7563

DIGITAL THERMOMETER

3 Measuring Functions : Temperature(RTD and TC),

DC V and OHM

High Accuracy : 0.006%(TC), 0.0045%(DCV)

High Resolution : 0.01°C/0.01°F(RTD), 100nV(DC V)

High-Speed Sampling : 100 times/s(4-1/2 digit display)

DIGITAL THERMOMETER

Precision Digital Thermometer for the R & D, Biometeorology, Medical Science & Energy Saving.

The 7563 Digital Thermometer has 16 ranges of temperature sensors and measuring function of DC V and Ω. YOKOGAWA-original A-D converter (feedback pulse width modulation method) features the superior noise immunity, stability and high-speed sampling. In addition, versatile functions are suitable for system use and covers a wide variety of applications from test to R & D.

■ High accuracy, high resolution and high-speed sampling

Temperature measurement:
  Accuracy: 0.006%(TC), 0.01%(RTD)
  Resolution: TC...0.1°C(0.1°F), RTD...0.01°C(0.01°F)
DC V measurement:
  Accuracy: 0.0045%(2,000 mV range)
  Resolution: 100 nV(200 mV range)
Ω measurement:
  Accuracy: 0.006%(2,000 Ω range)
  Resolution: 100 $\mu\Omega$(200 Ω range)
Sampling rate:
  Max. 100 times/s (4-1/2 digits)

For the temperature measurement (RTD), high resolution of 0.01°C (0.01°F) can be obtained. In DC V and resistance measurement, the resolution of 100 nV and 100 $\mu\Omega$ can be obtained with high stability (Figure 1).
In addition, the high-speed sampling rate of up to 10 ms are available for the study of biometeorology/medical, development of electronic com-
ponents where the rapid and precise temperature measurement are required.
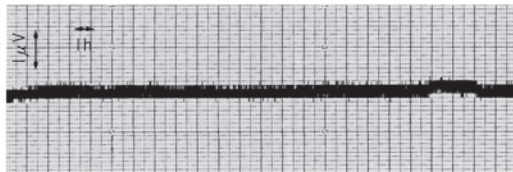

Figure 1 Drift data (zero point of DC V)

■ 3 measuring functions: Temperature, DC V and resistance

4 types of RTD's (2-wire/3-wire/4-wire) and 12 types of TC's, are available to be used in a wide range of applications.
In addition, the DC V and resistance (2-wire/4-wire) measuring functions are also available in a single instrument.
TC: 12 types (R, S, B, K, E, J, T, L, U, N, W and KP vs Au7Fe)
RTD: 4 types (Pt100, JPt100, Pt1000 and J263*B)

■ High-accuracy reference junction compensation: Compensation accuracy (±0.2°C)

Input terminals are provided on both front and rear panels, and an input site is switch selectable. The rear panel input terminal has an isothermal structure, and it is provided with wind-break cover of one-touch type. The 7563 uses YOKOGAWA-original transistor temperature

Figure 2
Temperature characteristics

sensor in the reference junction compensation circuit. A compensation accuracy of ±0.2°C(±0.4°F) is realized together with the isothermal structure of the input terminal. (Figure 2)
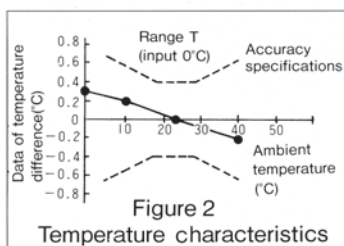
■ IC memory card

IC memory card expands application capability. It is possible to save the measured data of up to 8000 data as a buffer memory. It also allows you to save the panel setting conditions and read it automatically at power ON (AUTO LOAD). In addition, measuring parameters can be programmed up to 20 steps into the memory card.

■ GPIB interface(standard)

The 7563 incorporates bidirectional communication function which supports the system use. Not only the measured data output, but also the all functions executed by panel key operation can be controlled excluding only the power supply ON/OFF operation from a host computer by powerful set of commands.

■ Multi-point measurement of up to 50 points

By using a programmable scanner **750101** (to be available in 2nd half of 1990), the multi-point measurement of up to 50 points will be possible. Similarly, up to 10 points will be possible by using a **750201** (to be available in 1991).

■ Adjustment function of Ro : Reference resistance value of RTD (at 0°C)

Adjustment function of Ro expands the 7563's input ranges.
As adjustment range of this function covers 0 to 2,000 Ω with 0.001 Ω resolution, the combination of this function and three ranges for Pt RTD sensor offers customer to use almost all types of RTD sensor in the world.

