Omnilight II

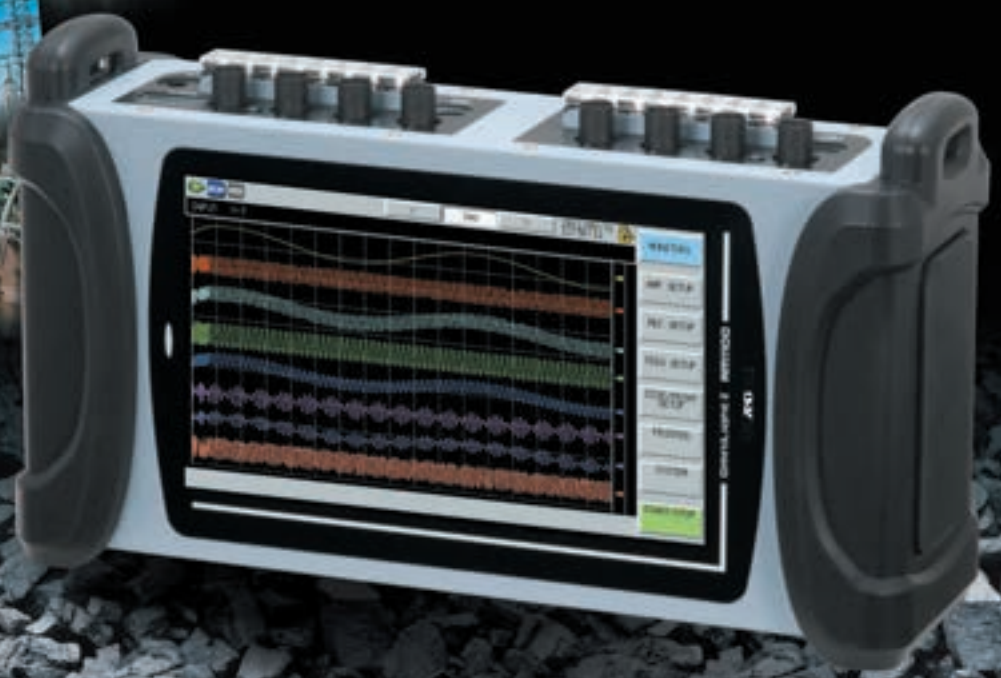
RM1100

Portable Data Acquisition System

Powerful and Dependable

RM1100 Excels in both Lab and Field

The compact RM1100 Portable Data Recorder provides reliable data collection in challenging environments. A large 7-inch wide TFT LCD color touch screen display and refined GUI are ideal for quick setup, data capture and playback. With "Real Time", "Memory" and SD Card recording modes plus up to one microsecond sampling rate, the RM1100 handles the most demanding high speed applications. Using a SD Card or PC via Ethernet ensures long continuous recording. Waveform printing is available with optional thermal printer. This AC or battery-operated recorder with rugged casing satisfies your requirements for predictive maintenance, quality control, R&D, automobile driving tests and remote controlled data acquisition.



Signal Input up to 8 Channels

4 or 8 channels of both Voltage/Temperature and Logic inputs

Outstanding Usability

Dynamic waveform display on 7" wide & large LCD
Touch-screen with GUI offers easy operation

Built Tough

Shock and drop resistance withstanding continuous vibration environments such as on-board vehicle tests (MIL-STD-810G 514.5C-1)
Wide operating temperatures:-20℃to+60℃(-4°Fto+140°F)
Compact & rugged case endures dusty and humid environments

Excellent Portability

Continuous operation with rechargeable batteries
Optionally powered by 8.5-24V DC (vehicle) or by AC
Lightweight with full measurement capability

Measurement Capability

Three measuring modes: "Real-Time" (Paper), "Memory" (Snap-Shot) and "Filing" (SD card storage)
High speed recording up to 1μs to memory or SD card
Long term recording to SD card, PC or thermal printer

A&D Company, Ltd.

Discover Precision

http://www.aandd.jp

■Robust Design, Sturdy Construction

■[illegible]

Small, lightweight instruments are prone to be slipping off from workbenches or being dropped during field tests and transportation. The quality structure of the RM1100 withstands harsh drops (IEC60068-2-32 equivalent: 1 meter drop onto flat aluminum plate with the unit not being operated).*

■[illegible]

The product design was tested to comply with IEC60529 standard when the optional splash-resistant cover (RM11-402)*1 is installed on input terminals, power supply and connecting cables. When installed appropriately, the RM1100 can be used in tough environments with dust or mist in the air. 180Flip Display mode allows RM1100 installed and used upside down with cables attached to the bottom.

*1:RM11-402 is a custom order item.

180° Display Flip feature allows RM1100 use with connectors projecting from top or bottom of unit.

■[illegible]

The RM1100 conforms to U.S. standard MIL-STD810G 514.5C-1 that is often required or desired for vehicle tests and other applications.

