



Modello	MR8875	MR8880/20	MR8870/20	MR8847 MR8847A	MR8827	MR8740 MR8741
Modalità di funzionamento						
MEM – HIGHSPEED	SI	SI	SI	SI	SI	SI
REC – REALTIME	SI	SI	-	SI	SI	SI
Calcolo RMS	-	SI	SI	SI*	SI	SI
Diagramma X-Y	-	-	-	SI	SI	solo MR8741
Analisi FFT	SI	-	-	SI	SI	SI
Segnali CAN	SI	-	-	SI*	-	-
Comparazione della forma d'onda	-	-	-	SI	SI	solo MR8741
Prestazioni di misura						
Velocità di campionamento	500KS/s	1MS/s	1MS/s	20MS/s	20MS/s	20MS/s
Elaborazione del dato	16 bit*	14 bit	12 bit	16 bit*	24 bit*	24 bit*
Tensione max tra canali	1000 Vcc*	600 Vcc/ca	400 Vcc/ca	1000 Vcc/ca*	1000 Vcc/ca*	1000 Vcc/ca*
Tensione max verso terra	1000 Vcc/ca*	600 Vcc/ca	300 Vcc/ca	1000 Vcc/ca*	1000 Vcc/ca*	1000 Vcc/ca*
Ingressi di misura						
Ingressi isolati tra loro	SI	SI	SI	SI	SI	SI
Max ingressi analogici	16	4	2	16	32	MR8740: 52 MR8741: 16
Max ingressi digitali	8	8	4	64*	32	16
Moduli di ingresso a slot	SI	-	-	SI	SI	SI
Memoria dati						
Memoria interna	64MB	8MB	4MB	/01 - /51= 128MB /52 = 512MB /53 = 1024MB	1024MB	MR8740: 1728MB MR8741: 512MB
Card**	2GB	fino a 2GB	fino a 2GB	fino a 2GB	fino a 2GB	-
SSD (Solid State Drive)	-	-	-	128GB***	128GB***	-
Display e stampante carta						
Dimensioni display grafico	8.4 pollici	5.7 pollici	4.3 pollici	10.4 pollici	10.4 pollici	10.4 pollici
Stampante su carta	-	opzionale	-	SI	opzionale***	-
Interfacce						
USB	SI	SI	SI	SI	SI	SI
Slot per chiavi USB	SI	SI	SI	SI	SI	SI
LAN	SI	-	-	SI	SI	SI
GP-IB	-	-	-	-	-	-
RS232	-	-	-	-	-	-
SD Card	SI	-	-	-	-	-
CF Card	-	SI	SI	SI	SI	-
Alimentazione						
Diretta in CA	-	-	-	SI	SI	SI
Tramite adattatore in CA	SI	SI	SI	-	-	-
Tramite batterie ricaricabili**	SI	SI	SI	-	-	-
Diretta in CC	SI	SI	SI	MR8847A***	-	-

(*) Le caratteristiche indicate con asterisco (*) sono da valutare in funzione dei moduli di ingresso intercambiabili (opzionali) installati sull'unità principale
 (**) non fornite in dotazione
 (***) installazione in fabbrica

NEW

MR8827

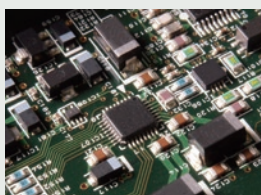


Ricerca & Sviluppo...
la soluzione è ottenere il meglio!!!

**32 canali analogici, ampio display
grande espandibilità, stampa in A4**

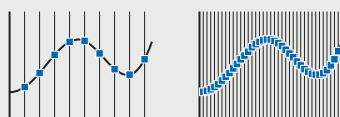
20x velocità di campionamento

La velocità di campionamento (simultanea per tutti i canali di misura) è maggiorata di 20 volte e gli ingressi dei canali sono tutti isolati tra loro.



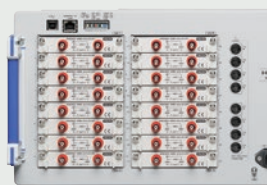
Convertitore A/D integrato sull'ingresso analogico

1MS/s ▶ 20MS/s



2x canali digitali di ingresso

L'unità base MR8827 supporta fino a 8 sonde logiche. L'utilizzo di 2 moduli di ingresso **8973** consente di avere 64 ingressi digitali. In tal caso la quantità massima di ingressi analogici diventa 28 (14 moduli).



32ch ▶ 64ch



Modulo logico 8973

8x Capacità della Memoria Interna

La memoria interna è pari a 512MW (1024MB), 8 volte superiore rispetto al modello precedente. MR8827 consente registrazioni rapide per periodi prolungati.



64MW ▶ 512MW

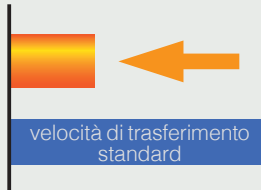
Salvataggio dei dati

CF Card, chiavetta USB, disco allo stato solido SSD
L'immagazzinamento dei dati è disponibile su vari supporti. L'unità SSD opzionale U8330 (installazione in fabbrica) ha una capacità di 128GB.



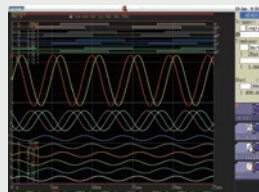
3x velocità di trasferimento a PC

La velocità di trasferimento dei dati dalla memoria interna o dal disco SSD verso il PC è aumentata di 3 volte.



Risoluzione del display LCD














Il display LCD ad alta risoluzione facilita i controlli di sovrapposizione delle forme d'onda.



10.4 inch TFT 10.4 inch SVGA
640x480 ▶ 800x600

Registra

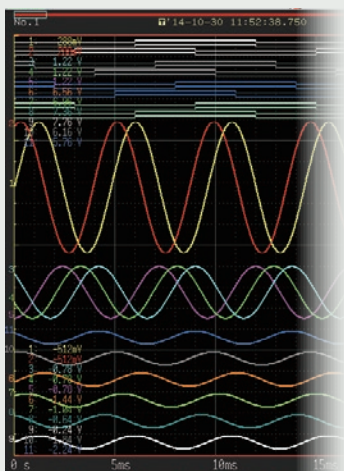
Moduli di ingresso opzionali specifici per ogni esigenza di misura*

 Modulo analogico 8966	 Modulo DVM MR8990	Bassa tensione	Trasduttori di processo, tensione, sensori industriali	
 Mod. alta risoluzione 8968	 Mod. DC/RMS 8972	Alta tensione	Tensione di alimentazione, primario e secondario di inverter, motori elettrici	
 Modulo logico 8973		Contatti	Contatti in tensione e puliti, segnali da relè, segnali AC/DC	
 Modulo per Corrente 8971		Corrente	Correnti di assorbimento da alimentatori, motori, inverter, PCB	
 Modulo per Celle di carico 8969		Forza	Convertitori di forza, accelerazione, vibrazione, pressione, peso, ecc...	
 Modulo per Temperatura 8967		Temperatura	Misura di termocoppie K, J, E, T, N, R, S, B, W	
 Modulo per Frequenza 8970		Frequenza	Convertitori di Frequenza, encoder, impulsi di rotazione	

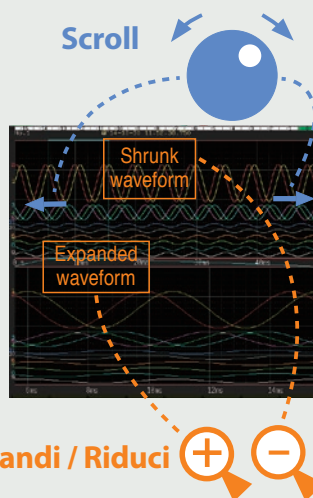
*vedere anche la sezione dedicata ai nuovi moduli di misura, dopo la sezione relativa a MR8470-MR8741

Visualizza

Display LCD ad alta risoluzione



Il display ad alta risoluzione SVGA 800x600 punti facilita la visualizzazione delle forme d'onda ed i controlli in sovrapposizione.



Scorrimento

La manopola di ricerca permette di far scorrere la forma d'onda sul display.

Espandi / Riduci

Dopo aver fissato un'area, è inoltre possibile espandere in dettaglio la forma d'onda sia in verticale sia in orizzontale.

Selezione e configura

Moduli di ingresso inseribili su slot

MR8827 supporta fino a 16 moduli di ingresso opzionali installabili su slot. L'unità base incorpora 8 connettori per sonde digitali a 4 canali.



Moduli di ingresso

MR8827 si differenzia dagli oscilloscopi tradizionali in quanto ogni singolo ingresso è isolato dagli altri e dalle masse metalliche. È quindi possibile gestire segnali multipli a diverso potenziale senza preoccupazioni.