■ Two types of external reference junction compensation (RJC)

● External RJC with adjustable reference junction temperature
  This function means that user can use any type of reference temperature, such as $H_2O(t)$, $He(v)$, $O_2(t)$, $Hg(t)$, $Ga(m)$, $Sn(f)$, $Au(f)$, etc. Adjustment range covers all temperature range of 12 thermocouples with 0.1°C(0.1°F) resolution.
● Remote RJC utilizing Pt100 sensor (Program Mode)
  In this mode, Pt100 sensor measures the temperature of external input terminal, and the 7563 compensates the reference junction temperature of the thermocouple connected to the external input terminal.

■ Analog output (optional)

This optional feature specify any data of 3-1/2 or 3 digits on the display and converts it to the analog data with the range of ±500mV or ±1V.
This function is ideal for both long-time temperature measurement and small change of measurement.

■ Versatile mathematical functions

In addition to the noise elimination function by moving average function and offset compensation (NULL), the scaling function and comparator function are also available.
(Example) When TC is calibrated at a reference temperature (Ts), the correction for measured value (Tx) can easily be obtained

Figure 3 Temperature correction by means of the scaling function

by using the scaling function. (Figure 3).
Scaling function: (X-A)/B, provided that, A=0, B=Tx/Ts

■ Software calibration

Calibration of DC V and Ω can be executed by simple panel key operation or via communication interfaces.
Calibration values for temperature measurement ranges are automatically calculated by only giving reference inputs for DC V and Ω ranges.

SPECIFICATIONS

1. DC Voltage (DC V)

●Ranges   *16.7ms shows 16.66

Range	Integrating time (500/200ms)		Integrating time (100/20/16.7ms)*		Integrating time (2.5ms)		Input Resistance	Max. Input
	Max. Reading	Resolution	Max. Reading	Resolution	Max. Reading	Resolution		
200mV	199.9999	100nV	199.999	1μV	199.99	10μV	>1GΩ	±200V peak between Hi and Lo.
2000mV	1999.999	1μV	1999.99	10μV	1999.9	100μV		±42V peak between Lo and guard.
20V	19.99999	10μV	19.9999	100μV	19.999	1μV		Lo and guard,
200V	199.9999	100μV	199.999	1mV	199.99	10mV	10MΩ ±1%	±500V peak between Guard and case.

●Accuracy (Integrating time 500ms) : ±(% of reading + digits)

Range	24h, 23±1℃	90days, 23±5℃	1year, 23±5℃	Temperature Coefficient (/℃*)
200mV	0.004 +20(3) [4]	0.006 +25(4) [4]	0.01 +25(4) [4]	0.0007 +5(.6) [.2]
2000mV	0.0025 + 8(2) [3]	0.0045 +10(2) [3]	0.0075 +10(2) [3]	0.00055 +1 (.2) [.1]
20V	0.003 + 8(2) [3]	0.005 +10(2) [3]	0.009 +10(2) [3]	0.00065 +1 (.2) [.1]
200V	0.0045 +10(2) [3]	0.009 +15(2) [3]	0.016 +15(2) [3]	0.00075 +1 (.2) [.1]

* Temperature range : 5 to 18, 28 to 40℃

●Accuracy at 24 hours, 23±1℃ is the value for calibration standard.
●Auto Zero ON, Null.
●Integrating time : At 200ms, 2 is added to the value (digits) in integrating time 500ms.
●( ) indicates the value (digits) in integrating time 100ms. At 20/16.7ms, 2 is added to the value (digits) in integrating time of ( ).
●[ ] indicates the value (digits) in integrating time 2.5ms.
●At Auto Zero OFF, temperature coefficient of ±(0.0015% of range ±25μV)/℃ is added (at 5 to 40℃).
●Common Mode Rejection : 120dB or more. Integrating time : 500/200/100/20/16.7ms, Rs=1kΩ. 50/60Hz ±0.1% (Rs : signal source resistance).
●Normal Mode Rejection : 60dB or more. Integrating time : 500/200/100/20/16.7ms, 50/60Hz ±0.1%.

2. Resistance (OHM)

●Ranges

Range	Integrating time (500/200ms)		Integrating time (100/20/16.7ms)		Integratig time (2.5ms)		Current through unknown
	Max. Reading	Resolution	Max. Reading	Resolution	Max. Reading	Resolution	
200Ω	199.9999	100μΩ	199.999	1mΩ	199.99	10mΩ	1mA
2000Ω	1999.999	1mΩ	1999.99	10mΩ	1999.9	100mΩ	1mA
20kΩ	19.99999	10mΩ	19.9999	100mΩ	19.999	1Ω	100μA
200kΩ	199.9999	100mΩ	199.999	1Ω	199.99	10Ω	10μA
2000kΩ	1999.999	1Ω	1999.99	10Ω	1999.9	100Ω	1μA
20MΩ	19.99999	100Ω	19.9999	100Ω	19.999	1kΩ	100nA

