

**NEW**

YOKOGAWA 

## Reliable and Convenient for Maintenance Digital Multimeter

TY500 series Built-in Memory Type TY530/Standard Type TY520

### Based on Safe Design, Supporting Various Maintenance Applications

- **High Precision**
  - Basic accuracy 0.09%
  - True RMS measurement
- **Ensured Field Site Safety**
  - Conforms to safety standards EN61010-1 1000V CAT. III, 600V CAT. IV
  - Safety shutters for preventing erroneous insertion of test leads into current measurement terminals
- **New Functions for Yokogawa Middle Class DMMs**
  - Current direct reading function provided by current clamp sensor (optional)
  - Low-pass Filter (LPF)
  - Logging-mode memory for 1600 data\*
  - USB communication, application software\* (Optional DMM communication package)
  - \*TY530 only
- **Closed Case Calibration**



Built-in Memory Type  
**TY530**

Standard type  
**TY520**



Yokogawa Meters & Instruments Corporation

LF TY700/TY500-E

**NEW**

YOKOGAWA 

## High Accuracy & Performance Digital Multimeter

TY700 series Advanced Type TY720/Standard Type TY710

### Most Reliable Handheld DMM

- **Highest Precision**
  - Basic accuracy 0.020%
  - True RMS measurement
- **New Functions for Electronic and Industrial Use**
  - Simultaneous measurement and display of DC and AC
  - Switchable RMS/MEAN detection\*
  - Low-pass Filter (LPF)\*
  - AC50mV range\*
  - Lo-Power resistance measurement\*
  - \*TY720 only
- **Full Support for Data Management**
  - A large-capacity logging-mode memory  
TY720: 10,000 data  
TY710: 1,000 data
  - USB communication, application software (Optional DMM communication package)
- **Safe Design and Wide Temperature Range for Harsh Use**
  - Conforms to safety standards EN61010-1 1000V CAT. III, 600V CAT. IV
  - Safety shutters for preventing erroneous insertion of test leads into current measurement terminals
  - Operating temperature range -20 to +55°C
  - Storage temperature range -40 to +70°C
- **Closed Case Calibration**



Advanced type  
**TY720**

Standard type  
**TY710**



Yokogawa Meters & Instruments Corporation

LF TY700/TY500-E

Model and Specification Code		Optional Accessories		
Name	Model	Name	Model	Specification
Digital Multimeter	TY710	DMM communication package	92015	USB communication adapter + USB communication cable + Application software
	TY720	Communication package for printer	97016	Printer adapter + Printer cable
		Printer	97010	Thermal printer Paper width 112mm
		AC adapter for printer	94005	AC 100V ± 10%
			94006	For Printer, Europe
		Thermal printing paper	97080	10 rolls (1 set)
		Test leads	98015	100V CAT II, 600V CAT III Red/black (1 set)
		Test leads with Alligator Clip	99014	100V CAT III, 600V CAT III Red/black (1 set)

### TY700 General Specifications

**Measurement Functions** :DC voltage, AC voltage, DCV+ACV, DC current, AC current, DCA+ACA, resistance, frequency, temperature, capacitance, duty cycle, decibel calculation, continuity check, diode test, low-power resistance (TY720 only)  
For AC voltage/current, RMS/MEAN detection can be switched (TY720 only).  
For AC voltage/current, the low-pass filter can be turned on/off (TY720 only).  
**Additional Functions** :Data hold/auto hold/peak hold (TY720 only), range hold, maximum/minimum/average values resistance, capacitance zero, relative and percentage value calculation, manual-mode memory, logging-mode memory, auto power off, backlight (white LED)  
**Display** :5-digit LCD: .....7-segment  
Digital display: .....Main display; [50,000] counts  
Sub-display; [50,000] counts  
Bar graph display: .....51-segment  
Polarity indicator: .....“-” appears automatically when the polarity is negative  
Overrange indicator: .....“OL”  
Low-battery indicator: .....“” appears at or below the minimum operating voltage.

