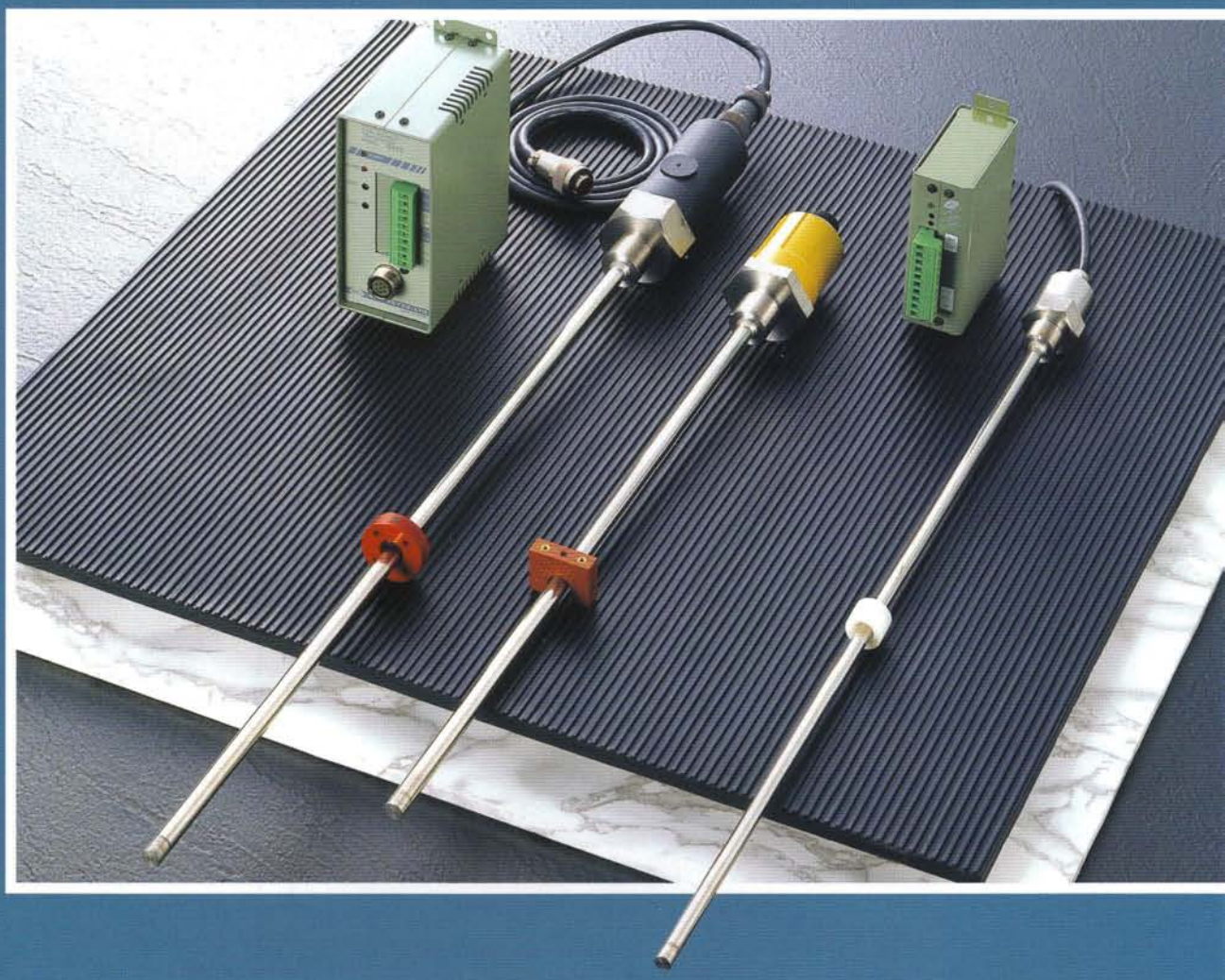
SANTEST®
IT MAKES TECHNOLOGICAL SENSE

Model GY Series

Magnetostrictive Displacement Transducers



HIGH ACCURACY NON-CONTACT ABSOLUTE LINEAR SENSOR

STC SANTEST CO., LTD.

Profile

SANTEST CO., LTD.

