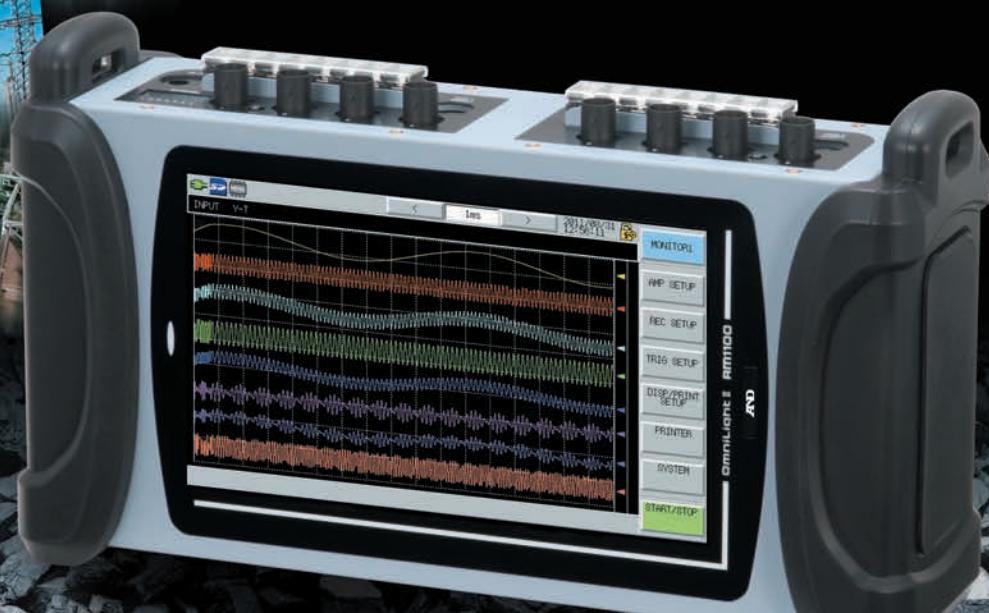
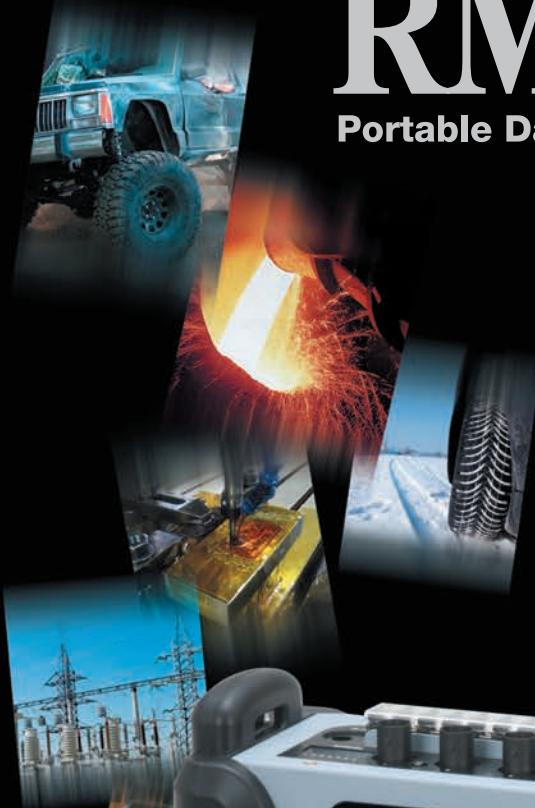


# Omnilight II

# RM1100

## Portable Data Acquisition System



### 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 withstands continuous vibration environments such as on-board vehicle tests (MIL-STD-810G 514.5C-1)

Wide operating temperatures:-20°C to +60°C (-4°F to +140°F)  
Compact & rugged case endures dusty and humid environments

### 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.

### 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

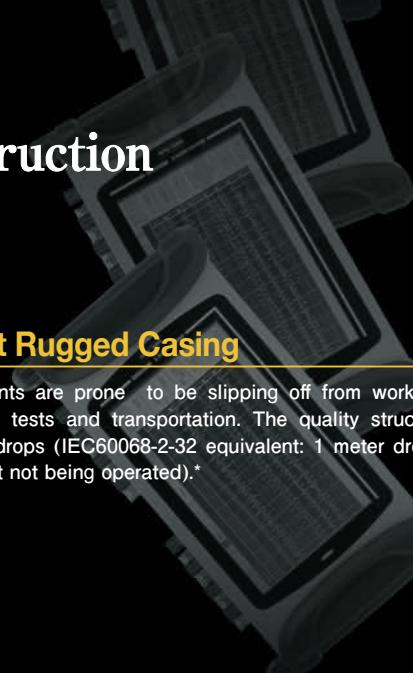
Three measuring modes: "Real-Time" (Paper), "Memory" (Snap-Shot) and "Filing" (SD card storage)  
High speed recording up to 1μs to memory or SD card  
Long term recording to SD card, PC or thermal printer

