mm	Adjustable +2.25 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Cable	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20% (at electrical zero), values from 0.25 to 4N as option	0.63 N ±20% (at electrical zero), 0.25 and 1N as option	Approx. 0.6N at 0.5 bar, Approx. 1.0N at 0.7 bar (Both at electrical zero)	Approx. 0.6N at 0.8 bar, Approx. 1.0N at 1.1 bar (Both at electrical zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.4 % FS ± 2000 µm range (at 20°C ±1°C)	0.4 % FS ± 2000 µm range (at 20°C ±1°C)	0.4 % FS ± 2000 µm range (at 20°C ±1°C)	0.4 % FS ± 2000 µm range (at 20°C ±1°C)
Sensitivity	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

Drawing (Scale 1:2)

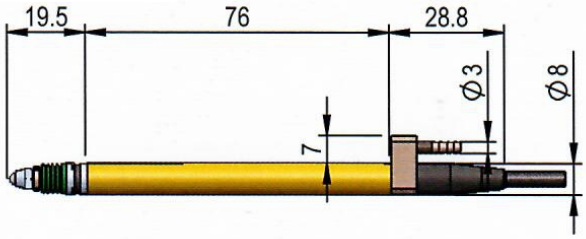
3TLX20A



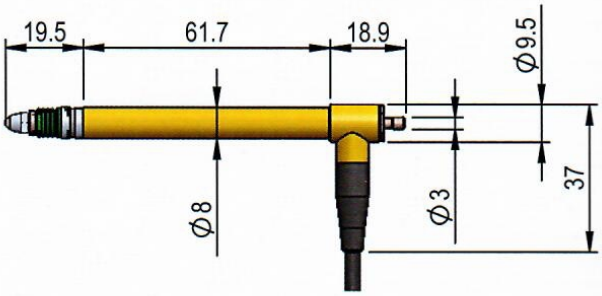
3TLX20R



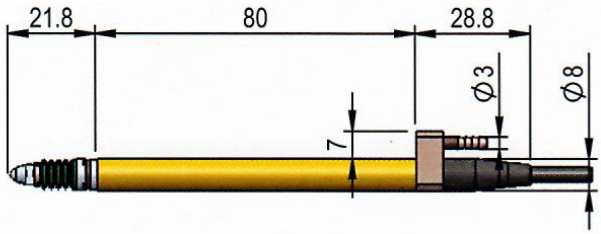
3TLX20AV



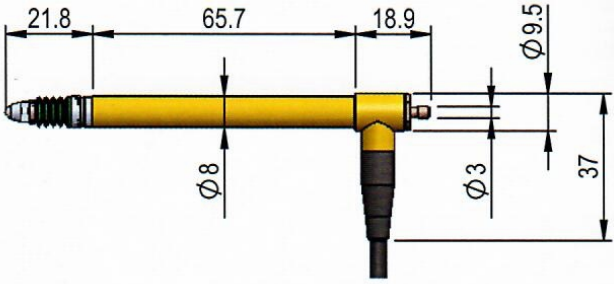
3TLX20RV



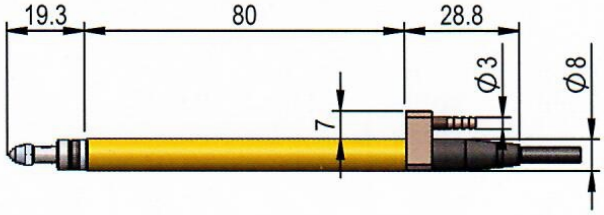
3TLX20AP



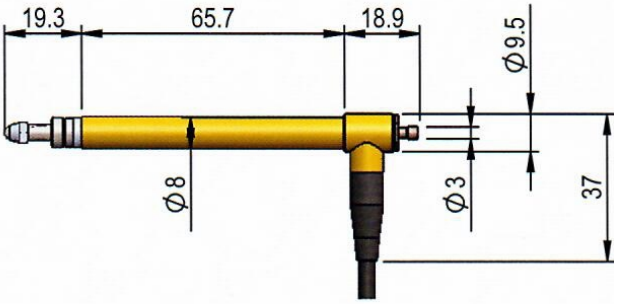
3TLX20RP



3TLX20AL



3TLX20RL



3TL400D & 5TL400D Series

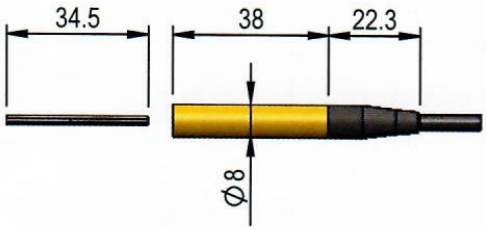
Halfbridge ± 1.0mm Measuring Stroke

Technical Data

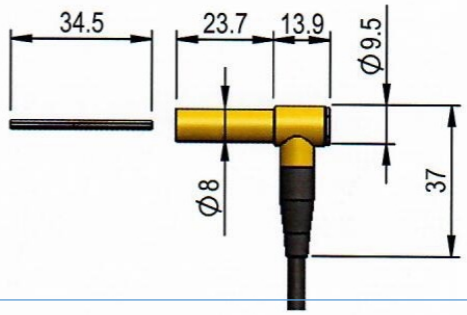
Cable exit: 'A' Axial 'R' Radial	3TL400DA	3TL400DR	5TL400DA	5TL400DR
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Bearing	None / external	None / external	None / external	None / external
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Body diameter	8h6	8h6	8h6	8h6
Cable	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Repeatability	0.01 µm with corresponding external linear bearing	0.01 µm with corresponding external linear bearing	0.01 µm with corresponding external linear bearing	0.01 µm with corresponding external linear bearing
Linearity error	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Fullbridge (TESA® compatible)	Fullbridge (TESA® compatible)

Drawing (Scale 1:2)

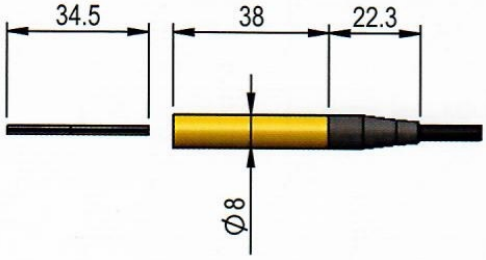
3TL400DA



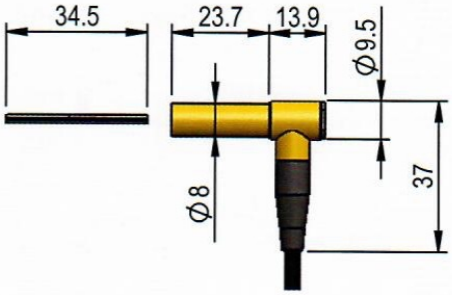
3TL400DR



5TL400DA



5TL400DR



3TLX50 Series

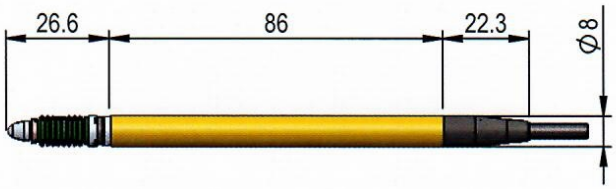
Halfbridge ± 5.0mm Measuring Stroke

Technical Data

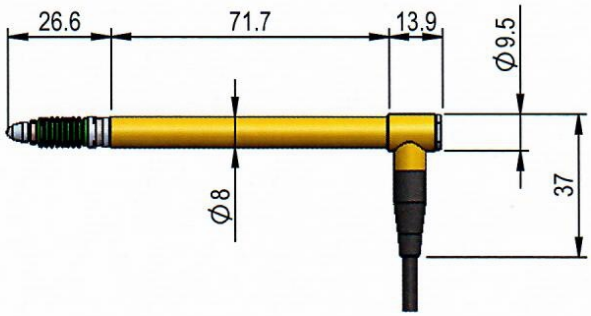
Cable exit: 'A' Axial 'R' Radial	3TLX50A / 3TLX50R	3TLX50AV / 3TLX50RV	3TLX50AP / 3TLX50RP	3TLX50AL / 3TLX50RL
Total stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke (symmetrical)	±5.0 mm	±5.0 mm	±5.0 mm	±5.0 mm
Pre-travel Default Setting	Adjustable -5.5 mm	Adjustable -5.5 mm	Adjustable +5.5 mm	Adjustable +5.5 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Cable	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15% (at electrical zero), 1.6N as option	1 N ±15% (at electrical zero), 1.6N as option	1.5 N at 0.9 bar 2.0N at 1.2 bar (both at electrical zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (both at electrical zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.8 % FS ± 5000 µm range (at 20°C ±1°C)	0.8 % FS ± 5000 µm range (at 20°C ±1°C)	0.8 % FS ± 5000 µm range (at 20°C ±1°C)	0.8 % FS ± 5000 µm range (at 20°C ±1°C)
Sensitivity	**Standard setting 1:10** 7.38 ± 0.02 mV/(Vmm) (into R = 2kOhm ±0.1%) **Optional Setting 1:5** 14.76 ± 0.04 mV / (Vmm) (into R = 2KOhm ±0.1%)	**Standard setting 1:10** 7.38 ± 0.02 mV/(Vmm) (into R = 2kOhm ±0.1%) **Optional Setting 1:5** 14.76 ± 0.04 mV / (Vmm) (into R = 2KOhm ±0.1%)	**Standard setting 1:10** 7.38 ± 0.02 mV/(Vmm) (into R = 2kOhm ±0.1%) **Optional Setting 1:5** 14.76 ± 0.04 mV / (Vmm) (into R = 2KOhm ±0.1%)	**Standard setting 1:10** 7.38 ± 0.02 mV/(Vmm) (into R = 2kOhm ±0.1%) **Optional Setting 1:5** 14.76 ± 0.04 mV / (Vmm) (into R = 2KOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

Drawing (Scale 1:2)

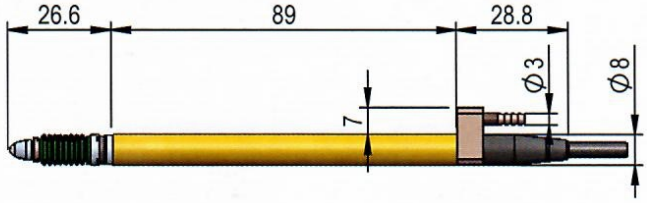
3TLX50A



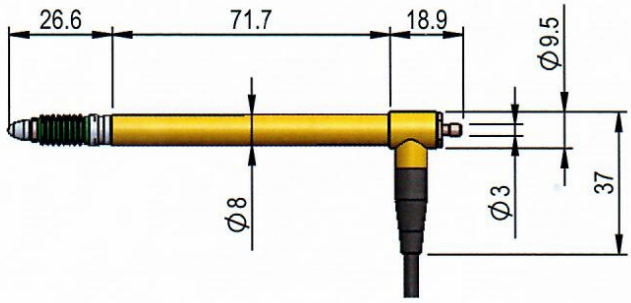
3TLX50R



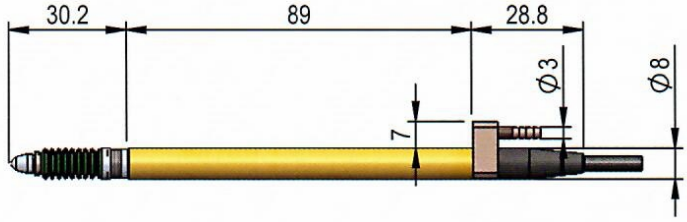
3TLX50AV



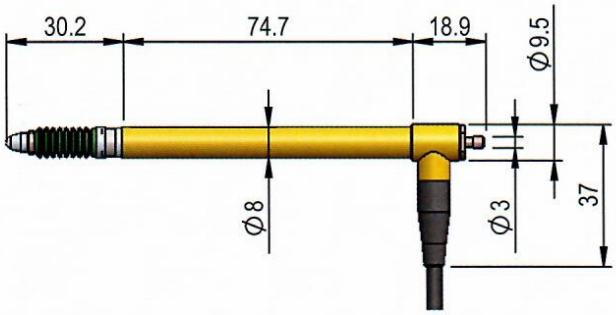
3TLX50RV



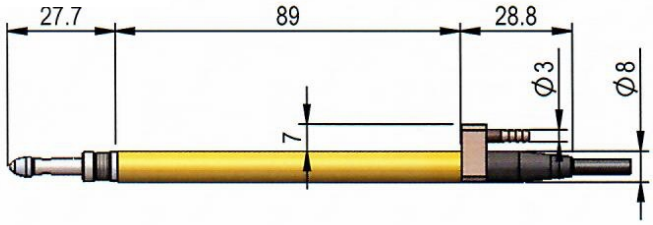
3TLX50AP



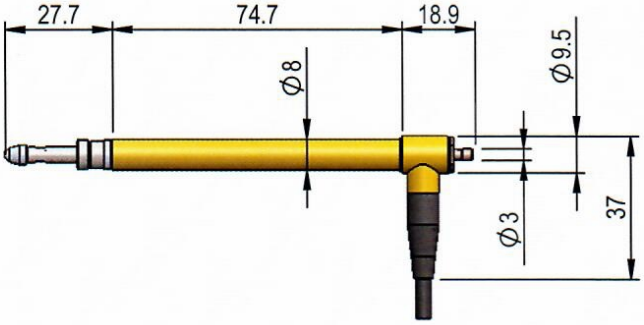
3TLX50RP



3TLX50AL



3TLX50RL



3TLX50/2 Series

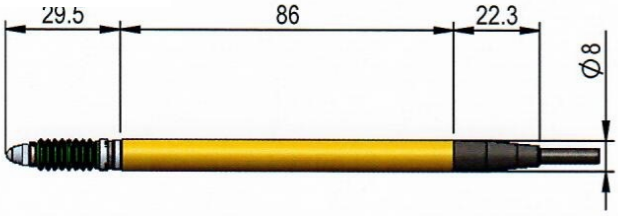
8mm after electrical zero, Halfbridge ± 2.0mm Measuring Stroke, setting 1:2

