



# Leakage Current Tester TOS3200

. . . . . . . . . .

Conforms to international standard IEC 60990 ("Methods of measurement of touch current and protective conductor current"). Current measurement range: DC/RMS: 30 µA to 30 mA, PEAK: 50 µA to 90 mA Eight built-in measurement circuit networks conforming to IEC 60990 and other standards. GPIB, RS-232C, and USB interfaces equipped as standard.



*Conforms to safety standards for general electrical equipment. Supports all touch current and protective conductor current (earth leakage current) tests.* 



A leakage current tester has now been added to the TOS Series... Conforms to international standard IEC 60990 ("Methods of measurement of touch current and protective conductor current").

Leakage Current Tester

The Leakage Current Tester TOS3200 is designed to perform leakage current (touch current and protective conductor current) tests on general electrical equipment but not medical electrical equipment. It enables you to conduct tests that conform to the requirements of the applicable IEC, UL, JIS, and other standards, as well as the Electrical Appliance and Material Safety Law. The memory in the main unit stores the 51 types of test conditions laid down in the IEC/JIS standards for information technology equipment, household electrical appliances, audio, video electronic apparatus, luminaires, motor-operated electric tools, and electrical equipment for measurement and control and in the Electrical Appliance and Material Safety Law, thereby enabling you to conduct standard tests with simple panel operation.

## Capable of measuring leakage current in three modes

## Touch current (TC) operating mode\*

Enables you to measure the touch current flowing between the enclosure (accessible portion) of the electrical equipment under test (EUT) and the power line incorporating the earth wire, via Measuring Devices. For Measuring Devices, eight measurement circuit networks (NTWKs) conforming to the applicable standards are provided as standard. The switching of the polarities of the power line to the EUT, as well as single-fault conditions, are automatically set with relays inside the tester.



# Protective conductor current (PCC) operating mode\*

Enables you to measure the current flowing through the protective conductor (earth wire) by connecting the power plug (NEMA5-15 or an equivalent) of an item of 100 V electrical equipment to the socket on the front panel. A multi-outlet is available as an option (sold separately) to accommodate the different plugs used around the world.

## Meter (METER) operating mode

In the same way as an ordinary multimeter, enables you to measure voltage and current using measurement terminals A and B on the front panel. For voltage measurement, it offers a "safety extra low voltage" (SELV) detection function; for current measurement, it offers a measurement function using measurement circuit networks (NTWKs).

[Conceptual diagram of the TC measurement]

\* TC=Touch Current PCC=Protective Conductor Current

#### Eight built-in measurement circuit networks

It offers built-in eight measurement circuit networks for measuring the touch current of general electrical equipment.

#### Measurement circuit network(network A)



Measurement circuit network(network B)



Measurement circuit network(network B1)



Measurement circuit network(network C)



Measurement circuit network(network D)



#### Measurement circuit network (network E)

(Applicable standard:Electrical Appliance and Material Safety Law)



Measurement circuit network (network F) (Applicable standard:IEC61029 etc.)



Measurement circuit network (network G) (Applicable standard:IEC60745 etc.)



U,U1:Measured voltage between the measurement network reference points

#### Rear panel

#### Output to 30 mA for RMS measurement

Capable of measuring 30 µA to 30 mA for DC/RMS measurement and 50 µA to 90 mA for PEAK measurement, both in three ranges. Two range switching functions are provided, namely, a fixed range function (FIX) and auto range function (AUTO). which conform to the current to be measured.

For RMS measurement, the "true rootmean-square value" is achieved.

### Easy-to-understand operation

Simple operation is possible thanks to the intuitively understandable test condition menu and the function keys/rotary knobs.

TC 1/2 PROBE ENCPE POL NORM UPP COND NORM	WHER OFF UPPER ON FUNCTION OFF
PROBE	LOWER UPPER TIME/WAIT
TC 2/2 NTWKA MODERM A RESTRA	S RANGE AUTO Rs: 1.5 kΩ Cs: 0.22 μF Rb: 0.5 kΩ PE RANGE

[Setting screen for touch current (TC) measurement]

#### Enables the continuous execution of tests

Allows you to automatically conduct TC and PCC tests as a single sequence program up to 100 independent tests (steps). You can set up to 100 sequence programs, with up to 500 steps in total. To support automation test, measurement point (probe setting) can be switched over without turning off EUT power line.

AUTO 1/2 PRG 00: NTWK:A MODE:RMS AB 00 TC+EncPePNRM+NORM- DI TC+EncPePNRM+NORM- END	UNTITLED ORT:OFF 1s 1s	EDIT LOWER: 30µA UPPER: 30.0mA WAIT : OFF TIMER : 1s
INS LOWER	UPPER	WAIT TIMER
AUTO 2/2 PRG 01:	TEST-1	EDIT
NTWKB MODERMS	RANGE AUT	O ABORT OFF
APPRS R1-		.5 kΩ Cs: 0.22 μF
Cs Rb	C1 Rb: 0	0.5 kΩ C1: 0.022 μF
B	R1:	<b>10 k</b> Ω

[Setting screen for auto tests]

## Capable of saving test results

For independent tests, enables you to save not only test results but also the test date and time and the test conditions for up to 50 tests; for auto tests, you can save this data for up to 50 programs.



#### •51 types of standard test conditions are preset

The memory in the main unit is pre-written with 51 types of test conditions for general electrical equipment, which conform to IEC 60990 and other standards listed below. [Standards covered by the memory]

Standard No.	Applicable electrical equipment
IEC60950	Information technology equipment
IEC60335	Household and similar electrical appliances
IEC60065	Audio, video and similar electronic apparatus
IEC60745	Hand-held motor-operated electric tools
IEC60598	Luminaires
IEC61010	Electrical equipment for measurement, control, and laboratory use
Electrical Appliance and Material Safety Law	Electrical appliances
IEC61029	Transportable motor-operated electric tools

#### Lets you manage the calibration time limit

You can set a calibration time limit in the tester, such that when this time limit is exceeded, a warning message appears or the use of the tester is restricted. This is a new feature whereby the tester itself conducts calibration management.

### Range of other functions

- "MAX function," which retains the largest current measured.
- · "CONV function," which converts the measured current value into the corresponding value for the preset power voltage.
- "SELV function," which causes the DANGER lamp to turn ON if a preset safety extra low voltage (SELV) is exceeded in meter measurement mode.
- · "CHECK function," which performs selfanalysis of the measurement circuit networks.

#### Accessories





#### Options





Multi-outlet [OT01-TOS]

Test probe [HP21-TOS]

#### Application software (free) is available

Windows application software capable of writing and reading test condition, data logging and more functions can be downloaded at our web site. As TOS3200 is equipped with USB interface, a USB cable makes this software available