■[illegible]

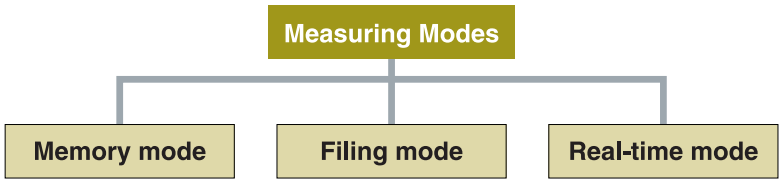
The extended operating temperature range lets you take the RM1100 to perform testing in hot or cold environments, such as in thermostatic chambers, near furnaces or other heat generating machinery, and in warehouses and automobiles in summer and winter. When used in-vehicle, for instance, RM1100 can be booted up to start recording right away. (Test confirms continuous and normal operation at -20℃ and +60℃ and RM1100 kept at -20℃ for 60 min with no power supplied can be turned on and be operated properly.)

*The above specifications and tests don't guarantee failure-free or breakage-free performance.

■Versatile Measuring Capability

■Multiple Measuring Modes

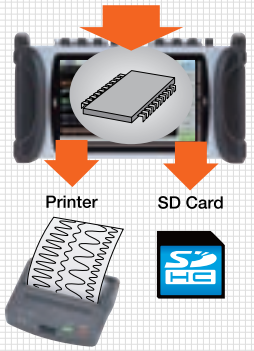
Select from 3 measuring modes— 'Memory Mode' for saving fast events, 'Filing Mode' for saving data for long periods of time on an SD card, and 'Real-time Mode' for printing out waveforms using an external printer.



●Memory mode

Data is saved to built-in memory (2M data/channel) at a maximum speed of 1μs (1M samples/second). Measured data is displayed, printed with an external printer, or saved on a SD card.

Sampling speed: 1μs to 1sec



SD card slot

Supports optional SD card

Sampling speed	1μs to 1s
Memory size	2M data/channel
Data length	1000 to 2M data (10 to 20,000 divisions)
Memory divisions	1,2,5,10,20,50,100
Pre-trigger mode	

Memory Recording Time

Sampling speed	Memory (2M samples)
1_s	2 sec
2μs	4 sec
5μs	10 sec
10μs	20 sec
20μs	40 sec
50μs	100 sec
100μs	200 sec
200μs	400 sec
500μs	1000 sec
1ms	33 min 18 sec
2ms	1 hr 6 min 40 sec
5ms	2 hr 46 min 40 sec
10ms	5 hr 33 min 20 sec

●Real-time mode

Real-time recording mode allows acquired data to be sent directly to an external printer. Waveforms are shown on the color display screen using graphical pen tips. The chart paper speed may be changed during recording using the touch screen.

Specifications

Chart speed	10mm/sec to 1mm/min
Recording Division	1, 2, 4, 8 divisions
Printing Density	8dots/mm (time axis: horizontal) 8dots/mm (waveform axis: vertical)
Paper Width	112mm

●Filing mode

Filing mode provides long-time data saving to an SD card. Record data at fast sampling rates up to 1μs (1M samples/sec) with 1 channel or 10μs (100K samples/sec) with eight channels activated simultaneously. This feature is excellent for high speed and long term continuous recording as well as post-measurement analysis.

Sampling speed: 1μs to 1sec

Sampling speed	1MS/s (1μs) to 1S/s **Varies by number of activated channels or data type
Filing Format	Linear / Loop

Maximum Recording time to SD card

Sampling speed	8GB capacity	
	With 1 channel	With 8 channels
1μs	1hr 11min	–
2μs	2hr 23min	–
5μs	5hr 57min	44min 44sec
10μs	11hr 55min	1hr 29min
20μs	23hr 51min	2hr 58min
50μs	2d 11hr 39min	7hr 27min
100μs	4d 23hr 18min	14hr 54min
200μs	9d 22hr 36min	1d 05hr 49min
500μs	24d 20hr 31min	3d 02hr 34min
1ms	49d 17hr 02min	6d 05hr 07min
2ms	99d 10hr 05min	12d 10hr 15min
5ms	248d 13hr 13min	31d 01hr 39min
10ms	497d 02hr 27min	62d 03hr 18min

**Above Recording times are for Sampled data.
Recording times are doubled for Peak data sampling.

What are Sample data and Peak data?

Both Sample and Peak data may be recorded on the RM1100. Sample-data recording, a method used in most data acquisition systems, records data at preset time intervals. Peak-data recording scans measured data at a very fast speed and records projecting (Peak) data. This method records high-frequency noise regardless of printer paper feed speed. The figures on the right show examples of both Sample and Peak data recorded at a sampling rate of 10ms.