Technical Data

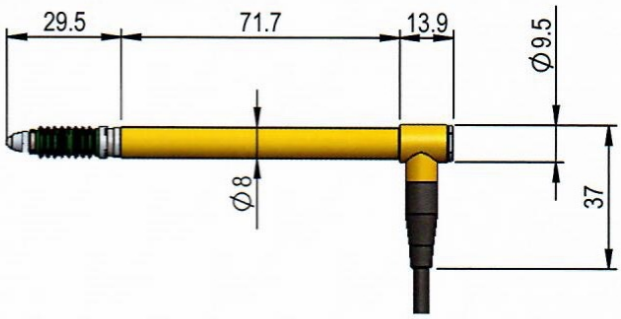
Cable exit: 'A' Axial 'R' Radial	3TLX50/2A / 3TLX50/2R	3TLX50/2AV / 3TLX50/2RV	3TLX50/2AP / 3TLX50/2RP	3TLX50/2AL / 3TLX50/2RL
Total stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke (symmetrical)	±2.0 mm	±2.0 mm	±2.0 mm	±2.0 mm
Pre-travel Default Setting	Adjustable -2.25 mm	Adjustable -2.25 mm	Adjustable +8 mm	Adjustable +8 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Cable	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15% (at electrical zero), 1.6N as option	1 N ±15% (at electrical zero), 1.6N as option	1.5 N at 0.9 bar 2.0N at 1.2 bar (both at electrical zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (both at electrical zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.5 % FS ± 2000 µm range (at 20°C ±1°C)	0.5 % FS ± 2000 µm range (at 20°C ±1°C)	0.5 % FS ± 2000 µm range (at 20°C ±1°C)	0.5 % FS ± 2000 µm range (at 20°C ±1°C)
Sensitivity	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

Drawing (Scale 1:2)

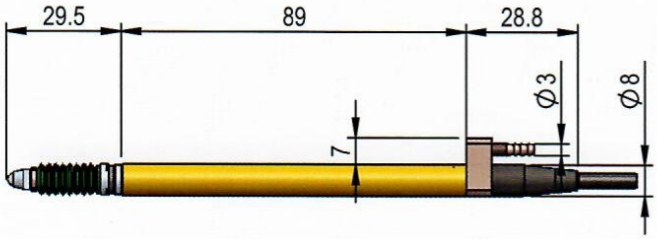
3TLX50/2A



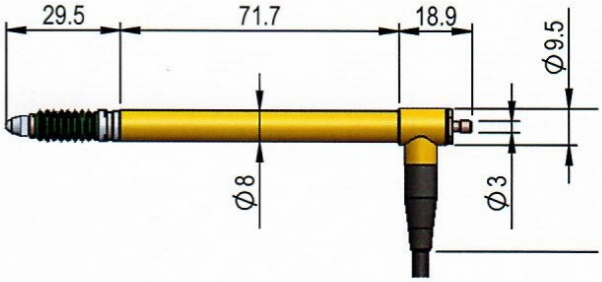
3TLX50/2R



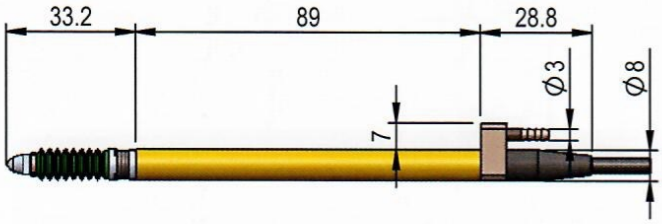
3TLX50/2AV



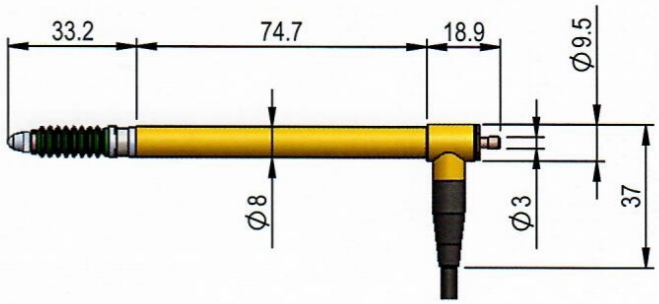
3TLX50/2RV



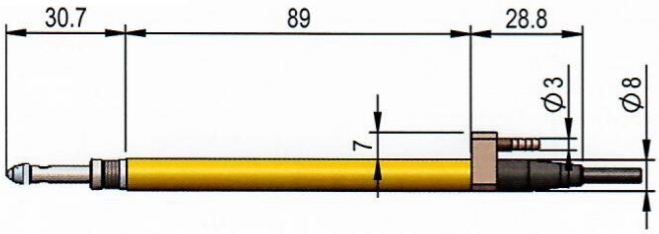
3TLX50/2AP



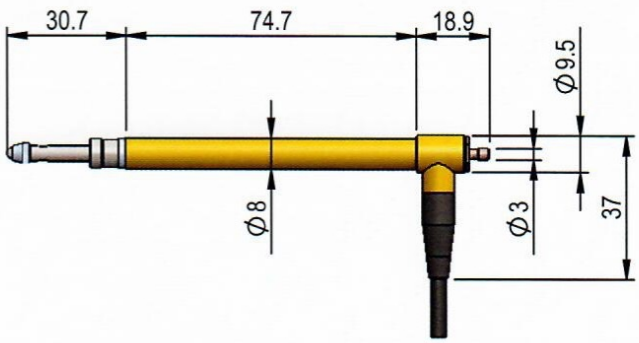
3TLX50/2RP



3TLX50/2AL



3TLX50/2RL



3TLX50/1 Series

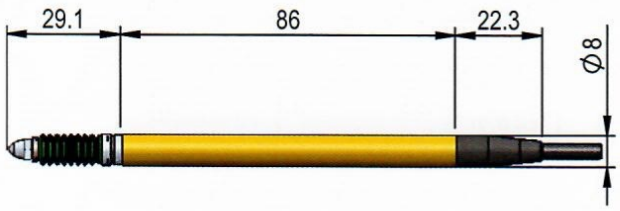
8mm after electrical zero, Halfbridge ± 2.0mm Measuring Stroke, setting 1:1

Technical Data

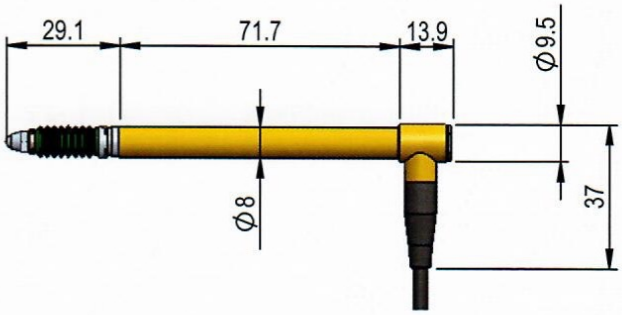
Cable exit: 'A' Axial 'R' Radial	3TLX50/1A / 3TLX50/1R	3TLX50/1AV / 3TLX50/1RV	3TLX50/1AP / 3TLX50/1RP	3TLX50/1AL / 3TLX50/1RL
Total stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Pre-travel Default Setting	Adjustable -2.25 mm	Adjustable -2.25 mm	Adjustable +8 mm	Adjustable +8 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Cable	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15% (at electrical zero), 1.6N as option	1 N ±15% (at electrical zero), 1.6N as option	1.5 N at 0.9 bar 2.0N at 1.2 bar (both at electrical zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (both at electrical zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

Drawing (Scale 1:2)

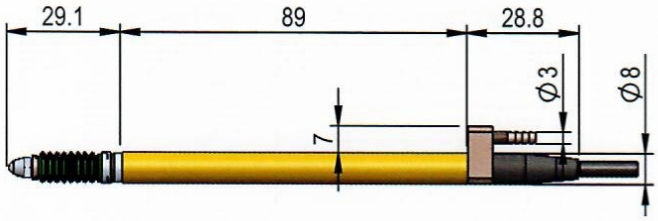
3TLX50/1A



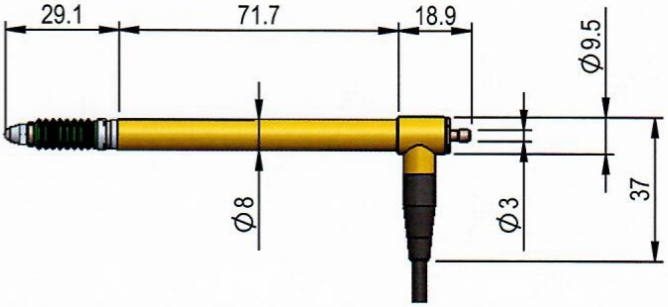
3TLX50/1R



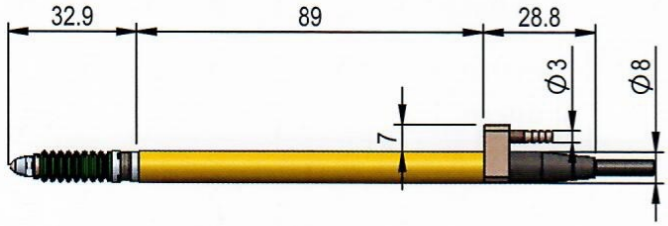
3TLX50/1AV



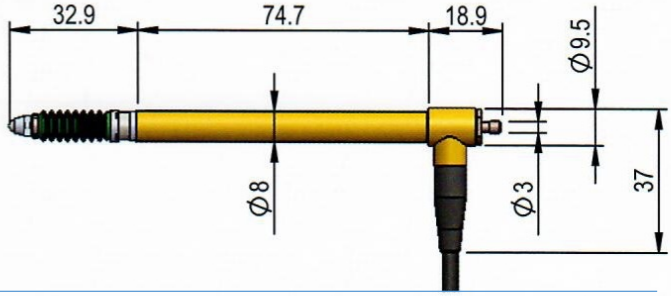
3TLX50/1RV



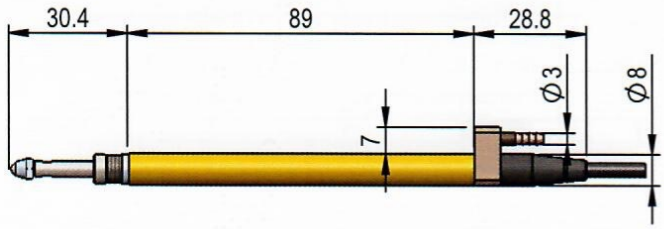
3TLX50/1AP



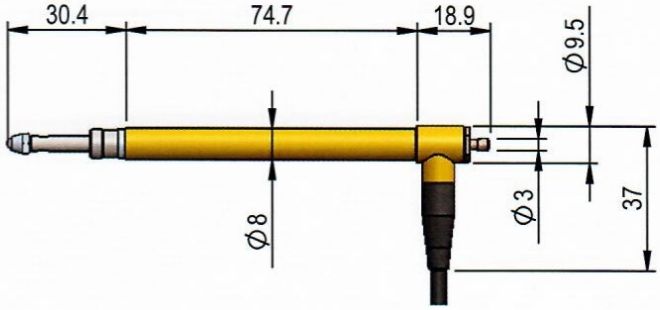
3TLX50/1RP



3TLX50/1AL



3TLX50/1RL



3BG10 / 5BG10 Series

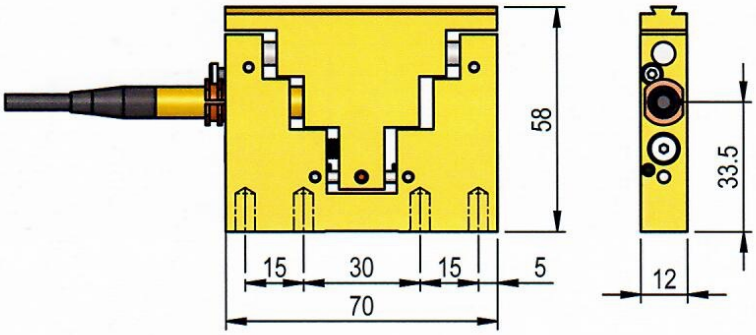
3BG10 Series Halfbridge / 5BG10 Series Fullbridge (LVDT)
± 1.0mm Measuring Stroke