http://www.kikusui.co.jp/en/download/ index.html





## **Specifications**

Measurem	ent item, i	measur	ement mode
Measurem	ent item		3 types, namely, touch current (TC) measurement, protective conductor current (PCC) measurement, and METER
	тс		Measure the voltage drop across the reference resistor, using a measurement circuit network (NTWK), and then calculate the current.
Measurement method	PCC		Measure the voltage drop across the reference resistor connected to the protective earth wire, and then calculate the current.
	METER		Measure the voltage and current using the measurement terminals.
Measurem	ent mode		DC/RMS/PEAK (RMS being the true root-mean-square value)
	Network	A	Basic measurement element: $(1.5 \text{ k}\Omega/(0.22 \text{ \mu F}) + 500 \Omega$
	Network	B/B1	Basic measurement element: $(1.5 \text{ k}\Omega/(0.22 \text{ \mu F}) + 500 \Omega/((10 \text{ k}\Omega + 0.022 \text{ \mu F}))$
Measurement	Network C		Basic measurement element: $(1.5 \text{ k}\Omega//0.22 \mu\text{F}) + 500 \Omega//(10 \text{ k}\Omega + (20  $
network	Network D		Basic measurement element: 1 kΩ
(NTWK)	Network E		Basic measurement element: $1 \text{ k}\Omega//(10 \text{ k}\Omega + 11.225 \text{ nF} + 579 \Omega)$
	Network F		Basic measurement element: 1.5 kΩ//0.15 μF
	Network G		Basic measurement element: 2 kΩ
Network co	onstant to	erance	Resistance: ±0.1%, capacitor 0.15 µF: ±2%, other: ±1%
Current me	easureme	nt secti	on
Monouromont	Range 1		DC/RMS: 30 µA to 600 µA, PEAK: 50 µA to 850 µA (*3)
range	Range 2		DC/RMS: 125 µA to 6.00 mA, PEAK: 175 µA to 8.50 mA (*3)
	Range 3		DC/RMS: 1.25 mA to 30.0 mA, PEAK: 1.75 mA to 90.0 mA (*3)
Range swi	tching		AUTO/FIX
Measured or resolution	current (i)	display/	i < 1mA: □□□ μA/1 μA, 1 mA ≦ i < 10 mA: □.□□ mA/0.01 mA 10 mA ≦ i < 100 mA: □□,□ mA/0.1 mA
		DC	±(5.0% of rdng + 20 μA)
	Dongo 1	DMC	15 Hz ≤ f ≤ 10 kHz: ±(2.0% of rdng + 8 μA)
	hange i	nivi3	10 kHz < f ≦ 1 MHz: ±(5.0% of rdng + 10 μA)
		PEAK	15 Hz ≤ f ≤ 10 kHz: ±(5.0% of rdng + 10 μA)
		DC	±(5.0% of rdng + 50 μA)
		DMC	15 Hz ≤ f ≤ 10 kHz: ±(2.0% of rdng + 20 μA)
Measurement	Range 2	nivis	10 kHz < f ≤ 1 MHz: ±(5.0% of rdng + 20 μA)
accuracy(*5)		DEAL	15 Hz ≦ f ≦ 1 kHz: ± (2.0% of rdng + 50 μA)
		PEAK	1 kHz < f ≤ 10 kHz: ±(5.0% of rdng + 50 μA)
		DC	±(5.0% of rdng + 0.5 mA)
		DMC	15 Hz ≤ f ≤ 10 kHz: ±(2.0% of rdng + 0.2 mA)
	Range 3	RIVIS	10 kHz < f ≤ 1 MHz: ±(5.0% of rdng + 0.2 mA)
		DEAK	15 Hz ≦ f ≦ 1 kHz: ±(2.0% of rdng + 0.5 mA)
			1 kHz < f ≤ 10 kHz: ±(5.0% of rdng + 0.5 mA)
Input resistan	ce, input cap	pacitance	1 MΩ±1%, < 200 pF
Common m	ode rejecti	on ratio	f ≤ 10 kHz: 60 dB or greater, 10 kHz < f ≤ 1 MHz: 40 dB or greater
Judgemen	t function		
Judgemen	t method		Pass/fail judgement by setting upper and lower current limits in window comparator mode
Judgemen	t		U-FAIL for currents above the upper limit; L-FAIL for currents below the lower limit.
Display, etc	o.		U-FAIL/L-FAIL/PASS display, buzzer sounding
PASS hold			The time for which a PASS judgement is retained can be set to 0.2 s to 10.0 s or to HOLD.
Setting	Range 1		DC/RMS: 30 μA to 600 μA, PEAK: 50 μA to 850 μA (*4)
range	Range 2		DC/RMS: 151 µA to 6.00 mA, PEAK: 213 µA to 8.50 mA (*4)
- · ·	Range 3		DC/RMS: 1.51 mA to 30.0 mA, PEAK: 2.13 mA to 90.0 mA (*4)
Judgemen	t accuracy	/	Conforms to measurement accuracy. (Read rdng as set.)
Measurem	ent of volt	age be	tween A and B
Measurem	ent range		DC/RMS: 10.000 V to 300.0 V, PEAK: 15.000 V to 430.0 V
Accuracy			±(3% of rdng + 2V), measurement range fixed at AUTO.
Input Impedance			Approx. 40 MS2
SELV dete	SELV detection		Set the SELV to detect; it this value is exceeded, the DANGEH lamp is turned ON.
SELV Setti	ig range	f	10 v to 99 v, iii 1-v steps, OFF function provided.
Timer, test execution function		runctio	
Timer	Test wait time		Setting range: U s to 999 s, accuracy: ±(100 ppm of set + 20 ms)
	lest time		Detuny range. I S to 999 S/OFF function, accuracy: ±(100 ppm of set + 20 ms)
Text execution			Independent test (MANUAL): Independent execution of TC, PCC, or METER measurement
			AUTO: Up to 100 sequence programs can be saved (up to 500 steps in total)
	l lest con	ditions	MANUAL: Up to 100 sequence programs can be saved.
Memory			The user can select whether to save the judgement results when they are
livieniory	Test results		output at the end of the tests.
			AUTO: Test results for up to 50 programs can be recorded.
			MANUAL: lest results for up to 50 tests can be recorded.

The warm-up time must be 30 minutes or longer.
 rdng denotes a reading, set denotes the set value, and EUT is the electrical equipment under test.

\*1. May not apply to custom-made or modified products.
\*2. Limited to products with CE marking on their panels.
\*3. The maximum range is indicated. The range differs depending on the measurement circuit network.
\*4. The maximum range is indicated. The range differs depending on the measurement circuit network. Also, the UPPER setting in each range when the FIX range is selected is indicated.
\*5. Current converted value in Network A,B,C and PCC measurement,based on built-in voltmeter accuracy.

ß	<b>KIKUSUI</b>	
 		_

#### **KIKUSUI ELECTRONICS CORPORATION**

1-1-3, Higashiyamata, Tsuzuki-ku, Yokohama, 224-0023, Japan Phone: (+81) 45-593-7570, Facsimile: (+81) 45-593-7571, www.kikusui.co.jp

KIKUSUI AMERICA, INC. 1-877-8762807 www.kikusuiamerica.com 1633 Bayshore Highway, Suite 331, Burlingame, CA 94010 Phone : 650-259-5900 Facsimile : 650-259-5904 

KIKUSUI TRADING (SHANGHAI) Co., Ltd. www.kikusui.cn Room, D-01,11F, Majesty Bld, No.138, Pudong Ave, Shanghai Cit Phone: 021-5887-9067 Facsimile: 021-5887-9069

For our local sales distributors and representatives, please refer to "sales network" of our website.