Sample data

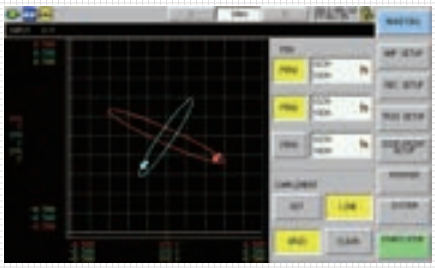
Measured data is recorded at preset time intervals only. Any even occurring between the set interval is not recorded.

Peak data

Measured data is scanned at the fastest sampling speed, between a preset time interval. The highest and lowest values are recorded. This allows recording any fast projecting (Peak) data while minimizing the amount of data stored. Approx. twice as much data is stored with the Peak data mode compared to the Sample data mode.

●X-Y Display

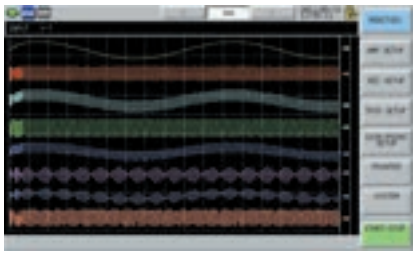
An XY graph can be displayed in Memory mode and Filing mode. With this graph, correlation between X and Y axis is easily viewed. Up to three (3) channels may be selected for each axis and a graph (800 x 800 dots) can be viewed or printed.



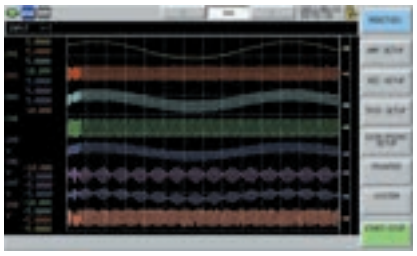
■Functions to Support Measurement on Site

■Dynamic Waveform Display

The wide 7"LCD allows dynamic waveform display of up to 8 channels. Users can also set numeric value and waveform screen division for various purposes.



Full screen (Wide 7"LCD)



Y-T & scale

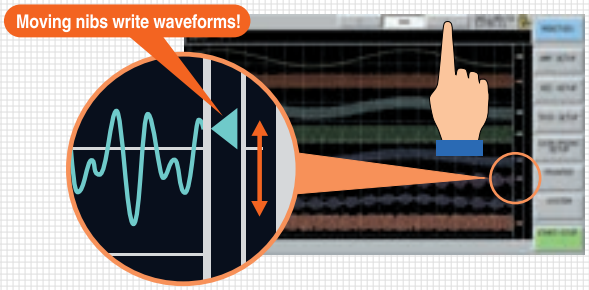
Numeric value

■Intuitive Design

The RM1100's large touch screen panel allows for intuitive operation. Simply touch the buttons or cursor on the screen to move, scroll and change the various settings.

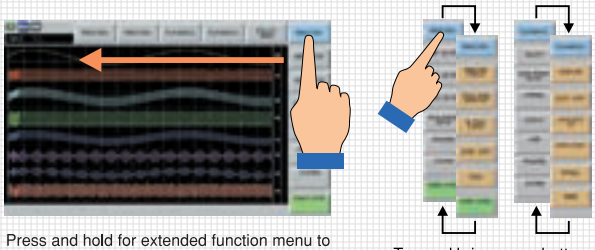
Easy configuration of sampling & paper feed

The RM1100's large touch screen panel allows for intuitive operation. Simply touch the buttons or cursor on the screen to move, scroll and change the various settings.



Function menu

Touching menu button on the top right extends the function menu for data input or playback.

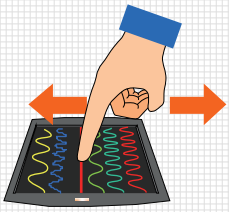


Press and hold for extended function menu to side.

Tap and bring menu button needed to front.

Trigger level configuration

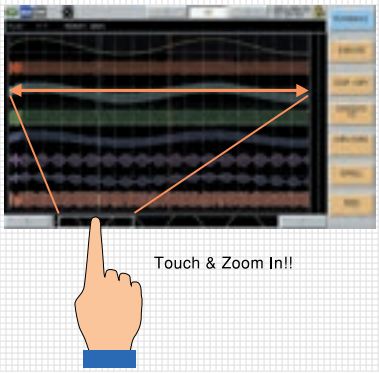
When setting a trigger level, users can just touch and move the cursor (threshold) over a waveform on screen to change the configuration.



Moving trigger level

Thumbnail bar

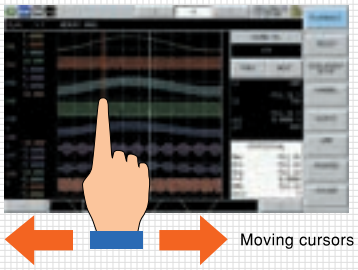
An entire waveform of acquired data (selected 1 channel) can be displayed on a thumbnail bar. By touching a point of interest on the bar, users can see an enlarged waveform on the main playback screen.