Circuiti integrati di isolamento

Campionamento e Registrazione

Memory functions

Time axis range/div	Sampling-speed	Maximum recording length	
		32 channels	160,000 div
5 μs	50 ns	0.8 s	
10 μs	100 ns	1.6 s	
20 μs	200 ns	3.2 s	
50 μs	500 ns	8 s	
100 μs	1 μs	16 s	
200 μs	2 μs	32 s	
500 μs	5 μs	1 min 20 s	
1 ms	10 μs	2 min 40 s	
2 ms	20 μs	5 min 20 s	
5 ms	50 μs	13 min 20 s	
10 ms	100 μs	26 min 40 s	
20 ms	200 μs	53 min 20 s	
50 ms	500 μs	2 h 13 min 20 s	
100 ms	1 ms	4 h 26 min 40 s	
200 ms	2 ms	8 h 53 min 20 s	
500 ms	5 ms	22 h 13 min 20 s	
1 s	10 ms	1 d 20 h 26 min 40 s	
2 s	20 ms	3 d 16 h 53 min 20 s	
5 s	50 ms	9 d 6 h 13 min 20 s	
10 s	100 ms	18 d 12 h 26 min 40 s	
30 s	300 ms	55 d 13 h 20 min 0 s	
50 s	500 ms	92 d 14 h 13 min 20 s	
1 min	600 ms	111 d 2 h 40 min 0 s	
100 s	1 s	185 d 4 h 26 min 40 s	
2 min	1.2 s	222 d 5 h 20 min 0 s	
5 min	3 s	- abbreviated -	

Recorder functions

Time axis range/div	Maximum recording length 80,000 div	
	10 ms	13 min 20 s
20 ms	26 min 40 s	
50 ms	1 h 6 min 40 s	
100 ms	2 h 13 min 20 s	
200 ms	4 h 26 min 40 s	
500 ms	11 h 6 min 40 s	
1 s	22 h 13 min 20 s	
2 s	1 d 20 h 26 min 40 s	
5 s	4 d 15 h 6 min 40 s	
10 s	9 d 6 h 13 min 20 s	
30 s	27 d 18 h 40 min 0 s	
50 s	46 d 7 h 6 min 40 s	
1 min	55 d 13 h 20 min 0 s	
100 s	92 d 14 h 13 min 20 s	
2 min	111 d 2 h 40 min 0 s	
5 min	277 d 18 h 40 min 0 s	
10 min	- abbreviated -	
30 min	- abbreviated -	
1 h	- abbreviated -	

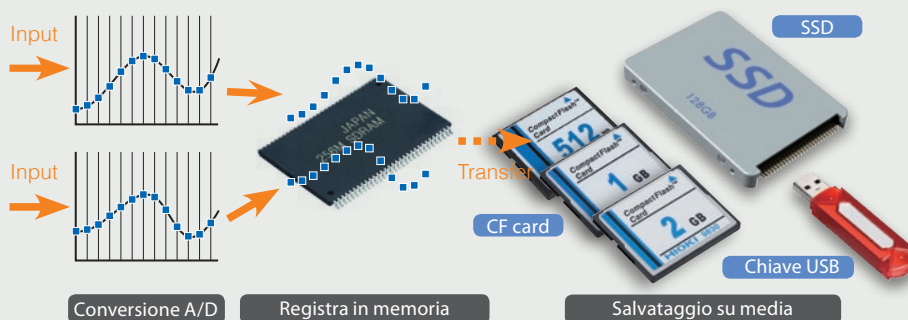
Sampling period:
1 μs, 10 μs, 1 ms, 10 ms, 100 ms

*Select within 1/100 of the time axis. Also limited by combination with the time axis setting for memory recording.

Salva

Media e salvataggio

Dopo la conversione A/D, i segnali in misura registrati nella memoria interna possono essere salvati su disco solido SSD opzionale, su chiave USB o su CF card.

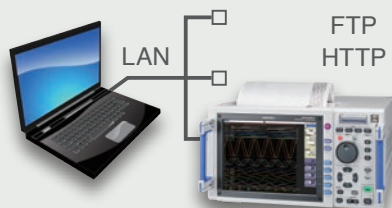


Trasferimento a PC

Analizza e elabora i dati salvati su SSD, CF card o USB trasferendo i file a PC tramite connessione LAN o USB.

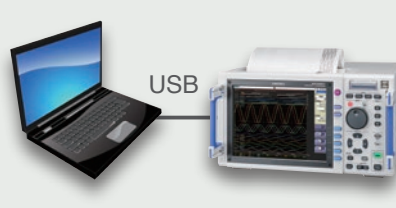
Connessione LAN

La funzione HTTP permette di operare su MR8827 tramite un browser di Internet connesso in LAN. La funzione FTP consente di scaricare i dati salvati.



Connessione USB

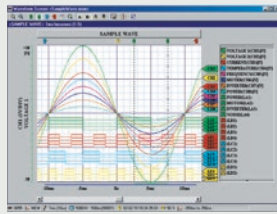
Utilizza il PC per recuperare, tramite USB, i dati salvati su memoria interna, disco SSD, CFcard o chiave USB.



Analizza

WAVE PROCESSOR 9335 (option)

- Waveform display, calculations
- Print function

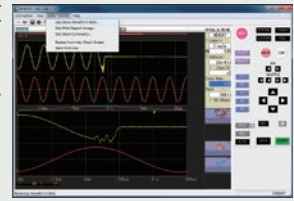


9335 Brief Specifications

Operating environment	Windows 8/7 (32/64-bit), Vista (32-bit), XP
Functions	- Display functions: Waveform display, X-Y display, Cursor function, etc. - File loading: Readable data formats (.MEM, .REC, .RMS, .POW) / Maximum loadable file size: Maximum file size that can be saved by a given device (file size may be limited depending on the computer configuration) - Data conversion: Conversion to CSV format, Batch conversion of multiple files, etc.
Print	- Print function: Printing image file output (expanded META type, ".EMF") - Print formatting: 1 up, 2-to-16 up, 2-to-16 rows, X-Y 1-to-4 up, preview, hard copy

LAN COMMUNICATOR 9333 (option)

- Auto-save waveform data to PC
- Remote control via LAN connection
- Save in CSV format and transfer to spreadsheet programs



9333 Brief Specifications

Operating environment	Windows 8/7 (32/64-bit), Vista (32-bit), XP, (9333 ver.1.09 or later)
Functions	- Auto-saves waveform data to PC, Remote control of Memory HiCorder (by sending key codes and receiving images on screen), print report, print images from the screen, receive waveform data in same format as waveform files from the Memory HiCorder (binary only) - Waveform data acquisition: Accept auto-saves from the Memory HiCorder, same format as auto-save files of Memory HiCorder (binary only), print automatically with a Memory HiCorder from a PC. The Memory HiCorder's print key launches printouts on the PC - Waveform viewer: Simple display of waveform files, conversion to CSV format, etc.

iPad App for Memory HiCorder HMR Terminal

Free app (exclusively for iPad) downloadable from the App Store

- Freely control waveforms using iPad's gesture controls
- Multi-channel support – up to 32 channels (with MR8827, MR8740) of waveform data at your fingertips
- Operate the Memory HiCorder via network
You can change settings, and monitor waveforms during measurement.



*New function on Ver 2.0

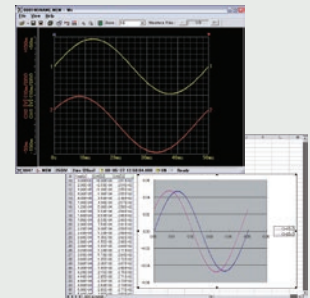
HMR Terminal Brief specifications (free software)

Operating environment	iOS on the iPad (Apple Inc.)
Functions	- Data acquisition: Send to iPad via FTP using a WiFi router, or load to iPad via iTunes (PC app) - Intuitively operate waveform level searches, maximum / minimum / average values, zero position adjustment, and more at your fingertips - Waveform monitoring - Meter setting

* Logic waveforms and computational waveforms are not supported.

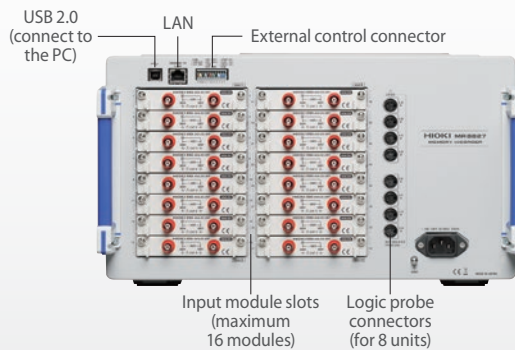
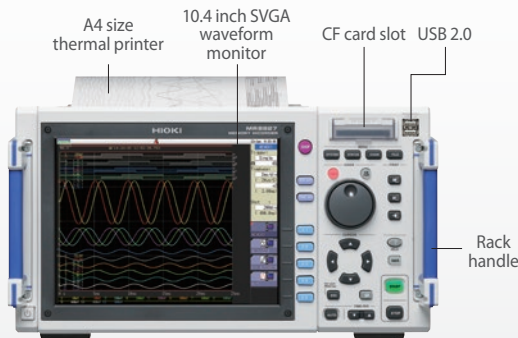
Wave Viewer Wv (Bundled software)

- Check waveforms with binary data on a PC
- Save data in CSV format and transfer to spreadsheet programs



Wave Viewer (Wv) Brief Specifications

Operating environment	Windows 8/7 (32/64-bit), Vista (32-bit), XP, 2000
Functions	- Simple display of waveform files - Convert binary data files to text format, CSV, etc. - Scroll function, enlarge/reduce display, jump to cursor/trigger position, etc.