# ■Robust Design, Sturdy Construction



## ■Shock Resistant Rugged Casing

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).\*



## ■Endurance in Dusty and Humid Conditions

The product design was tested to comply with IEC60529 standard when the optional splash-resistant cover (RM11-402)\*<sup>1</sup> 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. 180°flip Display mode allows RM1100 installed and used upside down with cables attached to the bottom.

\*<sup>1</sup>:RM11-402 is a custom order item.

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



## ■Vibration Resistance Ensures Stable Measurement for Automotive Testing

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



## ■Wider Operating Temperatures: -20°C to +60°C (-4°F to +140°F)

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°C and +60°C and RM1100 kept at -20°C for 60 min with no power supplied can be turned on and be operated properly.)



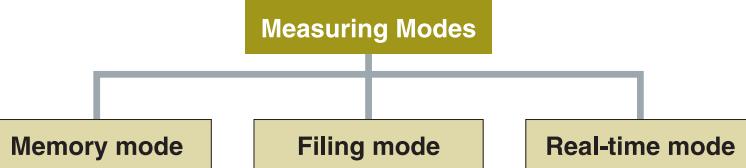
\*The above specifications and tests don't guarantee failure-free or breakage-free performance.



# Versatile Measuring Capability

## Multiple Measuring Modes

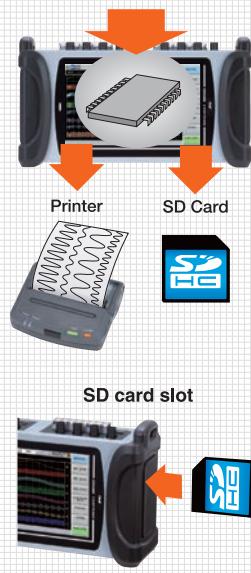
Select from 3 measuring modes—‘Memory Mode’ for saving fast events, ‘Filing Mode’ for saving data for long periods of time on an SD card, and ‘Real-time Mode’ for printing out waveforms using an external printer.



### Memory mode

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

**Sampling speed:**  $1\mu\text{s}$  to 1sec



Supports optional SD card

Sampling speed	$1\mu\text{s}$ 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)
$1\text{ s}$	2 sec
$2\mu\text{s}$	4 sec
$5\mu\text{s}$	10 sec
$10\mu\text{s}$	20 sec
$20\mu\text{s}$	40 sec
$50\mu\text{s}$	100 sec
$100\mu\text{s}$	200 sec
$200\mu\text{s}$	400 sec
$500\mu\text{s}$	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

### Filing mode

Filing mode provides long-time data saving to an SD card. Record data at fast sampling rates up to  $1\mu\text{s}$  (1M samples/sec) with 1 channel or  $10\mu\text{s}$  (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:**  $1\mu\text{s}$  to 1sec



Sampling speed	1MS/s ( $1\mu\text{s}$ ) to 1S/s
Filing Format	**Varies by number of activated channels or data type

#### Maximum Recording time to SD card

Sampling speed	8GB capacity	
	With 1 channel	With 8 channels
$1\mu\text{s}$	1hr 11min	—
$2\mu\text{s}$	2hr 23min	—
$5\mu\text{s}$	5hr 57min	44min 44sec
$10\mu\text{s}$	11hr 55min	1hr 29min
$20\mu\text{s}$	23hr 51min	2hr 58min
$50\mu\text{s}$	2d 11hr 39min	7hr 27min
$100\mu\text{s}$	4d 23hr 18min	14hr 54min
$200\mu\text{s}$	9d 22hr 36min	1d 05hr 49min
$500\mu\text{s}$	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

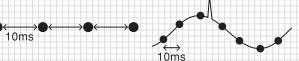
\*\*Above Recording times are for Sampled data.  
Recording times are doubled for Peak data sampling.

### 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.

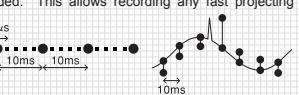
#### Sample data

Measured data is recorded at preset time intervals. 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.