Touch & Zoom In!!

Cursor data readout

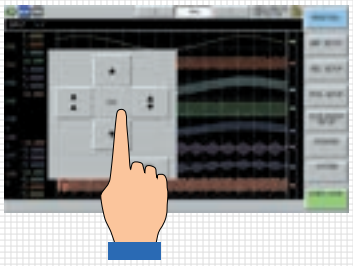
Displays max, min, average and peak value in-between 2 cursors (time axis) given on playback screen.



Moving cursors

Changing signal position & waveform width

Touching near input signals creates a pop up dialog box for changing signal position & waveform width, and allows selection of channel, vertical position or waveform width.

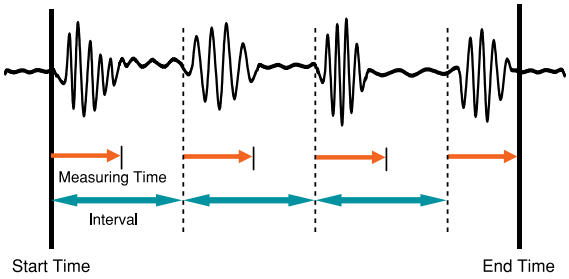


■Convenient Features and More

■Useful Functions

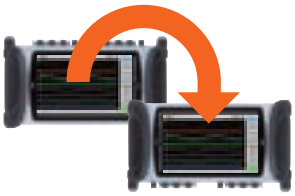
Timer control function

Automatic measurement with preset time and interval.



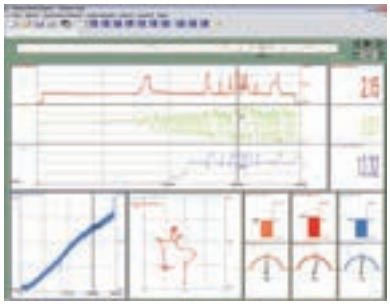
Flipped monitor display

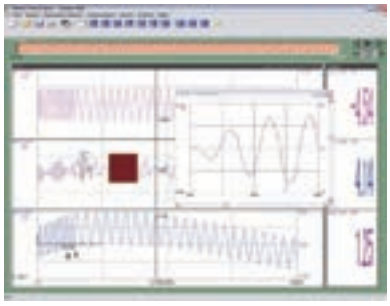
RM1100 can be positioned upside-down and still display data correctly. A flipped screen secures flexibility in connecting cables to suit the location where the product is installed. With optional mount (RM11-405), VESA standard display monitor arms, stands and brackets can be chosen for your installation.



■Unifizer LE for DAQ (PC software)

Standard software enables remote configuration, recording (to PC), playback, and post-analysis via Ethernet.





Connection with RM1100

Control the RM1100 via Ethernet and also read data saved on a SD card.

User-customized Screen Displays

1) **Parallel display of Record & Play screens:**
Display Digital Data, Y-T graphs, X-Y graphs, and Bitmap Data on screen with customized layouts.

2) **Report function:**
Insert comments or arrows to waveforms on screen and print the images for reporting.

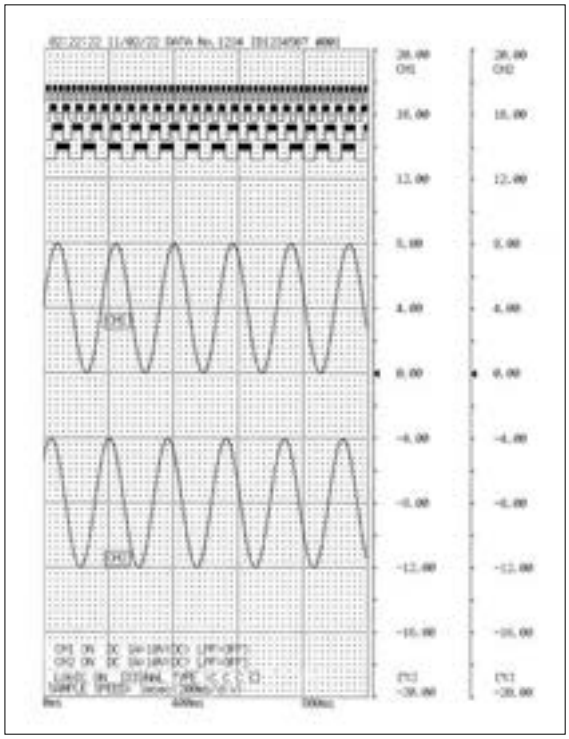
Numerous calculation functions

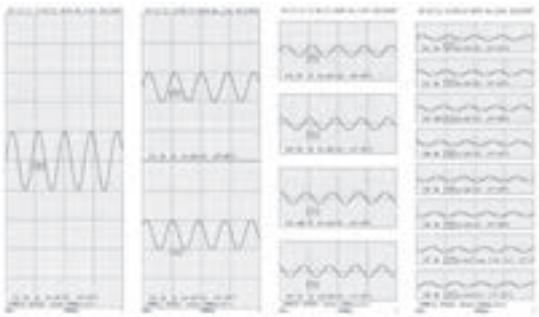
Arithmetic, Calculus and Trigonometric Functions, FFT, etc. using real-time or post-measurement data.