Main unit Specifications

Basic specifications (Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)	
Measurement functions	MEMORY (high-speed recording) RECORDER (real-time recording) X-Y RECORDER (X-Y real-time recording) FFT (frequency analysis)
Main unit OS	μITRON (Non-Windows OS)
Number of channels (Max.)	[16 analog input modules]: 32 analog channels + 32 logic channels (logic probe terminals standard, logic has common GND) [14 analog input modules + 2 logic input modules]: 28 analog channels + 64 logic channels (standard 32 channels + 32 channels in Logic unit 8973 ×2) * Max. up to two modules of the Logic Unit 8973, the Current Unit 8971 up to four modules
Maximum sampling rate	20 MS/second (all channels simultaneously)
Internal memory	16MW/ch (total capacity 512MW memory), 16MW/ch (using 32 analog channels), 32MW/ch (using 16 analog channels), 64MW/ch (using 8 analog channels), 128MW/ch (using 4 analog channels)
Data storage media	CF card slot (standard) ×1 (up to 2GB, FAT, or FAT-32 format), USB port ×2 (USB 2.0)
Backup battery life	Clock and parameter setting backup: at least 10 years (reference value at 25°C)
External control connectors	External trigger input, Trigger output, External sampling input, GND, Two external outputs (GO/NG output), Three external inputs (start/IN1, stop/IN2, save/IN3)
External interfaces	LAN: 100BASE-TX (DHCP, DNS supported, FTP server, HTTP server) USB: USB 2.0 compliant, series A receptacle ×1, series B receptacle ×1, (File transfer SSD/ CF card to PC, or remote control from PC)
Environmental conditions (No condensation)	Operation: 0°C to 40°C (32°F to 104°F), 20% to 80% rh Storage: -10°C to 50°C (14°F to 122°F), 90% rh or less
Standards	Safety: EN61010 EMC: EN61326, EN61000-3-2, EN61000-3-3
Power supply	AC 100 to 240 V, 50/60 Hz
Power consumption	220 VA max. (when not using the printer), 350 VA max. (when using the printer)
Dimensions and mass	401 mm (15.79 in)W × 233 mm (9.17 in)H × 388 mm (15.28 in)D, 12.6 kg (444.4 oz) (main unit only)
Supplied accessories	Instruction manual ×1, Application disk (Wave Viewer Wv, Communication commands table) ×1, Power cord ×1, Input cord label ×1, USB cable ×1, Printer paper ×1 (when equipped with a printer unit), Roll paper attachment ×2 (when equipped with a printer unit)

PRINTER UNIT U8350 (Factory-installed option)

Features	Printer paper one-touch loading, high-speed thermal printing
Recording paper	216 mm (8.50 in) × 30 m (98.43 ft), thermal paper roll (use the 9231 paper) Recording width: 200 mm (7.87 in) 20 division full scale, 1 div = 10 mm (0.39 in) 80 dots
Recording speed	Max. 50 mm (1.97 in)/sec
Paper feed density	10 lines/mm

Display

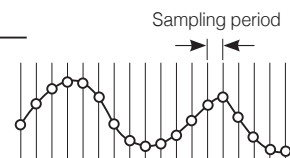
Display	10.4 inch SVGA-TFT color LCD (800 × 600 dots) (Time axis 25 div × Voltage axis 20 div, X-Y 20 div × 20 div)
Languages	English, Japanese, Korean, Chinese
Waveform display zoom/compression	Time axis: ×10 to ×2 (zoom at MEMORY function only), ×1, ×1/2 to ×1/20000, Voltage axis: ×100 to ×2, ×1, ×1/2 to ×1/10
Variable display	Upper/Lower limit set, display/div set
Scaling	10:1 to 1000:1, automatic scaling for various probes Manual scaling (conversion ratio setting, 2-point setting, unit setting)
Comment input	Alphanumeric input (title, analog and logic channels) Simple input, history input, phrase input
Logic waveform	Display point move 1 % step, Line width 3 types
Display partition	Max. eight divisions
Monitor function	• Input level monitor • Numerical value (Sampling 10kS/s fixed, refresh rate 0.5s)
Other display functions	• Waveform inversion (positive/negative) • Cursor measurement (A, B, 2-cursor, for all channels) • Vernier function (amplitude fine adjustment) • Zoom function (horizontal screen division, zoomed waveform shown in lower section) • 16 selectable colors for waveform display • Zero position shift in 1% steps for analog waveform • Global zero adjust for all channels and all ranges

MEMORY (high-speed recording)

Time axis	5 μs to 5 min/div (100 samples/div) 26 ranges, External sampling (100 samples/div, or free setting), Time axis zoom: ×2 to ×10 in 3 stages, compression: 1/2 to 1/20000 in 13 stages
Sampling period	1/100 of time axis range (minimum 50 ns period)
Recording length	Built-in presets: (at 4, 8, 16ch mode) 25 to 20000 div, (at 4, 8 ch mode) 25 to 500000 div (at 4 ch mode) 25 to 1000000 div Arbitrary presets: setting in 1 div steps, Max. 1280000 div (at 4ch mode), 640000 div (at 8ch mode), 320000 div (at 16ch mode), 160000 div (at 32ch mode)
Pre-trigger	Record data from before the trigger point at 0 to +100% or -95% of the recording length in 15 stages, or in 1 div step settings
Numerical calculation	• Simultaneous calculation for up to 16 selected channels Average value, effective (rms) value, peak to peak value, maximum value, time to maximum value, minimum value, time to minimum value, period, frequency, rise time, fall time, standard deviation, area value, X-Y area value, specified level time, specified time level, pulse width, duty ratio, pulse count, four arithmetic operations, time difference, phase difference, high-level and low-level • Calculation result evaluation output: GO/NG (with open-collector 5 V output) • Automatic storing of calculation results
Waveform processing	• For up to 16 freely selectable channels, the following functions can be performed Four arithmetic operations, absolute value, exponentiation, common logarithm, square root, moving average, differentiation (primary, secondary), integration (primary, secondary), parallel displacement along time axis, trigonometric functions, reverse trigonometric functions, integration time correction for each NPLC setting, auto-saves of calculation results
Memory segmentation	• Max. 1024 blocks, sequential storage, multi-block storage
Other functions	• X-Y waveform synthesis (1 screen, 4 screens) • Overlay (always overlay when started/overlay only required waveforms) • Automatic/ Manual/ A-B cursor range printing/ Report printing • Logging is not available

Memory recording method

Sampling is done at the set sampling period.

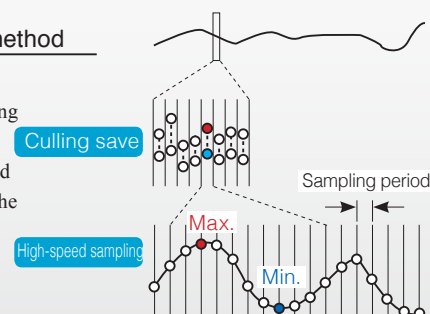


RECORDER (Real-time recording)

Time axis	10 ms to 1 hour/div, 19 ranges, time axis resolution 100 points/div Note: Out of data acquired at selected sampling rate, only maximum and minimum value data determined using 100 points/div units are stored Time axis compression selectable in 13 steps, from × 1/2 to × 1/20000
Sampling rate	1/10/100 μs 1/10/100 ms (selectable from 1/100 or less of time axis)
Real-time printing	Supported * Real-time printing is possible at time axis settings slower than 500 ms/div * Delayed print is performed when recording length is not set to "Continuous" and time axis setting is 10 ms - 200 ms/div * When recording length is set to "Continuous" and time axis setting is 10 ms - 200 ms/div, manual printing can be performed after measurement stop
Recording length	Built-in presets of 25 - 50000 div, or "Continuous" or arbitrary setting in 1 div steps (max. 80000 div)
Waveform memory	Store data for most recent 80000 div in memory
Auto save	Data is automatically saved on CF card, USB memory stick or internal SSD after measurement stops
Other functions	• Manual/ A-B cursor range printing/ Report printing • Logging is not available

Recorder recording method

High-speed sampling is performed at the set sampling frequency, culling data other than the maximum and minimum values to create the recording data of a certain time.



X-Y RECORDER (X-Y real-time recording)	
Sampling period	1/10/100 ms (dot), 10/100 ms (line)
Recording length	Continuous
Screen, Printing	Split screen (1 or 4), Manual printing only
Number of X-Y	1 to 8 phenomenon
X-Y channel setting	Any 8 channels out of 16 can be selected for X axis and Y axis respectively
X-Y axis resolution	25 dots/div (screen), horizontal 80 dots/div × vertical 80 dots/div (printer)
Waveform memory	Sampling data for last 16000000 points are stored in memory
Pen up/down	Simultaneous for all phenomena
External pen control	Possible via external input connector (simultaneous up/down for all phenomena)

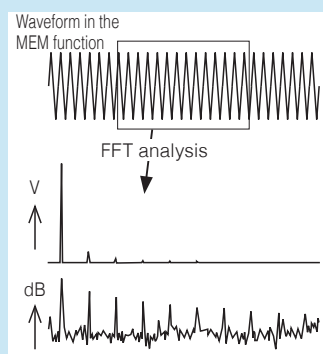
FFT	
Analysis mode	Storage waveform, Linear spectrum, RMS spectrum, Power spectrum, Density of power spectrum, Cross power spectrum, Auto-correlation function, Histogram, Transfer function, Cross-correlation function, Impulse response, Coherence function, 1/1 Octave analysis, 1/3 Octave analysis, LPC analysis, Phase spectrum
Analysis channels	Selectable from all analog input channels
Frequency range	133 mHz to 8 MHz, External, (resolution 1/400, 1/800, 1/2000, 1/4000)
Number of sampling points	1000, 2000, 5000, 10000 points
Window functions	Rectangular, Hanning, Hamming, Blackman, Blackman-Harris, Flat-top, Exponential
Display format	Single, Dual, Nyquist, Running spectrum
Averaging function	Time axis / frequency axis simple averaging, Exponential averaging, Peak hold (frequency axis), Averaging times (2 to 10000 times)
Print functions	Same as the MEMORY function (partial print not available)