Technical Data

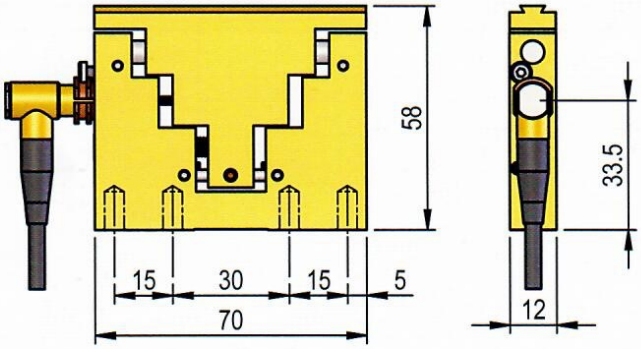
Cable exit: 'A' Axial 'R' Radial	3BG10A	3BG10R	5BG10A	5BG10R
Total stroke	6.0 mm	6.0 mm	6.0 mm	6.0 mm
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Pre-travel Default Setting	Adjustable -1.2 mm	Adjustable -1.2 mm	Adjustable +2.8 mm	Adjustable +2.8 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	Mountable	Mountable	Mountable	Mountable
Dimension	70 x 58 x 12 mm	70 x 58 x 12 mm	70 x 58 x 12 mm	70 x 58 x 12 mm
Cable	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m	PUR shielded, length 2m
Plug	5 pin, 270°	5 pin, 270°	5 pin, 270°	5 pin, 270°
Advance	Mountable	Mountable	Mountable	Mountable
Spring rate	1 N ± 15% (at electrical zero), 1.6 N as option	1 N ± 15% (at electrical zero), 1.6 N as option	1 N ± 15% (at electrical zero), 1.6 N as option	1 N ± 15% (at electrical zero), 1.6 N as option
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Fullbridge (LVDT)	Fullbridge (LVDT)

Drawing (Scale 1:2)

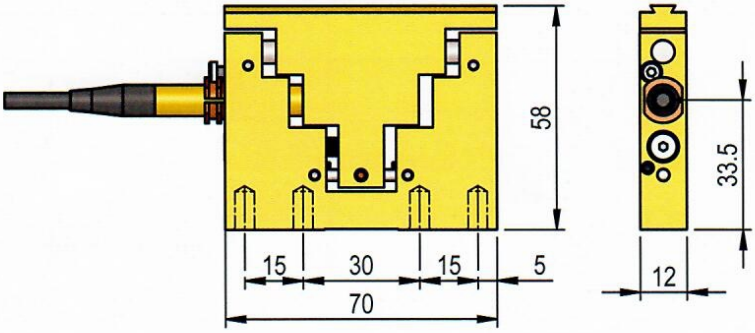
3BG10A



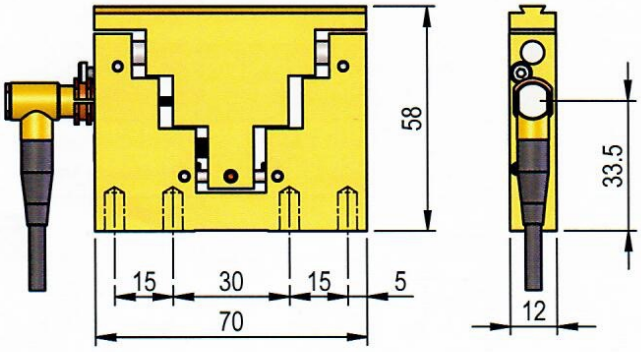
3BG10R



5BG10A



5BG10R



Pluggable Transducers

Overview Sheet

3TL series transducer with pluggable connection cable for an easy change and replacement, Alignment transducer

Spring Push	Vacuum Retract	Pneumatic Push Bellow Sealed	Pneumatic Push Air Gap Seal	Short Description
3TLX07-PLG	3TLX07V-PLG	3TLX07P-PLG	3TLX07L-PLG	Halfbridge ±1 mm measuring stroke (TESA® compatible)
3TLX10-PLG	3TLX10V-PLG	3TLX10P-PLG	3TLX10L-PLG	Halfbridge ±1 mm measuring stroke (TESA® compatible)
3TL10-PLG	3TL10V-PLG	3TL10P-PLG	3TL10L-PLG	Halfbridge ±1 mm measuring stroke (TESA® compatible)
3TLX20-PLG	3TLX20V-PLG	3TLX20P-PLG	3TLX20L-PLG	Halfbridge ±2 mm measuring stroke (TESA® compatible)
3TLX50-PLG	3TLX50V-PLG	3TLX50P-PLG	3TLX50L-PLG	Halfbridge ±5 mm measuring stroke (TESA® compatible)
3TLX50/2-PLG	3TLX50/2V-PLG	3TLX50/2P-PLG	3TLX50/2L-PLG	Halfbridge ±2 mm measuring stroke, 8mm after electrical Zero, Setting 1:1 (TESA® compatible)
3TLX50/1-PLG	3TLX50/1V-PLG	3TLX50/1P-PLG	3TLX50/1L-PLG	Halfbridge ±1 mm measuring stroke, 8mm after electrical Zero, Setting 1:1 (TESA® compatible)

Transducer pluggable, sensor plug M8, 4 pins with screw lock

Application	The same as standard Transducers
Body diameter	8h6
Connection	Connection to Transducer Sensor plug M8, 4 pins with screw interlock (Cable tap 180° / 90°)
	Cable PUR, length 2M or 5M
	Connection to electronic DIN plug 5 Pol, 270°

3TLX07-PLG Series

Halfbridge ± 1.0mm Measuring Stroke

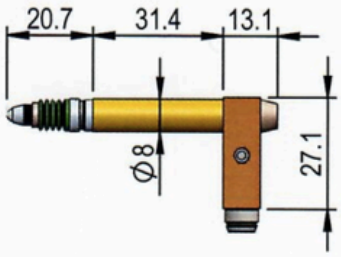
Technical Data

	3TLX07-PLG	3TLX07V-PLG	3TLX07P-PLG	3TLX07L-PLG
Total stroke	2.2 mm	2.2 mm	2.2 mm	4.6 mm
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Pre-travel Default Setting	Adjustable -1.1 mm	Adjustable -1.1 mm	Adjustable +1.1 mm	Adjustable +1.1 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 Sensor plug	M8 Sensor plug	M8 Sensor plug	M8 Sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20% (at electrical zero)	0.63 N ±20% (at electrical zero)	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 0.8 bar (Both at electrical zero)	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 1.1 bar (Both at electrical zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

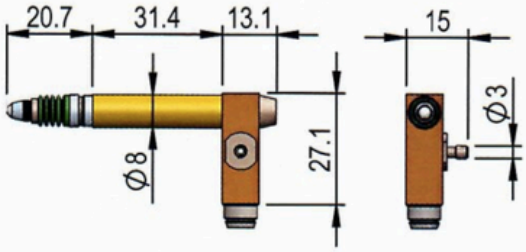
Please note if a cable is required when ordering state which is required (Axial or Radial)

Drawing (Scale 1:2)

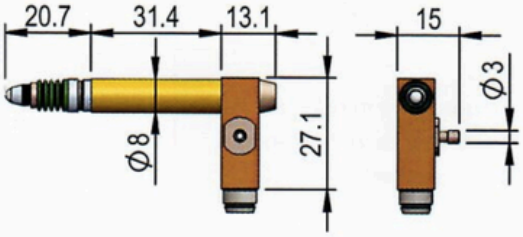
3TLX07-PLG



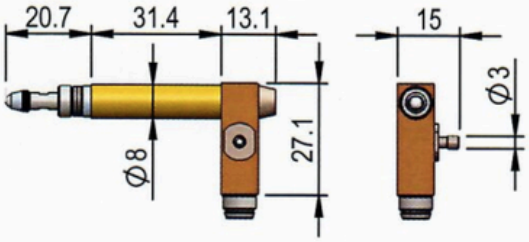
3TLX07V-PLG



3TLX07P-PLG

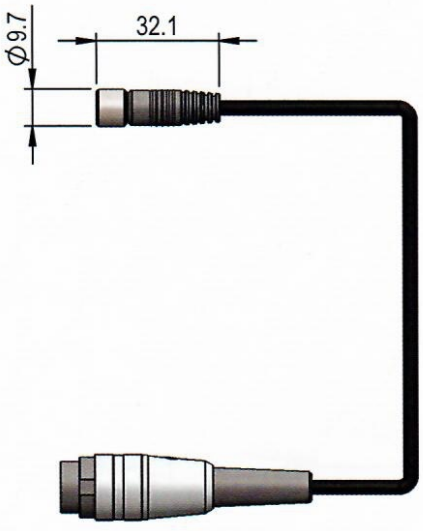


3TLX07L-PLG



Connection cable for pluggable transducers (Drawing 1:2)

Axial cable exit



Cable Exit	Length
Axial	2 m

3TLX10-PLG Series

Halfbridge ± 1.0mm Measuring Stroke

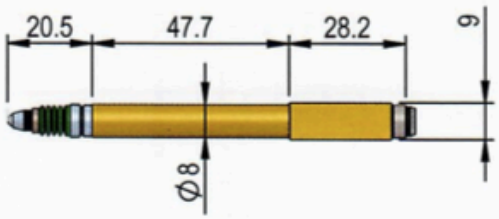
Technical Data

	3TLX10-PLG	3TLX10V-PLG	3TLX10P-PLG	3TLX10L-PLG
Total stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Pre-travel Default Setting	Adjustable -1.2 mm	Adjustable -1.2 mm	Adjustable +2.8 mm	Adjustable +2.8 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 Sensor plug	M8 Sensor plug	M8 Sensor plug	M8 Sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20% (at electrical zero), values from 0.25 to 4N as option	0.63 N ±20% (at electrical zero), 0.25 and 1N as option	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 0.8 bar (Both at electrical zero)	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 1.1 bar (Both at electrical zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

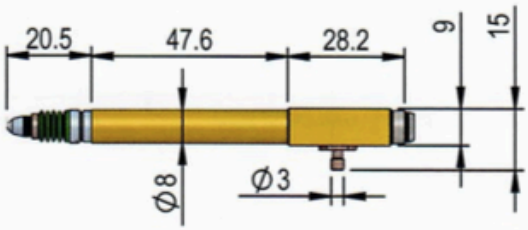
Please note if a cable is required when ordering state which is required (Axial or Radial)

Drawing (Scale 1:2)

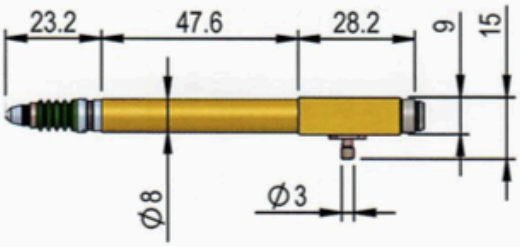
3TLX10-PLG



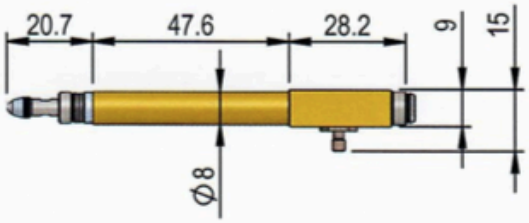
3TLX10V-PLG



3TLX10P-PLG



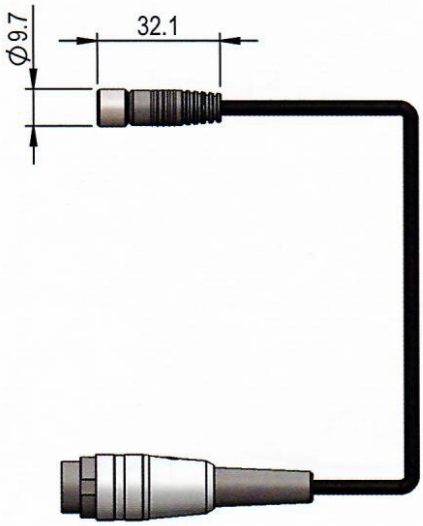
3TLX10L-PLG



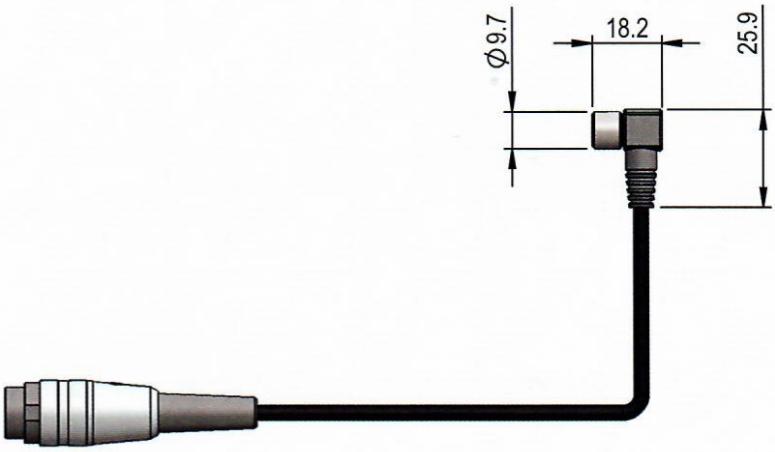
Connection cable for pluggable transducers (Drawing 1:2)