●Accuracy (4-wire, integrating time 500ms) : ±(% of reading + digits)

Range	24h, 23±1℃	90days, 23±5℃	1 year, 23±5℃	Temperature coefficient (/℃*)
200Ω	0.004 + 25(4) [4]	0.008 + 30(5) [4]	0.012 + 30(6) [4]	0.001 +10(2) [0.5]
2000Ω	0.003 + 15(3) [3]	0.006 + 25(4) [3]	0.01 + 25(5) [3]	0.00075 + 2 (0.5) [0.1]
20kΩ	0.003 + 15(3) [3]	0.006 + 25(5) [3]	0.01 + 25(5) [3]	0.00075 + 2 (0.5) [0.1]
200kΩ	0.005 + 20(3) [3]	0.008 + 30(5) [3]	0.012 + 30(5) [3]	0.00075 + 1 (0.5) [0.1]
2000kΩ	0.02 +135(15) [20]	0.03 +150(20) [30]	0.05 +150(20) [30]	0.003 + 2 (0.5) [0.1]
20MΩ	0.2 + 30(30)	0.2 + 30(30)	0.2 + 30(30)	0.02 + 1(1)

* Tempearature range : 5 to 18, 28 to 40℃

●Accuracy at 24hours, 23±1℃ is the value for the calibration standard.
●Auto Zero ON, Null.
●Integrating Time : At 200ms, 2 is added to the value (digits) in integrating time 500ms.
●( ) indicates the value (digits) in integrating time 100ms. For integrating time 20/16.7ms, 2 is added to the value (digits) enclosed in the parentheses.
●[ ] indicates the value (digits) in integrating time 2.5ms.
●For 20MΩ at sampling interval 400ms or more. Accuracy is not prescribed in integrating time 2.5ms.
●At Auto Zero OFF, temperature coefficient on 200Ω range is ±(0.013% of range)/℃, on other ranges ±(0.003% of range)/℃ is added (at 5 to 40℃).
●For 2-wire system, 2mΩ/℃ is added.
●Excluding the influence of leadwires.
●Open Circuit Voltage : Max. 10V.
●Maximum Input Voltage : ±200V peak or 200 V rms (between Hi and Lo).
●Response Time : 0.4s or less on 2,000kΩ/20 MΩ ranges. (to final value)