Trigger functions	
Trigger mode	MEMORY (high-speed recording), FFT: Single, Repeat, Auto RECORDER (real-time recording): Single, Repeat
Trigger sources	CH1 to CH32 (analog), Standard Logic 32ch + Logic Unit (Max. 2 units 32 channels), External (a rise of 2.5V or terminal short circuit), Timer, Manual (either ON or OFF for each source), Logical AND/OR of sources
Trigger types	<ul style="list-style-type: none"> Level: Triggering occurs when preset voltage level is crossed (upwards or downwards) Voltage drop: Triggering occurs when voltage drops below peak voltage setting (for 50/60 Hz AC power lines only) Window: Triggering occurs when window defined by upper and lower limit is entered or exited Period: Rising edge or falling edge cycle of preset voltage value is monitored and triggering occurs when defined cycle range is exceeded Glitch: Triggering occurs when pulse width from rising or falling edge of preset voltage value is under run Event setting: Event count is performed for each source, and triggering occurs when a preset count is exceeded Logic: 1, 0, or ×, Pattern setting
Level setting resolution	0.1% of full scale (full scale = 20 divisions)
Trigger filter	Selectable 0.1 div to 10.0 div 9 steps, or OFF (at MEMORY function) ON (10 ms fixed) or OFF (at RECORDER function)
Trigger output	Open collector (5 voltage output, active Low) At Level setting: pulse width (Sampling period × data number after trigger) At Pulse setting: pulse width (2 ms)
Other functions	Trigger priority (OFF/ON), Pre-trigger function for capturing data from before / after trigger event (at MEMORY function), Level display during trigger standby, Start and stop trigger (At RECORDER function), Trigger search function

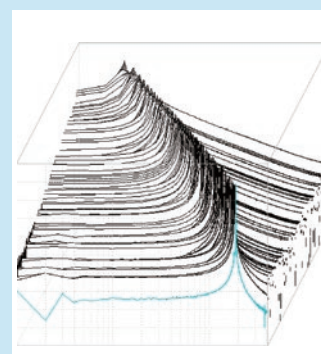
Other functions	
Waveform judgment function (In MEMORY or FFT function)	<ul style="list-style-type: none"> Area comparison with reference waveform area for time domain waveform, X-Y waveform, or FFT analysis waveform Parameter calculated value comparison with reference value Output: GO/NG decision, Open-collector 5V, *100 msec/div (1 msec sampling) and thereafter allows for evaluation in almost real-time.

How is FFT Analysis Performed?

Designate a range of the waveform stored in the memory function to perform FFT analysis. It is rendered simultaneously on the screen.

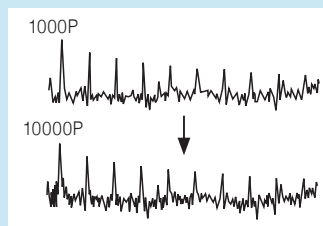


Display the spectrum as it changes over time in 3-D.

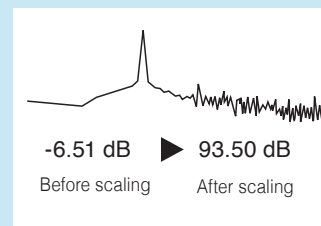


Convert data measured with few calculation points into data with many points for re-analysis.

*Not possible with frequency averaging ON



Scale by dB. Input the overall value (sum of the power spectrum) directly as a dB value.



■ Options specifications (sold separately)

Dimensions and mass: approx. 106 (4.17in) W × 19.8 (0.78in) H × 196.5 (7.74in) D mm, approx. 250 g (8.8 oz) Accessories: None



ANALOG UNIT 8966 (Accuracy at 23 ±5°C/73 ±9°F, 20 to 80 % rh after 30 minutes of warm-up time and zero adjustment; Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)	
Measurement functions	Number of channels: 2, for voltage measurement
Input connectors	Isolated BNC connector (input impedance 1 MΩ, input capacitance 30 pF), Max. rated voltage to earth: 300 V AC, DC (with input isolated from the unit, the maximum voltage that can be applied between input channel and chassis and between input channels without damage)
Measurement range	5 mV to 20 V/div, 12 ranges, full scale: 20 div, AC voltage for possible measurement/display using the memory function: 280 V rms, Low-pass filter: 5/50/500 Hz, 5 k/50 k/500 kHz
Measurement resolution	1/100 of measurement range (using 12-bit A/D conversion)
Highest sampling rate	20 MS/s (simultaneous sampling across 2 channels)
Measurement accuracy	±0.5 % of full scale (with filter 5 Hz, zero position accuracy included)
Frequency characteristics	DC to 5 MHz -3 dB, (with AC coupling: 7 Hz to 5 MHz -3dB)
Input coupling	AC/DC/GND
Max. allowable input	400 V DC (the maximum voltage that can be applied across input pins without damage)

Dimensions and mass: approx. 106 (4.17in) W × 19.8 (0.78in) H × 204.5 (8.05in) D mm, approx. 240 g (8.5 oz) Accessories: Ferrite clamp × 2



TEMP UNIT 8967 (Accuracy at 23 ±5°C/73 ±9°F, 20 to 80 % rh after 30 minutes of warm-up time and zero adjustment; Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)	
Measurement functions	Number of channels: 2, for temperature measurement with thermocouple (voltage measurement not available)
Input connectors	Thermocouple input: plug-in connector, Recommended wire diameter: single-wire, 0.14 to 1.5 mm ² , braided wire 0.14 to 1.0 mm ² (conductor wire diameter min. 0.18 mm), AWG 26 to 16 Input impedance: min. 5 MΩ (with line fault detection ON/OFF), Max. rated voltage to earth: 300 V AC, DC (with input isolated from the unit, the maximum voltage that can be applied between input channel and chassis and between input channels without damage)
Temperature measurement range	10°C/div (-100 °C to 200 °C), 50°C/div (-200 °C to 1000 °C), 100°C/div (-200 °C to 2000 °C), 3 ranges, full scale: 20 div, Measurement resolution: 1/1000 of measurement range (using 16-bit A/D conversion)
Thermocouple range (JIS C 1602-1995) (ASTM E-988-96)	K: -200 to 1350°C, J: -200 to 1100°C, E: -200 to 800°C, T: -200 to 400°C, N: -200 to 1300°C, R: 0 to 1700°C, S: 0 to 1700°C, B: 400 to 1800°C, W (WRe5-26): 0 to 2000°C, Reference junction compensation: internal/ external (switchable), Line fault detection ON/OFF possible
Data refresh rate	3 methods, Fast: 1.2 ms (digital filter OFF), Normal: 100 ms (digital filter 50/60 Hz), Slow: 500 ms (digital filter 10Hz)
Measurement accuracy	Thermocouple K, J, E, T, N: ±0.1 % of full scale ±1°C (±0.1 % of full scale ±2°C at -200°C to 0°C), Thermocouple R, S, W: ±0.1 % of full scale ±3.5°C (at 0°C to 400°C or less), ±0.1 % of full scale ±3°C (at 400°C or more), Thermocouple B: ±0.1 % of full scale ±3°C (at 400°C or more), Reference junction compensation accuracy: ±1.5°C (added to measurement accuracy with internal reference junction compensation)

Dimensions and mass: approx. 106 (4.17in) W × 19.8 (0.78in) H × 196.5 (7.74in) D mm, approx. 250 g (8.8 oz) Accessories: None



HIGH RESOLUTION UNIT 8968 (Accuracy at 23 ±5°C/73 ±9°F, 20 to 80 % rh after 30 minutes of warm-up time and zero adjustment; Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)	
Measurement functions	Number of channels: 2, for voltage measurement
Input connectors	Isolated BNC connector (input impedance 1 MΩ, input capacitance 30 pF), Max. rated voltage to earth: 300 V AC, DC (with input isolated from the unit, the maximum voltage that can be applied between input channel and chassis and between input channels without damage)
Measurement range	5 mV to 20 V/div, 12 ranges, full scale: 20 div, AC voltage for possible measurement/display using the memory function: 280 V rms, Low-pass filter: 5/50/500 Hz, 5k/50k Hz
Anti-aliasing filter	Integrated filter for suppressing aliasing distortion caused by FFT processing (automatic cutoff frequency setting/OFF)
Measurement resolution	1/1600 of measurement range (using 16-bit A/D conversion)
Highest sampling rate	1 MS/s (simultaneous sampling across 2 channels)
Measurement accuracy	±0.3 % of full scale (with filter 5 Hz, zero position accuracy included)
Frequency characteristics	DC to 100 kHz -3 dB, (with AC coupling: 7 Hz to 100 kHz -3dB)
Input coupling	AC/DC/GND
Max. allowable input	400 V DC (the maximum voltage that can be applied across input pins without damage)

Dimensions and mass: approx. 106 (4.17in) W × 19.8 (0.78in) H × 196.5 (7.74in) D mm, approx. 220 g (7.8 oz) Accessories: Conversion cable 9769 × 2 (cable length 50 cm/1.64 ft)



STRAIN UNIT 8969 (Accuracy at 23 ±5°C/73 ±9°F, 20 to 80 % rh after 30 minutes of warm-up time and auto-balancing; Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)	
Measurement functions	Number of channels: 2, for distortion measurement (electronic auto-balancing, balance adjustment range within ±10000 μe)
Input connectors	Weidmuller SL 3.5/7/90G (via Conversion Cable 9769, TAJIMI PRC03-12A10-7M10.5) Max. rated voltage to earth: 33 Vrms or 70 V DC (with input isolated from the unit, the maximum voltage that can be applied between input channel and chassis and between input channels without damage)
Suitable transducer	Strain gauge converter, Bridge impedance: 120 Ω to 1 kΩ, Bridge voltage: 2 V ±0.05 V, Gauge rate: 2.0
Measurement range	20 μe to 1000 μe/div, 6 ranges, full scale: 20 div, Low-pass filter: 5/10/100 Hz, 1 kHz
Measurement resolution	1/1250 of measurement range (using 16-bit A/D conversion)
Highest sampling rate	200 kS/s (simultaneous sampling across 2 channels)
Measurement accuracy	±(0.5 % of full scale +4 μe) (at 5 Hz filter ON, After auto-balancing)
Frequency characteristics	DC to 20 kHz +1/-3dB