### 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.

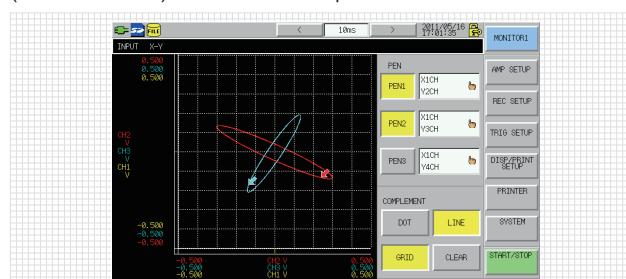


#### Specifications

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

### X-Y Display

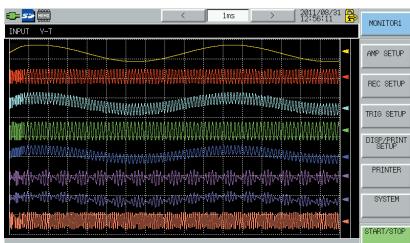
An XY graph can be displayed in Memory mode and Filing mode. With this graph, correlation between X and Y axis is easily viewed. Up to three (3) channels may be selected for each axis and a graph (800 x 800 dots) can be viewed or printed.



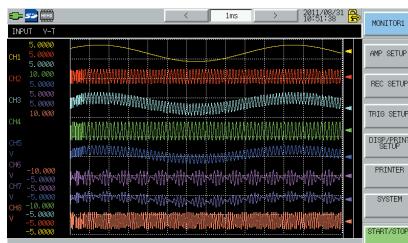
# ■ Functions to Support Measurement on Site

## ■ 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

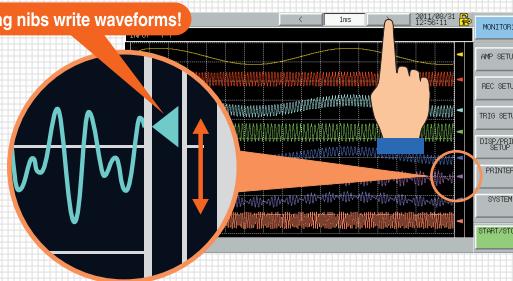
## ■ Intuitive Design

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

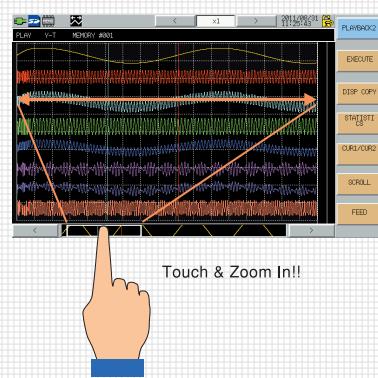
The RM1100's large touch screen panel allows for intuitive operation. Simply touch the buttons or cursor on the screen to move, scroll and change the various settings.

Moving nibs write waveforms!



### Thumbnail bar

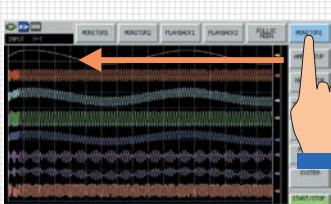
An entire waveform of acquired data (selected 1 channel) can be displayed on a thumbnail bar. By touching a point of interest on the bar, users can see an enlarged waveform on the main playback screen.



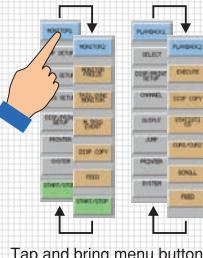
Touch & Zoom In!!

### 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.

### Cursor data readout

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

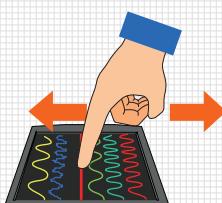


Moving cursors

### Trigger level configuration

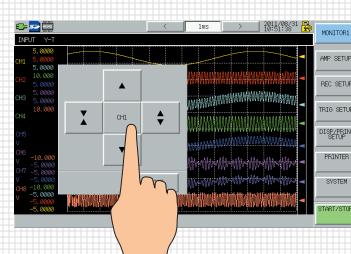
When setting a trigger level, users can just touch and move the cursor (threshold) over a waveform on screen to change the configuration.

Moving trigger level



### 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.

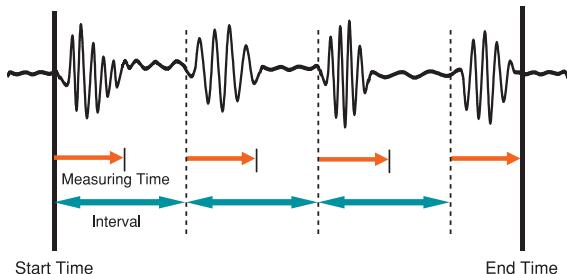


# Convenient Features and More

## ■ Useful Functions

### Timer control function

Automatic measurement with preset time and interval.