3. Temperature (TC)

*1. Range	Measurement range		Resolution	*2. Accuracy (Integrating time 500/200/100/20/16.7) : ±(% of rdg + ℃)			Temperature coefficient (common to each integrating time)	
			500/200ms	24hours, 23±1 *4	90days, 23±5℃ *4	1 year, 23±5℃ *4	*3. Temperature coefficient (% of rdg + ℃)/℃ *4	Condition
R	−50.0 to 0℃	−58.0 to 32.0°F	0.1℃ (0.1°F)	0.005 +0.5 [0.7]	0.007 +0.5 [0.7]	0.01 +0.5 [0.7]	0.001 + 0.07	
	0.0 to 100.0℃	32.0 to 212.0°F	0.1℃ (0.1°F)	0.005 +0.4 [0.5]	0.007 +0.4 [0.5]	0.01 +0.4 [0.5]		
	100.0 to 600.0℃	212.0 to 1,112.0°F	0.1℃ (0.1°F)	0.005 +0.3 [0.4]	0.007 +0.3 [0.4]	0.01 +0.3 [0.4]		
	600.0 to 1,760.0℃	1,112.0 to 3,200.0°F	0.1℃ (0.1°F)	0.005 +0.2 [0.3]	0.007 +0.2 [0.3]	0.01 +0.2 [0.3]		
S	−50.0 to 0℃	−58.0 to 32.0°F	0.1℃ (0.1°F)	0.005 +0.6 [0.7]	0.007 +0.6 [0.7]	0.01 +0.6 [0.7]	0.001 + 0.07	
	0.0 to 100.0℃	32.0 to 212.0°F	0.1℃ (0.1°F)	0.005 +0.4 [0.5]	0.007 +0.4 [0.5]	0.01 +0.4 [0.5]		
	100.0 to 600.0℃	212.0 to 1.112.0°F	0.1℃ (0.1°F)	0.005 +0.3 [0.4]	0.007 +0.3 [0.4]	0.01 +0.3 [0.4]		
	600.0 to 1,760.0℃	1,112.0 to 3,200.0°F	0.1℃ (0.1°F)	0.005 +0.2 [0.3]	0.007 +0.2 [0.3]	0.01 +0.2 [0.3]		
B	0.0 to 42℃	32.0 to 107.6°F	—	—	—	—	0.001 + 0.02	At the ambient temperature of 5 to 18℃ (41 to 64°F) and 28 to 40℃ (82 to 104°F)
	42.0 to 100.0℃	107.6 to 212.0°F	0.1℃ (0.1°F)	0.005 +7.0 [9.0]	0.007 +7.0 [9.0]	0.01 +7.0 [9.0]		
	100.0 to 200.0℃	212.0 to 392.0°F	0.1℃ (0.1°F)	0.005 +1.5 [2.0]	0.007 +1.5 [2.0]	0.01 +1.5 [2.0]		
	200.0 to 300.0℃	392.0 to 572.0°F	0.1℃ (0.1°F)	0.005 +1.0 [1.2]	0.007 +1.0 [1.2]	0.01 +1.0 [1.2]		
	300.0 to 400.0℃	572.0 to 752.0°F	0.1℃ (0.1°F)	0.005 +0.7 [0.9]	0.007 +0.7 [0.9]	0.01 +0.7 [0.9]		
	400.0 to 1,820.0℃	752.0 to 3,308.0°F	0.1℃ (0.1°F)	0.005 +0.3 [0.4]	0.007 +0.3 [0.4]	0.01 +0.3 [0.4]		
K	−270.0 to −250.0℃	−454.0 to −418.0°F	0.1℃ (0.1°F)	0.004 +1.3 [2.5]	0.006 +1.3 [2.5]	0.01 +1.3 [2.5]	0.0007 + 0.02	
	−250.0 to −200.0℃	−418.0 to −328.0°F	0.1℃ (0.1°F)	0.004 +0.5 [0.9]	0.006 +0.5 [0.9]	0.01 +0.5 [0.9]		
	−200.0 to 0.0℃	−328.0 to 32.0°F	0.1℃ (0.1°F)	0.004 +0.3 [0.4]	0.006 +0.3 [0.4]	0.01 +0.3 [0.4]		
	0.0 to 1,370.0℃	32.0 to 2,498.0°F	0.1℃ (0.1°F)	0.004 +0.3 [0.3]	0.006 +0.2 [0.3]	0.01 +0.2 [0.3]		
J	−210.0 to −200.0℃	−346.0 to −328.0°F	0.1℃ (0.1°F)	0.004 +0.4 [0.6]	0.006 +0.4 [0.6]	0.01 +0.4 [0.6]	0.0007 + 0.01	
	−200.0 to −150.0℃	−328.0 to −238.0°F	0.1℃ (0.1°F)	0.004 +0.3 [0.5]	0.006 +0.3 [0.5]	0.01 +0.3 [0.5]		
	−150.0 to 0.0℃	−238.0 to 32.0°F	0.1℃ (0.1°F)	0.004 +0.2 [0.4]	0.006 +0.2 [0.4]	0.01 +0.2 [0.4]		
	0.0 to 1,200℃	32.0 to 2,192.0°F	0.1℃ (0.1°F)	0.004 +0.2 [0.3]	0.006 +0.2 [0.3]	0.01 +0.2 [0.3]		
E	−270.0 to −250.0℃	−454.0 to −418.0°F	0.1℃ (0.1°F)	0.004 +0.8 [1.5]	0.006 +0.8 [1.5]	0.01 +0.8 [1.5]	0.0007 + 0.01	
	−250.0 to −200.0℃	−418.0 to −328.0°F	0.1℃ (0.1°F)	0.004 +0.3 [0.6]	0.006 +0.3 [0.6]	0.01 +0.3 [0.6]		
	−200.0 to 0.0℃	−328.0 to 32.0°F	0.1℃ (0.1°F)	0.004 +0.2 [0.4]	0.006 +0.2 [0.4]	0.01 +0.2 [0.4]		
	0.0 to 1,000.0℃	32.0 to 1,832.0°F	0.1℃ (0.1°F)	0.004 +0.2 [0.3]	0.006 +0.2 [0.3]	0.01 +0.2 [0.3]		
T	−270.0 to −250.0℃	−454.0 to −418.0°F	0.1℃ (0.1°F)	0.004 +1.0 [1.5]	0.006 +1.0 [1.5]	0.01 +1.0 [1.5]	0.0007 + 0.01	
	−250.0 to −200.0℃	−418.0 to −328.0°F	0.1℃ (0.1°F)	0.004 +0.3 [0.5]	0.006 +0.3 [0.5]	0.01 +0.3 [0.5]		
	−200.0 to 400.0℃	−328.0 to 752.0°F	0.1℃ (0.1°F)	0.004 +0.2 [0.3]	0.006 +0.2 [0.3]	0.01 +0.2 [0.3]		
U	−200.0 to −100.0℃	−328.0 to −148.0°F	0.1℃ (0.1°F)	0.004 +0.3 [0.4]	0.006 +0.3 [0.4]	0.01 +0.3 [0.4]	0.0007 + 0.01	
	−100.0 to 0.0℃	−148.0 to 32.0°F	0.1℃ (0.1°F)	0.004 +0.2 [0.4]	0.006 +0.2 [0.4]	0.01 +0.2 [0.4]		
	0.0 to 600.0℃	32.0 to 1,112.0°F	0.1℃ (0.1°F)	0.004 +0.2 [0.3]	0.006 +0.2 [0.3]	0.01 +0.2 [0.3]		
L	−200.0 to −100.0℃	−328.0 to −148.0°F	0.1℃ (0.1°F)	0.004 +0.3 [0.4]	0.006 +0.3 [0.4]	0.01 +0.3 [0.4]	0.0007 + 0.01	
	−100.0 to 900.0℃	−148.0 to 1,652.0°F	0.1℃ (0.1°F)	0.004 +0.2 [0.3]	0.006 +0.2 [0.3]	0.01 +0.2 [0.3]		
N	0.0 to 1,300.0℃	32.0 to 2,372.0°F	0.1℃ (0.1°F)	0.004 +0.2 [0.4]	0.006 +0.2 [0.4]	0.01 +0.2 [0.3]	*+0.2 [0.3]	
W	0.0 to 2,315.0℃	32.0 to 4,199.0°F	0.1℃ (0.1°F)	0.004 +0.2 [0.4]	0.006 +0.2 [0.4]	0.01 +0.2 [0.4]		
KPvsAu7Fe	0.0 to 20.0K		0.1K	*2 0.005 +0.3 [0.4]	*2 0.007 +0.3 [0.3]	*2 0.01 +0.3 [0.3]	*3 0.001 +0.05	
	20.0 to 70.0K		0.1K	0.005 +0.2 [0.3]	0.007 +0.2 [0.3]	0.011 +0.2 [0.3]		
	70.0 to 300.0K		0.1K	0.004 +0.2 [0.3]	0.006 +0.2 [0.2]	0.011 +0.2 [0.2]		