Dimensions and mass: approx. 106 (4.17in) W × 19.8 (0.78in) H × 196.5 (7.74in) D mm, approx. 250 g (8.8 oz) Accessories: None



FREQ UNIT 8970 (Accuracy at 23 ±5°C/73 ±9°F, 20 to 80 % rh after 30 minutes of warm-up time; Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)	
Measurement functions	Number of channels: 2, for voltage input based frequency measurement, rotation, power frequency, integration, pulse duty ratio, pulse width
Input connectors	Isolated BNC connector (input impedance 1 MΩ, input capacitance 30 pF), Max. rated voltage to earth: 300 V AC, DC (with input isolated from the unit, the maximum voltage that can be applied between input channel and chassis and between input channels without damage)
Frequency mode	Range: Between DC to 100 kHz (minimum pulse width 2 μs), 1 Hz/div to 5 kHz/div (full scale= 20 div), 8 settings Accuracy: ±0.1% f.s. (exclude 5 kHz/div), ±0.7% f.s. (at 5 kHz/div)
Rotation mode	Range: Between 0 to 2 million rotations/minute (minimum pulse width 2 μs), 100 (r/min)/div to 100 k (r/min)/div (full scale= 20 div), 7 settings Accuracy: ±0.1% f.s. (excluding 100 k (r/min)/div), ±0.7% f.s. (at 100 k (r/min)/div)
Power frequency mode	Range: 50 Hz (40 - 60 Hz), 60 Hz (50 - 70 Hz), 400 Hz (390 - 410 Hz) (full scale= 20 div), 3 settings Accuracy: ±0.03 Hz (exclude 400 Hz range), ±0.1 Hz (400 Hz range)
Integration mode	Range: 2 k counts/div to 1 M counts/div, 6 settings Accuracy: ±range/2000
Duty ratio mode	Range: Between 10 Hz to 100 kHz (minimum pulse width 2 μs), 5%/div (full scale=20 div) Accuracy: ±1% (10 Hz to 10 kHz), ±4% (10 kHz to 100 kHz)
Pulse width mode	Range: Between 2 μs to 2 sec, 500 μs/div to 100 ms/dv (full scale=20 div) Accuracy: ±0.1% f.s.
Measurement resolution	1/2000 of range (Integration mode), 1/500 of range (exclude integration, power frequency mode), 1/100 of range (power frequency mode)
Input voltage range and threshold level	±10 V to ±400 V, 6 settings, selectable threshold level at each range
Other functions	Slope, Level, Hold, Smoothing, Low-pass filter, Switchable DC/AC input coupling, Frequency dividing, Integration over-range keep/return

Dimensions and mass: approx. 106 (4.17in) W × 19.8 (0.78in) H × 196.5 (7.74in) D mm, approx. 250 g (8.8 oz) Accessories: CONVERSION CABLE 9318 × 2 (To connect the current sensor to the 8971)



CURRENT UNIT 8971 (Accuracy at 23 ±5°C/73 ±9°F, 20 to 80 % rh after 30 minutes of warm-up time and zero adjustment; Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)	
Measurement functions	Number of channels: 2, Current measurement with optional current sensor, Note: Maximum 4 units connectable to main unit
Input connectors	Sensor connector (input impedance 1 MΩ, exclusive connector for current sensor via conversion cable the 9318, common GND with recorder)
Compatible current sensors	CT6863, CT6862, 9709, 9279, 9278, 9277, 9272-10 (To connect the 8971 via conversion cable the 9318)
Measurement range	Using 9272-10 (20 A), 9277: 100 mA to 5 A/div (f.s.=20 div, 6 settings) Using CT6862: 200 mA to 10 A/div (f.s.=20 div, 6 settings) Using 9272-10 (200 A), 9278, CT6863: 1 A to 50 A/div (f.s.=20 div, 6 settings) Using 9279, 9709: 2 A to 100 A/div (f.s.=20 div, 6 settings)
Accuracy	Using 9278, 9279: ±0.85% f.s. Using other sensor: ±0.65% f.s. RMS amplitude accuracy: ±1% f.s. (DC, 30 Hz to 1 kHz), ±3% f.s. (1 kHz to 10 kHz) RMS response time: 100 ms (rise time from 0 to 90% of full scale), Crest factor: 2 Frequency characteristics: DC to 100 kHz, ±3 dB (with AC coupling: 7 Hz to 100 kHz)
Measurement resolution	1/100 of range (using 12-bit A/D conversion)
Highest sampling rate	1 MS/s (simultaneous sampling across 2 channels)
Other functions	Input coupling: AC/DC/GND, Low-pass filter: 5, 50, 500, 5 k, 50 kHz

■ Options specifications (sold separately)

Dimensions and mass: approx. 106 (4.17 in) W × 19.8 (0.78 in) H × 196.5 (7.74 in) D mm, approx. 250 g (8.8 oz) Accessories: None



DC/RMS UNIT 8972 <small>(Accuracy at 23±5°C/73±9°F, 20 to 80% rh after 30 minutes of warm-up time and zero adjustment. Accuracy guaranteed for 1 year. Post-adjustment accuracy guaranteed for 1 year)</small>	
Measurement functions	Number of channels: 2, for voltage measurement, DC/RMS selectable
Input connectors	Isolated BNC connector (input impedance 1 MΩ, input capacitance 30 pF), Max. rated voltage to earth: 300 V AC, DC (with input isolated from the unit, the maximum voltage that can be applied between input channel and chassis and between input channels without damage)
Measurement range	5 mV to 20 V/div, 12 ranges, full scale: 20 div, AC voltage for possible measurement/display using the memory function: 280 V rms, Low-pass filter: 5/50/500 Hz, 5 k/100 kHz
Measurement resolution	1/100 of measurement range (using 12-bit A/D conversion)
Highest sampling rate	1 MS/s (simultaneous sampling across 2 channels)
Measurement accuracy	±0.5 % of full scale (with filter 5 Hz, zero position accuracy included)
RMS measurement	RMS amplitude accuracy: ±1 % of full scale (DC, 30 Hz to 1 kHz), ±3 % of full scale (1 kHz to 100 kHz), Response time: SLOW 5 s (rise time from 0 to 90% of full scale), MID 800 ms (rise time from 0 to 90% of full scale), FAST 100 ms (rise time from 0 to 90% of full scale), Crest factor: 2
Frequency characteristics	DC to 400 kHz -3 dB, (with AC coupling: 7 Hz to 400 kHz -3dB)
Input coupling	AC/DC/GND
Max. allowable input	400 V DC (the maximum voltage that can be applied across input pins without damage)

Dimensions and mass: approx. 106 (4.17in) W × 19.8 (0.78in) H × 196.5 (7.74in) D mm, approx. 190 g (6.7 oz) Accessories: None



LOGIC UNIT 8973	
Measurement functions	Number of channels: 16 channels (4 ch/1 probe connector × 4 connectors)
Input connectors	Mini DIN connector (for HIOKI logic probes only), Compatible logic probes: 9320-01, 9327, MR9321-01

Cable length and mass: 70 cm (2.30 ft), Output side: 1.5 m (4.92 ft), 170g (6.0 oz)



DIFFERENTIAL PROBE P9000 <small>(Accuracy guaranteed for 1 year. Post-adjustment accuracy guaranteed for 1 year)</small>	
Measurement modes	P9000-01: For waveform monitor output, Frequency properties: DC to 100 kHz -3 dB P9000-02: Switches between waveform monitor output/AC effective value output Wave mode frequency properties: DC to 100 kHz -3 dB, RMS mode frequency properties: 30 Hz to 10 kHz, Response time: Rise 300 ms, Fall 600 ms
Division ratio	Switches between 1000:1, 100:1
DC output accuracy	±0.5 % f.s. (f.s. = 1.0 V, division ratio 1000:1), (f.s. = 3.5 V, division ratio 100:1)
Effective value measurement accuracy	±1 % f.s. (30 Hz to less than 1 kHz, sine wave), ±3 % f.s. (1 kHz to 10 kHz, sine wave)
Input resistance/capacity	H-L: 10.5 MΩ, 5 pF or less (at 100 kHz)
Maximum input voltage	1000 V AC, DC
Maximum rated voltage to ground	1000 V AC, DC (CAT III)
Operating temperature range	-40°C to 80°C (-40°F to 176°F)
Power supply	(1) AC adapter Z1008 (100 to 240 V AC, 50/60 Hz), 6 VA (including AC adapter), 0.9 VA (main unit only) (2) USB bus power (5 V DC, USB-microB terminal), 0.8 VA (3) External power source 2.7 V to 15 V DC, 1 VA
Accessories	Instruction manual ×1, Alligator clip ×2, Carrying case ×1

Dimensions and mass: approx. 106 (4.17 in) W × 19.8 (0.78 in) H × 196.5 (7.74 in) D mm, approx. 260g (8.8 oz) Accessories: None