### Performance

**Test conditions: Temperature and humidity = 23 ± 5° C, 80% RH or less; Accuracy = ± (% rdg + dgt).**  
**Note: A response time is the time required for achieving the accuracy specified for the corresponding range.**

Range	Resolution	Accuracy TY710, TY720	Input Resistance	Maximum Input Voltage
50mV	0.001mV	0.05+10	Approx. 100MΩ	1000V DC
500mV	0.01mV	0.02+2		
2400mV	0.1mV	0.025+5	10MΩ	1000V rms AC
5V	0.0001V	0.025+5		
50V	0.001V	0.03+2		
500V	0.01V			
1000V	0.1V			

NMR: 80dB or greater for 50/60Hz ± 0.1%At 50mV of range, 70dB or greater for 50/60Hz ± 0.1%  
CMR: 100dB or greater for 50/60Hz(Rs=1kΩ) Response time: 0.3 seconds or less

Range	Resolution	Accuracy (Upper: TY710, Lower: TY720, the display of “—” is not specified)					Input Impedance	Maximum Input Voltage
		10 - 20Hz	20Hz - 1kHz	1k - 10kHz	10k - 20kHz	20k - 50kHz		
50mV	0.001mV	2+80 <sup>2</sup>	0.4+40 <sup>2</sup>	5+40 <sup>2</sup>	5.5+40 <sup>2</sup>	15+40 <sup>2</sup>	11MΩ<50pF	1000V rms AC 1000V DC
500mV	0.01mV							
5V	0.0001V	1.5+30 <sup>1</sup>	0.7+30 <sup>1</sup>	2+50 <sup>2</sup>	—	—	10MΩ<50pF	1000V rms AC 1000V DC
50V	0.001V	1+30 <sup>1</sup>	0.4+30 <sup>1</sup>	1+40 <sup>1</sup>	2+70 <sup>2</sup>	5+200 <sup>2</sup>		
500V	0.01V							
1000V	0.1V							

\*1: At 5 to 100% of range \*2: At 10 to100% of range CMR: 80dB or greater for DC to 60Hz(Rs= 1kΩ) Response time: 1 second or less

Range	Resolution	Accuracy TY720			Input Impedance	Maximum Input Voltage
		10 - 20Hz	20 - 500Hz	500 - 1kHz		
50mV	0.001mV	4+80 <sup>2</sup>	1.5+30 <sup>2</sup>	—	11MΩ<50pF	1000V rms AC 1000V DC
500mV	0.01mV					
5V	0.0001V	2+30 <sup>1</sup>	1+30 <sup>1</sup>	3+30 <sup>1</sup>	10MΩ<50pF	1000V rms AC 1000V DC
50V	0.001V					
500V	0.01V					
1000V	0.1V					

\*1: At 5 to 100% of range \*2: At 10 to 100% of range CMR: 80dB or greater for DC to 60Hz (Rs = 1kΩ) Response time: 1 second or less

Range	Resolution	Accuracy (Upper: TY710, Lower: TY720, the display of “—” is not specified)				Input Impedance	Maximum Input Voltage
		DC, 10 - 20Hz	DC, 20Hz - 1kHz	DC, 1k - 10kHz	DC, 20k - 50kHz		
5V	0.0001V	1.5+10 <sup>1</sup>	1+10 <sup>1</sup>	2+10 <sup>2</sup>	—	11MΩ<50pF	1000V rms AC 1000V DC
50V	0.001V	1.5+10 <sup>1</sup>	0.5+10 <sup>1</sup>	1+10 <sup>1</sup>	2+10 <sup>2</sup>		
500V	0.01V				5+20 <sup>2</sup>	10MΩ<50pF	1000V rms AC 1000V DC
1000V	0.1V						

\*1: At 5 to 100% of range \*2: At 10 to 100% of range CMR: 80dB or greater for DC to 60Hz (Rs = 1kΩ) Response time: Approx. 2 seconds

Range	Resolution	Accuracy		Maximum Testing Current	Open-circuit Voltage	Input Protection Voltage
		TY710	TY720			
500Ω	0.01Ω	0.1+2 <sup>1</sup>	0.05+2 <sup>1</sup>	<1mA	<2.5V	1000V rms
5kΩ	0.0001kΩ			<0.25mA		
50kΩ	0.001kΩ			<2.5μA		
500kΩ	0.01kΩ			<2.5μA		
5MΩ	0.0001MΩ			<1.5μA		
50MΩ	0.001MΩ			<0.13μA		