* 1. As to the R. S. B. K. J. E. T and N, the provisions of IEC584-1-1995 apply. As to the U and L, those of DIN43710 apply.
   As to the W, those of Hoskins Mtg CO (USA) apply. As to the KpvsAu7Fe, those of NSB Vol. 76A apply.
* 2. KPvsAu7Fe : ±(% of rdg+K)   * 3. KPvsAu7Fe : ±(% of rdg+K)/℃   * 4. In case of accuracy and temperature coefficient of °F, multiply 1.8×℃.

■Accuracy of reference junction compensation

Range	Accuracy of reference junction compensation(℃)	Description
R, S, B, W, KPvsAu7Fe	±0.3℃ (±0.6°F)	At the ambient temperature of 5 to 40℃
K, J, E, U, L, N, T	±0.2℃ (±0.4°F)	

●In case of internal compensation, the above accuracy of reference junction compensation should be added to measuring accuracy.
●The accuracy for Type B at 0 to 42℃ is not prescribed.
▶Temperature unit
Changable among ℃, °F and K. Provided, however, that only K applies as to KPvsAu 7Fe.
▶Accuracy
●The accuracy is in the case of REAR input, external RJC (reference junction temperature=0℃).
●In case of FRONT input, 0.2℃ should be added.
●[ ] indicates the values in integraing time of 2.5ms.
●Auto Zero ON.
●Accuracy of RJC is excluded.
●The accuracy for Type B at 0 to 42℃ is not prescribed.
●Common mode rejection : 120dB or more Integrating time : 500, 200, 100, 20 and 16.7ms RS=1kΩ, 50/60Hz±0.1%
●Normal mode rejection : 60dB or more Integrating time : 500, 200, 100, 20, and 16.7 ms, 50/60Hz±0.1%
●In case of integrating time 200 or 500ms at measuring temperature, the response time is 100ms be setting FILTER.