Measured value conversion (CONV) Setting range: 80.0 V to 30.0.0. V.OFF function provided. Selects a measured value from those below. NORM: Displays the largest measured value in the measurement period. MAX: Displays the largest measured value in the measurement period. NORM: Displays the largest measured value in the measurement period. NORM: Displays the largest measured value in the measurement period. NORM: Normal, FLTNEU: Disconnection of the neutral wire, (COND) FLTPE: Disconnection of the pretextive earth wire Earth check Generates CONTACTFALL if the enclosure is grounded in a TC (Encl.v, EncNeu) test. MEASURE CHECK Checks the measurement function between measurement reminias A and B, laces the tester in the PROTECTION state if an error is detected. Weldge measurement (EUT) Measurement range: 0.1 A to 15.00 A, resolution: 0.1 A, accuracy: ±5% of rdng + 30 mA) Prover measurement (CAL PROTECT) Measurement range: 0.1 W to 1500 W Measurement range: 0.1 No 1500 W Measuremen	Other Iu	lictions	
Conversion (CONV) Setting range: 80.0 V to 30.0 V. OFF function provided. Selects a measured value from the measurement period. MAX: Displays the measured value in the measurement period. MAX: Displays the measured value in the measurement period. NORM: Displays the fargest measured value in the measurement period. NORM: Displays the phase connection, REVS: Negative phase connection (CONV) Single fault selection NORM: Normal, FLTNEU: Disconnection of the neutral wire, ELTPE: Disconnection of the protective earth wire Earth check Generates CONTACTFALI. If the enclosure is grounded in a TC (Encl.v, EncNeu) test. MEASURE CHECK and places the tester in the PROTECTION state if an error is detected. Voltage measurement (EUT) Measurement range: 10 W to 1500 W Cament measurement (EUT) Measurement range: 10 W to 1500 W Recording Reco	Measure	d value	Converts the measured current value into the corresponding value at the preset power voltage.
Selects a measured value from those below.           MCASURE MODE         NOPM: Displays the largest measured value in the measurement period.           MAX: Displays the largest measured value in the measurement period.         MAX: Displays the largest measured value in the measurement period.           Single fault selection (POL)         NOPM: Positive phase connection REVS: Negative phase connection           Single fault selection         NOPM: Positive phase connection of the protective earth wire.           (COND)         Earth check         Generates CONTACTFAIL if the enclosure is grounded in a TC (Encl.v, EncNeu) test.           MEASURE CHECK         Checks the measurement function between measurement terminals A and B, and places the tester in the PROTECTION state if an error is detected.           Voltage measurement (BUT)         Measurement range: 10.1 Vo 1500 V         Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±5% of rdng + 30 mA           Power measurement (REOTE)         Measurement range: 10.1 Vo 1500 V         Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±5% of rdng + 30 mA           Power measurement (REOTE)         These: Calibration date and line, permissible date and line. Up to 2099           System         Calibration time Endbase fines the store of a calibration meint. Once this the asset, avarning is output at power on clock to a PC, use a * pin terms?           Re2:232C         (Por contection to a PC, use a * pin temale-female reverse? cabl.)           Grife <td>conversi</td> <td>on (CONV)</td> <td>Setting range: 80.0 V to 300.0 V, OFF function provided.</td>	conversi	on (CONV)	Setting range: 80.0 V to 300.0 V, OFF function provided.
MEASURE MODE NORM: Displays the measured value in the measurement period. MAX: Displays the largest measured value in the measurement period. NORM: Positive phase connection, REVS: Negative phase connection Single fault selection (COND) Single fault selection COND) MORM: Normal, FLTNEU: Disconnection of the neutral wire, FLTPE: Disconnection of the protective earth wire Earth check Generates CONTACTAL If the enclosure is grounded in a TC (Encl.v, EncNeu) test. Checks the measurement function between measurement terminals A and B, and Diaces the tester in the PROTECTION state if an error is detected. Wollage measurement (EUT) Measurement range: 10 W to 1500 W Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 10 V). Current measurement (EUT) Reasurement range: 10 W to 1500 W Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 8 W) Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 8 W) Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 8 W) Calibration time (CAL PROTECT) Core limit management NCAL PROTECT) Protective operation REXOTE Sector operation Sector operation Sector operation Sector operation Sector operation Sector operation Sector operative operative operative operative Sector operative operative operative operative S			Selects a measured value from those below.
MAX: Displays the largest measured value in the measurement period. NORM: Positive phase connection, REVS: Negative phase connection (COND) Single fault selection (COND) Earth check Cenerates CONTACTFAIL if the enclosure is grounded in a TC (Encl.v., EncNeu) test. MEASURE CHECK Checks the measurement function between measurement terminals A and B, and places the tester in the PROTECTION state if an error is detected. Voltage measurement (EUT) Measurement range: 0.1 A to 15.00 A, resolution: 0.101 A, accuracy: 15% of rdng + 30 mA) Power measurement (EUT) Measurement range: 0.1 A to 15.00 A, resolution: 0.101 A, accuracy: 15% of rdng + 30 mA) Power measurement (EUT) Measurement range: 0.1 A to 15.00 A, resolution: 0.101 A, accuracy: 15% of rdng + 30 mA) Power measurement (EUT) Measurement range: 0.1 A to 15.00 A, resolution: 0.101 A, accuracy: 15% of rdng + 30 mA) Power measurement (EART) Reading them: Calibration date and time, test date and time, permissible date and and use power has a set of the tester), (CAL PROTECT) Protective operation (CAL PROTECT) Protective operation (CAL PROTECT) Belay operation error, overload, over range, measurement function check, falure of internal battery, etc. Hieritage BS 232C (For connection to a PC, use a 3% pin female-female reverse' cable.) GPIB Conforms to 12FC still 488 1978. (SH1 AH1.16, TEO.14, LEO.SR1, PPO.DC1, DTO.C0.E1) USB USB Specification2.0 General Reade voltage/ Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA Heasuremet current USB Specification2.0 General Reade voltage/ Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA Heasuremet capacity StorAL I/O Sequerating range Temperature: 20 C to 3°C, humidity: 20% rh to 80% rh (nc condensation) Steriation as the data of the resolution only Steriation as the data of the resolution on ress Mountil glocation and the regularement rare indicated with LED lamps. Steriation assistered Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA Histrad vol	MEASU	RE MODE	NORM: Displays the measured value in the measurement period.
Power positive/negative Phase selection (PCL) NORM: Positive phase connection of the neutral wire, (COND) FLITPE: Disconnection of the protective earth wire Earth check Generates CONTACTFALL if the enclosure is grounded in a TC (EncLiv, EncNeu) test. Checks the measurement function between measurement terminals A and B, and places the tester in the PROTECTION state if an error is detected. Witage measurement(EUT) Measurement range: 10.1 to 15.00 A, resolution: 0.1 A, accuracy: ±(3% of rdng + 10) Current measurement(EUT) Measurement range: 10.1 to 15.00 A, resolution: 0.1 A, accuracy: ±(3% of rdng + 30 mA) Power measurement(EUT) Recording terms: Calibration time Enables the setting of a calibration time limit. One this time has passed, a waring is output at yower on. (CAL PROTECT) CPF: Displays warring. Protective operation Rely operation error, overlad, over range, measurement function check, failure of internal battery, etc. Interface RS-232C Controms to IEEE Std. 488-1978. (SH1,AH1,T6,TEO,L4,LEO,SR1,PPO,DC1,DTO,C0,E1) USB USB Specification. Relice the tester in the PROTECTION state (stables the setter) RS-232C Controms to IEEE Std. 488-1978. (SH1,AH1,T6,TEO,L4,LEO,SR1,PPO,DC1,DTO,C0,E1) USB USB Specification.20 REMOTE Ended voltage/ Current Measurement calegory CAT II Ended terminals of the 25-pin D-Sub connector Controms to IEEE Std. 488-1978. (SH1,AH1,T6,TEO,L4,LEO,SR1,PPO,DC1,DTO,C0,E1) USB USB Specification.20 REMOTE Ended terminals of the state in the Relive of the restron) Storage range Temperature: C to 40°C, humidity: 20% th to 80% th (no condensation) Temperature: C to 40°C, humidity: 20% th to 80% th (no condensation) Storage range Temperature: C to 40°C, humidity: 20% th to 80% th (no condensation) Storage range Temperature: C to 40°C, humidity: 20% th to 80% th (no condensation) Storage range Temperature: C to 40°C, humidity: 20% th to 80% th (no condensation) Storage range Temperature: C to 40°C, humidity: 20% th to 80% th (no condensation) Sto			MAX: Displays the largest measured value in the measurement period.
Single fault selection (COND)       NORM: Normal, FLTNEU: Disconnection of the neutral wire, Earth check         Earth check       Generates CONTACTFAIL if the enclosure is grounded in a TC (EncLiv, EncNeu) test.         MEASURE CHECK       Checks the measurement function between measurement ferminals and B, and places the tester in the PROTECTION state if an error is detected.         Voltage measurement(EUT)       Measurement range: 0.0 V to 250.0 V, resolution: 0.1 A, accuracy: ±(3% of rdng + 1 W).         Current measurement(EUT)       Measurement range: 0.1 A to 15.00 W.         Power measurement(EUT)       Measurement range: 10 W to 1500 W.         Recording       Tems: Calibration take and time, test date and time, permissible date and time. Up to 2009         Calibration time       Enables the setting of a calibration time. Imn: Once this time has passed, awaring is output a power on.         Interface       OrF: Displays warring.         Protective operation       Relay operation erro, overload, over range, measurement function check, failure of internabattery, etc. Interface         REMOTE       G-pin MINIDIN connector (for HP21-TOS (separately sold option) only)         SIGNAL I/O       25-pin D-Sub connector         General       Reted voltage/ Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Measuremet (ategory (FOT connection to a pass): 250 V, 100 mA       Measuremet range: 100 Vac. 240Vac, 50/60Hz, power consumption; 70 VA max.         Measuremet (ategory (FOT EUT	Power po phase se	ositive/negative election (POL)	NORM: Positive phase connection, REVS: Negative phase connection