Cable Exit	Length
Axial	2 m
Radial	2 m

Axial cable exit



Radial cable exit



3TL10-PLG Series

Halfbridge ± 1.0mm Measuring Stroke

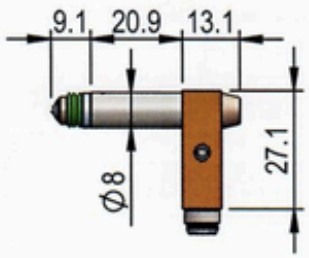
Technical Data

	3TL10-PLG	3TL10V-PLG	3TL10P-PLG	3TL10L-PLG
Total stroke	2.5 mm	2.5 mm	2.5 mm	2.5 mm
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Pre-travel	Not Adjustable	Not Adjustable	Not Adjustable	Not Adjustable
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	2 mm tungsten carbide ball	2 mm tungsten carbide ball	2 mm tungsten carbide ball	2 mm tungsten carbide ball
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.4 N ±50% (at electrical zero)	0.4 N ±50% (at electrical zero)	Approx. 0.6N at 0.6 bar, Approx. 1.0N at 0.8 bar (Both at electrical zero)	Approx. 0.6N at 0.8 bar, Approx. 1.0N at 1.1 bar (Both at electrical zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.6 % FS ± 1000 µm range (at 20°C ±1°C)	0.6 % FS ± 1000 µm range (at 20°C ±1°C)	0.6 % FS ± 1000 µm range (at 20°C ±1°C)	0.6 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

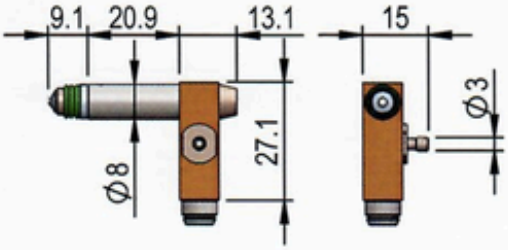
Please note if a cable is required when ordering state which is required (Axial)

Drawing (Scale 1:2)

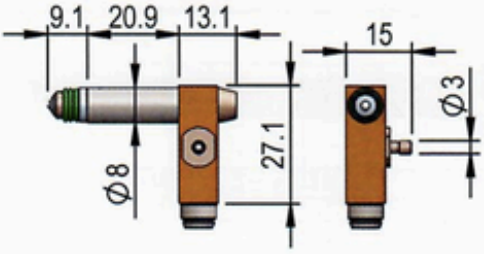
3TL10-PLG



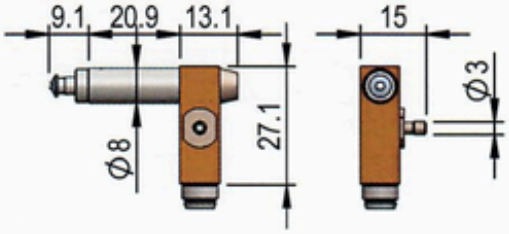
3TL10V-PLG



3TL10P-PLG



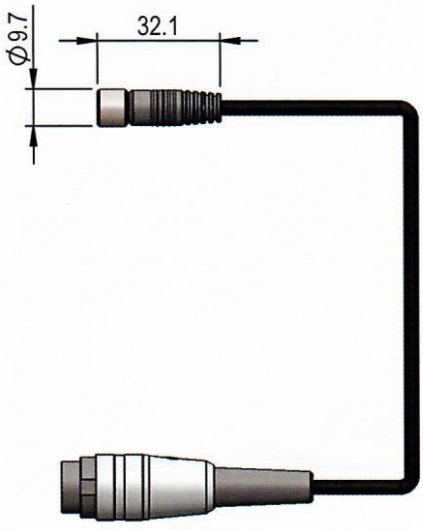
3TL10L-PLG



Connection cable for pluggable transducers (Drawing 1:2)

Cable Exit	Length
Axial	2 m

Axial cable exit



3TLX20-PLG Series

Halfbridge ± 2.0mm Measuring Stroke

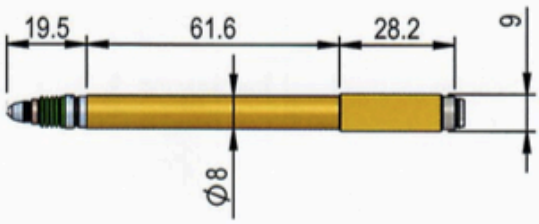
Technical Data

	3TLX20-PLG	3TLX20V-PLG	3TLX20P-PLG	3TLX20L-PLG
Total stroke	4.6 mm	4.6 mm	4.6 mm	4.6 mm
Measuring stroke (symmetrical)	±2.0 mm	±2.0 mm	±2.0 mm	±2.0 mm
Pre-travel Default Setting	Adjustable -2.25 mm	Adjustable -2.25 mm	Adjustable +2.25 mm	Adjustable +2.25 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	0.63 N ±20% (at electrical zero), values from 0.25 to 4N as option	0.63 N ±20% (at electrical zero), 0.25 and 1N as option	Approx. 0.6N at 0.5 bar, Approx. 1.0N at 0.7 bar (Both at electrical zero)	Approx. 0.6N at 0.8 bar, Approx. 1.0N at 1.1 bar (Both at electrical zero)
Repeatability	0.01 µm	0.01 µm	0.01 µm	0.01 µm
Linearity error	0.4 % FS ± 2000 µm range (at 20°C ±1°C)	0.4 % FS ± 2000 µm range (at 20°C ±1°C)	0.4 % FS ± 2000 µm range (at 20°C ±1°C)	0.4 % FS ± 2000 µm range (at 20°C ±1°C)
Sensitivity	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

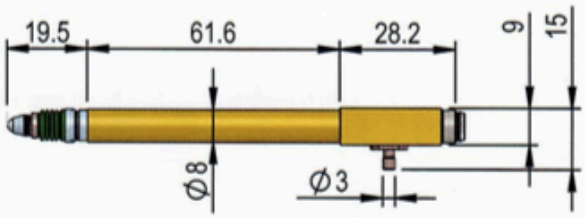
Please note if a cable is required when ordering state which is required (Axial or Radial)

Drawing (Scale 1:2)

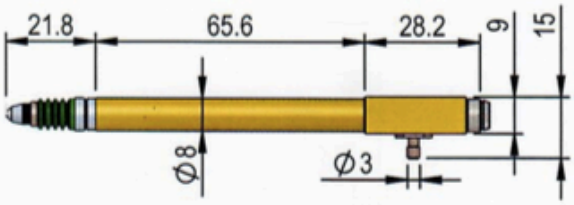
3TLX20-PLG



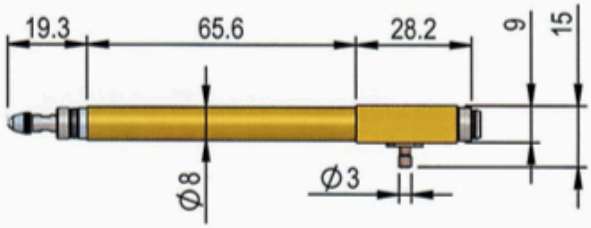
3TLX20V-PLG



3TLX20P-PLG



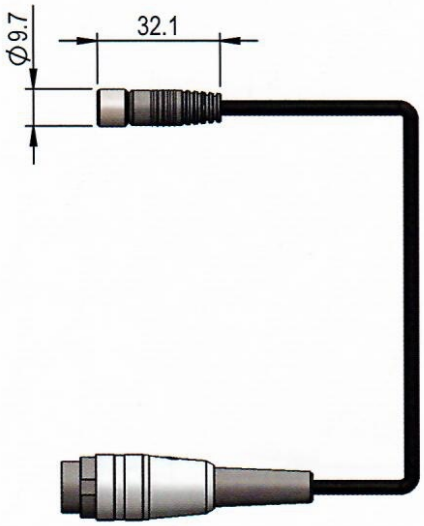
3TLX20L-PLG



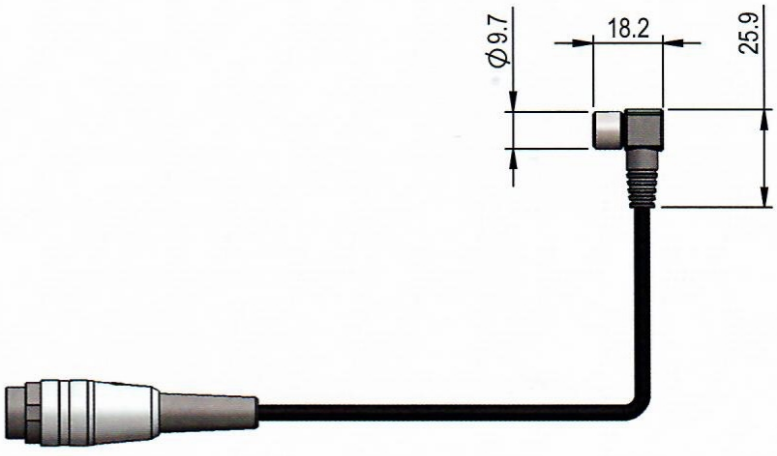
Connection cable for pluggable transducers (Drawing 1:2)

Cable Exit	Length
Axial	2 m
Radial	2 m

Axial cable exit



Radial cable exit



3TLX50-PLG Series

Halfbridge ± 5.0mm Measuring Stroke

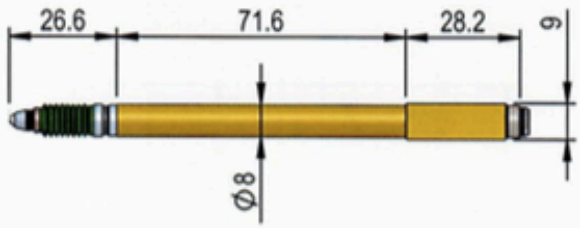
Technical Data

	3TLX50-PLG	**3TLX50V-PLG**	**3TLX50P-PLG**	**3TLX50L-PLG**
Total stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke (symmetrical)	±5.0 mm	±5.0 mm	±5.0 mm	±5.0 mm
Pre-travel **Default Setting**	Adjustable -5.5 mm	Adjustable -5.5 mm	Adjustable +5.5 mm	Adjustable +5.5 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15% (at electrical zero), 1.6N as option	1 N ±15% (at electrical zero), 1.6N as option	1.5 N at 0.9 bar 2.0N at 1.2 bar (both at electrical zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (both at electrical zero)
Repeatability	0.02 μm	0.02 μm	0.02 μm	0.02 μm
Linearity error	0.8 % FS ± 5000 μm range (at 20°C ±1°C)	0.8 % FS ± 5000 μm range (at 20°C ±1°C)	0.8 % FS ± 5000 μm range (at 20°C ±1°C)	0.8 % FS ± 5000 μm range (at 20°C ±1°C)
Sensitivity	**Standard setting 1:10** 7.38 ± 0.02 mV/(Vmm) (into R = 2kOhm ±0.1%) **Optional Setting 1:5** 14.76 ± 0.04 mV / (Vmm) (into R = 2KOhm ±0.1%)	**Standard setting 1:10** 7.38 ± 0.02 mV/(Vmm) (into R = 2kOhm ±0.1%) **Optional Setting 1:5** 14.76 ± 0.04 mV / (Vmm) (into R = 2KOhm ±0.1%)	**Standard setting 1:10** 7.38 ± 0.02 mV/(Vmm) (into R = 2kOhm ±0.1%) **Optional Setting 1:5** 14.76 ± 0.04 mV / (Vmm) (into R = 2KOhm ±0.1%)	**Standard setting 1:10** 7.38 ± 0.02 mV/(Vmm) (into R = 2kOhm ±0.1%) **Optional Setting 1:5** 14.76 ± 0.04 mV / (Vmm) (into R = 2KOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

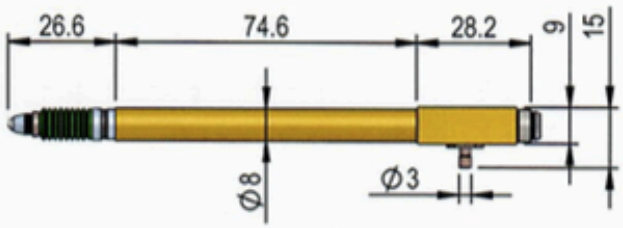
Please note if a cable is required when ordering state which is required (Axial or Radial)

Drawing (Scale 1:2)