DIGITAL VOLTMETER UNIT MR8990 <small>(Accuracy at 23±5°C, 20 to 80% rh after 30 minutes of warm-up time and calibration. Accuracy guaranteed for 1 year. Post-adjustment accuracy guaranteed for 1 year)</small>	
Measurement functions	Number of channels: 2, for DC voltage measurement
Input connectors	Banana input connectors (Input resistance: 100 MΩ or higher with 100 mV f.s. to 10 V f.s. range, otherwise 10 MΩ) Max. rated voltage to earth: 300 V AC or DC (with input isolated from the main unit, the maximum voltage that can be applied between input channel and chassis, and between input channels without damage)
Measurement ranges	100 mV f.s. (5 mV/div): -120.0000 mV to 120.0000 mV, 0.1 μV resolution to 1000 V f.s. (50 V/div): -500.000 V to 500.000 V, 1 mV resolution, 5 ranges
Measurement resolution	1/1 000 000 of measurement range (using 24 bit ΔΣ modulation A/D)
Integration time	20 ms × NPLC (during 50 Hz), 16.67 ms × NPLC (during 60 Hz) NPLC: 0.1 to 0.9, 1 to 9, 10 to 100 settings
Response time	2 ms +2× integration time or less (rise - f.s. → + f.s., fall + f.s. → - f.s.)
Basic measurement accuracy	±0.01% rdg. ±0.0025% f.s. (at range of 1000 mV f.s.)
Maximum input voltage	500 V DC (maximum voltage that can be applied between input connectors without damage)

Cable length and mass: Main unit cable 1.5 m (4.92 ft), input section cable 30 cm (0.98 ft), approx. 150 g (5.3 oz)



Note: The unit-side plug of the 9320-01 is different from the 9320

LOGIC PROBE 9320-01/9327	
Function	Detection of voltage signal or relay contact signal for High/Low state recording
Input	4 channels (common ground between unit and channels), digital/contact input, switchable (contact input can detect open-collector signals) Input resistance: 1 MΩ (with digital input, 0 to +5 V) 500 kΩ or more (with digital input, +5 to +50V) Pull-up resistance: 2 kΩ (contact input: internally pulled up to +5 V)
Digital input threshold	1.4 V / 2.5 V / 4.0 V
Contact input detection resistance	1.4 V: 1.5 kΩ or higher (open) and 500 Ω or lower (short) 2.5 V: 3.5 kΩ or higher (open) and 1.5 kΩ or lower (short) 4.0 V: 25 kΩ or higher (open) and 8 kΩ or lower (short)
Response speed	9320-01: 500 ns or lower, 9327: detectable pulse width 100 ns or higher
Max. allowable input	0 to +50 V DC (the maximum voltage that can be applied across input pins without damage)

Cable length and mass: Main unit cable 1.5 m (4.92 ft), input section cable 1 m (3.28 ft), approx. 320 g (11.3 oz)



Note: The unit-side plug of the MR9321-01 is different from the MR9321.

LOGIC PROBE MR9321-01	
Function	Detection of AC or DC relay drive signal for High/Low state recording Can also be used for power line interruption detection
Input	4 channels (isolated between unit and channels), HIGH/LOW range switching Input resistance: 100 kΩ or higher (HIGH range), 30 kΩ or higher (LOW range)
Output (H) detection	170 to 250 V AC, ±DC 70 to 250 V (HIGH range) 60 to 150 V AC, ±DC 20 to 150 V (LOW range)
Output (L) detection	0 to 30 V AC, ±DC 0 to 43 V (HIGH range) 0 to 10 V AC, ±DC 0 to 15 V (LOW range)
Response time	Rising edge 1 ms max., falling edge 3 ms max. (with HIGH range at 200 V DC, LOW range at 100 V DC)
Max. allowable input	250 Vrms (HIGH range), 150 Vrms (LOW range) (the maximum voltage that can be applied across input pins without damage)

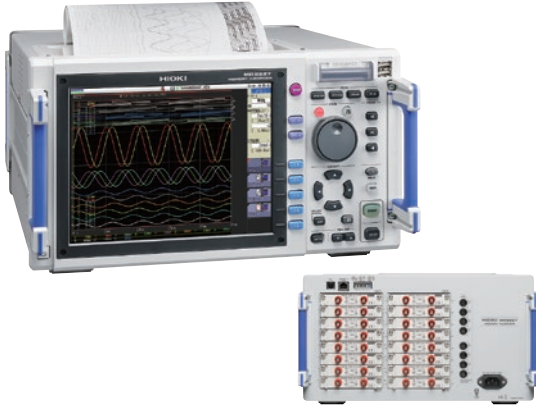
System Chart

Main unit

MEMORY HiCORDER MR8827

Note: Main unit MR8827 cannot operate alone. You must install one or more optional input modules in the unit.

Order Code: MR8827



Input modules

*Input cords are not included. Please purchase them separately. *When using 9709 with Current Unit 8971, a total of 7 current probes can be used.



ANALOG UNIT 8966
2 ch, Voltage input, DC to 5 MHz bandwidth

Order Code: 8966



TEMP UNIT 8967
2 ch, thermocouple temperature input

Order Code: 8967



HIGH RESOLUTION UNIT 8968
2 ch, voltage input, DC to 100 kHz bandwidth

Order Code: 8968



STRAIN UNIT 8969
2 ch, strain gauge type converter amp

Order Code: 8969



Conversion Cable 9769
For the 8969(MR8847/8827 series), bundled with the 8969

Order Code: 9769



FREQ UNIT 8970
2 ch, for measurement of frequency, rpm, pulse, etc.

Order Code: 8970



CURRENT UNIT 8971
2 ch, for measuring current using dedicated current sensors, bundled two Conversion cable 9318
* The Current unit 8971 up to four module

Order Code: 8971



DC/RMS UNIT 8972
2 ch, voltage/DC to 400 kHz, RMS rectifier, DC and 30 to 100 kHz bandwidth

Order Code: 8972



LOGIC UNIT 8973
4 terminals, 16 ch
* Max. up to two modules of the Logic unit 8973

Order Code: 8973



DIGITAL VOLTMETER UNIT MR8990
2ch, high-precision DC V input, 0.1μV resolution, high-speed sampling 500 times/s

Order Code: MR8990

Printer options

*PRINTER UNIT is a built-in option that must be specified upon order.



PRINTER UNIT U8350
Specified upon order. Printing width 200 mm (7.87 inch). Compatible recording paper: Model 9231

Order Code: U8350



RECORDING PAPER 9231
A4 width 216 mm (8.50 in) x 30 m (98.43 ft), 6 rolls/set

Order Code: 9231

Storage media

*SSD is a built-in option that must be specified upon order. *The CF card includes a PC card adapter.



SSD UNIT U8330
Specified upon order, built-in type, 128 GB

Order Code: U8330

*PC Card Precaution

Use only PC Cards sold by HIOKI. Compatibility and performance are not guaranteed for PC cards made by other manufacturers. You may be unable to read from or save data to such cards.



PC CARD 2G 9830
(2 GB)

Order Code: 9830

PC CARD 1G 9729
(1 GB)

Order Code: 9729

PC CARD 512M 9728
(512 MB)

Order Code: 9728

PC Software



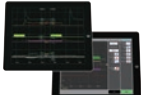
WAVE PROCESSOR 9335
Convert data, print and display waveforms

Order Code: 9335



LAN COMMUNICATOR 9333
• Waveform data collect function
• Remote control with the PC

Order Code: 9333



iPad App for MEMORY HiCORDER HMR Terminal
Download from the App Store Free (exclusively for Apple Inc. iPad)



LAN CABLE 9642
Straight Ethernet cable, supplied with straight to cross conversion cable, 5 m (16.41 ft) length

Order Code: 9642

Case



CARRYING CASE (special order)
hard trunk type
Inquire with your local Hiooki distributor.

Logic signal measurement



LOGIC PROBE 9327
4-channel type, for voltage/contact signal ON/OFF detection (response pulse width 100 ns or more, miniature terminal type)

Order Code: 9327



LOGIC PROBE MR9321-01
4 isolated channels, ON/OFF detection of AC/DC voltage (miniature terminal type)

Order Code: MR9321-01



LOGIC PROBE 9320-01
4-channel type, for voltage/contact signal ON/OFF detection (response pulse width 500 ns or more, miniature terminal type)

Order Code: 9320-01



CONVERSION CABLE 9323
*Used for connecting the 9320/9321/ MR9321 and the 9324 to the Memory HiCorder with small logic terminal models
* This cable is not required for the small-terminal types 9327, 9320-01, 9321-01 and MR9321-01.

Order Code: 9323

*You can connect up to 4 Current Unit 8971 to the Memory HiCorder main unit, allowing up to 8 current sensors to be used.
 *There is no limit for connecting current sensors to voltage input analog units.

INPUT CORD (A) *Voltage is limited to the specifications of the input modules in use

CONNECTION CORD L9790 *Recommended*
 Flexible ϕ 4.1 mm (0.16 in) thin dia., cable allowing for up to 600 V input. 1.8 m (5.91 ft) length
 Order Code: L9790

* The end clip is sold separately.

ALLIGATOR CLIP L9790-01 *Recommended*
 Red/black set attaches to the ends of the cables L9790
 Order Code: L9790-01

GRABBER CLIP 9790-02
 Red/black set attaches to the ends of the cables L9790
 Order Code: 9790-02

* When this clip is attached to the end of the L9790, input is limited to CAT II 300 V. Red/black set.