Earth check Generates CONTACTFAIL if the enclosure is grounded in a TC (EncLiv, Enchul) test. MEASURE CHECK Checks the measurement function between measurement terminals A and B, and places the tester in the PROTECTION state if an error is detected. Voltage measurement(EUT) Measurement range: 0.0 V to 250.0 V, resolution: 0.1 V, accuracy: ±(3% of rdng + 1) measurement range: 1.1 to 15.00 M. Current measurement(EUT) Measurement range: 1.0 V to 150.0 W. Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 30 mA) Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 30 mA) Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 30 mA) Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 30 mA) Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 30 mA) Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 30 mA) Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 30 mA) Accuracy (at power on control to 20 V or PTCETION state (disables the use of the tester), OFF: Displays warring. Protective operation Relay operation error overload, over range, measurement function check, failure of internal battery, etc. Interface Relade voltage (For connection to a PC, use a "pin female-female reverse" cable.) GPIB Conforms to IEEE Std. 488 1978. (SH1.AH1.T6, TEO.L4.LE0.SR1.PPO.DC1.DT0.C0.E1) USB USB Specification2.0 RelMOTE Environtet Bated voltage (For Urrent) Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA Measurement tategery CAT II Environtet Bated voltage Terminals effective to measurement are indicated with LED lamps. Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA Measurement rategery Storage range Temperature: 5C to 35°C, humidity: 20% rh to 80% rh (no condensation) Torage range Temperatu	Single fa (COND)	ult selection	NORM: Normal, FLTNEU: Disconnection of the neutral wire, FLTPE: Disconnection of the protective earth wire
MEASURE CHECK       Checks the measurement function between measurement terminals A and B, and places the tester in the PROTECTION state if an error is detected.         Voltage measurement (EUT)       Measurement range: 0.0 Y to 250.0 V, resolution: 0.1 V, accuracy: ±(3% of rdng + 30 mA) Power measurement (arge: 10 W to 1500 W         Power measurement       Measurement range: 10 W to 1500 W         (effective power)       Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 30 mA) Power measurement (arge: 10 W to 1500 W         Recording       Items: Calibration date and time, test date and time, be passed, awaing is output at power on control (CAL PROTECT) CON state (disables the use of the tester), OA: Places the tester in the PROTECTION state (disables the use of the tester), OA: Places the tester in the PROTECTION state (disables the use of the tester), OA: Places the tester in the PROTECTION state (disables the use of the tester), OF: Displays warring.         RS-232C       D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (For connection to a PC, use a '9-pin female-female reverse' cable.)         GPIB       Conforms to IEEE Stu 488:1978. (SH1, AH1, 76, TEO, L4, LEO, SR1, PPO, DC1, DTO, C0, E1)         USGNAL L/C       25-pin D-Sub connector         General       Retad voltage/         Terminals effective to measurement are indicated with LED lamps.         Systidion swarding       Terminals effective to 240Vac, 50/60Hz, power consumption: 70 VA max.         Muuring location       Indors:, a tiltude of 2000 m or less	Earth ch	eck	Generates CONTACTFAIL if the enclosure is grounded in a TC (EncLiv, EncNeu) test.
Voltage measurement(EUT)         Measurement range: 0.0 V to 250.0 V, resolution: 0.1 V, accuracy: ±(5% of rdng + 10)           Current measurement (effective power)         Measurement range: 10 W to 1500 W           Recording         Items: Calibration date and time, permissible date and time. Up to 2099           System (clock         Calibration time limit management (PF DECTO)         The surge of 80 V or higher and a load power factor of 1): ±(5% of rdng + 8 W)           Recording         Items: Calibration date and time, permissible date and time: Up to 2099           System (clock         Calibration time limit. Once this time has passed, a waring is output at ower on. (PF: Displays warring).           Protective operation         Relay operation error, overload, over range, measurement function check, failure of internal battery, etc. Interface           BC-232C         D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (For connection to a PC, use a "9-pin female-female reverse" cable.)           GPIB         Conforms to IEE Stil. 488: 1978. (SH1.AH1, T6, TEO.L4, LEO.SR1, PP0.DC1, DT0, C0, E1)           USB         USB Specification2.0           REMOTE         6-pin MINIDIN connector (for HP21-TOS (separately sold option) only)           SIGNAL I/O         25-pin D-Sub connector           General         Terminals effective to measurement are indicated with LED lamps.           Measurement cabegry         CAT II           Measurement cabegry         C	MEASU	RE CHECK	Checks the measurement function between measurement terminals A and B, and places the tester in the PROTECTION state if an error is detected.
Current measurement(EUT) Measurement range: 0.1 A to 15.00 A, resolution: 0.01 A, accuracy: ±(5% of rdng + 30 mA) Power measurement Accuracy tat power voltage 080 Vo higher and a load power factor of 1): ±(5% of rdng + 8 W) Recording Items: Calibration date and time, test date and time, permissible date and time: Up o 2009 Calibration time Calibration date and time, test date and time, permissible date and time: Up o 2009 Calibration time Calibration date and time, test date and time, permissible date and time: Up o 2009 Calibration time Calibration date and time, Permissible date and time: Up o 2009 Calibration time Calibration date and time, Permissible date and time: Up o 2009 Calibration time Calibration targement (AL PROTECT) OFF: Displays warning. Protective operation Relay operation error, overload, over range, measurement function check, failure of internal battery, etc. Interface D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (For connection to a PC, use a "9-pin female-female reverse" cable.) GPIB Conforms to IEEE Stid. 488-1978. (SH1, AH1, T6, TEO, L4, LEO, SR1, PPO, DC1, DTO, C0, E1) USB USB Specification2.0 For Consection 2 General Rated voltage/ Carrent Rated voltage/ Carrent Rated voltage/ CAT II Electre target Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA Environment Deviation assurtarge Temperature: 0° C to 40° C, humidity: 20% rh to 80% rh (no condensation) Doperating range Temperature: 0° C to 40° C, humidity: 20% rh to 80% rh (no condensation) Doperating range Temperature: 0° C to 40° C, humidity: 20% rh to 80% rh (no condensation) Mounting location Indoors, attitude of 2000 mor less Input power Nominal input rating:100Vac to 240Vac, 50/60Hz Rate doupt capabil(550 VA, maximum current: 15A, usb current: 70 A peak max, (within 20 mg) Safetation resistance Nominal input rating:100Vac to 240Vac, 50/60Hz Rate doupt capabil(550 VA, maximum current: 15A, usb current: 70 A peak max. Use the supplied test leads. Cutside dimensions, weight 25 Aac(0.1 Ω or	Voltage m	easurement(EUT)	Measurement range: 80.0 V to 250.0 V, resolution: 0.1 V, accuracy: ±(3% of rdng + 1 V)
Power measurement (effective power)         Measurement range: 10 W to 1500 W Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 8 W Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 8 W Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 8 W (AL PROTECT)           Calibration time (ICAL PROTECT)         Calibration time Emailse the setting of a calibration time limit. Once this time has passed, a warning is output at power on OF: Displays warning.           Protective operation         Relay operation error, overload, over range, measurement function check, failure of internal battery, etc. Interface           RS-232C         D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (For connection to a PC, use a "9-pin lemale-female reverse" cable.)           GPIB         Conforms to IEEE Stid. 488: 1978. (SH1.AH1, T6, TEO.L4, LEO, SR1, PPO.DC1, DTO.C0, E1)           USB         USB Specification2.0           REMOTE         6-pin MINDIN connector (for HP21-TOS (separately sold option) only)           SIGNAL I/O         25-pin D-Sub connector           Centeral         Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA           Measurement farger range         Terminals of Group, chumidity: 20% rh to 80% rh (no condensation) Operating range           Environment         Specifications.2.0           Rated voltage/         Terminals of 2000 m or less           Invitorent         Terminals of to 2000 m or less <td>Current m</td> <td>easurement(EUT)</td> <td>Measurement range: 0.1 A to 15.00 A, resolution: 0.01 A, accuracy: ±(5% of rdng + 30 mA)</td>	Current m	easurement(EUT)	Measurement range: 0.1 A to 15.00 A, resolution: 0.01 A, accuracy: ±(5% of rdng + 30 mA)
Recording         Accuracy (at a power voltage of 80 V or higher and a bad power factor of 11;15% of rdng + 80 W           System (clock         Calibration time: Up to 200 (DN: Places the tester in the PROTECTION state (disables the use of the tester), (DA: PROTECT)           Protective operation         Relay operation error, overload, over range, measurement function check, failure of internal battery, etc. (PF: Displays warning.           RS-232C         D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (Por connection to a PC, use a "9-pin female-female reverse" cable.)           GPIB         Conforms to IEEE Std. 488-1978. (SH1,AH1,T6,TE0,L4,LE0,SR1,PP0,DC1,DT0,C0,E1)           USB         USB Specification2.0           Reted voltage/         General           Rated voltage/         Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA           Measurement classory         CAT II           Environment         Terminals effective to measurement are indicated with LED lamps.           Systeficationsawrdmg         Terminals effective to 70 °C, humidity: 20% rh to 80% rh (no condensation)           Operating range         Temperature: -20 °C to 70 °C, humidity: 20% rh to 80% rh (no condensation)           Storage range         Temperature: -20 °C to 70 °C, humidity: 20% rh to 80% rh (no condensation)           Storage range         Temperature: -20 °C to 70 °C, humidity: 20% rh to 80% rh (no condensation)           Storage range         Temperature: -20 °C to 7	Power m	easurement	Measurement range: 10 W to 1500 W