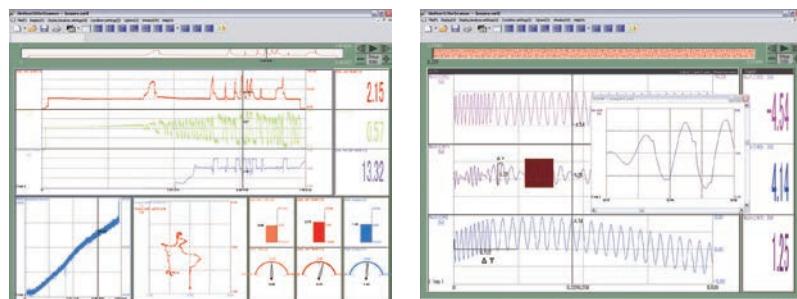
### Flipped monitor display

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.



## ■ Unifier 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.

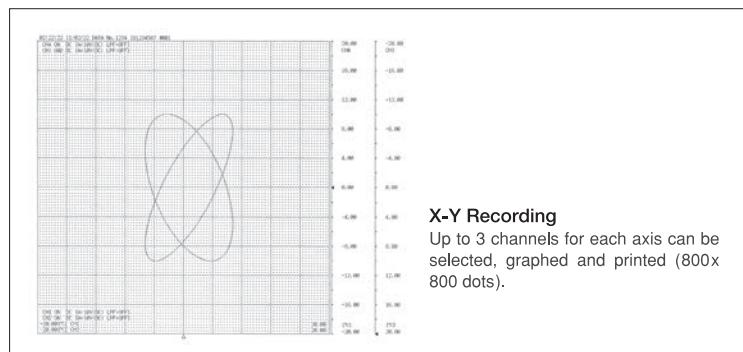
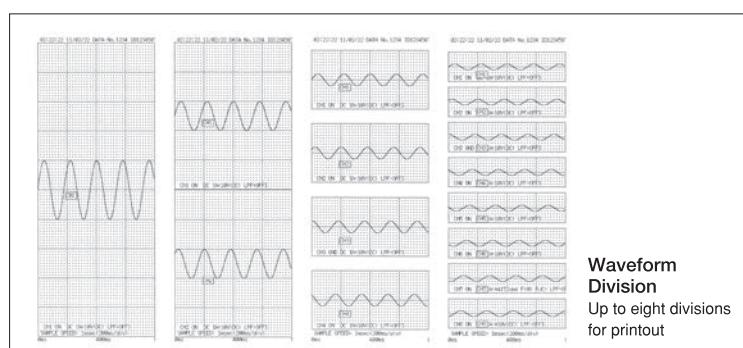
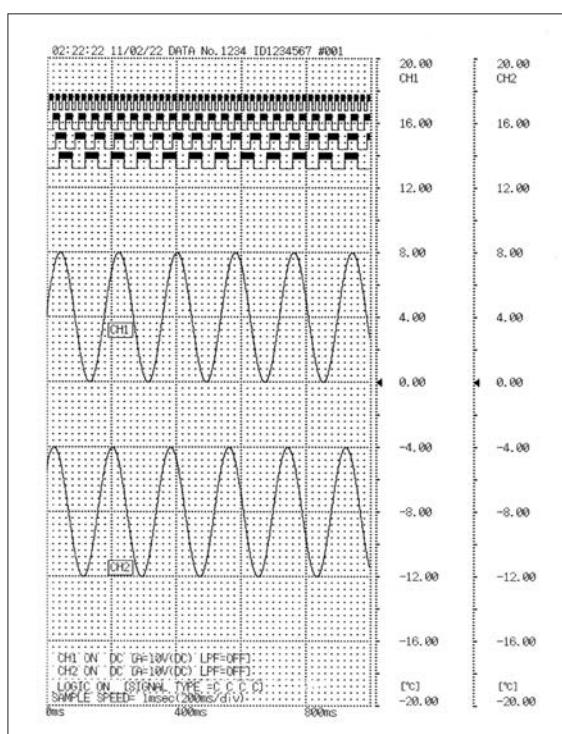
### Numerous calculation functions

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.