5. Sampling interval

10 ms to 60 min. (1 ms min., 1 s at 3 s or more)

■Minimum time of the following conditions

●DC V, OHM, RTD (2- or 4-wire), TC (reference junction compensation)

Integrating Time	Measuring Interval (Auto Zero OFF)	Measuring Interval (Auto Zero ON)
2.5ms	10ms	15ms
16.7ms	25ms	45ms
20ms	35ms	55ms
100ms	110ms	215ms
200ms	210ms	415ms
500ms	510ms	1015ms

●RTD (3-wire)

Integrating Time	Measuring Interval
2.5ms	95ms
16.7ms	145ms
20ms	155ms
100ms	395ms
200ms	695ms
500ms	1595ms

●TC

Integrating Time	Measuring Interval (Auto Zero OFF)	Measuring Interval (Auto Zero ON)
2.5ms	70ms	150ms
16.7ms	135ms	215ms
20ms	150ms	230ms
100ms	470ms	550ms
200ms	870ms	950ms
500ms	2070ms	2150ms

4. Temperature (RTD)

※1. Range	Measurement range		Resolution	Current through unknown	*2. Accuracy (Integrating time 500/200) : ±(% of rdg+℃)			Temperature coefficient (common to each integrating time)	Conditions
			500/200/100ms		24hours, 23±1℃ *4	90days, 23±5℃ *4	1 year, 23±5℃ *4	Temperature coefficient (% of rdg + ℃)/℃ *4	
Pt100	−200.00 to 850.00℃ (−328.00 to 1,562.00°F)		0.01℃ (0.01°F)	1mA	0.005 +0.07 (0.1) [0.3]	0.01 +0.07 (0.1) [0.3]	0.014 +0.07 (0.1) [0.3]	0.001 +0.006	Ambient temperature 5 to 18℃ (41 to 64°F) 28 to 40℃ (82 to 104°F)
JPt100	−200.00 to 510.0℃ (−328.00 to 950.0°F)		0.01℃ (0.01°F)	1mA	0.005 +0.07 (0.1) [0.3]	0.01 +0.07 (0.1) [0.3]	0.014 +0.07 (0.1) [0.3]	0.001 +0.004	
Pt1000	−200.00 to 850.00℃ (−328.00 to 1,562.00°F)		0.01℃ (0.01°F)	0.1mA	0.005 +0.05 (0.07) [0.2]	0.01 +0.05 (0.07) [0.2]	0.014 +0.05 (0.07) [0.2]	0.001 +0.003	
J263*B	2.0 to 300.0K		0.1K	1mA	*2 0.005 +0.1 (0.1) [0.2]	*2 0.012 +0.1 (0.1) [0.2]	*2 0.016 +0.1 (0.1) [0.2]	*3 0.001 +0.003	

* 1. As to Pt100, IEC751-1995 apply. As to Pt1000, the prescription for Pt100 of IEC751-1995 applies. As to JPt100, JISC1604-1989 apply.
* 2. J263*B : ±(% of rdg+K)   * 3. J263*B : ±(% of rdg+K)/℃   * 4. In case of accuracy and temperature coefficient of °F, multiply 1.8×℃.