Recording         Items: Calibration date and time, test date and time, permissible date and time; Up to 2099           Calibration time (Cock         Calibration time fables the setting of a calibration time limit. Once this time has passed, a warning is output at power on. ON: Places the tester in the PROTECTION state (disables the use of the tester), OFF: Displays warning.           Protective operation         Relay operation error, overload, over range, measurement function check, failure of internal battery, etc. Interface           RS-232C         (D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (For connection to a PC, use a "9-pin female-female reverse" cable.)           GPIB         Conforms to IEEE Std. 488-1978. (SH1,AH1,T6,TE0,L4,LE0,SR1,PP0,DC1,DT0,C0,E1)           USB         USB Specification2.0           REMOTE         6-pin MINIDIN connector (for HP21-TOS (separately sold option) only)           SIGNAL I/O         25-pin D-Sub connector           Current         Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA           Measurement         Rated voltage/ Current         Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA           Measurement         Specification2.0         Terminals a to B: 250 V, terminal to chassis: 250 V, 100 mA           Measurement         Terminals of to B: 250 V, terminal to chassis: 250 V, 100 mA           Measurement         Terminals of to B: 250 V, terminal to chassis: 250 V, 100 mA           Measurement aterminal signal conte	(effective	e power)	Accuracy (at a power voltage of 80 V or higher and a load power factor of 1): ±(5% of rdng + 8 W)
System (chibration time initi managemic code (PAP RDTECT)         Enables the setting of a calibration time limit. Once this time has passed, a warning is output at power on. ON: Places the tester in the PROTECTION state (disables the use of the tester), OPT: Displays warning.           Protective operation         Relay operation error, overload, over range, measurement function check, failure of internal battery, etc. Interface           RS-232C         D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (For connection to a PC, use a '9-pin female-female reverse' cable.)           GPIB         Conforms to IEEE Std. 488:1978. (SH1,AH1,T6,TEO,L4,LEO,SR1,PPO,DC1,DT0,C0,E1)           UBB         USB Specification2.0           Retad voltage/ eministic         G-pin MINIDIN connector (for HP21-TOS (separately sold option) only)           SIGNAL I/O         25-pin D-Sub connector           General         Retad voltage/ (current         Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA           Measurement immids         Specification assurd range. Specificatio assurd range. Specificatio assurd range. Temperature: 0° C to 40° C, humidity: 20% rh to 80% rh (no condensation))           Operating range         Temperature: -20° C to 70° C, humidity: 20% rh to 80% rh (no condensation)           Measurement terminal input rating:100Vac to 240Vac, 50/60Hz Rated output capacity: 1500 Vac to 240Vac, 50/60Hz Rated output capacity: 1500 Vac to 240Vac, 50/60Hz Rated output capacity: 1500 Vac, 2 seconds/20 mA or less (between AC line and chassis)           Insulation resistance		Recording	Items: Calibration date and time, test date and time, permissible date and time: Up to 2099
clock         limit management (GAL PROTECT)         ON: Places the tester in the PROTECTION state (disables the use of the tester), (GAL PROTECT)           Protective operation         Relay operation error, overload, over range, measurement function check, tailure of internal battery, etc.           RS-232C         D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (For connection to a PC, use a '9-pin female-female reverse' cable.)           GPIB         Conforms to IEEE Std. 488-1978. (SH1,AH1,T6,TEO,L4,LEO,SR1,PP0,DC1,DT0,C0,E1)           USB         USB Specification2.0           REMOTE         6-pin MINIDIN connector (for HP21-TOS (separately sold option) only)           SIGNAL I/O         25-pin D-Sub connector           General         Matterment talego/ current         Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA           Measurement Measurement Speciation savefrage         Termperature: 5° C to 35° C, humidity: 20% rh to 80% rh (no condensation)           Speciation savefrage         Temperature: -20° C to 70° C, humidity: 20% rh to 80% rh (no condensation)           Mounting location         Indours, silitude of 2000 m or less           Input power         Nominal input rating:100Vac to 240Vac, 50/60Hz, Rated ouput capacity: 1500 VA, maximum current: 15 A, rush current: 70 A peak max. (within 20 ms)           Insulation resistance         30 MQ or greater (500 V(0) (between AC line and chassis)           Insulation resistance         30 MQ or greater (500 V(0	System	Calibration time	Enables the setting of a calibration time limit. Once this time has passed, a warning is output at power on.
Protective operation       Relay operation error, overload, over range, measurement function check, failure of internal battery, etc.         Interface       D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (For connection to a PC, use a "9-pin female-female reverse" cable.)         GPIB       Conforms to IEEE Std. 488-1978. (SH1,AH1,T6,TED.L4,LE0,SR1,PP0,DC1,DT0,C0,E1)         USB       USB Specification2.0         REMOTE       6-pin MINIDIN connector (for HP21-TOS (separately sold option) only)         SIGNAL I/O       25-pin D-Sub connector         General       Rated voltage/ current       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Measument category       CAT II       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Measument category       CAT II       Termperature: 5° C to 35°C, humidity: 20% rh to 80% rh (no condensation)         Operating range       Temperature: -20° C to 70°C, humidity: 20% rh to 80% rh (no condensation)         Mounting location       Indoors, altitude of 2000 m or less         Input power       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         for EUT       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Insulation resistance       30 MQ or greater (500 Vdc) (between AC line and chassis)         Earth continuity       25 Aac/0.1 Ω or less         Safety (*1)	clock	limit management (CAL PROTECT)	ON: Places the tester in the PROTECTION state (disables the use of the tester), OFF: Displays warning.
Interface       D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/1920/38400 bps         GPIB       Conforms to IEEE Std. 488-1978. (SH1,AH1,T6,TE0,L4,LE0,SR1,PP0,DC1,DT0,C0,E1)         USB       USB Specification2.0         REMOTE       6-pin MINIDIN connector (for HP21-TOS (separately sold option) only)         SIGNAL I/O       25-pin D-Sub connector         General       Rated voltage/         Measurement current       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Limitadia       Terminals affective to measurement are indicated with LED lamps.         Specifications.       Specification2.0         Environment       Terminals effective to measurement are indicated with LED lamps.         Specifications.       Specification2.0 (C, humidity: 20% rh to 80% rh (no condensation)         Operating range       Temperature: 0°C to 40°C, humidity: 20% rh to 80% rh (no condensation)         Storage range       Temperature: 100 to 40°C, humidity: 90% rh or less (no condensation)         Mounting location       Indoors, altitude of 2000 m or less         Input power       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Vithstand voltage       1390 Vac, 2 seconds/20 mA rises (between AC line and chassis)         Insulation resistance       30 MΩ or greater (500 Vdc) (between AC line and chassis)         Earth continuity <td< td=""><td>Protectiv</td><td>e operation</td><td>Relay operation error, overload, over range, measurement function check, failure of internal battery, etc.</td></td<>	Protectiv	e operation	Relay operation error, overload, over range, measurement function check, failure of internal battery, etc.
RS-232C       D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (For connection to a PC, use a "9-pin female-female reverse" coble.)         GPIB       Conforms to IEEE Std. 488-1978. (SH1,AH1,T6,TEO,L4,LEO,SR1,PPO,DC1,DT0,CO,E1)         USB       USB Specification2.0         REMOTE       6-pin MINIDIN connector (for HP21-TOS (separately sold option) only)         SIGNAL I/O       25-pin D-Sub connector         General       Rated voltage/ current       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Measurement category       CAT II         Effective terminal display       Terminals effective to measurement are indicated with LED lamps.         Specifications.out       Termperature: 5° C to 35° C, humidity: 20% rh to 80% rh (no condensation)         Operating range       Temperature: -20° C to 70° C, humidity: 20% rh to 80% rh (no condensation)         Storage range       Temperature: -20° C to 70° C, humidity: 90% rh or less (no condensation)         Mounting location       Indours, altitude of 2000 m or less         Input power       Nominal input rating:100Vac to 240Vac, 50/60Hz         Nort EUT       Nominal input rating:100Vac to 240Vac, 50/60Hz         Natitude of 2000 m or less       30 M2 or greater (500 Vdc) (between AC line and chassis)         Withstand voltage       1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)         Earth continuity	Interface		