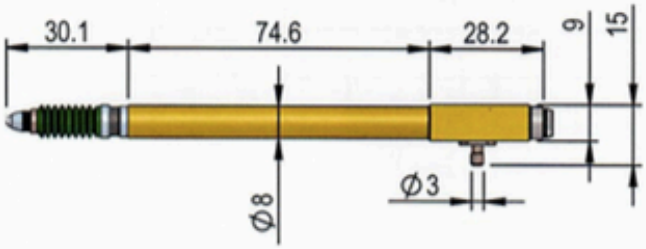
3TLX50-PLG



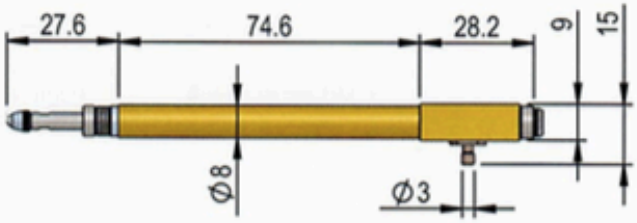
3TLX50V-PLG



3TLX50P-PLG



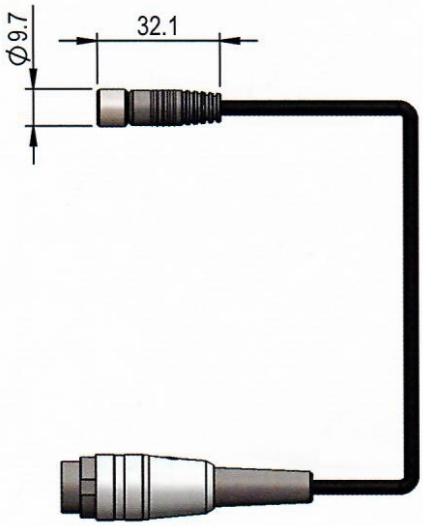
3TLX50L-PLG



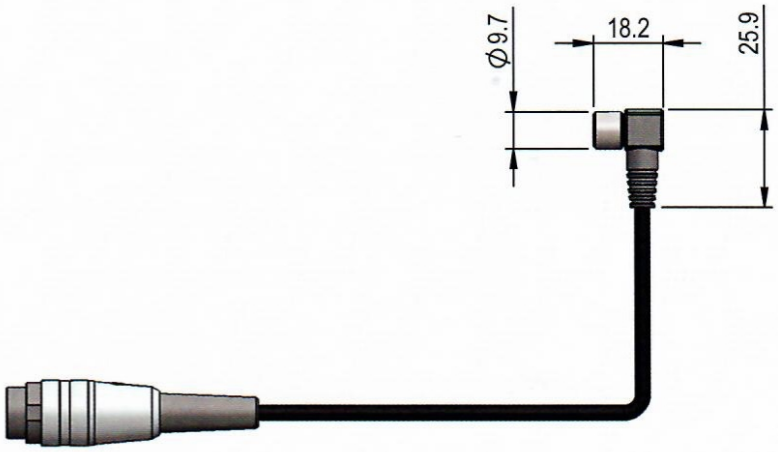
Connection cable for pluggable transducers (Drawing 1:2)

Cable Exit	Length
Axial	2 m
Radial	2 m

Axial cable exit



Radial cable exit



3TLX50/2-PLG Series

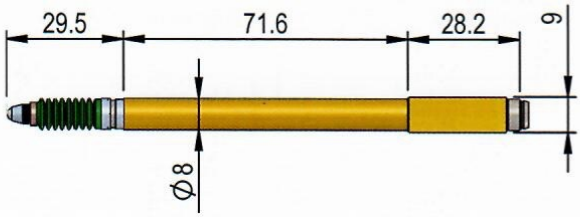
8mm after electrical zero, Halfbridge ± 2.0mm Measuring Stroke, setting 1:2

Technical Data

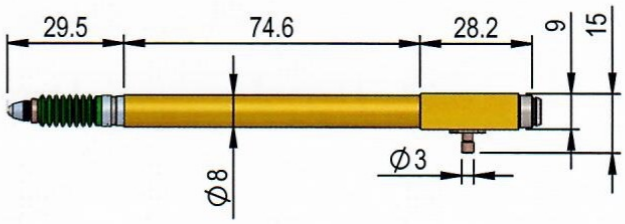
Cable exit: 'A' Axial 'R' Radial	3TLX50/2-PLG	3TLX50/2V-PLG	3TLX50/2P-PLG	3TLX50/2L-PLG
Total stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke (symmetrical)	±2.0 mm	±2.0 mm	±2.0 mm	±2.0 mm
Pre-travel Default Setting	Adjustable -2.25 mm	Adjustable -2.25 mm	Adjustable +8 mm	Adjustable +8 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15% (at electrical zero), 1.6N as option	1 N ±15% (at electrical zero), 1.6N as option	1.5 N at 0.9 bar 2.0N at 1.2 bar (both at electrical zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (both at electrical zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.5 % FS ± 2000 µm range (at 20°C ±1°C)	0.5 % FS ± 2000 µm range (at 20°C ±1°C)	0.5 % FS ± 2000 µm range (at 20°C ±1°C)	0.5 % FS ± 2000 µm range (at 20°C ±1°C)
Sensitivity	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	36.88 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

Drawing (Scale 1:2)

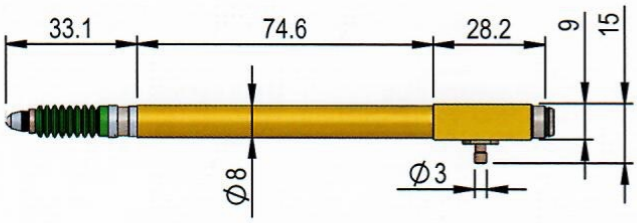
3TLX50/2-PLG



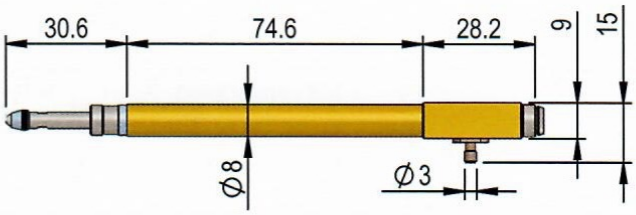
3TLX50/2V-PLG



3TLX50/2P-PLG



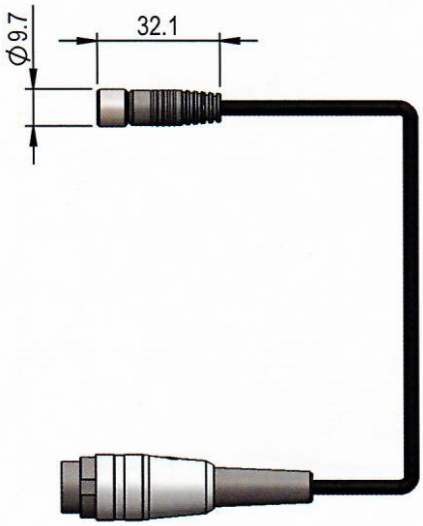
3TLX50/2L-PLG



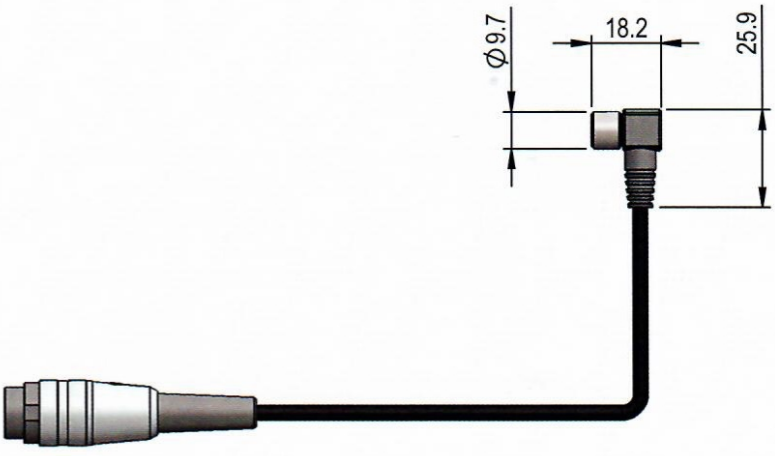
Connection cable for pluggable transducers (Drawing 1:2)

Cable Exit	Length
Axial	2 m
Radial	2 m

Axial cable exit



Radial cable exit



3TLX50/1-PLG Series

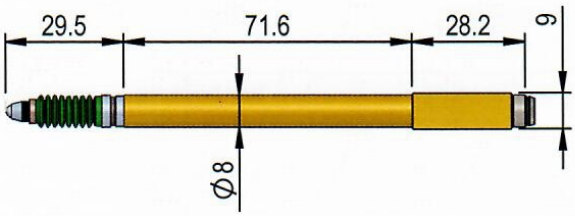
8mm after electrical zero, Halfbridge ± 2.0mm Measuring Stroke, setting 1:1

Technical Data

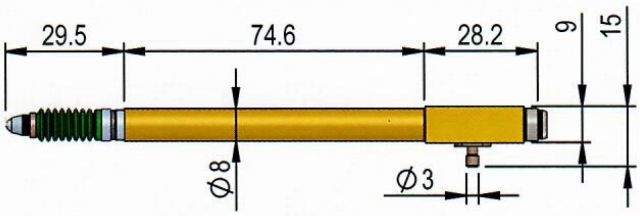
Cable exit: 'A' Axial 'R' Radial	3TLX50/1-PLG	3TLX50/1V-PLG	3TLX50/1P-PLG	3TLX50/1L-PLG
Total stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke (symmetrical)	±1.0 mm	±1.0 mm	±1.0 mm	±1.0 mm
Pre-travel Default Setting	Adjustable -2.25 mm	Adjustable -2.25 mm	Adjustable +8 mm	Adjustable +8 mm
Bearing	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play	ball bearing no side-play
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	M8 sensor plug	M8 sensor plug	M8 sensor plug	M8 sensor plug
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15% (at electrical zero), 1.6N as option	1 N ±15% (at electrical zero), 1.6N as option	1.5 N at 0.9 bar 2.0N at 1.2 bar (both at electrical zero)	1.0 N at 1.3 bar 1.6 N at 1.7 bar (both at electrical zero)
Repeatability	0.02 µm	0.02 µm	0.02 µm	0.02 µm
Linearity error	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)	0.25 % FS ± 1000 µm range (at 20°C ±1°C)
Sensitivity	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)	73.75 ± 0.15 mV/(Vmm) (into R = 2kOhm ±0.1%)
Drive frequency	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%	13 kHz ± 5%
Supply voltage	3.0 V ± 0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ±0.5 % RMS	3.0 V ± 0.5 % RMS
Coil form	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)	Halfbridge (TESA® compatible)

Drawing (Scale 1:2)

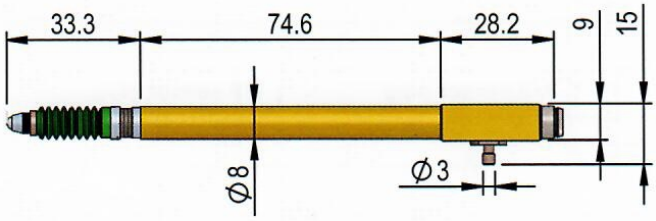
3TLX50/1-PLG



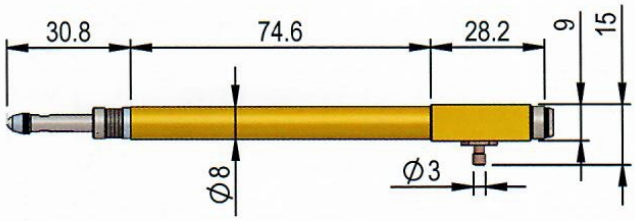
3TLX50/1V-PLG



3TLX50/1P-PLG



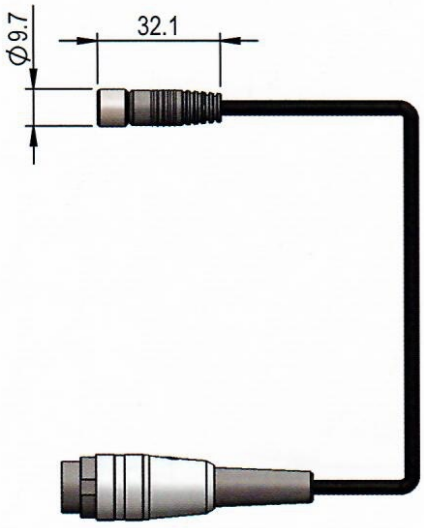
3TLX50/1L-PLG



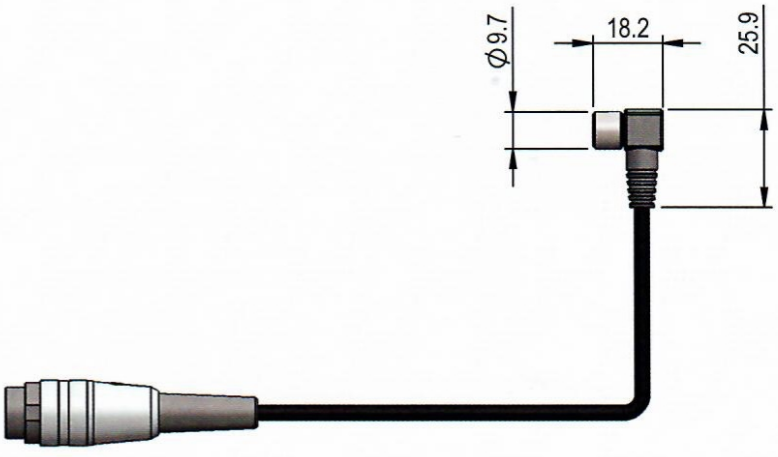
Connection cable for pluggable transducers (Drawing 1:2)