CONTACT PIN 9790-03
 Red/black set attaches to the ends of the cables L9790
 Order Code: 9790-03

INPUT CORD (B) *Voltage is limited to the specifications of the input modules in use

CONNECTION CORD L9198
 ϕ 5.0 mm (0.20 in) dia., cable allowing for up to 300 V input. 1.7 m (5.58 ft) length, small alligator clip
 Order Code: L9198

CONNECTION CORD L9197
 ϕ 5.0 mm (0.20 in) dia., cable allowing for up to 600 V input. 1.8 m (5.91 ft) length, a detachable large alligator clips are bundled
 Order Code: L9197

GRABBER CLIP 9243
 Attaches to the tip of the banana plug cable, CAT III 1000 V, 196 mm (7.72 in) length
 Order Code: 9243

INPUT CORD (C) *Voltage is limited to the specifications of the input modules in use

10:1 PROBE 9665
Note: This probe does not expand the maximum rated voltage above ground of an isolated input.
 Max. rated voltage to earth is same as for input module, max. input voltage 1 kV rms (up to 500 kHz), 1.5 m (4.92 ft) length
 Order Code: 9665

100:1 PROBE 9666
Note: This probe does not expand the maximum rated voltage above ground of an isolated input.
 Max. rated voltage to earth is same as for input module, max. input voltage 5 kV peak (up to 1MHz), 1.5 m (4.92 ft) length
 Order Code: 9666

INPUT CORD (D) *For measuring high voltage, *Voltage to ground is within this product's specifications, and is not affected by connected input modules. Separate power source is also required.

DIFFERENTIAL PROBE P9000-01 *Recommended*
 (Wave mode only)
 For the Memory HiCorder series, input up to 1kV AC/DC
 Order Code: P9000-01

DIFFERENTIAL PROBE P9000-02
 (Select between WAVE/RMS mode)
 For the Memory HiCorder series, input up to 1kV AC/DC
 Order Code: P9000-02

AC ADAPTER Z1008
 100 to 240 V AC
 Order Code: Z1008

Custom cable *For P9000. Inquire with your Hioki distributor.

Bus powered USB cable
 For power supply from a USB-A terminal

USB(A)- Micro B cable
 For power supply via USB Micro B terminal from a USB-A terminal

3-prong cable
 AC adapter output terminal split into 3

Other options for Input


CONNECTION CORD L9217
 Cord has insulated BNC connectors at both ends, signal output use, 1.6 m (5.25 ft) length
 Order Code: L9217

CONVERSION ADAPTER 9199
 Receiving side banana, output BNC terminal
 Order Code: 9199

INPUT CORD (E) *For the MR8990 *Voltage is limited to the specifications of the input modules in use

TEST LEAD L2200
 Cable length: 70 cm, tips interchangeable with a pin lead or alligator clip, maximum input voltage: CAT IV 600V, CAT III 1000V
 Order Code: L2200

Temperature sensor *For reference only. Please purchase locally.

 Thermocouple

Up to 20A (High precision)

AC/DC CURRENT PROBE CT6841
 20 A AC/DC rated current, DC to 1 MHz response, 20 mm (0.79 in) core dia., 3 m (9.84 ft) cord length
 Order Code: CT6841

Up to 50 A (High precision)

AC/DC CURRENT SENSOR CT6862
 CAT III 1000 V, 50 A AC/DC rated current, DC to 1 MHz response, ϕ 24 mm (0.94 in) core dia., 3 m (9.84 ft) cord length
 Order Code: CT6862

Up to 200 A (High precision)

AC/DC CURRENT SENSOR CT6863
 CAT III 1000 V, 200 A AC/DC rated current, DC to 500 kHz response, ϕ 24 mm (0.94 in) core dia., 3 m (9.84 ft) cord length
 Order Code: CT6863

AC/DC CURRENT PROBE CT6843
 200 A AC/DC rated current, DC to 500kHz response, 20 mm (0.79 in) core dia., 3 m (9.84 ft) cord length
 Order Code: CT6843

CLAMP ON SENSOR 9272-10
 CAT III 600 Vrms, 20 A/200 A AC rated current, 1 Hz to 100 kHz response, ϕ 46 mm (1.81 in) core dia., 3 m (9.84 ft) cord length
 Order Code: 9272-10

Up to 500 A (High precision)

AC/DC CURRENT SENSOR 9709
 CAT III 1000 V, 500 A AC/DC rated current, DC to 100 kHz response, ϕ 36 mm (1.42 in) core dia., 3 m (9.84 ft) cord length
 Order Code: 9709

UNIVERSAL CLAMP ON CT 9279-01
 600 Vrms insulated wire, 500 A AC/DC rated current, DC to 20 kHz response, ϕ 40 mm (1.57 in) core dia., 3 m (9.84 ft) cord length, (CE marked)
 Order Code: 9279-01

Up to 30 A (High speed)

CLAMP ON PROBE 3273-50
 DC to 50 MHz wide band response, mA-class current up to 30 Arms
 Order Code: 3273-50

CLAMP ON PROBE 3276
 DC to 100 MHz wide band response, mA-class current up to 30 Arms
 Order Code: 3276

Up to 150 A (High speed)

CLAMP ON PROBE 3274
 DC to 10 MHz wideband response, mA-class current up to 150 Arms
 Order Code: 3274

Up to 500 A (High speed)

CLAMP ON PROBE 3275
 DC to 2 MHz wideband response, mA-class current up to 500 Arms
 Order Code: 3275

POWER SUPPLY *Not necessary when using Current Unit 8971

SENSOR UNIT 9555-10
 Power supply for the Current Sensor, used alone
 Order Code: 9555-10

CONNECTION CORD L9217
 Cord has insulated BNC connectors at both ends, signal output use, 1.6 m (5.25 ft) length
 Order Code: L9217

POWER SUPPLY

POWER SUPPLY 3272
 For the 3270 series, single sensor connectable (2 units possible depending on conditions)
 Order Code: 3272

POWER SUPPLY 3269
 For the 3270 series, connect up to four sensors
 Order Code: 3269

100 A to 5000 A (Medium speed)

CLAMP ON AC/DC SENSOR CT9691-90
 DC to 10kHz (-3dB), 100A, Output 0.1 V/i.s.
 Order Code: CT9691-90

CLAMP ON AC/DC SENSOR CT9692-90
 DC to 20kHz (-3dB), 200A, Output 0.2 V/i.s.
 Order Code: CT9692-90

CLAMP ON AC/DC SENSOR CT9693-90
 DC to 15kHz (-3dB), 2000A, Output 0.2 V/i.s.
 Order Code: CT9693-90

FLEXIBLE CLAMP ON SENSOR CT9667
 10Hz to 20kHz (\pm 3dB), AC 5000A/500A, Output AC 500mV/i.s., ϕ 254 mm (10.0 in) core dia.
 Order Code: CT9667

500 A to 1000 A *For commercial power lines, 50/60Hz (separate power supply not required)

CLAMP ON PROBE 9018-50
 Excellent phase characteristics, Input from 10 to 500 A, 40 Hz to 3 kHz for 0.2 V AC output, BNC terminal
 Order Code: 9018-50

CLAMP ON PROBE 9132-50
 Input from 20 to 1000 A, 40 Hz to 1 kHz for 0.2 V AC output, BNC terminal
 Order Code: 9132-50

NEW

MR8990

Modulo Multimetro Digitale DVM ad alta risoluzione 24bit ed elevata precisione

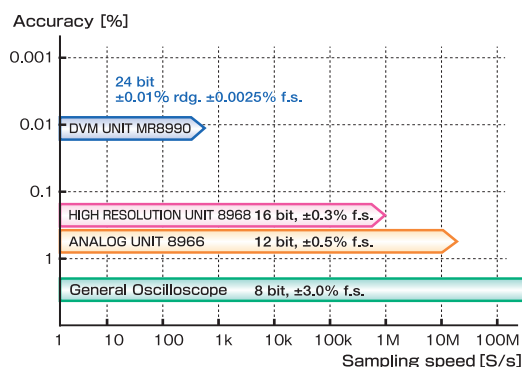


MR8990 è una unità a 2 canali di ingresso per la misura di tensione CC ad elevata precisione e risoluzione. Tramite MR8990 è possibile rilevare minime fluttuazioni di tensione da dispositivi quali batterie, sensori di processo e di automotive.

- **Elevata risoluzione: 24bit a 6 ½ cifre**
La minima risoluzione di misura di MR8990 è pari a 0.1µV
- **Elevata precisione: ±0.01% rdg ±0.0025 f.s.**
Elevata precisione di misura a fronte di un campionamento pari a 500 campioni/secondo.
- **Tensione massima ammessa: 500Vcc**
- **Alta impedenza di ingresso**
da 5mV/DIV a 500mV/DIV: 100MΩ o superiore
da 5V/DIV a 50V/DIV: 1MΩ ± 5%

*Nota: il modulo MR8990 non è compatibile con gli oscilloscopi registratori mod. MR8847/01

Input Unit Comparison Chart (Sampling Period and Accuracy)



Specifications

Product guaranteed for one year
Accuracy guaranteed for one year

Measurement range

Measurement range		Effective input range*	Measurement resolution	Input resistance
5 mV/div	(f.s. = 100 mV)	-120 mV to 120 mV	0.1 µV	More than 100 MΩ
50 mV/div	(f.s. = 1000 mV)	-1200 mV to 1200 mV	1 µV	
500 mV/div	(f.s. = 10 V)	-12 V to 12 V	10 µV	
5 V/div	(f.s. = 100 V)	-120 V to 120 V	100 µV	10 MΩ ±5%
50 V/div	(f.s. = 1000 V)	-500 V to 500 V	1 mV	

Measurement accuracy

*Measurement guaranteed accuracy range

Measurement range		NPLC: Less than 1	NPLC: More than 1
5 mV/div	(f.s. = 100 mV)	±0.01% rdg, ±0.015% f.s.	±0.01% rdg, ±0.01% f.s.
50 mV/div	(f.s. = 1000 mV)	±0.01% rdg, ±0.0025% f.s.	
500 mV/div	(f.s. = 10 V)	±0.01% rdg, ±0.0025% f.s.	
5 V/div	(f.s. = 100 V)	±0.025% rdg, ±0.0025% f.s.	
50 V/div	(f.s. = 1000 V)	±0.025% rdg, ±0.0025% f.s.	