\*1: Accuracy after zero calibration Response time: 1 second or less for 500Ω to 500kΩ, 5 seconds or less for 5MΩ to 50MΩ

Range	Resolution	Accuracy	Maximum Testing Current	Open-circuit Voltage	Input Protection Voltage
		TY720			
5kΩ	0.001kΩ	0.2+3	<10μA	<0.7V	1000V rms
50kΩ	0.01kΩ		<1.0μA		
500kΩ	0.1kΩ		<0.6μA		
5MΩ	0.001MΩ		<0.05μA		

Range	Resolution	Continuity Buzzer TY710, TY720	Testing Current	Open-circuit Voltage	Input Protection Voltage
500Ω	0.1Ω	Buzzer sounds at 100 ± 50Ω or less.	Approx. 0.5mA	<5V	1000V rms

## YOKOGAWA

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**NOTICE**  
● Before using the product, read the instruction manual carefully to ensure proper and safe operation.

Represented by:

Model and Specification Code		Optional Accessories		
Name	Model	Name	Model	Specification
Digital Multimeter	TY520	DMM communication package	92015	USB communication adapter + USB communication cable + Application software
	TY530	Communication package for printer	97016	Printer adapter + Printer cable
		Printer	97010	Thermal printer Paper width 112mm
		AC adapter for printer	94005	AC 100V ± 10%
			94006	For Printer, Europe
		Thermal printing paper	97080	10 rolls (1 set)
		Test leads	98015	1000V CAT III, 600V CAT IV Red/black (1 set)
		Test leads with Alligator Clip	99014	1000V CAT III, 600V CAT IV Red/black (1 set)
		Fuse	99015	440mA/1000V (1 piece/1 unit)
			99016	10A/1000V (1 piece/1 unit)
		TC-K temperature probe	90050	-50 to 600°C (For liquids)

### TY500 General Specifications

**Measurement Functions** :DC Voltage, AC voltage, DC current, AC current, resistance, frequency, temperature, capacitance, continuity check, diode test For AC voltage/current, RMS/MEAN detection can be switched (TY530 only).  
Low-pass filter can be switched on/off  
**Additional Functions** :Data hold/auto hold/range hold, maximum/minimum/average values (TY530 only), resistance, relative and percentage value calculation, memory function (TY530 only), communication function (TY530 only), logging-mode memory (TY530 only), auto power off, backlight  
:3.5-digit LCD: .....7-segment  
Digital display: .....[6000] counts  
Bar graph display: .....31-segment  
Polarity indicator: .....“-” appears when the polarity is negative  
Overrange indicator: .....“OL”  
Low-battery indicator: .....“” appears at or below the minimum operating voltage.

### Performance

**Test conditions: Temperature and humidity = 23 ± 5° C, 80% RH or less; Accuracy = ± (% rdg + dgt).**  
**Note: A response time is the time required for achieving the accuracy specified for the corresponding range.**

Range	Resolution	Accuracy TY520, TY530	Input Resistance	Maximum Input Voltage
600mV	0.1mV	0.09+2	10MΩ	1000V DC 1000V rms AC
6V	0.001V		11MΩ	
60V	0.01V	0.15+2	10MΩ	1000V rms AC
600V	0.1V			
1000V	1V			

NMR: 60dB or greater for 50/60Hz ± 0.1%  
CMR: 120dB or greater for 50/60Hz (Rs = 1kΩ) Response time: 1 second or less

Range	Resolution	Accuracy (TY530, TY520) crest factor: 3/mean-value detection (TY530 only) sinusoidal wave			Input Impedance	Maximum Input Voltage
		50/60Hz	40-500Hz	500Hz - 1kHz		
600mV	0.1mV	0.5+5	1+5	1.5+5	10MΩ, <200pF	1000V rms AC 1000V DC
6V	0.0001V				11MΩ, <50pF	
60V	0.001V				10MΩ, <50pF	
600V	0.01V					
1000V	0.1V					