Cable Exit	Length
Axial	2 m
Radial	2 m

Axial cable exit



Radial cable exit



Industrial Series AC LVDT

With M8 Rod End Bearings

Main Features

- **Heavy duty stainless steel construction**
- **Magnetically shielded**
- **Radial exit**
- **Non-captive guided core & extension**
- **Mild steel M8 rod end bearings**
- **Sealed to IP65 or IP68**
- **4 or 8 wire 2M PVC cable**

Technical Data & Options

Product Code	IMT IDT Series (M8)
Stroke	± 0.5 mm to ± 550 mm
Input Voltage	5V RMS @ 3kHz (others available)
Sensitivity	50 – 460mV / V / FRO (dependant on stroke)
Non - Linearity	± 0.5% of full range, (Higher specification can be achieved at extra cost)
Repeatability	Better than 0.1%
Resolution	Infinite (dependent on measuring instrument)
Frequency Response	3dB @ 180Hz (dependent on conditioning unit)
Current Range	0.5 mA – 8mA
Temperature (standard)	-30°C to +85°C
Temperature (high)	-30°C to +150°C
Temperature (very high)	-30°C to +250°C
Vibration Resistance	20G up to 2kHz
Shock Resistance	1000G for milliseconds
Coil Impedance	600Ω + 100Ω (3kHz)
Insulation Resistance	Above 10MΩ at 500VDC (between wires and case)
Dielectric Strength	500V RMS for one minute (between wires and case)
Magnetic Shielding	Internal magnetic shielding
Construction Material	Stainless Steel
Sealing	IP65

Option	Description
J	4 wire device
G	Extension rod wiper
W	Waterproof IP68, with stainless steel M8 rod end bearings
H	High temperature 150°C, with PTFE cable and stainless steel M8 rod bearings
Z	Armoured hose
L	Increased linearity, ±0.25%

Connection Details

4 Wires (PVC or PTFE, High Temperature 150°C)

- Red : Primary +ve
- Yellow : Primary –ve
- Blue : Secondary +ve
- Green : Secondary –ve

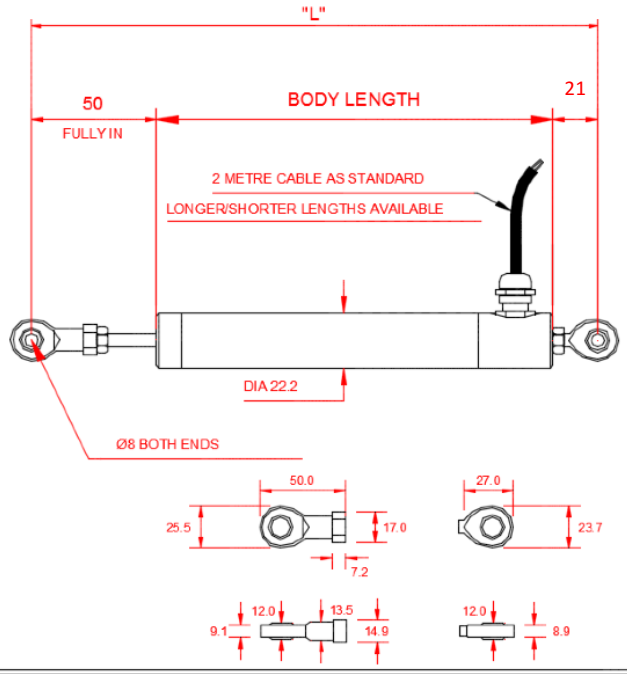
6 Wires (PVC)

- Yellow : Primary +ve
- Black : Primary –ve
- Blue : Secondary 2 –ve (Centre Tap)
- White : Secondary 2 +ve
- Green : Secondary 1 +ve
- Red : Secondary 1 –ve (Centre Tap)

6 Wires (PTFE, High Temperature 150°C)

- Yellow : Primary +ve
- Black : Primary –ve
- Blue : Secondary 2 –ve (Centre Tap)
- Brown : Secondary 2 +ve
- Green : Secondary 1 +ve
- Red : Secondary 1 –ve (Centre Tap)

Dimensions



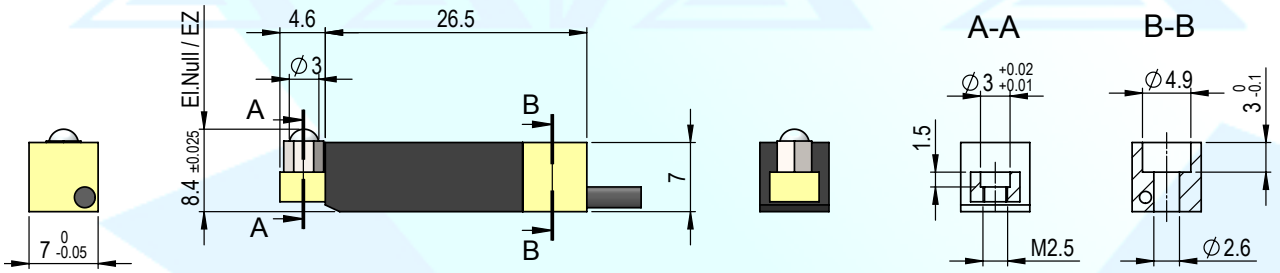
STROKE (mm)	BODY LENGTH (mm)	"L"	SENSITIVITY AT 3KHz WITH 50K LOAD	NULL (mV)	PRIMARY RESISTANCE (OHMS)	SECONDARY RESISTANCE TOTAL (OHMS)
+/-550	1410	1480	430	10	550	1530
+/-500	1410	1480	390	10	550	1530
+/-400	1150	1220	460	20	450	1010
+/-300	920	990	400	5	690	770
+/-250	810	880	350	10	290	560
+/-200	700	770	300	10	250	430
+/-175	615	685	310	2	230	360
+/-150	560	630	330	5	210	290
+/-125	500	570	300	2	180	320
+/-100	450	520	190	5	150	150
+/-75	390	460	350	20	260	460
+/-50	320	390	320	2	200	270
+/-25	235	305	240	5	130	210
+/-15	175	245	230	20	90	190
+/-12.5	160	230	300	15	120	190
+/-10	140	200	280	10	70	170
+/-5	120	190	80	5	100	110
+/-2.5	100	170	90	5	180	460
+/-0.5	80	150	50	20	40	1800

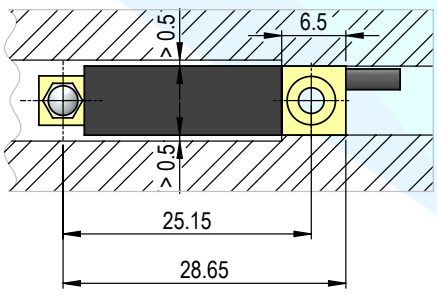
BRG200

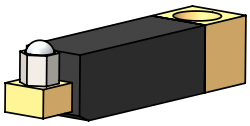
Bore Measuring Transducer with ± 0.2mm Measuring Stroke

Technical Data

	BRG200
Total stroke	0.6 mm
Measuring stroke (symmetrical)	±0.20 mm
Temperature Range	-10 to +65°C, storage and operation
Screw Mounting	M2.5
Mounting Position	any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread, exchangeable
Sleeve and Sealing	FPM
Plug	5 pin, 240°
Cable	PUR shielded, Length 2m
Cable information	Outer -∅2.0, drag chain compatible
Spring rate	1.0 N
Spring rate information	At electrical zero, tolerance ±30%
Repeatability	0.05µm
Linearity error	1.0% FS ±200 µm range (at 20°C ± 1°C)
Sensitivity	73.75 mV/Vmm)
Amplifier input load	2kOhm Input resistance, ± 0.1%
Drive frequency	13.0 kHz ±5%
Supply voltage	3.0V ±0.5% RMS
Coil scheme	Halfbridge, TESA® compatable
Dimensions	7x7x32 mm





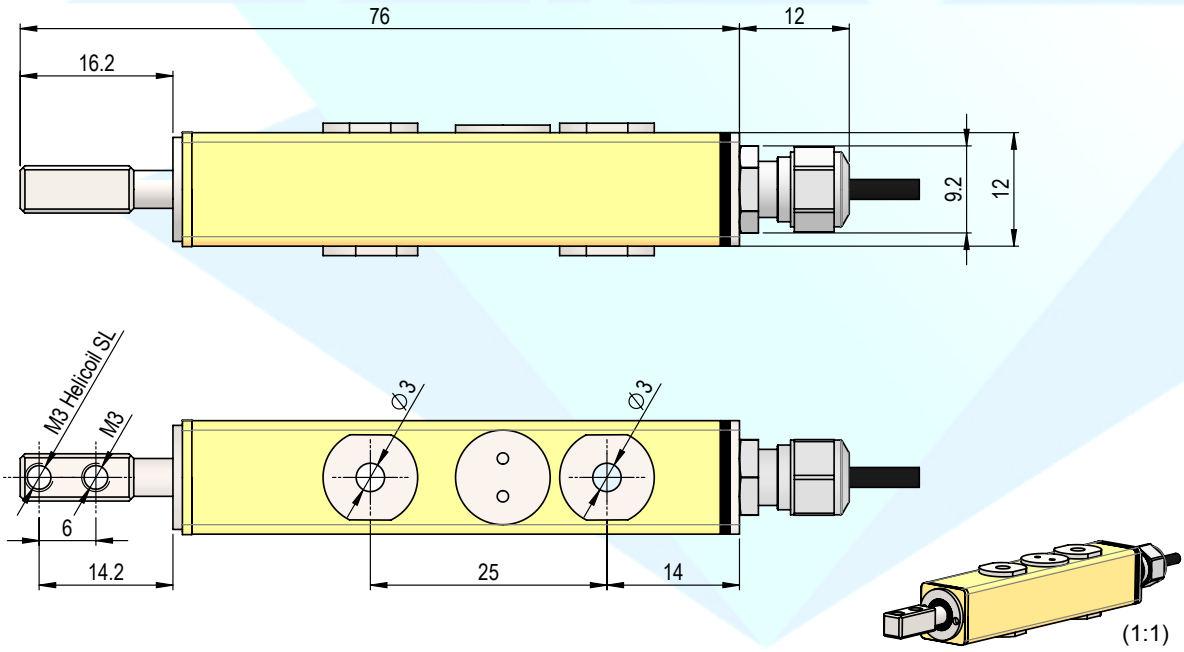


BRG500

Bore Measuring Transducer with ± 0.5mm Measuring Stroke

Technical Data

	BRG500
Total stroke	1.160 mm
Measuring stroke (symmetrical)	±0.50 mm
Temperature Range	-10 to +65°C, storage and operation
Screw Mounting	M3 (2x ∅3.0)
Mounting Position	any
Tip	Not in scope of delivery, on request
Thread for tip	M3 Helicoil Screwlock
Plug	5 pin, 240°
Cable	PUR shielded, Length 2m
Cable information	Outer -∅2.0, drag chain compatible
Spring rate	1.0 N
Spring rate information	At electrical zero, tolerance ±30%
Repeatability	0.05µm
Linearity error	1.0% FS ±500 µm range (at 20°C ± 1°C)
Sensitivity	73.75 mV/Vmm)
Amplifier input load	2kOhm Input resistance, ± 0.1%
Drive frequency	13.0 kHz ±5%
Supply voltage	3.0V ±0.5% RMS
Coil scheme	Halfbridge, TESA® compatible
Dimensions	12x14x76 mm



Digital Transducers

Overview Sheet

Digital Transducer to connect to compatible gateways or electronics

- **Application:**
  - Same as standard Transducers
- **Body Diameter:**
  - 8h6
- **Measuring system:**
  - Inductive Halfbridge coil system with core. Integrated conditioning electronics with system error correction.
- **Connection:**
  - Connection to transducer – Sensor plug M5, 4 pole
  - Cable – PUR, pigtail with 200 mm length
  - Connection to electronics – Sensor plug M8, 4 pole
- **Interface:**
  - Freely documented point-to-point protocol on RS485 base, termination 120 ohm.
  - Connection to sensor with 4 wire cable, M5 plug on the sensor side, M8 plug on the electronic side.
  - Baud rates 9600 bit/s, 115200 bit/s, 10 kbit/s, 500 kbit/s and 1 Mbit/s.
  - Sensor information for test equipment monitoring, SPS-profiles and objects.

