TLS

THE RANGE OF PROBES FOR TOOL CHECKS ON MACHINING CENTRES

mida

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System description

The TLS line represents a complete range of compact probes for tool checks on machining centres.
They may be used for the following checks:

- Tool breakage, in order to avoid damaging the workpieces and the machines, and the resulting production delays.
- Tool length
- Tool wear compensation, in order optimise working life
- Determining tool offsets in order to reduce set-up times and eliminate the need to pre-set the tools before mounting them in the machine

TLS probes offer excellent repeatability at high touch speeds, which increases production quality and reduces cycle times significantly, and this means that they represent the ideal solution for mass production and unmonitored processing applications.

The IP67 protection class (IEC 60529) guarantees high performance even in hostile machining environments. The air cleaning system guarantees that the probes are not affected by shavings or coolant.

Main features

- Excellent repeatability
- Reduced cycle times
- Immunity to machine vibration
- Highly resistant to coolants
- High reliability

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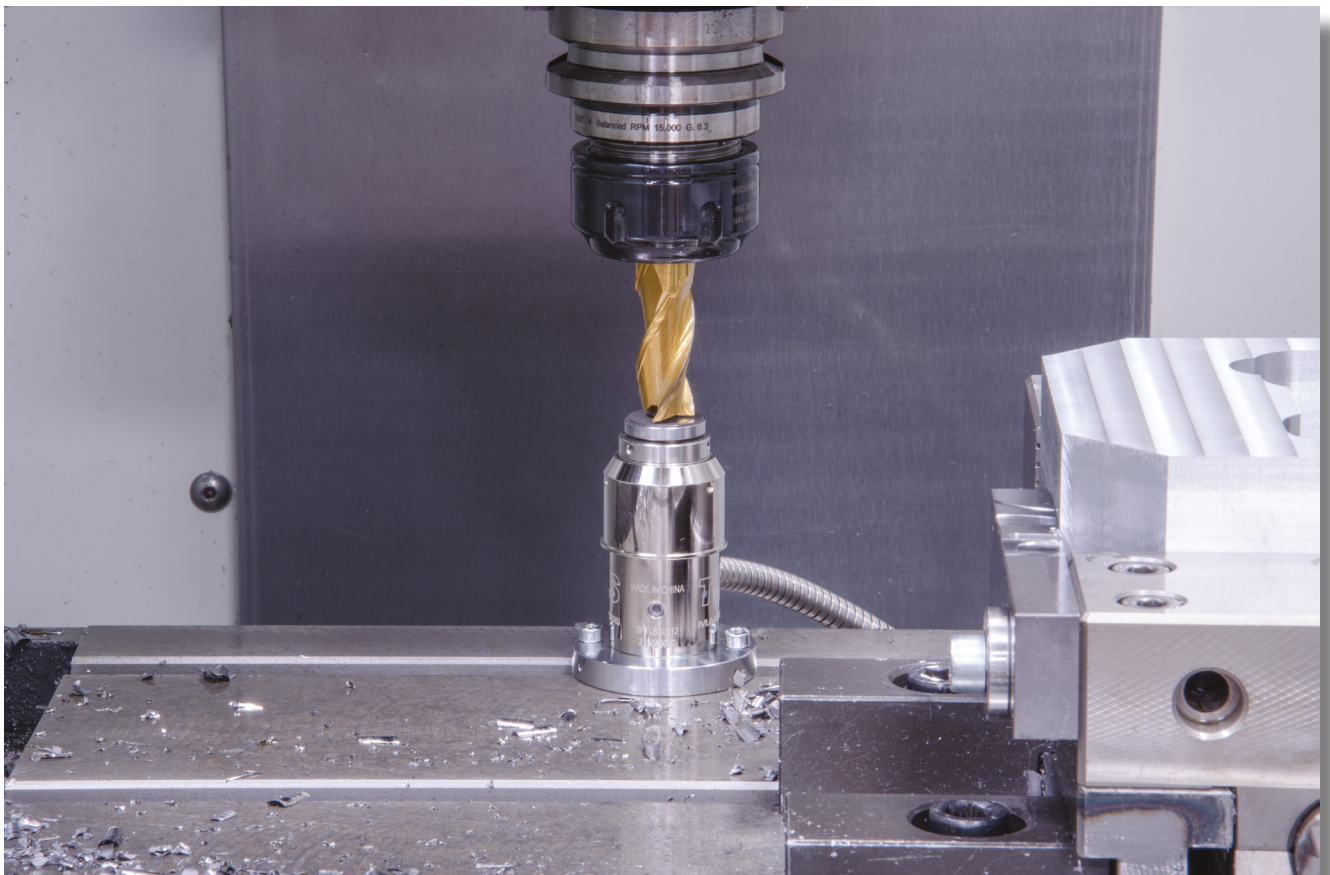
Tool length pre-setter

