

# High accuracy linear gauge

## ATG1 Series



### Principle of operation

ATG1 series is the all-in-one type of linear gauge. A magnetic resistance element and magnetic tape are mounted inside the sensor. The tape is magnetized with the same pitch of N and S pole precisely. The magnetic resistance element detects the magnetic fields on the tape and LSI converts the measured values into pulse output.

### Specifications

Measuring range	10mm
Output	incremental A/B pulse, line driver
Resolution	1 $\mu$ m (standard), 0.2 $\mu$ m (option)
Linearity	$\pm 2 \mu$ m ( $\leq 1$ mm : partial of stroke) $\pm 10 \mu$ m ( $\leq 10$ mm : total stroke)
Repeatability	$\leq 1 \mu$ m at 20°C
Measuring force	1.3~2.6N (lateral) at 20°C
Power supply	DC24V ( $\pm 2$ V), 0.15A
Travel speed	500mm/s (Resolution: 1 $\mu$ m) 100mm/s (Resolution: 0.2 $\mu$ m)
Operating temp.	0°C~+60°C
Storage temp.	-20°C~+60°C
Vibration	6G (or 40Hz 2mmpp)
Shock	50G (2ms)
Protection	IP67 (dustproof waterproof structure)
Sensor cable	standard 1m (option Max.10m)
Extension cable	Max.30m
Weight	approx. 200g (including 2m-cable)

### Model Code

#### ■ Sensor

**ATG1-10-**  **-**  **-G**  **LF**

①      ②      ③

#### ■ Extension cable

**CL-AG-S-**  **-FF**

④

#### ① Resolution

L: 1  $\mu$  m (standard)  
H: 0.2  $\mu$  m (option)

#### ② Material of bellows

N: NBR (standard)  
F: Fluoro rubber (option)

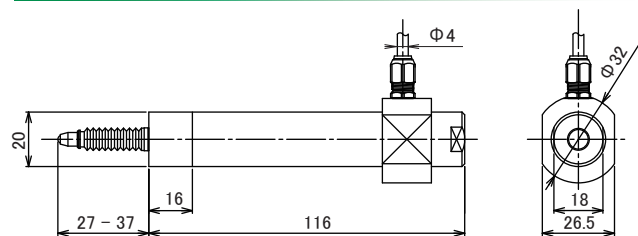
#### ③ Sensor cable length(m)

in unit of meter (Max. 10m)

#### ④ Extension cable length(m)

in unit of meter (Max. 30m)  
note) ③+④  $\leq$  40m

### Dimensions



- \*stylus: carbide ball (HRA :  $\geq 89$ )
- \*sensor cable: diameter  $\Phi 4$  (PVC sheath)
- \*extension cable: diameter  $\Phi 6.6$  (PVC sheath)
- \*body material: SS304

Cable color	Function
white	DC24V
black	0V
red	A+ pluse
green	A- pluse
yellow	B+ pluse
brown	B- pluse
braid	shield

It makes Technological Sense

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