*For Microsoft Windows Vista and 7™. Compatible PC configuration, OS system and associated application software are to be consulted beforehand.

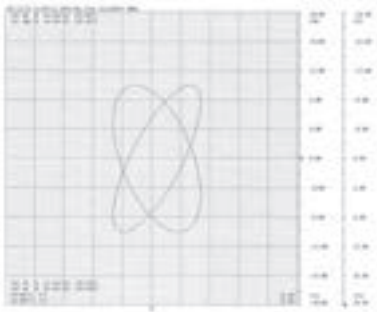
■Printing Feature

Data can be printed on a recording chart at a paper speed of 10mm/sec. Recorded waveform data of selected channels can also be printed in different formats by channel or overlapping etc. Signal position and amplitude can be easily adjusted independently for each channel.





Waveform Division
Up to eight divisions for printout



X-Y Recording
Up to 3 channels for each axis can be selected, graphed and printed (800x 800 dots).

■Accessories

Input Signal		Probes and Cables
Voltage	±500V (DC or AC peak)	**Isolated BNC cable** (0311-5175) **BNC-Adapter for safety jacks** (0243-3021)
Current	High current	**AC／DC Clamp Meter 2009R** 2,000A, 400A / DC,30 to 1kHz DC, 30 to 1kHz ϕ55 Input cable 0311-5184 required
Current	Medium current Low current	**Clamp Sensor 8115** AC130A, DC180A DC, 40 to 1kHz ϕ12 **Clamp Adaptor 8112** 20A, 2A, 0.2A 40 to 10kHz ϕ8 **BNC-Adapter for safety jacks** (0243-3021)
Voltage detection	50-250VAC 20-250VDC	This unit detects AC or DC voltage and outputs as High/Low. It supports 4 channels 50 to 150VAC: Low 100 to 250VAC: High 20 to 150VDC: Low 80 to 250VDC: High 1539S
Temperature	Thermocouple R, T, J, K and W	**Covered and sheathed thermocouples**
Logic	At voltage input H: 2.5V or higher L: 0.5V or lower At contact input Open: 2kΩ or higher Short: 2kΩ or lower	**Alligator clip code** (0311−5336) **IC clip code** (0311−5337) **Logic IC cable (for 5V input)** (0311−5332)
Rotational Signal	At voltage input 0.3V to 30V p-p 1Hz to 10kHz Rotation pulse	**Isolated BNC cable** (0311-5175) **BNC-Adapter for safety jacks** (0243-3021)

RM1100 Input
Voltage input - ±100mV to ±500V - 1MS/s (1μs) - A/D: 14bit
Temperature input Thermocouple (R, T, J, K, W) - 1MS/s (1μs) - A/D: 14bit
Logic input -At voltage input (0 to +5V) or At contact (short or open)

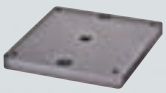
Battery pack (T2UR18650F-5928)

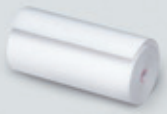
Battery charger (NC-LSC05-100V)

Splash-resistant cover (custom order item) (RM11-402)

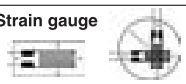
Carrying case (RM11-403)

Thermal printer (RM11-440)


Display arm mount (RM11-405)


Recording paper (YPS118)

SD memory card (RM11-453、RM11-454)

Input Signal	Sensor
Vibration (impact acceleration)	**Amp-embedded charge accelerometer** (SV2000 series) **Piezoelectric accelerometer** (SV, 9F series) **Charge converter** This unit is necessary when piezoelectric accelerometers are used. AP11-901 AP11-902 AP11-903
Strain, load, displacement, acceleration and torque	**Strain gauge**  **Bridge box** **Strain gauge sensors:** Load cell, pressure transducer, displacement transducer, torque transducer, slip ring and accelerometer

Remote amplifier

Charge amplifier

Strain amplifier

Signal input cable (0311-5200)

BNC-Adapter for safety jacks (0243-3021)