- For CNC controlled, vertical machining centres
- Tool wear/breakage check
- Thermal warping check
- Normally installed on a mobile horizontal table that moves the sensor into position and waits for the tool to touch the plate vertically
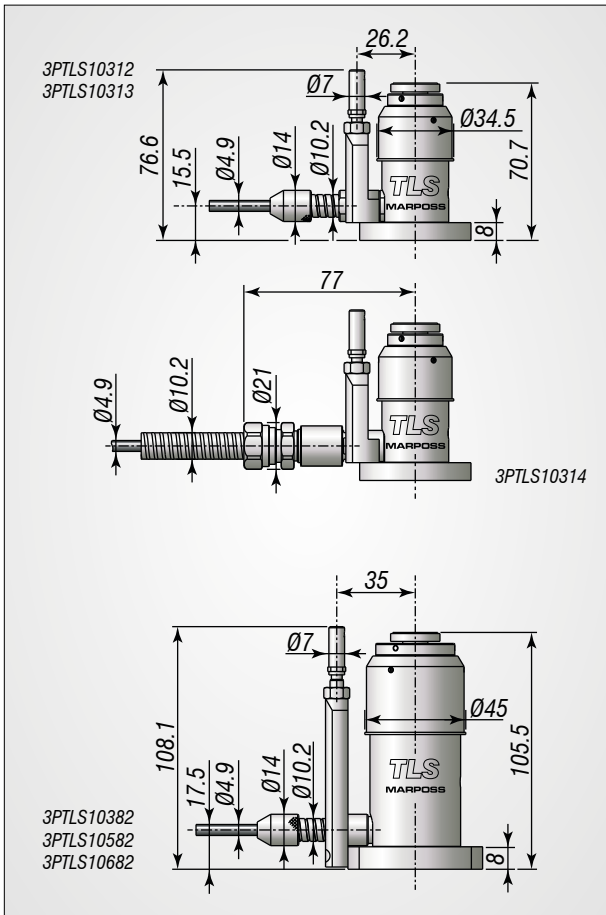
	3PTLS10312	3PTLS10313	3PTLS10314	3PTLS10382	3PTLS10582	3PTLS10682
TOTAL STROKE	6 mm	6 mm	6 mm	12 mm	12 mm	12 mm
LED	On = push	Off = push	On = push	On = push	On = push	On = push
BUILT-IN INTERFACE	Yes	Yes	Yes	Yes	Yes	Si
CABLE OUTPUT 1 = lower / 2 = side	2	2	2	2	2	2
CABLE LENGTH (SHEATH LENGTH)	6 m (3 m)	15 m (3 m)	6 m (3 m)	6 m (3 m)	6 m (3 m)	6 m (3 m)
CONTACT DIAMETER	20 mm	20 mm	20 mm	20 mm	40 mm	60 mm
CONTACT WORKING LIFE	3×10^6 cicli	3×10^6 cicli	3×10^6 cicli	3×10^6 cicli	3×10^6 cicli	3×10^6 cicli
PROTECTION DEGREE (IEC 60529 Standard)	IP67	IP67	IP67	IP67	IP67	IP67