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Founded: 1953

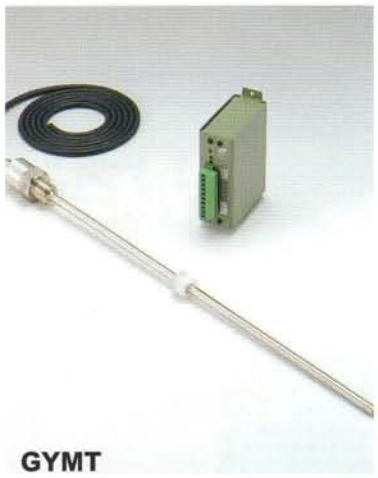
Activity: mechatronic instruments such as transducers, electro-hydraulic systems and state-of-the-art product development.

Our Philosophy

Through advancing the state-of-the-art contributions while maintaining extraordinarily high quality standards, Santest has dedicated its efforts towards optimizing the performance of magnetostrictive displacement transducers to facilitate their successful use in cases where incremental encoders can be replaced by these absolute transducers. We believe that success will follow innovation.

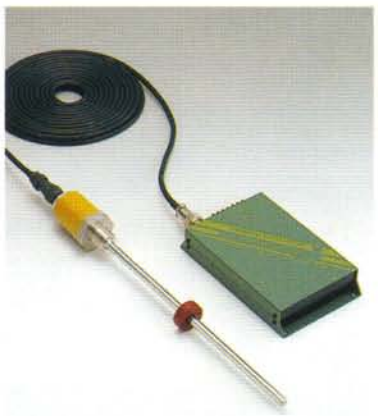
Improvements in R&D, manufacturing and reliable delivery have elevated accuracy standards so that new applications are occuring daily in detection systems for advanced industrial applications and specializied machinery.

We are proud of Santest's worldwide acceptance, based on its performance and quality, through the efforts of its many representative companies.



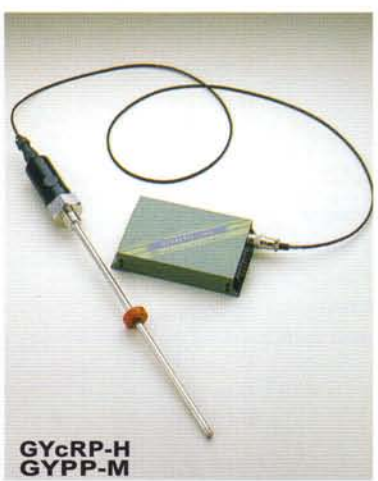
GYMT

GYMT is a compact series analog output **MDT** of the entire **SANTEST** line. The head measures but 38mm ×30mm. Widely used due to its low price, it has recently been modified to enhance its ability to deliver high performance under most conditions by adopting a unique magnetostrictive detecting element. Maximum cable length is 10 meters.
Available float accessories allow this model to be used for liquid level detection. All standard analog options are available as well as most materials.



GYcRP

GYcRP is our top analog performance model. The GYcRP features temperature compensation and long-distance signal transmission up to 200 meters without boosters or amplifiers. Unique sample & hold electronic circuitry permits a smooth analog output without the use of digital-to-analog conversion. All standard analog, float and material options are availavle. All models of the GY series are rated to 350 bar.



GYcRP-H
GYPP-M

GYcRP-H **GYPP-M** is unique among all **MDT's** regardless of source. These are high temperature units and are available in ratings of 100℃ to 350℃.
For high ambient conditions order with special device that will permit the head end to operate in temperatures to 100℃. As with all **SANTEST** probes, these may be ordered with optional materials such as 316 stainless or titanium probe sheath, metallic heads, flame-coated **teflon (pinhole-free)** etc.

GYTT

GYTT series has been developed for users who design their own controller and achieved easier interface with users, having high performance and robustness same as **GYcRP** probe. Adopting RS422 signal transmission, it has an advantage of immunity to electrical noise and offers two types of signal output, that is Start-stop pulse type and Gated pulse type. Optionally, recirculation circuit is available for higher resolution.

GYcAT

Thanks to the Surface Mount Technology, the entire signal processing electronics of **GYcAT** series is integrated into a transducer head. Voltage or current analog signal proportional to a magnet position only by applying a 24 V dc power supply direct to the transducer.