Specifications

■Omnilight Ⅱ RM1100 Series

Type			RM1101(discontinued)	RM1102
Display			7 inch TFT LCD display (800 x 480 dots)	
Operation panel			Touch panel	
Input				
	Channel	Voltage/Temperature	4ch	8ch
		Logic	4ch	8ch
	Sampling Speed		with 1ch : 1MS/s (1μs) to 1S with 2ch : 500kS/s (2μs) to 1S with 4ch : 200kS/s (5μs) to 1S	with 1ch : 1MS/s (1μs) to 1S with 2ch : 500kS/s (2μs) to 1S with 4ch : 200kS/s (5μs) to 1S with 8ch : 100kS/s (10μs) to 1S
Trigger				
	Source Ch		4ch + Logic 4ch	8ch + Logic 8ch
	Detecting Mode		OR, AND, OFF, TIMER	
	Trigger Type (Analog)		Level Trigger, Window	
	Storage Media	Internal Memory	2,000,000 data/ch	
		External Media	SD Card, corresponding to SDHC	
Communication				
	Interface		-LAN (10/100BASE-T) -RS-232C (for Thermal printer)	
External Control Terminals			REC ON/OFF, TRIGGER-IN, TRIGGER-OUT, MARK-IN	
Operating Environment				
	Temperature/Humidity		Temperature: -20 to 60°C, Humidity: 35 to 80%RH	
	Vibration Resistance		-compatible with MIL-STD-810G 514.5C-1 10Hz to 500Hz, Random wave 1hour each to X, Y, Z directions.	
	Dust-proof / Splash-proof Construction		IP41(IEC60529) when RM11-402*1 Splash-resistant cover is used	
	Power Supply		-AC adaptor: IN 100 to 240V AC (50/60Hz)/OUT 12V DC -DC power: 12VDC(with power cable:8.5 to 24V DC) -Battery: AC adaptor is prior to battery operation	
	Battery Type/Operation Time		Li-Ion rechargeable batteries (4 hours in continous use)	Li-Ion rechargeable batteries (3 hours in continous use)
	Power Consumption		approx. 9W	approx. 11W
	Dimensions		267(W) × 152(H) × 84(D)mm (excluding projection)	
	Weight		Approx.1.5kg (not including AC adapter and battery weight)	

*1: The input panel drip-proof cover (RM11-402) is a custom order item.

Measurement Modes			Memory Mode (For saving on Memory) Filing Mode (For long term saving on a SD card) Real-time Mode (For printing out to an external printer)	
Memory Mode				
	Memory Recording	Memory Capacity	2,000,000 data/ch	
		Memory Division	Division: 1 to 100 div Number of data: 1000 to 20,000; 1,000 to 2,000,000 data	
	Memory Filing	Storage Device	SD card	
		Data Form	Data is saved on SD card in binary format every time it is stored in memory.	
	Waveform Printing	Printing Density	Voltage axis: 8 dots/mm, Time axis: 8 dots/mm	
		Copy Magnification	x100, x50, x20, x10, x5 to x1/10,000	
Real-time Mode				
	Printer		Print out to an optional thermal printer via a single purpose cable	
	Recording Speed		Max. 10mm/sec	
	Recording Division		1, 2, 4 divisions	1, 2, 4 , 8 divisions
	Timer Axis		Numeric value(Number of divisions), Time(from start recording) and Clock are printed.	
	Recording Resolution		Time axis: Max. 8 dots/mm, Voltage axis: 8 dots/mm	
Filing Mode				
	Memory Media		SD card	
	Data Format		Sampling data, Peak data	
	Recording Method		Normal or Ring recording (repeated recording during preset time) selectable.	
X-Y Recording				
	Drawing Speed		100ms to 1s	
	Number of X-Y Display		Max. 3 X-Y displays (Specify optional 3ch for X and Y axes)	
	Recording Size		100 X 100mm	
	Recording Resolution		800 X 800 dots (80 dots/DIV)	

Measured Data Display (Replay Monitor)				
	Y-T Display	Waveform Division	1 to 4 divisions	1 to 8 divisions
		Display Magnification	x 100 to x 1/10,000 (*** Peak style is not enlarged)	
		Thumbnail Function	Displays the entire data for the selected channel on a thumbnail bar	
		Numeric Display	4ch + Logic 4ch	8ch + Logic 8ch
		Search Function	Search by cursor, time, address and event	
	X-Y Display channel number		Printout displayed waveforms (X-axis: 3ch, Y-axis: 3ch)	
Printout Function				
	Y-T Display	Data Information	Measuring mode, year/month/day, mesurement start time, data number, triggerconditions (trigger point, trigger date, trigger time), sampling speed, paper speed, time axis can be printed with waveforms. ON/OFF selectable.	
		Channel Information	Print input unit settings when saved. ON/OFF selectable.	
		Mark Print	Filing mode, Real-time mode, mark (date/time) print	
		Line Width for Printing	Select base line boldness for each channel (1, 2, 3, or 4 dots)	
	Screen Copy		Print screen image on recording paper	
Other Specifications				
	Multiple Language menu		9 Languages (English, French, German, Italian, Japanese, Korean, Portuguese, Spanish, Simplified Chinese and Traditional Chinese)	
	Timer Function		Start time, end time and interval can be set.	
	Reverse Display		Provided	
	Save/Readout of Settings		Measuring conditions can be saved--Internal memory: up to 4 conditions, SD card: up to available storage space.	
	Screen Image Saving		Save screen image on SD card at BMP format (colored)	
	Brightness Control & Auto Off		Provided	
	Reading values between cursors		Max, min, average, p-p, RMS	
	Key Lock		Provided	