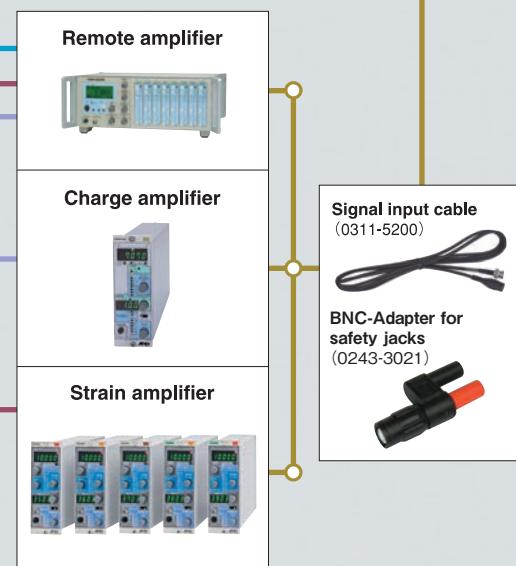


# ■ Accessories

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	
	Medium current Low current	Clamp Sensor 8115 AC130A, DC180A DC, 40 to 1kHz φ12	BNC-Adapter for safety jacks (0243-3021)	
Voltage detection		Clamp Adaptor 8112 20A, 2A, 0.2A 40 to 10kHz φ8		
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)	



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			



## 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 Logic	4ch 4ch	8ch 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 External Media	2,000,000 data/ch 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 <sup>1</sup> 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 continuous use)	Li-Ion rechargeable batteries (3 hours in continuous use)	
Power Consumption	approx. 9W	approx. 11W	
Dimensions	267(W) x 152(H) x 84(D)mm (excluding projection)		
Weight	Approx. 1.5kg (not including AC adapter and battery weight)		
<sup>1</sup> : 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 Memory Division	2,000,000 data/ch Division: 1 to 100 div	

\*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)
<b>Memory Mode</b>		
Memory Recording	Memory Capacity	2,000,000 data/ch
Memory Recording	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
Memory Filing	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
Waveform Printing	Copy Magnification	x100, x50, x20, x5 to x1/10,000
<b>Real-time Mode</b>		
Printer	Print out to an optional thermal printer via a single purpose cable	
Recording Speed	Max. 10mm/sec	
Recording Division	1, 2, 4 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	
<b>Filing Mode</b>		
Memory Media	SD card	
Data Format	Sampling data, Peak data	
Recording Method	Normal or Ring recording (repeated recording during preset time) selectable.	
<b>X-Y Recording</b>		
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, measurement start time, data number, trigger conditions (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					

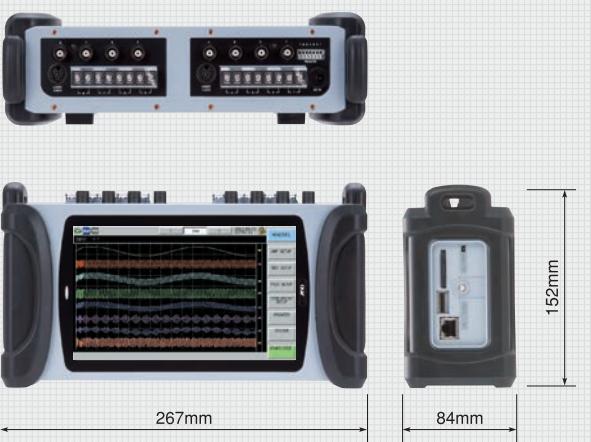
Voltage Input		
Input Channel	4ch	8ch
Input Terminal	Isolated BNC connector	
Input Format	Isolated unbalanced input	
Input Coupling	AC and DC coupling	
Input Impedance	1MO or more	
Input Range	±0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500 V-FS	
Accuracy	Range Accuracy within ±0.3% FS	
	Linearity 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 Counter	Resolution 14bit, Conversion speed 1us	

Type	RM1101 (discontinued)	RM1102
Temperature Input		
Input Channel	4ch	8ch
Input Terminal	M3 screw terminal 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, 10Hz, 50Hz, 500Hz	
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 : 100MQ or more	
Withstand Voltage	Between input terminal - Ground : 500V AC for 1 min	

## Thermal Printer RM-440 Specifications

<b>Print</b>	
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 x D135 x H58 mm
Weight	Approx. 400g (not include AC adapter and battery weight)
Standard accessories	AC Adaptor, Operation Manual, Recording paper, Printer cable (Ethernet/USB), Software CD, Interface cable (RS-232C), Interface cable (Parallel), Interface cable (Serial)

## 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 putting 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)

\*Above specifications are subject to change without notice.

Appearance and/or specifications subject to change for improvement without notice.



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