GPIB       Conforms to IEEE Std. 488-1978. (SH1.AH1,T6,TE0,L4,LE0,SR1,PP0,DC1,DT0,C0,E1)         USB       USB Specification2.0         REMOTE       6-pin MINIDIN connector (for HP21-TOS (separately sold option) only)         SIGNAL I/O       25-pin D-Sub connector         General       Rated voltage/ current       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Measurement (assurging transport of the terminal deplay       Terminals effective to measurement are indicated with LED lamps. Specificationassuefrage         Environment       Specificationassuefrage       Termperature: 5 C to 35 C, humidity: 20% rh to 80% rh (no condensation)         Storage range       Temperature: -20° C to 70° C, humidity: 90% rh or less (no condensation)         Mounting location       Indoors, altitude of 2000 m or less         Power       Input power       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 A peak max. (within 20 ms)       Insulation resistance         Bated ouplicapacity: 150 W, maximum current: 15 A, ush current: 70 A peak max. (within 20 ms)       Insulation resistance         Withstand voltage       1390 Vac, 2 seconds/20 mA or less       (between AC line and chassis)         Earth continuity       25 Aac/0.1 Ω or less       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61326, EN61000-3-2, Applicable	RS-2320	>	D-Sub 9-pin connector (conforming to EIA-232D), baud rate: 9600/19200/38400 bps (For connection to a PC, use a "9-pin female-female reverse" cable.)
USB       USB Specification2.0         REMOTE       6-pin MINIDIN connector (for HP21-TOS (separately sold option) only)         SIGNAL I/O       25-pin D-Sub connector         General       Rated voltage/ current       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Measurement category       CAT II         Effective terminal display       Terminals effective to measurement are indicated with LED lamps.         Specification saved range       Temperature: 5° C to 35° C, humidity: 20% rh to 80% rh (no condensation)         Operating range       Temperature: -20° C to 70° C, humidity: 20% rh to 80% rh (no condensation)         Storage range       Temperature: -20° C to 70° C, humidity: 20% rh to 80% rh (no condensation)         Mounting location       Indoors, altitude of 2000 m or less         Input power       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Power       tor EUT       Nominal input rating:100Vac to 240Vac, 50/60Hz         Nullation resistance       30 M£ or greater (500 Vdc) (between AC line and chassis)         Barth continuity       25 Aac/0.1 Ω or less         Safety (*1)       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61300-3.2, EN61000-3.2, EN61000-3.2, EN61000-3.3         Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters. Use the supplied test leads.	GPIB		Conforms to IEEE Std. 488-1978. (SH1.AH1.T6.TE0.L4.LE0.SB1.PP0.DC1.DT0.C0.E1)
REMOTE       6-pin MINIDIN connector (for HP21-TOS (separately sold option) only)         SIGNAL I/O       25-pin D-Sub connector         General       Fated voltage/ current       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Measument category       CAT II         Effective terminal skylw       Terminals a fetorive to measurement are indicated with LED lamps.         Specification assurd ange       Temperature: 5° C to 35° C, humidity: 20% rh to 80% rh (no condensation)         Operating range       Temperature: -20° C to 70° C, humidity: 20% rh to 80% rh (no condensation)         Mounting location       Indoors, altitude of 2000 m or less         Power       Input power       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.       So MQ or greater (500 Vdc) (between AC line and chassis)         Insulation resistance       30 MQ or greater (500 Vdc) (between AC line and chassis)       Earth continuity         Z5 Aac/0.1 Ω or less       Safety (*1)       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61300-1 (Class I, Pollution degree 2)         Cortiside dimensions, weight       320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg         Accessories       1 set of test leads (1T21-TOS); n spare fuse (15A, for EUT power)         1 is to first leads (1T21-TOS); n spare fus	USB		USB Specification 2.0
SIGNAL I/O       25-pin D-Sub connector         General       Rated voltage/ current       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Measurement (aurrent)       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Environment       Spedicatin assid rage       Temperature: 5°C to 35°C, humidity: 20% rh to 80% rh (no condensation)         Operating range       Temperature: 0°C to 40°C, humidity: 20% rh to 80% rh (no condensation)         Storage range       Temperature: 0°C to 70°C, humidity: 20% rh to 80% rh (no condensation)         Mounting location       Indoors, altitude of 2000 m or less         Input power       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Power       tor EUT       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 A peak max. (within 20 ms)         Insulation resistance       30 MΩ or greater (500 Vdc) (between AC line and chassis, between measurement terminal and chassis)         Earth continuity       25 Aac/0.1 Ω or less         Safety (*1)       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61326, EN61000-3-2, Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters.         Use the supplied test leads.       1 set of test leads.         Outside dimensions, weight       320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg         Accessories	REMOT	=	6-pin MINIDIN connector (for HP21-TOS (separately sold option) only)
General       Rated voltage/ current       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Measurement terminals       Measurement category       CAT II         Environment Environment Sociation assured rate and the summation of the summation of the summation of the summation Storage range       Terminals effective to measurement are indicated with LED lamps.         Environment Environment For Euror       Temperature: 5°C to 35°C, humidity: 20% rh to 80% rh (no condensation) Storage range         Environment For EUT       Temperature: 0°C to 40°C, humidity: 90% rh or less (no condensation) Mounting location Mounting location         Power       Induors, altitude of 2000 m or less         Insulation resistance       Nominal input rating:100Vac to 240Vac, 50/60Hz Rated ouput capacity: 1500 VA, maximum current: 15 A, rush current: 70 A peak max. (within 20 ms)         Insulation resistance       30 MΩ or greater (500 Vdc) (between AC line and chassis)         Withstand voltage       1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)         Earth continuity       25 Aac/0.1 Ω or less         Safety (*1)       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)         Conforms to the requirements of the directive and standard below. Low Voltage longetice (50, C, N61326, EN61000-3.2, EN61000-3.3         Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters. Use the supplied test leads	SIGNAL	1/0	25-pin D-Sub connector
Rated voltage/ current       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Measurement category       CAT II         Effective terminal display       Terminals effective to measurement are indicated with LED lamps.         Specificationsaved range       Termperature: 5°C to 35°C, humidity: 20% rh to 80% rh (no condensation)         Operating range       Temperature: -20°C to 70°C, humidity: 20% rh to 80% rh (no condensation)         Mounting location       Indoors, altitude of 2000 m or less         Input power       Nominal input rating: 100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Power       for EUT       Nominal input rating: 100Vac to 240Vac, 50/60Hz         Rated output capacity: 1500 VA, maximum current: 15 A, rush current: 70 A peak max. (within 20 ms)       Insulation resistance         Bissulation resistance       30 MΩ or greater (500 Vdc) (between AC line and chassis)         Earth continuity       25 Aac/0.1 Ω or less         Safety (*1)       Conforms to the requirements of the directive and standard below.         Low Voltage Directive 2006/95/EC, ENK1010-1 (Class I, Pollution degree 2)         Conforms to the requirements of the directive and standard below.         Low Voltage Directive 2006/95/EC, ENK1010-1 (Class I, Pollution degree 2)         Conforms to the requirements of the directive and standard below.         Low Voltage Directive 2006/95/EC, ENK1020-3.2, ENK1000-3.3	General	1/0	
Measurement current       Current Measurement category       CAT II         Ethnicity       CAT II         Ethnicity       Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA         Ethnicity       Terminals effective to measurement are indicated with LED lamps.         Specification assured rage       Temperature: 5° C to 35°C, humidity: 20% rh to 80% rh (no condensation)         Operating range       Temperature: 0° C to 40°C, humidity: 20% rh to 80% rh (no condensation)         Storage range       Temperature: -20° C to 70°C, humidity: 20% rh to 80% rh (no condensation)         Mounting location       Indoors, alitude of 2000 m or less         Input power       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Power       tor EUT       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Insulation resistance       30 MΩ or greater (500 Vdc) (between AC line and chassis)         Earth continuity       25 Aac/0.1 Ω or less         Safety (*1)       Conforms to the requirements of the directive and standard below.         Lew Voltage       1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)         Electromagnetic compatibility (*1, *2)       Conforms to the requirements of the directive and standard below.         Lew Voltage       1320 (345) W × 88 (105) H × 270 (330) D mm, approx.5 kg         Outside dimensions, weight </td <td>Gonora</td> <td>Bated voltage/</td> <td></td>	Gonora	Bated voltage/	