Voltage Input				
	Input Channel		4ch	8ch
	Input Terminal		Isolated BNC connector	
	Input Format		Isolated unbalanced input	
	Input Coupling		AC and DC coupling	
	Input Impedance		1MΩ or more	
	Input Range		±0.1, 0.2,0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500 V•FS	
	Accuracy	Range Accuracy	within ±0.3% FS	
		Linearity	within ±0.1% FS	
	Offset Accuracy		within ±0.3% FS	
	Max Input Voltage		±500V(DC or AC peak values)	
	Allowable Input Voltage		Range of ±5V to 500V: ±500V max (DC or AC peak values) Range of ±0.1V to 2V: ±40V max (DC or AC peak values)	
	CMV		42V (DC or AC peak values) When using isolated BNC cable(optional): 300VAC	
	Frequency Response (W/B)		DC coupling : DC to 400kHz (+0.5, within -3dB) AC coupling : 1 to 400kHz (+0.5, within -3dB)	
	Low Pass Filter		2 pole bessel type, -12dB/oct 5Hz, 50Hz, 500Hz, 50kHz, OFF	
	Common Mode Rejection Ratio (CMRR)		80dB or more (at short input, 60Hz)	
	Temperature Stability		Zero drift : Within ±0.03%•FS/°C Sensitivity : Within ±0.01%•FS/°C at range ±100mV•FS	
	Withstand Voltage		1.5kV AC(50/60Hz), 1min between input terminal - case or terminals	
	A/D Converter		Resolution 14bit, Conversion speed 1μs	

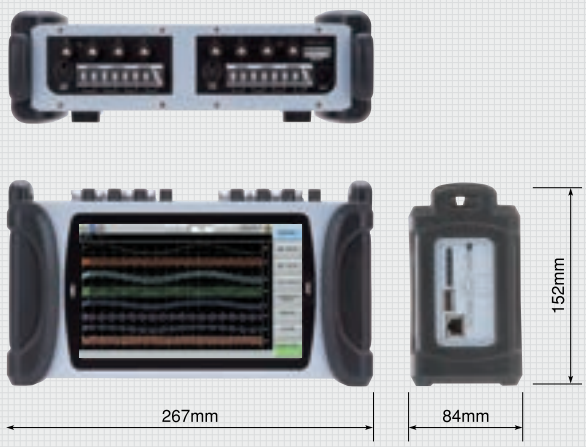
Type			RM1101(discontinued)	RM1102
Temperature Input				
	Input Channel		4ch	8ch
	Input Terminal		M3 screw termial block	
	Thermocouple		R, T, J, K, W	
	Cold Junction		Internal/external switchable.	
	Cold Junction Compensation		within ±2°C (within ±1°C at stable temperature of 20°C at input terminal)	
	Measuring Range		R type thermocouple R1760 (0~1760°C) T type thermocouple T400 (-200~400°C) J type thermocouple J1100 (-200~1100°C) K type thermocouple K500 (-200~500°C) K1370 (-200~1370°C) W type thermocouple W2300 (0~2300°C)	
	Range Accuracy		Within ±0.5% FS	
	Frequency Characteristics		DC to 50kHz (+0.5, within -3dB)	
	Low Pass Filter		2 pole bessel type, -12dB/oct 5Hz, 50Hz, 500Hz, 50kHz	
	Common Mode Rejection Ratio (CMRR)		80dB or more (at short input, 60Hz)	
	Temperature Stability		within ±0.04% FS/°C : When used as temp amp/gain (R1760, T400, K500 Range)	
	Withstand Voltage		1.5kV AC(50/60Hz), 1min between input terminal - case or terminals	
	A/D Converter		Resolution 14bit, Conversion speed 1μs	

Logic Input				
	Number of Channel		4ch	8ch
	Input Connector		Circle DIN mini connector 1 pc	Circle DIN mini connector 2 pcs
	Input		Logic input (isolated: between ch - case)	
	Input Signal		Set up voltage/contact input for each channel	
		Voltage Input	Input voltage range : 0 to +5V (with logic cable: Input voltage 0 to 24V) Detecting level: H approx. 2.5V or more, L approx. 0.5V or less Input current: 1μA	
		Contact Input	-Detection level: Short(H) … 250Ω or less Open(L) … 2kΩ or more -Load current: Max. 2 mA	
	Response Time		Within 1μs (at input "H", level +5V or higher)	
	Data Saving		Record '1' or '0' when logic level is 'H' or 'L' respectively	
	Isolated Impedance		Between Input terminal - Ground : 100MΩ or more	
	Withstand Voltage		Between input terminal - Ground : 500V AC for 1 min.	

