

Tool length measurement and tool breakage detection



Tool Setter TS40 series

High repeatability

1 μm or less

High repeatability ensures
quality machining

**High environmental
resistance**

IP67

New air-actuated lift
mechanism (Patent pending)
Prevent failures caused
by coolant and metal chips

Long operating life

**5 million
strokes**

Reliable non-contact magnetic
detection principle

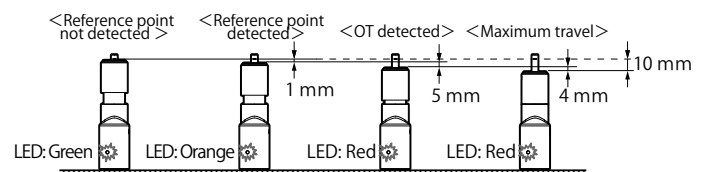
Low measuring force

0.6 \pm 0.2 N

Low measuring force allows
small diameter tools to be used

▶ Tool length measurement and tool breakage detection

Can be used for both tool length
pre-setting and tool breakage detection.
Avoid scrap and increase productivity.



Damage may occur when moved more than 4mm after detection of OT signal*
Take measures to stop the machine immediately after detection of the OT signal
*OT signal=Over travel signal

Specification

Model name	TS40L2	TS41L2	TS42L2
Stroke length	10.5±0.5 mm		
Reference point	1.0±0.5 mm		
Reference point repeatability (at 20°C)	1 μm or less		
Response speed range	5 to 3,000 mm/min		
Number of strokes*1	5 million strokes		
Protection grade	IP67(Main unit only)		
Measuring force(at 20°C, reference point position)	0.6±0.2 N		
Power consumption	0.5 W		
Inrush current	0.5 A max.(Start up time after power on: 10 ms)		
Output specifications	Transistor output (Photo coupler isolation) Between output - COM MAX200V 0.5 mA - 0.1 A		
OT position (Over travel)	5.0±0.5 mm from reference point position		
Operating voltage range	12 V to 24 V DC		
Air pipe position*2	Right	Center	Left
Operating temperature	0 to +50 °C (No condensation)		
Storage temperature and humidity	-15 to +65 °C (90%RH max.)		

Model name

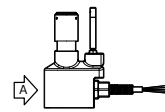
TS4□L2-○▽1G

▽	Conduit length
1	1 m
2	2 m
3	3 m
4	4 m
5	5 m

○	Cable length
2	2 m
3	3 m
4	4 m
5	5 m
6	6 m
7	7 m
8	8 m
9	9 m
A	10 m

□	Air pipe position *Please refer to the specification
0	Right
1	Center
2	Left

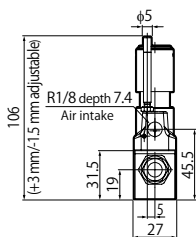
Attention: Select a conduit length that is shorter than the cable length



*1: Under specific conditions defined by Magnescale Co., Ltd.(Refer to the dimensions)
*2: When seen from the A direction in the above figure

Dimensions

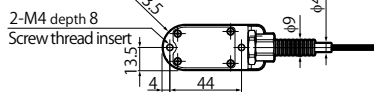
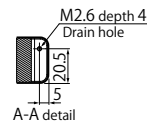
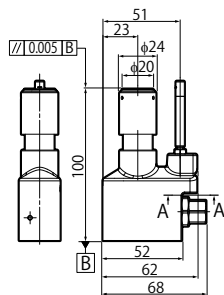
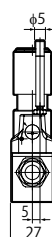
TS40L2



TS41L2

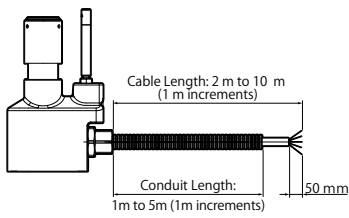


TS42L2



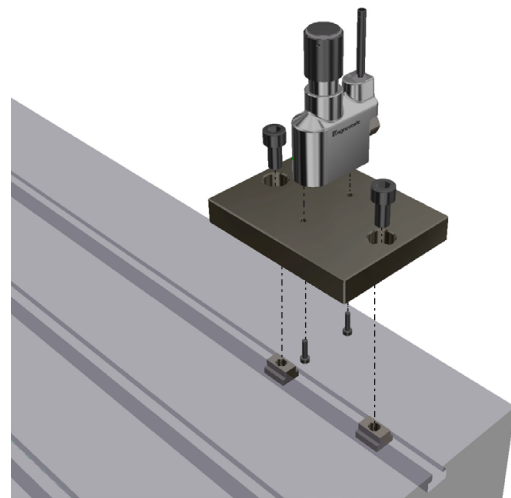
Unit : mm

Cable color	Signal
Purple	+V (12 V to 24 VDC)
Black	0 V
Blue	Reference point signal
Yellow	Reference point signal (COM)
Orange	OT signal
Gray	OT signal (COM)
Shielded wire	Connected to chassis



*Overall Conduit Length from main body
Conduit length to be at least 1 meter shorter than the overall cable length

Mounting example/Accessories



Optional Accessories

<Replacement parts>

- TZ40 tip set : Replacement tip for tool surface measurement 1
- Fixing screw HSS2x2(Conical tip) 3
- Hex wrench(Opposite side 0.9 mm) 1
- TZ41 pipe set : Replacement air pipe 1
- Fixing nut N4(mounted on the air pipe) 1

⚠ To use this product safely, please read the instruction manual carefully and thoroughly prior to usage. •Magnescale reserves the right to change products and specifications without prior notice.

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