Spring Push	Vacuum Retract	Pneumatic Push Bellow Sealed	Pneumatic Push Air Gap Seal	Cable Exit	Short Description
3TLX50A DG 3TLX50R DG	3TLX50AV DG 3TLX50RV DG	3TLX50AP DG 3TLX50RP DG	3TLX50AL DG 3TLX50RL DG	Axial Radial	Inductive Halfbridge ± 5 mm measuring stroke

Connection cable		
PLUG M5	**Plug M8**	**Length**
axial	axial	2.5 m

3TLX50A DG Series

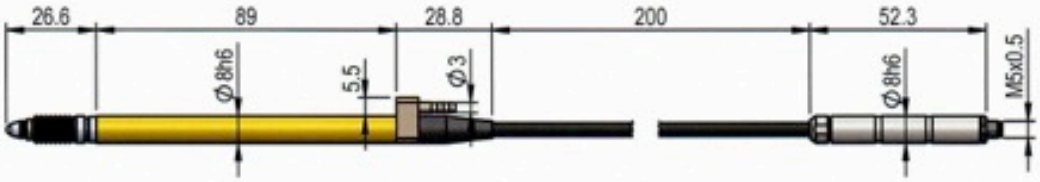
Digital inductive Halfbridge with ± 5.0mm Measuring Stroke

Technical Data

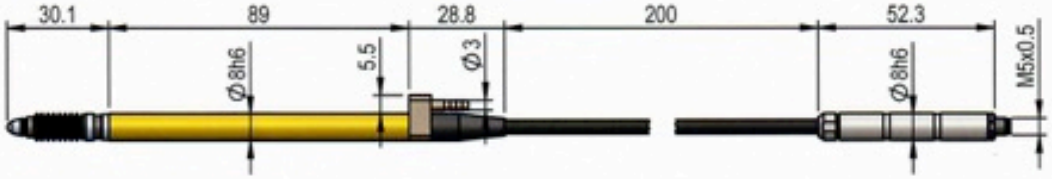
Cable exit: 'A' Axial 'R' Radial	3TLX50A DG	3TLX50AV DG	3TLX50AP DG	3TLX50AL DG
Total stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke (symmetrical)	±5.0 mm	±5.0 mm	±5.0 mm	±5.0 mm
Pre-travel	-5.5 mm	-5.5 mm	+5.5 mm	+5.5 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	DIN M5	DIN M5	DIN M5	DIN M5
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15% (at electrical zero), others as option	1 N ±15% (at electrical zero), others as option	Approx. 1.5 N at 0.9 bar approx. 2.0 N at 1.2 bar (at electrical zero)	Approx. 1.0 N at 1.3 bar approx. 1.6 N at 1.7 bar (at electrical zero)
Measuring system	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge
Repeatability	0.05 µm	0.05 µm	0.05 µm	0.05 µm
Error limit	± 2.0 µm (at 20°C ±1°C)	± 2.0 µm (at 20°C ±1°C)	± 2.0 µm (at 20°C ±1°C)	± 2.0 µm (at 20°C ±1°C)
Interface	Communication protocol for digital IMT transducers	Communication protocol for digital IMT transducers	Communication protocol for digital IMT transducers	Communication protocol for digital IMT transducers
Transfer rate	4000 measuring / sec	4000 measuring / sec	4000 measuring / sec	4000 measuring / sec
Supply / Power consumption	5V 120 mW [Run] 15 mW [Idle]	5V 120 mW [Run] 15 mW [Idle]	5V 120 mW [Run] 15 mW [Idle]	5V 120 mW [Run] 15 mW [Idle]
Repair	Partially possible	Partially possible	Partially possible	Partially possible

3TLX50A DG

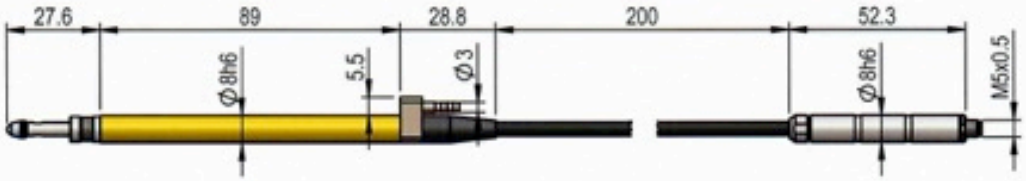
3TLX50AV DG



3TLX50AP DG



3TLX50AL DG



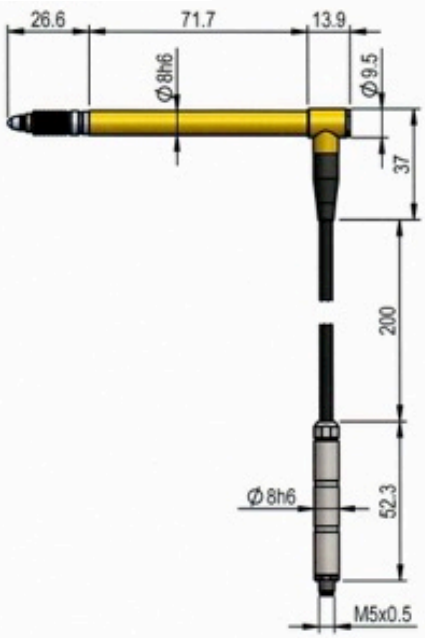
3TLX50R DG Series

Digital inductive Halfbridge with ± 5.0mm Measuring Stroke (Radial)

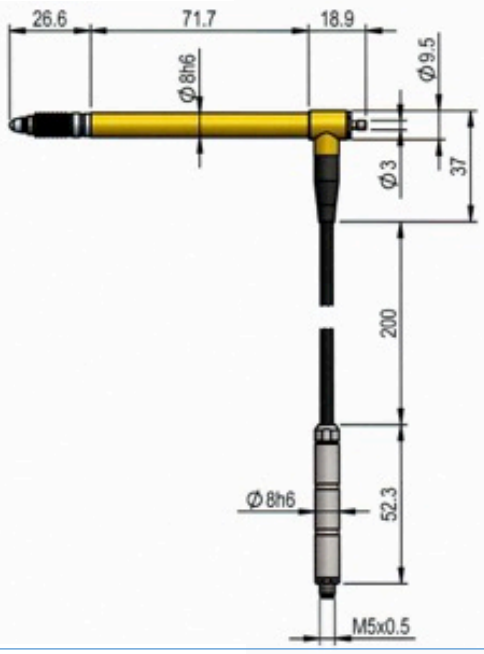
Technical Data

Cable exit: 'A' Axial 'R' Radial	3TLX50A DG	3TLX50AV DG	3TLX50AP DG	3TLX50AL DG
Total stroke	10.6 mm	10.6 mm	10.6 mm	10.6 mm
Measuring stroke (symmetrical)	±5.0 mm	±5.0 mm	±5.0 mm	±5.0 mm
Pre-travel	-5.5 mm	-5.5 mm	+5.5 mm	+5.5 mm
Bearing	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped	ball bearing no side-play, lapped
Lifetime	>10 Mio. Cycles	>10 Mio. Cycles	-	>10 Mio. Cycles
Tip rotation	1° over full stroke	1° over full stroke	1° over full stroke	1° over full stroke
Temperature range	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation	-10 to +65°C, storage and operation
Mounting position	Any	Any	Any	Any
Tip	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread	3 mm tungsten carbide ball, M2.5 fixing thread
Bellow	FPM / FKM	FPM / FKM	FPM / FKM	-
Body diameter	8h6	8h6	8h6	8h6
Plug	DIN M5	DIN M5	DIN M5	DIN M5
Advance	-	-	pneumatic	pneumatic
Lift off	none	Vacuum	-	-
Maximum pressure	-	-	1.5 bar	4.5 bar
Spring rate	1 N ±15% (at electrical zero), others as option	1 N ±15% (at electrical zero), others as option	Approx. 1.5 N at 0.9 bar approx. 2.0 N at 1.2 bar (at electrical zero)	Approx. 1.0 N at 1.3 bar approx. 1.6 N at 1.7 bar (at electrical zero)
Measuring system	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge	Inductive halfbridge
Repeatability	0.05 µm	0.05 µm	0.05 µm	0.05 µm
Error limit	± 2.0 µm (at 20°C ±1°C)	± 2.0 µm (at 20°C ±1°C)	± 2.0 µm (at 20°C ±1°C)	± 2.0 µm (at 20°C ±1°C)
Interface	Communication protocol for digital IMT transducers	Communication protocol for digital IMT transducers	Communication protocol for digital IMT transducers	Communication protocol for digital IMT transducers
Transfer rate	4000 measuring / sec	4000 measuring / sec	4000 measuring / sec	4000 measuring / sec
Supply / Power consumption	5V 120 mW [Run] 15 mW [Idle]	5V 120 mW [Run] 15 mW [Idle]	5V 120 mW [Run] 15 mW [Idle]	5V 120 mW [Run] 15 mW [Idle]
Repair	Partially possible	Partially possible	Partially possible	Partially possible

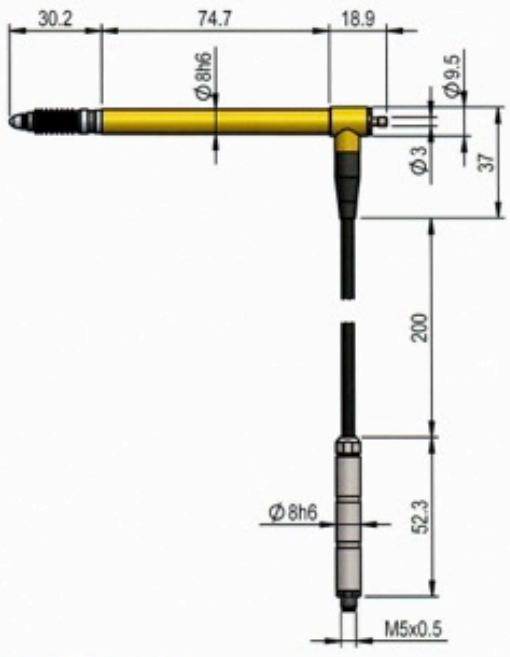
3TLX50R DG



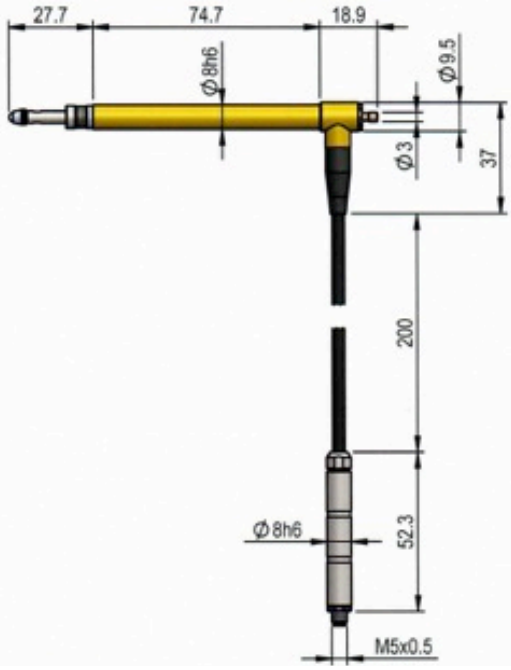
3TLX50RV DG



3TLX50RP DG



3TLX50RL DG



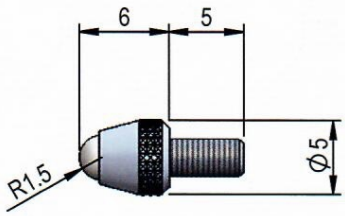
Transducer Product Accessories

Specification Sheet

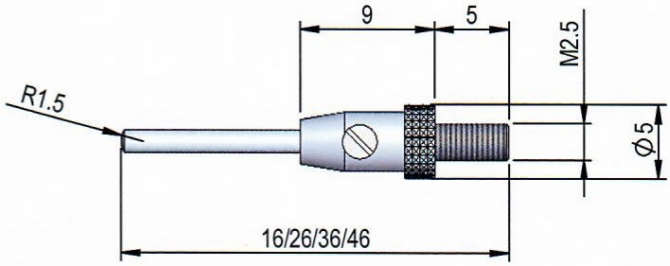
IMT Ltd can offer a range of accessories for our products. If you require anything specific then please contact us even if you cannot see what you are looking for below.