Skip signal

	3PTLS10312	3PTLS10313	3PTLS10314	3PTLS10382	3PTLS10582	3PTLS10682
PRE-TRAVEL	≈0	≈0	≈0	0,5 mm	0,5 mm	0,5 mm
REPEATABILITY (2σ)	1 µm	1 µm	1 µm	1 µm	1 µm	1 µm
MEASURE FORCE	1.5÷2.2 N	1.5÷2.2 N	1.5÷2.2 N	2.5÷3.2 N	2.5÷3.2 N	2.5÷3.2 N
OPERATING MODE	NC & NO	NC & NO	NC & NO	NC & NO	NC & NO	NC & NO
TOUCH SPEED	50÷200 mm/min	50÷200 mm/min	50÷200 mm/min	50÷500 mm/min	50÷500 mm/min	50÷500 mm/min
POWER SUPPLY	24 Vdc - 20 mA max	24 Vdc - 20 mA max	24 Vdc - 20 mA max	24 Vdc - 20 mA max	24 Vdc - 20 mA max	24 Vdc - 20 mA max

Overtravel signal

	3PTLS10312	3PTLS10313	3PTLS10314	3PTLS10382	3PTLS10582	3PTLS10682
STROKE	3 mm	3 mm	3 mm	6 mm	6 mm	6 mm
OPERATING MODE	NC	NC	NC	NC	NC	NC
POWER SUPPLY	24 Vdc - 20 mA max	24 Vdc - 20 mA max	24 Vdc - 20 mA max	24 Vdc - 20 mA max	24 Vdc - 20 mA max	24 Vdc - 20 mA max

High precision tool position detector

- For small scale, CNC controlled machining centres
- Tool wear/breakage check
- Thermal warping check
- Particularly suitable for small scale machining centres thanks to the small size of the plate
- Compact size for use in restricted spaces and various configurations
- Normally installed on mobile horizontal/vertical tables that move the sensor into position and wait for the tool to touch the plate vertically
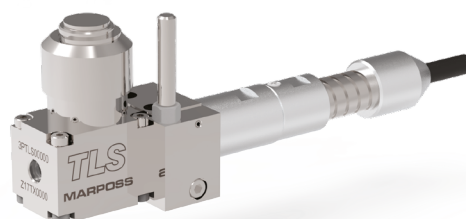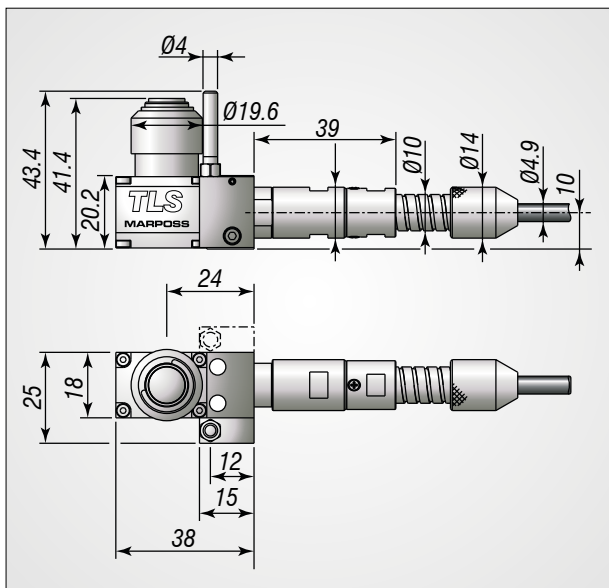
	3PTLS12100	3PTLS22100
TOTAL STROKE	5 mm	5 mm
LED	On = push	On = push
BUILT-IN INTERFACE	Yes	Yes
CABLE OUTPUT 1 = lower / 2 = side	2	2
CABLE LENGTH (SHEATH LENGTH)	6 m (3 m)	6 m (3 m)
CONTACT DIAMETER	10 mm	10 mm
CONTACT WORKING LIFE	3×10^6 cicli	3×10^6 cicli
PROTECTION DEGREE (IEC 60529 Standard)	IP67	IP67

Skip signal

PRE-TRAVEL	≈0	≈0
REPEATABILITY (2σ)	1 µm	1 µm
MEASURE FORCE	1.5÷2.2 N	1.5÷2.2 N
OPERATING MODE	NC	NO
TOUCH SPEED	50÷500 mm/min	50÷500 mm/min
POWER SUPPLY	24 Vdc - 20 mA max	24 Vdc - 20 mA max

Overtravel signal

STROKE	3 mm	3 mm
OPERATING MODE	NC	NC
POWER SUPPLY	24 Vdc - 20 mA max	24 Vdc - 20 mA max