

Optimal machine operation based on gyrocompass attitude navigational information

Features



In excavation of complicated and interconnected underground tunnels for subways, water lines, and communication and power lines, accuracy in following plan lines is vital.

Development of the new TMG-30 Series attitude sensing system for tunnel boring machinery is based on our experience on more than 2000 site applications and our expertise in advanced technology.

The System's precision gyrocompass and servo-inclinometer offer real-time detection of azimuth angle, pitch & roll with stable attitude readouts. The small, lightweight and high precision, TMG-30 Series is a valuable aid in tunnel excavations, both large and small.

Small size, high accuracy

Compared to our previous model, the sensor unit is approx. 30% smaller and the controller and power supply are approx. 70% smaller.

Static accuracy is ± 0.05 deg.

Real-time monitoring of machinery attitude.

Azimuth angle and pitch & roll can be displayed in real time, for continuous monitoring and accurate control of machinery movement.

Efficiency

Unlike laser and lightwave systems, there is no need for time-wasting resetting.

Backup battery

The backup battery assures continuous operation even in the event of a power supply failure.

Monitoring

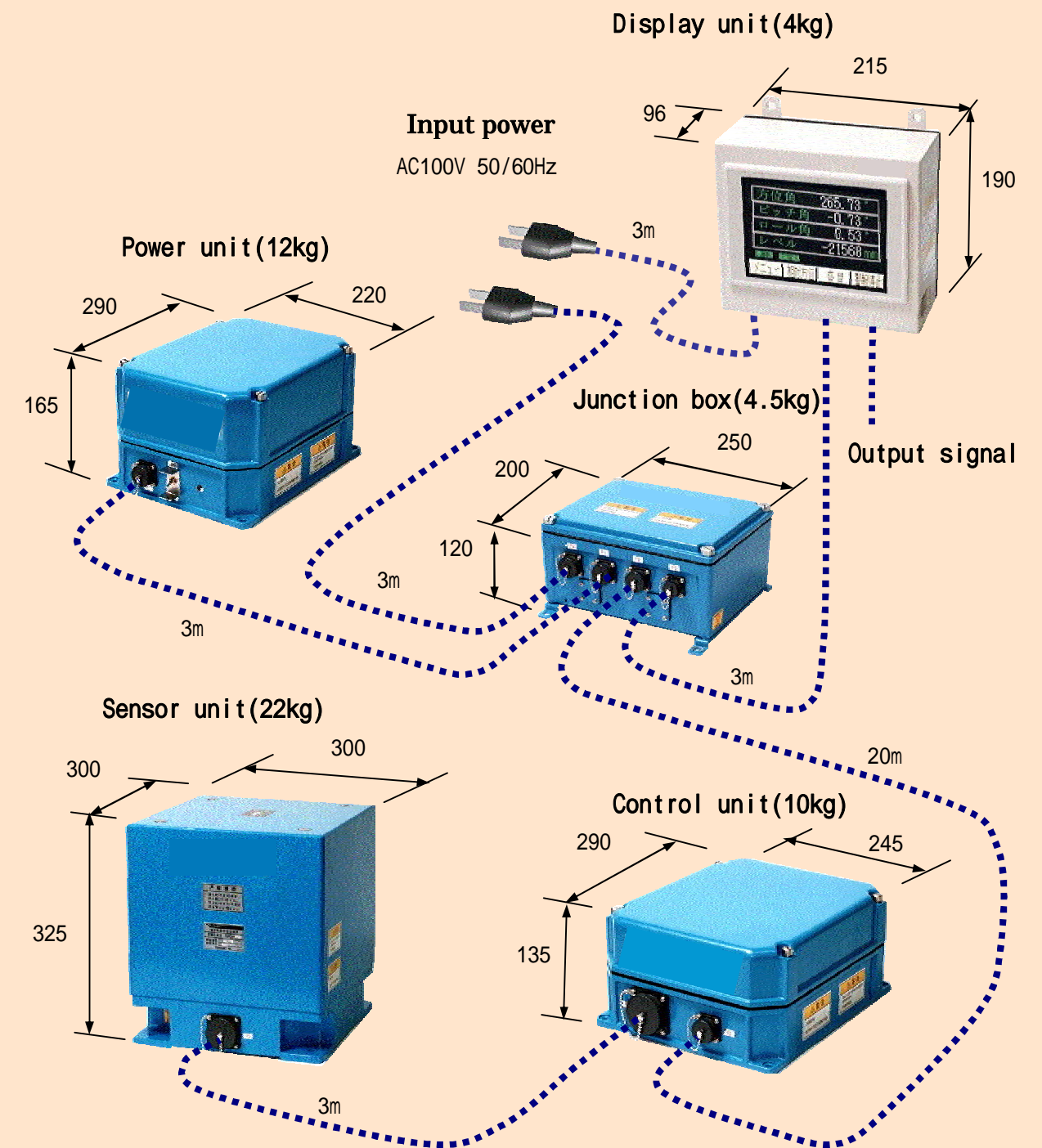
With the easy-to-read monitor, remaining battery life, communication errors, and other information is at your fingertips.

System expansion

Efficient excavation and accurate monitoring can be enhanced in combination with the TL300 Series Level sensing System and the Tims Series Automated Position & Attitude-sensing System.

Composition

Attitude as measured by the highly accurate gyrocompass and servo-inclinometer can be displayed on the monitor and sent serially to an exterior system.




TMG-30 SERIES

Specifications

Item		TMG 30B/32B
Accuracy	Azimuth setting accuracy	±0.05 ° 《Note》
	Azimuth settle point error	±0.2 °
	*Pitch and roll angles	±0.1 ° (±5 ° or less)
Resolution	Azimuth	±0.01 °
	*Pitch and roll angles	±0.01 °
Measurable Range	Azimuth	Absolute 360 ° Relative ±180 °
	*Pitch and roll angles	±10 °
Setting Time	Azimuth	Within 5 hours from power ON.
	*Pitch and roll angles	Immediately after power ON.
Environmental Resistance	Temperature	0 ~ 50 (Without Display unit) 0 ~ 40 (Display unit)
	Humidity	95% RH or lower
Allowable Inclination (Sensor Unit only)		±30 ° for both pitch and roll
Back up Time(Battery)		30minutes
Overhaul Period (Gyro Compass)		15000hours
Power Supply		100V AC 50/60 Hz (Single-phase two-wire system) (Allowable fluctuation : 90 ~ 130VAC) Starting 320 VA, Running180 VA
Output Signal		RS422/RS232C

Note: In some cases static accuracy of system cannot be verified due to strata and machinery vibration.

TMG-30B is not equipped with servo inclinometers for pitch and roll angle detection
Design and specifications are subject to change without prior notice,
and without any obligation on the part of the manufactures.



CAUTION

Before operating this equipment, you should first thoroughly read the operation



TOKYO KEIKI CONSTRUCTION SYSTEMS INC.

Head Office: 2-16-46, Minami-Kamata, Ohta-ku, Tokyo 144-8551 Japan
Tel: +81-3-3731-2631 FAX: +81-3-3738-8670
<http://www.tokyo-keiki.co.jp/const>

ATTITUDE SENSING
SYSTEM
TMG-30 SERIES