GYDC

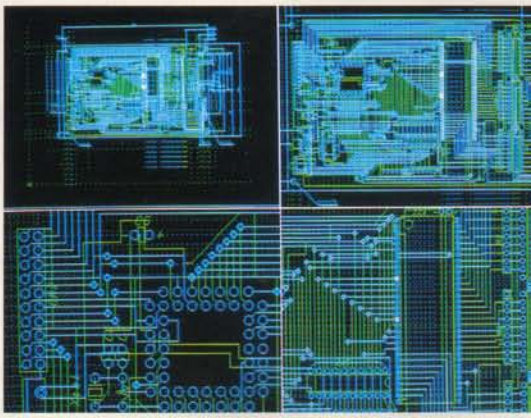
GYDC is the latest addition to the **SANTEST** lineup. This model yields pure Binary, BCD or Gray code digital output to **24 bits.** By means of the digital output combined with recirculation techniques, it is possible to read in 10μm/5μm range. As

Note: 1. For more complete data, please consult the specific data sheet for each model.
2. Probe lengths to 7500mm are available.
3. Intrinsically safe models, per ExibⅡCT4, ExdⅡCT6, are available.

with all models requiring external controllers, Eurocard format can be supplied. The enclosed model works from 115 VAC input. For more information about recirculations, see the **OPERATIONS MANUAL.**

LIQUID LEVEL DETECTION has long been a specialty of **SANTEST CO.** Among specially ordered probes have been units with flanges instead of the standard threaded mount, special diameter probes, curved probes and a wide variety of materials for acidic or alkaline fluids of all temperatures. Our floats can be supplied as all Teflon or PEEK, welded by proprietary methods developed in the **SANTEST** labs or as all titanium suitable for use with corrosive fluid.

MODEL GY SERIES
ABSOLUTE TRANSDUCER



Model GY Series are "Displacement Transducers" employing magnetostrictive phenomena, especially the Wiedemann effect. An ultra-sonic wave is generated by a moving magnet operating near a magnetostrictive wave guide on which the sonic wave propagates up to the head of the transducer.
The propagation time is precisely measured by state of the art technology and then the absolute displacement transducer is operational.

ACHIEVED OPERATING TEMP OF UPTO+350℃

EMPLOYING SHOCK RESISTANT TECHNOLOGY

■ Main specifications

Stroke	max 7500mm
Linearity	less than 0.05%FS
Resolution	less than 0.01%FS
Output	Analog,Digital
Allowable Pressure	max 350 bar (probe)

●Higher Linearity
Less than 0.05%FS of non-linearity can be obtained which was impossible to get by conventional displacement transducers.

●Versatile Design
Thanks to the principle of operation, an arbitrary length of probe is easy to fabricate.

●High Response and Stability of Output
High speed sample and hold circuit contributes to non-rippled output and high frequency response.

●Compactness
Almost all of the length of probe can be utilized as the effective measuring length. Easy to install on equipment.

●Robust Design
The magnetostrictive wave guide is completely enclosed with stainless steel sheath which can stand pressure to 350 bar (5000 psi).

PATENT REGISTERED AND PENDING

PROBE

Series	GYMT	GYcRP	GYcRP-H	GYcAT
Features	Compact and low cost	Top analog performance	High temperature application	All electronics in sensor head
Probe Effective Stroke	300/500/700/1000/1500/2000mm (Less than 300mm and 2000~7500mm optional, GYMT upto 2000mm only)			
Max. Cable Length	10m	200m		User arrange
Nonlinearity	≦0.05% FS			
Resolution	≦0.01% FS			
Hysteresis	≦0.01% FS			
Operating temperature	-5 to 65℃		Note 1	-20 to 65℃
Temp. Coefficient	50ppmFS/℃	20ppmFS/℃	20-70ppmFS/℃	40ppmFS/℃
Static Proof Pressure	350bar (5000psi)			

CONTROLLER

Analog Controller	GYMTC-11 or GYMTC-11-24	GYTLC-08 or GYTLC-08-24	
Output	Type A : 0 to 10 VDC Type B : 4 to 20 mA		
Resolution	≦0.01% FS		
Temp. Coefficient	80ppmFS/℃	40ppmFS/℃	
Frequency Response	sampling 1kHz(typical)		

Digital Controller	GYDC-03	GYDC-03A
Features	Recirculation available	Containing micro-processor, programmable
Output	Binary or BCD	Binary,BCD or Gray code
Resolution Note 2	Approx. 0.055mm	0.1mm
Frequency Response	sampling 1kHz(typical)	

Notes

1. GYcRP-H series is composed of 4 types ; max. 100℃, 120℃, 200℃ and 350℃.
2. Resolution to 5μm / 10μm is possible with recirculation.

Typical Applications

1. Replacement of conventional absolute type displacement transducers
2. As feed-back sensor for automatic control equipment
3. As detecting sensor for Robotic arm
4. Replacement of multiple proximity sensors
5. Positioning transducer for machinery such as wood, steel plate, paper, press industries
6. Displacement Transducer that can be installed inside Pneumatic/Hydraulic cylinders
7. As a high linearity liquid level detector for a wide range of applications

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