Iteminals       Measurement category       CAT II         Effective terminal display       Terminals effective to measurement are indicated with LED lamps.         Specification assured range       Temperature: 5°C to 35°C, humidity: 20% rh to 80% rh (no condensation)         Operating range       Temperature: -20°C to 70°C, humidity: 20% rh to 80% rh (no condensation)         Mounting location       Indocrs, altitude of 2000 m or less         Input power       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Power       Nominal input rating:100Vac to 240Vac, 50/60Hz         Insulation resistance       30 MΩ or greater (500 Vdc) (between AC line and chassis, between measurement terminal and chassis)         Withstand voltage       1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)         Safety (*1)       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)         Conforms to the requirements of the directive and standard below. EMC Directive 89/36/ECC, EN61326, EN61000-3-2, EN61000-3-3.         Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters.         Use the supplied test leads TL21-TOS: red and black, one each, with alligator clips)         1 lat probe (FP01-TOS), 1 spare fuse (15A, for EUT power)         1 instruction manual, 1 circuit principle diagram sticker         2 power cords (for the test rand fo	Measurement	current	Terminals A to B: 250 V, terminal to chassis: 250 V, 100 mA
Effective terminal deplay           Effective terminal deplay         Terminals effective to measurement are indicated with LED lamps.           Specification asserd range         Termperature: 5°C to 35°C, humidity: 20% rh to 80% rh (no condensation)           Operating range         Temperature: -20°C to 70°C, humidity: 20% rh to 80% rh (no condensation)           Storage range         Temperature: -20°C to 70°C, humidity: 90% rh or less (no condensation)           Mounting location         Indoors, altitude of 2000 m or less           Input power         Nominal input rating: 100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.           Power         for EUT         Nominal input rating: 100Vac to 240Vac, 50/60Hz           Insulation resistance         30 M£ or greater (500 Vdc) (between AC line and chassis)           Withstand voltage         1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)           Earth continuity         25 Aac/0.1 Ω or less           Safety (*1)         Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61300-3.2, EN61000-3.2, EN61000-3.3           Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters.           Use the supplied test leads.           Outside dimensions, weight         320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg           Accessories         1 set of test leads (1C1-TOS): red and black, one each,	terminals	Measurement category	CAT II
Specification assured range         Temperature: 5°C to 35°C, humidity: 20% rh to 80% rh (no condensation)           Operating range         Temperature: 0°C to 40°C, humidity: 20% rh to 80% rh (no condensation)           Storage range         Temperature: -20°C to 40°C, humidity: 20% rh to 80% rh (no condensation)           Mounting location         Indoors, altitude of 2000 m or less           Input power         Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.           Nominal input rating:100Vac to 240Vac, 50/60Hz         Rated output capacity: 1500 VA, maximum current: 15 A, rush current: 70 A peak max. (within 20 ms)           Insulation resistance         30 MQ or greater (500 Vdc) (between AC line and chassis)         Base output capacity: 1500 Vdc) (between AC line and chassis)           Earth continuity         25 Aac/0.1 Ω or less         Conforms to the requirements of the directive and standard below.           Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)         Conforms to the requirements of the directive and standard below.           Electromagnetic compatibility (*1, *2)         Use the supplied test leads.         Cust the supplied test leads.           Outside dimensions, weight         320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg         1 set of test leads (1C21-TOS): red and black, one each, with alligator clips) 1 instruction manual, 1 circuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line)           IExternal dimensional drawings]         M		Effective terminal display	Terminals effective to measurement are indicated with LED lamps.
Operating range         Temperature: 0°C to 40°C, humidity: 20% rh to 80% rh (no condensation)           Storage range         Temperature: -20°C to 70°C, humidity: 90% rh or less (no condensation)           Mouning location         Indoors, attitude of 2000 m or less           Input power         Norninal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.           Power         Norninal input rating:100Vac to 240Vac, 50/60Hz           ro EUT         Norninal input rating:100Vac to 240Vac, 50/60Hz           Rated output capacity: 150 VA, maximum current: 15 A, rush current: 70 A peak max. (within 20 ms)           Insulation resistance         30 M2 or greater (500 Vdc) (between AC line and chassis, between measurement terminal and chassis)           Earth continuity         25 Aac/0.1 Ω or less           Safety (*1)         Conforms to the requirements of the directive and standard below.           Low Voltage Directive 2006/95/CC, EN61010-1 (Class I, Pollution degree 2)           Conforms to the requirements of the directive and standard below.           Low Voltage Directive 2006/95/CC, EN61010-0-3-2, EN6100-3-2, EN6100-3-2, EN6100-3-2, EN6100-3-2, EN6100-3-3           Conforms to the requirements and wires used to connect to this product must be shorter than 3 meters.           Custide dimensions, weight         320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg           Accessories         1 set of test leads.           1 set of test leads (FP1-TOS); sp		Specification assured range	Temperature: 5°C to 35°C, humidity: 20% rh to 80% rh (no condensation)
Environment       Storage range       Temperature: -20°C to 70°C, humidity: 90% rh or less (no condensation)         Mounting location       Indoors, altitude of 2000 m or less         Input power       Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.         Power       tor EUT       Nominal input rating:100Vac to 240Vac, 50/60Hz         Insulation resistance       30 MΩ or greater (500 Vdc) (between AC line and chassis)         Withstand voltage       1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)         Earth continuity       25 Aac/0.1 Ω or less         Conforms to the requirements of the directive and standard below.       Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)         Electromagnetic compatibility (*1, *2)       Conforms to the requirements of the directive and standard below.         Electromagnetic compatibility (*1, *2)       Safe (105) H × 270 (330) D mm, approx. 5 kg         Accessories       1 set of test leads (TL21-TOS: red and black, one each, with alligator clips) 1 flat probe (FP01-TOS), 1 spare fuse (15A, for EUT power) 1 instruction manual, 1 circuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line)         [External dimensional drawings]       MAX345 320		Operating range	Temperature: 0°C to 40°C, humidity: 20% rh to 80% rh (no condensation)
Mounting location         Indoors, altitude of 2000 m or less           Input power         Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.           for EUT         Nominal input rating:100Vac to 240Vac, 50/60Hz           for EUT         Rated output capacity:1500 VA, maximum current: 15 A, rush current: 70 A peak max. (within 20 ms)           Insulation resistance         30 MΩ or greater (500 Vdc) (between AC line and chassis, between measurement terminal and chassis)           Earth continuity         25 Aac/0.1 Ω or less           Safety (*1)         Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)           Electromagnetic compatibility (*1, *2)         Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN6100-2, 42, EN61000-3, 4pplicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters.           Use the supplied test leads.         0145 W × 88 (105) H × 270 (330) D mm, approx. 5 kg           Outside dimensions, weight         320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg           Accessories         1 set of test leads (IT21-TOS): red and black, one each, with alligator clips) 1 instruction manual, 1 circuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line)           [External dimensional drawings]         MAX345 320	Environment	Storage range	Temperature: -20°C to 70°C, humidity: 90% rh or less (no condensation)
Input power         Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.           Power         for EUT         Nominal input rating:100Vac to 240Vac, 50/60Hz           Rated ouput capacity: 1500 VA, maximum current: 15 A, tush current: 70 A peak max. (within 20 ms)           Insulation resistance         30 MΩ or greater (500 Vdc) (between AC line and chassis)           Withstand voltage         1390 Vac, 2 seconds/200 mA or less           Earth continuity         25 Aac/0.1 Ω or less           Safety (*1)         Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/35/EC, EN61010-1 (Class I, Pollution degree 2)           Electromagnetic compatibility (*1, *2)         Conforms to the requirements of the directive and standard below. Electromagnetic           Outside dimensions, weight         320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg           Accessories         1 set of test leads.           Outside dimensional drawings]         1 set of test leads of (FP01-TCS), 1 spare fuse (15A, for EUT power) 1 instruction manual, 1 circuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line)           [External dimensional drawings]         MAX345 330		Mounting location	Indoors, altitude of 2000 m or less
Power         Nominal input rating:100Vac to 240Vac, 50/60Hz           Rated output capacity: 1500 VM, maximum current: 15 A, rush current: 70 A peak max. (within 20 ms)           Insulation resistance         30 MΩ or greater (500 Vdc) (between AC line and chassis, between measurement terminal and chassis)           Withstand voltage         1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)           Safety (*1)         25 Aac/0.1 Ω or less           Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)           Conforms to the requirements of the directive and standard below. Low Voltage Directive 89/386/ECC, EN61326, EN61000-3-2, EN61000-3-3.           Electromagnetic compatibility (*1, *2)         Conforms to the requirements of the directive and standard below. EMC Directive 89/386/ECC, EN61326, EN61000-3-2, EN61000-3-3.           Outside dimensions, weight         320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg           Accessories         1 set of test leads (TL21-TOS): red and black, one each, with alligator clips) 1 flat probe (FP01-TOS), 1 spare fuse (15A, for EUT power) 1 instruction manual, 1 circuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line)           [External dimensional drawings]         MAX345 320		Input power	Nominal input rating:100Vac to 240Vac, 50/60Hz, power consumption: 70 VA max.