Thermal Printer RM-440 Specifications

Print		
	Type	Thermal line dot
	Dot/line	832 dots/line
	Resolution	8 dots/mm
	Paper width	112mm
	Print width	104mm
Paper type		Rolled paper
Power source		AC adapter(exclusive), Optional Li-ion battery
Communication type		Serial
Operation temperature		At discharge: 0 to 50°C At charge: 0 to 35°C
Humidity		30 to 80%RH (No condensation)
Printer lifetime		50km
Dimension		W145 × D135 × H58 mm
Weight		Approx. 400g (not Include AC adapter and battery weight)
Standard accessories		AC Adaptor, Operation Manual, Recording paper, Printer cable (For an optional thermal printer via a single-purpose cable)

Dimensions



The product specifications and design are subject to change without notice.

Main Unit & Accessories

■Omnilight Ⅱ RM1100 Series Main Unit

Item	Model	Description and Remarks
Omnilight Ⅱ	RM1101 (discontinued)	4ch type
	RM1102	8ch type
Standard accessories	AC power cable (AC adaptor) x 1, PC software CD x 1 and instruction manual x 1	

Optional Units

Item	Model	Description and Remarks
Battery pack	T2UR18650F5928B	Li-Ion, DC7.4V, 2500mAh. *RM1100 series require two batteries. (*1)
Battery charger	NC-LSC05-110V	AC100-110V (50Hz/60Hz) * For charging one battery at a time
	NC-LSC05-220V	AC220-240V (50Hz/60Hz) * For charging one battery at a time
Splash-resistant cover	RM11-402 (*2)	
Carrying case	RM11-403	Dimensions 267(W) x 152(H) x 84(D)mm (excluding projection), Weight : Approx. 3.3kg
Display arm mount	RM11-405	
SDHC memory card	RM11-453	4GB, industrial use (for saving setting conditions & measured data)
	RM11-454	8GB, industrial use (for saving setting conditions & measured data)
Signal input cable	0311-5175	Length: 2m, Insulated BNC connector and alligator clip (+:red, –:black)
	0311-5198	Length: 2m, Insulated BNC connector without clip
	0311-5200	Length: 2m, Insulated BNC connector and metal BNC connector
Logic input cable	0311-5332	Logic IC cord (1pc)
	0311-5337	IC clip cord (4pcs/set)
	0311-5336	Alligator clip cord (4pcs/set)
AC/DC voltage detector	1539S	For converting voltage inputs (up to 4) into logic signals H or L
Voltage output cable	0311-5004	Length: 1.5m, connectors: pin tip and banana plug
Voltage output extension cable	0311-5006	Length: 1.4m, connectors: pin tip and pin tip jack
BNC adaptor	0243-3021	Insulated BNC connector and S terminal plug

*1: Insert two batteries in order to operate the recorder.
*2: The input panel drip-proof cover (RM11-402) is a custom order item.

Current Measuring Devices

Item	Model	Description and Remarks
AC/DC clamp meter	2009R (*3)	For high current (2000A, 400A / DC and 30 to 1kHz, ϕ55)
Clamp adaptor	8113 (*4)	For medium current (200A, 20A, 2A / DC to 1kHz, ϕ19)
	8112 (*4)	For low current (20A, 2A, 0.2A / 40 to 10kHz, ϕ8)
AC/DC clamp sensor	8115 (*4)	For low current (AC130A, DC180A / DC,40～1kHz, ϕ12)
Signal input cable (for clamp meter output)	0311-5184 (*5)	Length: 1.95m, small plug for microphone and insulated BNC

*3: Use signal input cable (0311-5184) if connecting output from 2009R to RM1100
*4: Use a BNC adaptor (0243-3021) if connecting output from 8112, 8113 and 8115 to RM1100
*5: Cable for inputting output from 2009R to isolated BNC connector of RM1100

Inspection Certificate with Data Sheet

Item	Model	Description and Remarks
Inspection Sheet with Data, for RM1101	5694-2063 (discontinued)	
Inspection Sheet with Data, for RM1102	5694-2065	

■Thermal Printer

Item	Model	Description and Remarks
Thermal printer	RM11-440-B01	For AC100-110V
	RM11-440-C01	For AC220-240V
Standard accessories	AC power cable (AC adaptor) x 1, Recording paper roll x 1, and user's manual x 1	
Battery pack for printer	BP-L0720-A1-E	Li-ion, DC7.4V, 2,000mAh
Battery charger for printer	PWC-L07A1-W1-E	AC100-240V(50/60Hz)
AC power cable for battery charger	CB-US04-18A-E-B	For AC100-110V
	CB-CE01-18B-E-B	For AC220-240V
Cable for printer	0311-5335	Spare cable
Recording paper	YPS118	11.2mm x 25 m roll paper (10 rolls/box)

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