■Temperature unit
Changeable among ℃, °F and K, but as to J263 only K applies.
■Accuracy
●Same accuracy for both FRONT and REAR input.
●Allowable conductor resistance : Less than 10Ω.
●( ) indicates the accuracy in integraing time of 100, 20, 16ms.
●[ ] indicates the accuracy in integraing time of 2.5ms.
■Temperature coefficient
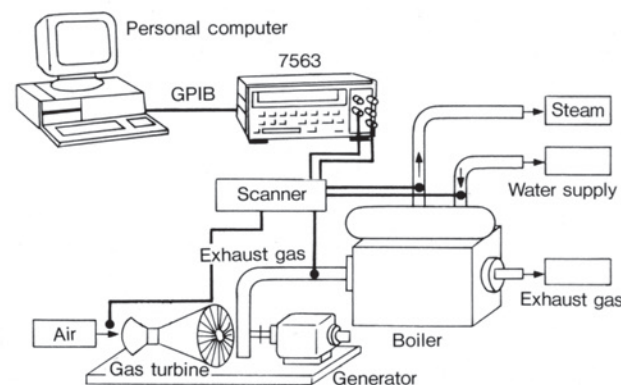●For 3-wire Pt100, J263······0.003 ℃/℃ JPt100, Pt1000······0.002 ℃/℃ is added
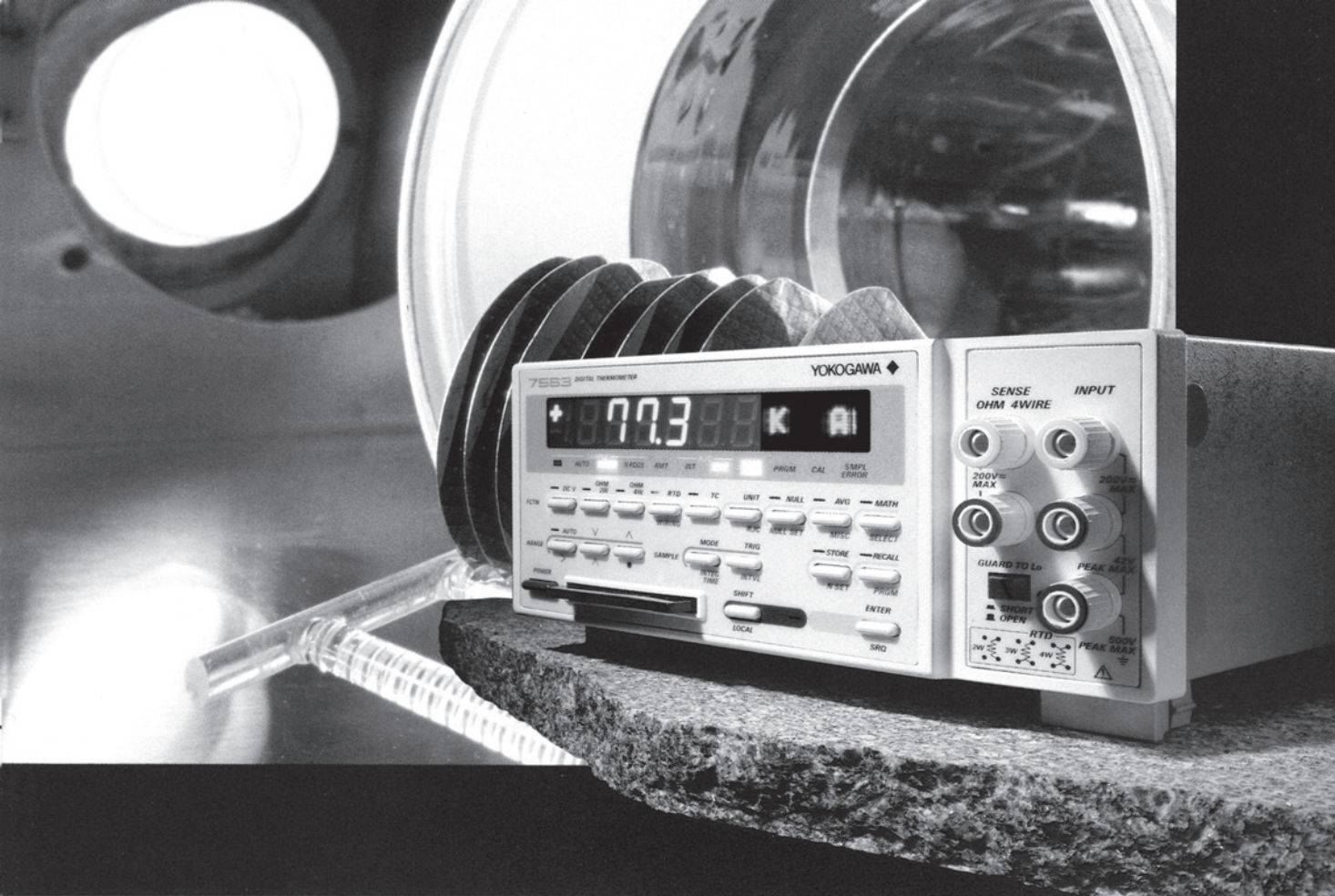
Temperature is measured at every place of various fields. The digital thermometer 7563 has high accuracy, high resolution and high-speed sampling in order to meet a various application needs.

Examples of application fields

Chemistry	Medical science/ Biometeorology	Foodstuffs
Electric and electronic industry	7563	
Machinery		Clean room
	7563	Energy saving industry
Environmental resources	Analytic materials	Temperature reference
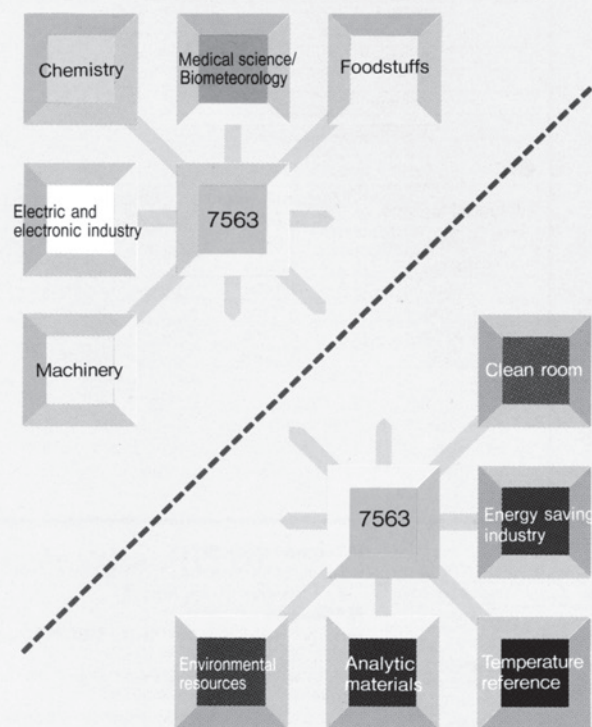
Example of usages

Examples of turbine exhaust gas temperature measurement

By using Model 7563 with scanner, high speed and high accuracy measurement of temperature distribution and differential temperature can be measured.