Insulation resistance         Rated output capacity: 1500 VA, maximum current: 15 A, rush current: 70 A peak max. (within 20 ms)           Insulation resistance         30 MΩ or greater (500 Vdc) (between AC line and chassis)           Withstand voltage         1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)           Safety (*1)         25 Aac/0.1 Ω or less           Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)           Electromagnetic compatibility (*1, *2)         Conforms to the requirements of the directive and standard below. Low Voltage Directive 89/336/EC, EN61000-3-2, EN61000-3-3 Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters. Use the supplied test leads.           Outside dimensions, weight         320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg           Accessories         1 set of test leads (TL21-TOS): red and black, one each, with alligator clips) 1 flat probe (FP01-TOS), 1 spare fuse (15A, for EUT power) 1 instruction manual, 1 clicuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line)           [External dimensional drawings]         MAX345 320	Power	(	Nominal input rating:100Vac to 240Vac, 50/60Hz
Insulation resistance       30 MΩ or greater (500 Vdc) (between AC line and chassis, between measurement terminal and chassis)         Withstand voltage       1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)         Earth continuity       25 Aac/0.1 Ω or less         Safety (*1)       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)         Earth continuity       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)         Electromagnetic compatibility (*1, *2)       Conforms to the requirements of the directive and standard below. EMC Directive 89/336/ECC, EN61326, EN61000-3-2, EN61000-3-3 Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters.         Outside dimensions, weight       320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg         Accessories       1 set of test leads.         1 set of test leads (IC21-TOS: red and black, one each, with alligator clips)         1 instruction manual, 1 circuit principle diagram sticker         2 power cords (for the tester and for the EUT AC line)         [External dimensional drawings]		for EUT	Rated output capacity: 1500 VA, maximum current: 15 A, rush current: 70 A peak max. (within 20 ms)
Insulation resistance       measurement terminal and chassis)         Withstand voltage       1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)         Earth continuity       25 Aac/0.1 Ω or less         Safety (*1)       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)         Conforms to the requirements of the directive and standard below. Memory of the requirements of the directive and standard below.         Electromagnetic compatibility (*1, *2)       Conforms to the requirements of the directive and standard below.         Electromagnetic compatibility (*1, *2)       Conforms to the requirements of the directive and standard below.         Electromagnetic compatibility (*1, *2)       Set of test leads.         Outside dimensions, weight       320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg         1       set of test leads (TL21-TOS): red and black, one each, with alligator clips)         1       fist probe (FP01-TOS), 1 spare fuse (15A, for EUT power)         1       instruction manual, 1 circuit principle diagram sticker         2       power cords (for the test rand for the EUT AC line)         [External dimensional drawings]       MAX345		· .	30 MΩ or greater (500 Vdc) (between AC line and chassis, between
Withstand voltage       1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)         Earth continuity       25 Aac/0.1 Ω or less         Safety (*1)       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)         Electromagnetic compatibility (*1, *2)       Conforms to the requirements of the directive and standard below. EMC Directive 89/336/ECC, EN61302-32, EN61000-3-3 Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters. Use the supplied test leads.         Outside dimensions, weight       320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg         Accessories       1 set of test leads (TL21-TOS: red and black, one each, with alligator clips) 1 flat probe (FP01-TOS), 1 spare fuse (15A, for EUT power)         I instruction manual, 1 circuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line)         [External dimensional drawings]	insulatio	n resistance	measurement terminal and chassis)
Earth continuity         25 Aac/0.1 Ω or less           Safety (*1)         Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)           Electromagnetic compatibility (*1, *2)         Conforms to the requirements of the directive and standard below. EMC Directive 89/336/EC, EN6100-3-3, EN61000-3-3 Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters.           Outside dimensions, weight         320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg           Accessories         1 set of test leads (TL21-TOS): red and black, one each, with alligator clips) 1 instruction manual, 1 circuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line)           [External dimensional drawings]         MAX345 320	Withstan	id voltage	1390 Vac, 2 seconds/20 mA or less (between AC line and chassis)
Safety (*1)       Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)         Electromagnetic compatibility (*1, *2)       Conforms to the requirements of the directive and standard below. EMC Directive 89/36/ECC, EN61326, EN61000-3-2, EN61000-3-3 Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters. Use the supplied test leads.         Outside dimensions, weight       320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg         Accessories       1 set of test leads (TL21-TOS): red and black, one each, with alligator clips) 1 flat probe (FP01-TOS), 1 spare fuse (15A, for EUT power) 1 instruction manual, 1 circuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line)         [External dimensional drawings]       Maxing	Earth co	ntinuity	25 Aac/0.1 Ω or less
Electromagnetic compatibility (*1, *2) Electromagnetic (Conforms to the requirements of the directive and standard below. EMC Directive 89/336/ECC, EN61306-3-2, EN61000-3-3 Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters. Outside dimensions, weight 320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg 1 set of test leads (TL21-TOS: red and black, one each, with alligator clips) 1 set of test leads (TL21-TOS: red and black, one each, with alligator clips) 1 instruction manual, 1 circuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line) [External dimensional drawings]	Safety (*	1)	Conforms to the requirements of the directive and standard below. Low Voltage Directive 2006/95/EC, EN61010-1 (Class I, Pollution degree 2)
Outside dimensions, weight       320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg         1 set of test leads (TL21-TOS): red and black, one each, with alligator clips)         1 flat probe (FP01-TOS), 1 spare fuse (15A, for EUT power)         1 instruction manual, 1 circuit principle diagram sticker         2 power cords (for the tester and for the EUT AC line)         [External dimensional drawings]         MAX10         MAX10	Electromagnetic compatibility (*1, *2)		Conforms to the requirements of the directive and standard below. EMC Directive 89/336/ECC, EN61326, EN61000-3-2, EN61000-3-3 Applicable conditions: All cables and wires used to connect to this product must be shorter than 3 meters. Use the supplied test leads.
Accessories          1 set of test leads (TL21-TOS: red and black, one each, with alligator clips)         1 flat probe (FP01-TOS), 1 spare fuse (15A, for EUT power)         1 instruction manual, 1 circuit principle diagram sticker         2 power cords (for the tester and for the EUT AC line)         [External dimensional drawings]         MAX10         MAX10         320	Outside dimensions, weight		320 (345) W × 88 (105) H × 270 (330) D mm, approx. 5 kg
[External dimensional drawings]	Accessories		1 set of test leads (TL21-TOS: red and black, one each, with alligator clips) 1 flat probe (FP01-TOS), 1 spare fuse (15A, for EUT power) 1 instruction manual, 1 circuit principle diagram sticker 2 power cords (for the tester and for the EUT AC line)
	[Exte	rnal dimens	ional drawing [anniwerb lenoi:
	LVIC		
		MAX	



	rest lead 1221-103 (equivalent to the supplied lead)
Product name/ model name	Flat probe FP01-TOS (equivalent to the supplied probe)
	Test probe HP21-TOS (with a start switch)
	Multi-output OT01-TOS (allows the connection of the different plugs used around the world)
	Rack mount bracket KRA3-TOS (inch type)
	Rack mount bracket KRA150-TOS (millimeter type)

#### Distributor:

Options

All products contained in this catalogue are equipment and devices that are premised on use under the supervision of qualified personnel, and are not designed or produced for home-use or use by general consumers. Specifications, design and so forth are subject to change without prior notice to improve the quality. Product names and prices are subject to change and production may be discontinued when necessary. Product names, company names and brand names contained in this catalogue represent the respective registered trade name or trade mark. Constructions, textures and so forth of photographs shown in this catalogue may differ from actual products due to a limited fidelity in printing. Although every effort has been made to provide the information as accurate as possible for this catalogue, certain details have unavoidably been omitted due to limitations in space. If you find any misprints or errors in this catalogue, it would be appreciated if you would inform us. I Please contact our distributors to confirm specifications, price, accessories or anything that may be unclear when placing an order or concluding a purchasing agreement.