Tips with fixing thread M2.5

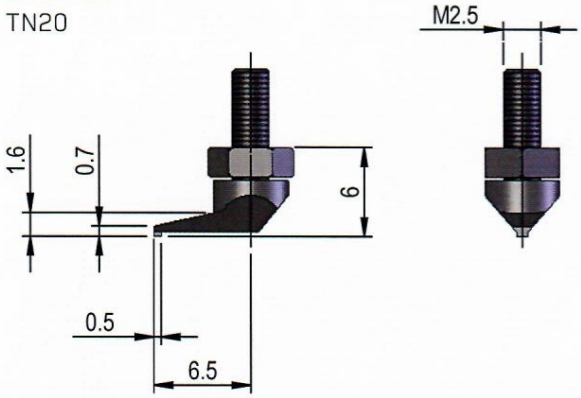
1002449
TN10W



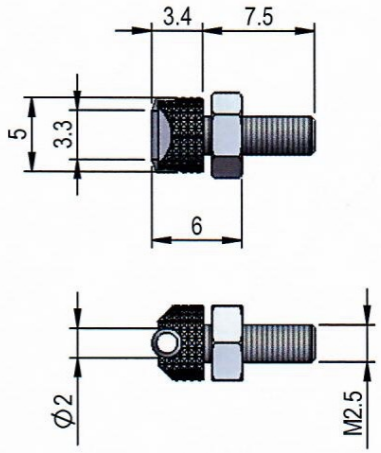
1002450
TN12



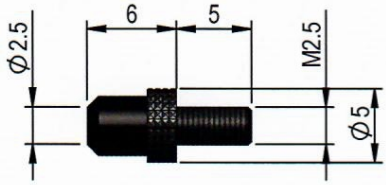
1002452
TN20



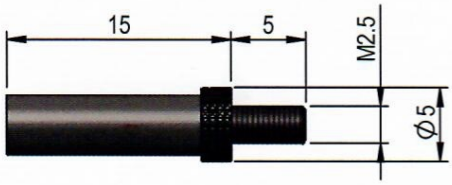
1002454
TN30W



1002456
TN70



1002458
TN91

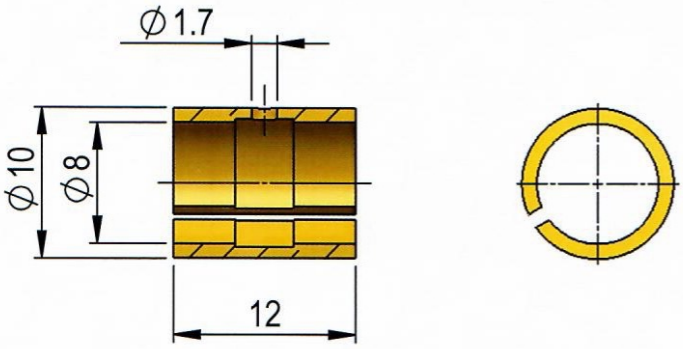


1002460
TN93

Fixing elements

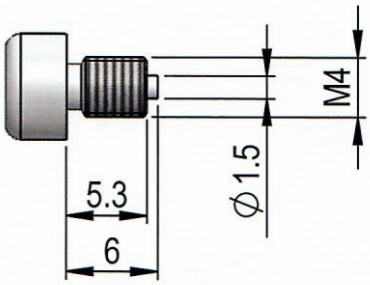
1000890

Transducer clamp bush



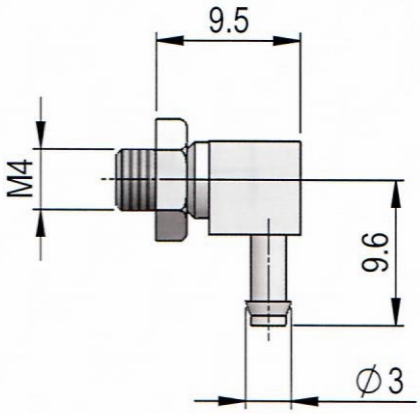
1000891

Transducer clamp screw



1000841

Transducer rotating nipple



Compatible with
3TLX07RV, 3TLX07RP, 3TLX07RL
3TLX10RV, 3TLX10RP, 3TLX10RL
3TLX20RV, 3TLX20RP, 3TLX20RL
3TLX50RV, 3TLX50RP, 3TLX50RL
3TLX50/2RV, 3TLX50/2RP, 3TLX50/2RL
3TLX50/1RV, 3TLX50/1AP, 3TLX50/1RL

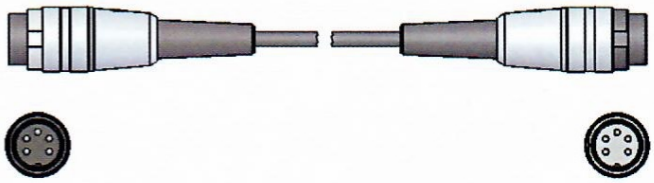
Individual engraving

Individual engraving of transducer casing or plug - static context or dynamic numbers. For futher details please contact us.

Extension cable halfbridge (Drawing 1:2)

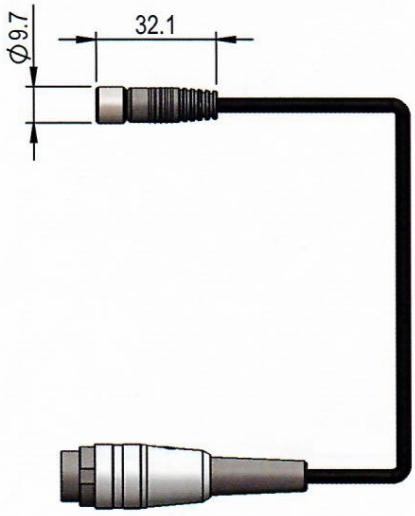
Compatible with TESA(R) halfbridge transducers

Order number	Length
1000916	1.0 m
1000917	2.5 m
1000918	5.0 m
1000919	7.5 m
1000920	10.0 m

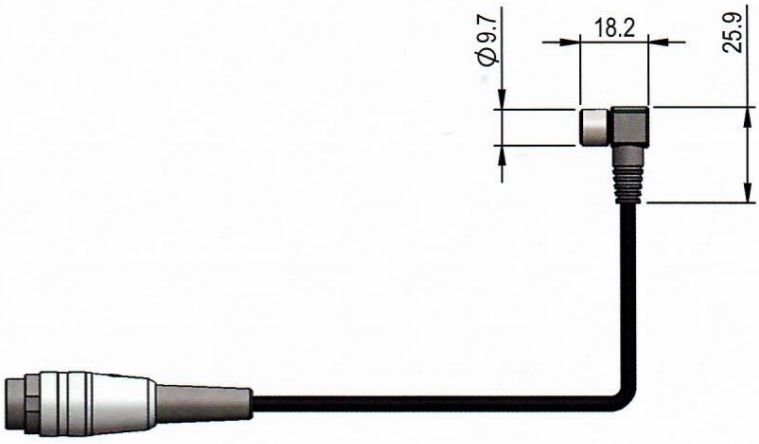


Connection cable for pluggable transducers (Drawing 1:2)

Axial cable exit



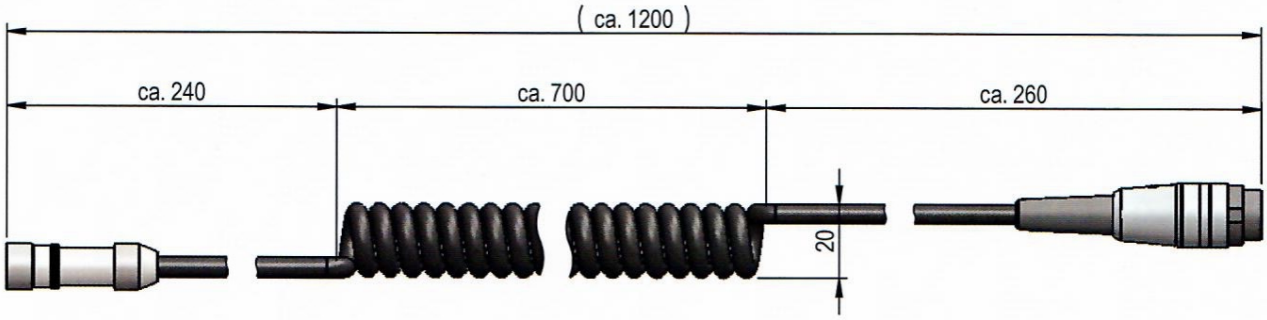
Radial cable exit



Order number	Cable exit	Length
1000895	axial	2.0 m
1000896	radial	2.0 m

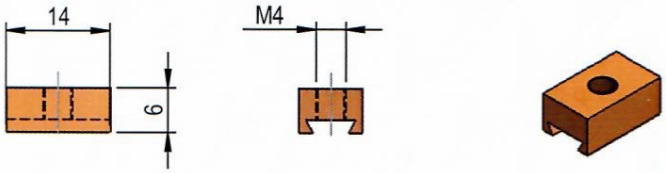
1000899

Spiral cable for pluggable transducers 3TLX07-PLG, 3TLX10-PLG, 3TL10-PLG, 3TLX20-PLG and 3TLX50-PLG



1002224

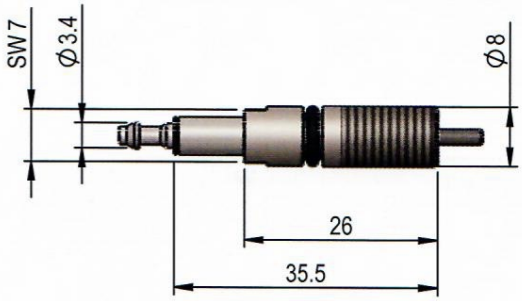
3BG10 / 5BG10 Series Grove stone



1002214

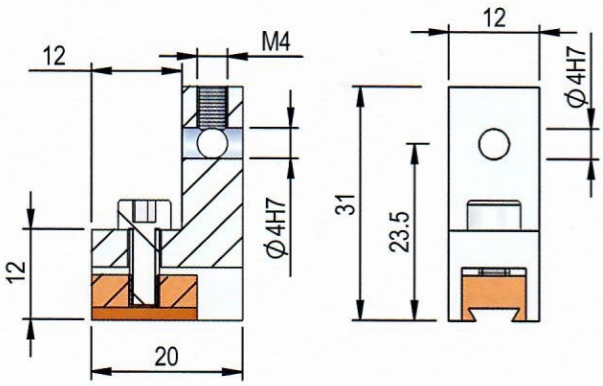
Pneumatic cylinder 3BG10 / 5BG10

Pneumatic cylinder for 3BG10 / 5BG10 series. Can be used for either pneumatic retraction or advance. Operating pressure max 4.5 bar.



1003422

3BG10 / 5BG10 Series tip holder,
Horizontal 4mm

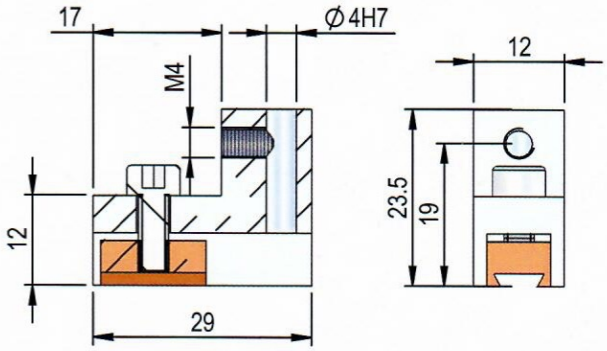


composed of

Order number	Description
1002218	Holder horizontal 4 mm
1002224	Grove stone
1003426	Screw Inbus M4x10

1003423

3BG10 / 5BG10 Series tip holder,
Vertical 4mm

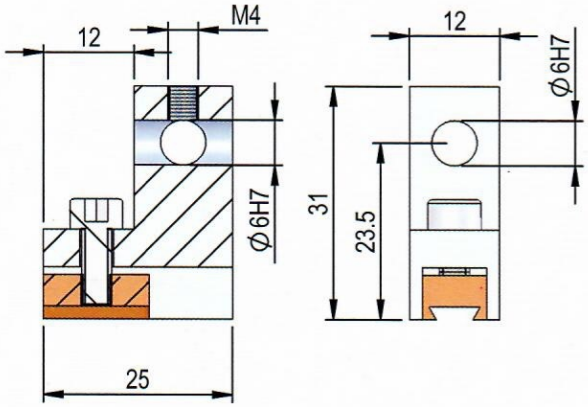


composed of

Order number	Description
1002219	Holder vertical 4 mm
1002224	Grove stone
1003426	Screw Inbus M4x10

1003424

3BG10 / 5BG10 Series tip holder,
Horizontal 6mm

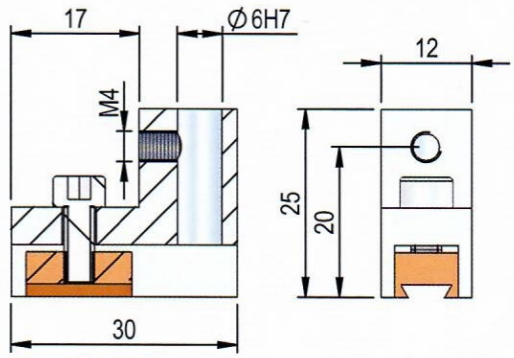


composed of

Order number	Description
1002220	Holder horizontal 6 mm
1002224	Grove stone
1003426	Screw Inbus M4x10

1003422

3BG10 / 5BG10 Series tip holder,
Vertical 6mm



composed of

Order number	Description
1002221	Holder vertical 6 mm
1002224	Grove stone
1003426	Screw Inbus M4x10

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