Examples of minute temperature measurement for microorganism culture bath
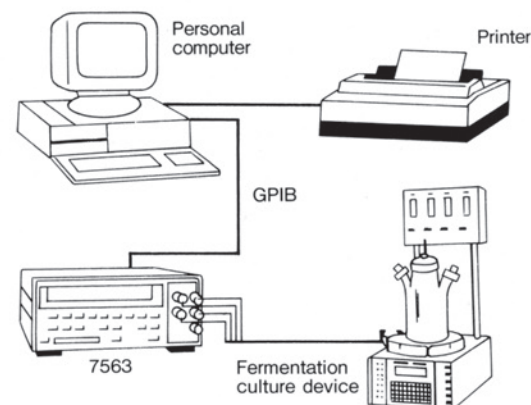
Temperature change is measured by a resolution of 0.01°C (0.01°F)

■General Specifications

Operating Principle : Feedback pulse width modulation method.
Sample Mode : Auto/Single/N reading.
Maximum Reading : 1999999.
Overrange Information : -oL- sign display.
Data Memory : 1,000 data, measured data can be stored and recalled : (STORE/RECALL).
Ranging : AUTO, MANUAL, (remote control and programming possible).
Analog Output (D-A converter) : Optional.
Burnout : TC burnout (defective connection or disconnection etc.) is automatically checked and indicated by alarm display (ON or OFF selectable).
2kΩ or less (normal), if the value is higher than 30kΩ, the connection is cut down. Current 2.2μA or so. Pulse width detection；2.4ms or so.
Interface
GPIB Interface (7563 01)
Electrical & Mechanical Specifications : Conforms to IEEE St'd 488-1978.
Interface Function & Identification : SH1, AH1, L4, SR1, RL1, PP0, DC1, DT1, C0. Address Mode, address and header ON/OFF can be settable.
Operating Temperature Range : 5 to 40°C (41 to 104°F).
Humidity Range : 20 to 80% relative humidity.
Warmup Time : Approx. 60 minutes to rated accuracy.
Power Requirements : 100/115 V AC ±10% (100/115V : selectable by switch), 50 or 60Hz (200/230V must be specified, selectable)
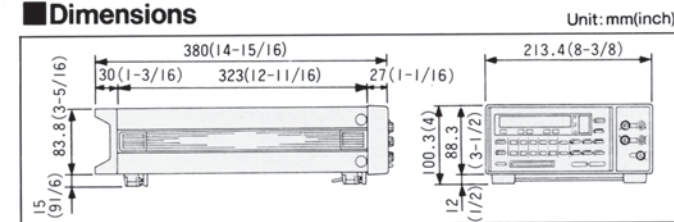Power Consumption : 20 VA max.
Dimensions (Approx.) : 213(W)×88(H)×350(D)mm, (3-1/2×8-3/8×13-15/16˝).
Weight (Approx.) : 3 kg (6.6 lbs).
Standard Accessories : Power supply cord 1 set, 0.2 A fuse (time lag) 1 pc., remote connector 1 pc., instruction manual 1 copy.

■Model, Suffix and Option Codes

Model	Suffix Codes			Description
756301				6.5 digits DCV, OHM, TEMP, (TC&RTD) (GPIB)
	-B			Always B (version code)
Power Requirements		-1		100V AC (50 & 60Hz), 115V AC changable
		-3		115V AC (50 & 60Hz), 100V AC changable
		-5		200V AC (50 & 60Hz), 230V AC changable
		-7		230V AC (50 & 60Hz), 200V AC changable
Power Cord			/B	JIS standard
			/D	UL standard
			/F	VDE standard
			/G	SAA standard
Optional feature			/DA	D-A converter

■Optional Accessories

Name	Code	Description
IC memory card (8K bytes)	378901	Setting & measured data
IC memory card (16K bytes)	378902	Setting & measured data
IC memory card (128K bytes)	378903	Setting & measured data
Dummy card	B9586NG	Dust cap for memory card slot
Rack mounting kit	751501	EIA (single mounting)
Rack mounting kit	751502	EIA (double mounting)
Rack mounting kit	751503	JIS (single mounting)
Rack mounting kit	751504	JIS (double mounting)
4-wire resistance measuring lead	751510	0.6m

4-wire resistance measuring lead (751510)

IC memory card (378901, 378902, 378903)

■Dimensions

Unit : mm(inch)