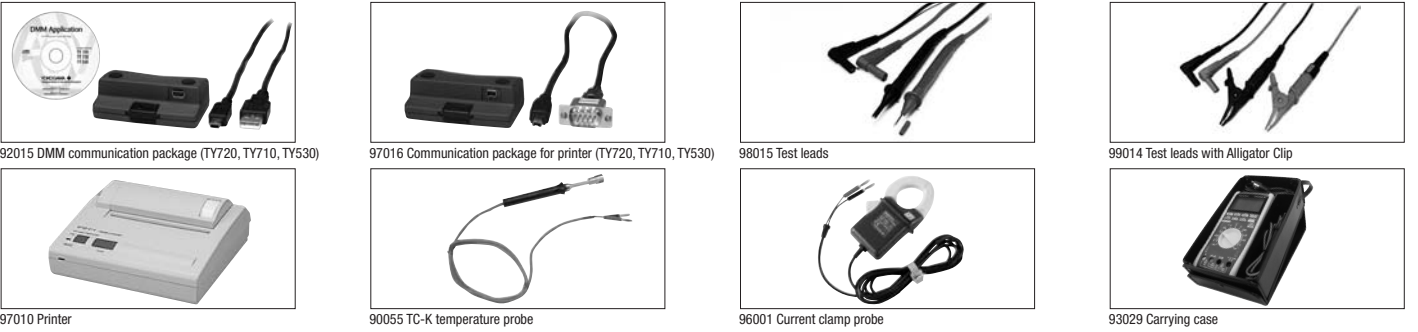
Shown above is the accuracy at 5 to 100% of range (200 to 1000V for 1000V range, peak 1500V or less). Response time: 2 seconds or less  
Add accuracy = ±(2% of reading + 2% of F.S.), except for sinusoidal wave. CMR: 60dB or greater for DC to 60Hz (Rs = 1kΩ). 4 counts or less is corrected to 0.

Range	Resolution	Accuracy	Maximum Testing Current	Open-circuit Voltage	Input Protection Voltage
600Ω	0.1Ω	0.4+1 <sup>1</sup>	<1.2mA	<3.5V	1000V rms
6kΩ	0.001kΩ		<110μA		
60kΩ	0.01kΩ		<13μA		
600kΩ	0.1kΩ		<1.3μA		
6MΩ	0.001MΩ	0.5+1	<130nA	<1.3V	
60MΩ	0.01MΩ	1+2(0-40MΩ) 2+2(40-60MΩ)			

\*1: Accuracy after zero calibration for 600Ω to 6kΩ range. Response time: 2 seconds or less for 600Ω to 600kΩ, 10 seconds or less for 6MΩ to 60MΩ.

Range (auto-ranging)	Resolution	Accuracy	Input Voltage Range
2.000 - 9.999Hz	0.001Hz	0.02+1	0.2 - 600V rms
9.00 - 99.99Hz	0.01Hz		0.4 - 600V rms
90.0 - 999.9Hz	0.1Hz		0.8 - 100V rms
9.000 - 9.999kHz	0.001kHz		
9.00 - 99.99kHz	0.01kHz		

### TY Series Common Accessories



Name	96036	96033	96030	96031	96032	96034	96035
Current Clamp Probe							
Measurable Conductor Diameter	dia. 40mm	dia. 18mm	dia. 30mm	dia. 30mm	dia. 65mm	dia. 65 x 100mm	dia. 170mm
Measurement Range	2A AC	50A AC	200A AC	500A AC	700A AC (1000A for 5 minutes)	1000A, 2000A, 3000A AC	300 - 3000A AC
Output Voltage	50mV/AC	500mV/AC	500mV/AC	500mV/AC	500mV/AC	500mV/AC	500mV/AC
Accuracy *reads according to Input/Amplitude	±0.5% of rdg	±0.5% of rdg	±0.5% of rdg	±0.5% of rdg	±1.0% of rdg	±1.0% of rdg	±1.0% of rdg
Frequency Range	20Hz - 5kHz	20Hz - 20kHz	20Hz - 20kHz	20Hz - 5kHz	45Hz - 66Hz	30Hz - 1.5kHz	10Hz - 20kHz
Maximum Circuit Voltage	50V/AC	300V/AC	600V/AC	600V/AC	600V/AC	600V/AC	1000V/AC (pri)

\*1: 9V battery-operated. Can be AC adapter-operated (optional)