Integration time

Power supply frequency	Integration time
50 Hz	20 ms × NPLC
60 Hz	16.67 ms × NPLC

NPLC: Settable from 0.1 to 0.9 (in increments of 0.1), 1 to 9 (in increments of 1), and 10 to 100 (in increments of 10). The number of power line cycles (NPLC), representing the number of cycles in the power supply (50 Hz or 60 Hz) period, determines the integration time. Larger NPLC values result in more effective rejection of noise caused by the power supply at the expense of lower sampling speeds.

Temperature characteristics: ± (0.002% rdg, ±0.00025% f.s.) / °C

A/D conversion measurement method: ΔΣ modulation method 24bit

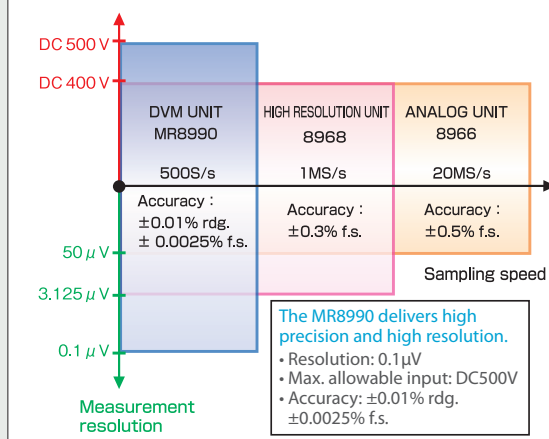
Measurement functions:

DC V

Number of channels:

2ch

Input Unit Comparison Chart (Input Voltage and Sampling Speed)



Option for MR8990

TEST LEAD L2200

One set (Redx1, Blackx1), 70cm (2.30ft) length

Unit jack: Banana terminal

The tip can be replaced with a pin lead or alligator clip.

Max. allowable input: CAT IV 600V, CAT III 1000V



Maximum sampling rate:

2 ms (500 sampling/sec)

Max. allowable input:

DC 500 V

Max. rated voltage to earth:

AC, DC 300 V

HIOKI

MR8790

NEW

Modulo Generatore di forme d'onda

MR8790 è una unità a 4 canali di uscita per la generazione di 4 forme d'onda sinusoidali nel campo di frequenza compreso tra 10mHz e 20kHz.

L'ampiezza massima del segnale sinusoidale di uscita è di 20 V picco-picco.

Dimensions and mass: approx. 106 mm (4.17 in) W × 19.8 mm (0.78 in) H × 196.5 mm (7.74 in) D, approx. 230 g (8.1 oz).

Accessories: None

WAVEFORM GENERATOR UNIT MR8790	
<small>(Accuracy at 23 ±5°C/73 ±9°F, 80% rh after 30 minutes of warm-up time; Accuracy guaranteed for 1 year, Post-adjustment accuracy guaranteed for 1 year)</small>	
Output terminal	Number of channels: 4, SMB terminal (Output impedance: 1 Ω or less) Max. rated voltage to ground: 33 V rms AC or 70 V DC
Output voltage range	-10 V to 10 V (Amplitude setting range: 0 V to 20 V p-p, Setting resolution: 1 mV)
Max. output current	5 mA
Output function	DC, Sine wave (Output frequency range: 0 Hz to 20 kHz)
Accuracy	Amplitude accuracy: ±0.25% of setting ±2 mV p-p (1 Hz to 10 kHz) Offset accuracy: ±3 mV DC output accuracy: ±0.6 mV
Other	Self-test function (Voltage, Current)

*Nota: il modulo MR8790 non è compatibile con gli oscilloscopi registratori mod. MR8847/01

HIOKI

MR8791

NEW

Modulo Generatore di Impulsi

MR8791 è una unità a 8 canali di uscita per la generazione di treni di impulsi con una velocità di frequenza d'uscita compresa tra 0.1Hz e 20kHz.

Tramite questo modulo è possibile generare uscite simulate per riprodurre ogni tipo di segnale fornito da sensori quali ad esempio quelli utilizzati negli ambiti automotive e ferroviario.

Dimensions and mass: approx. 106 mm (4.17 in) W × 19.8 mm (0.78 in) H × 196.5 mm (7.74 in) D, approx. 230 g (8.1 oz).

Accessories: None

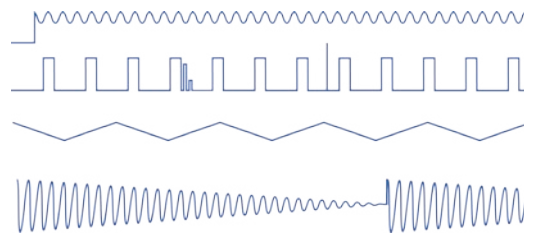
PULSE GENERATOR UNIT MR8791	
<small>(Accuracy at 23 ±5°C/73 ±9°F, 80% rh or less with no condensation; Accuracy guaranteed for 1 year)</small>	
Output terminal	Number of channels: 8, Connector: D-sub, half-pitch, 50-pin Max. rated voltage to ground: 33 V rms AC or 70 V DC (between unit and output channels) Logic output/Open collector output
Output mode 1	Pattern output: Read frequency: 0 Hz to 120 kHz, 2048 logic patterns Pulse output: Frequency 0 Hz to 20 kHz, Duty 0.1% to 99.9%
Output mode 2	Logic output: Output voltage level: 0 V to 5 V (H level: 3.8 V or more, L level: 0.8 V or less) Open collector output: Absolute maximum rated voltage for collector/emitter: 50 V Overcurrent protection: 100 mA
Other	Self-test function

*Nota: il modulo MR8791 non è compatibile con gli oscilloscopi registratori mod. MR8847/01

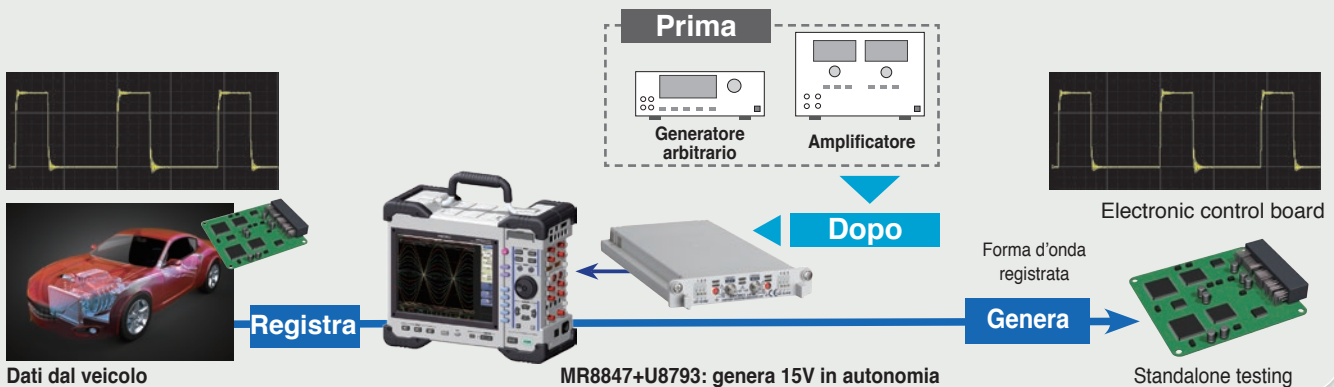
U8793

Modulo Generatore di forme d'onda arbitrarie

L'installazione del modulo di ingresso U8793 sugli oscilloscopi registratori MR8847, MR8827 e MR874x, consente di ottenere un sistema di controllo che combina le funzioni di registrazione e generazione di forme d'onda. È quindi possibile catturare una forma d'onda e successivamente riprodurla con le stesse identiche caratteristiche di ampiezza, frequenza, variazione. Il modulo U8793 è in grado di generare un segnale d'uscita isolato fino a 15V senza necessità di generatore o amplificatore supplementare.



Esempio applicativo su scheda di controllo per automotive



General Specifications

Number of output channels	2 channels per unit
Output format	Unbalanced output (floating)
Output terminal	SMB terminal
Dimensions and mass	Approx. 106 (W) × 19.8 (H) × 196.5 (D) mm, approx. 250 g
Accessory	User manual

Arbitrary Waveform Generation

Output waveforms	Waveforms measured with the Memory HiCorder MR8847, MR8847A, MR8827, MR8740, and MR8741
	Waveforms created with Waveform Creation Software SF8000
	Waveforms saved by the Arbitrary Waveform Generator 7075
	Power Quality Analyzer PW3198 and power meter waveforms
	Waveforms created as CSV-format files
	*Logic waveforms are not supported.
Voltage axis resolution	16 bits
Waveform memory capacity	256 kW/ch. × 8 blocks
Low-pass filter	2-stage LPF, 50 Hz to 1 MHz (14 steps in 1-2-5 progression)
D/A refresh rate	Up to 2 MHz (from 0 to 2 MHz, 10 mHz resolution)
Delay	-250.000 to 250.000
Number of loops	∞, 1 to 50,000

Function Generator Mode

Output waveforms	Sine, square, pulse (variable duty), triangle, ramp, DC
Output frequency range	10 mHz to 100 kHz (setting resolution: 10 mHz)

Analogue Output Specifications

(applicable to both custom waveform generation and function generation mode)

Maximum output voltage	-10V to 15V
Amplitude setting range	0V to 20V p-p (setting resolution: 1 mV)
DC offset setting range	-10V to 15V
Output impedance	1 Ω or less
Maximum output current	±10 mA (per channel)
Output type	Waveform output, open, shorted

Other Specifications

Channel synchronization	Set phase between unit channels or between units
Sweep functions	Frequency sweep, amplitude sweep, offset sweep (can be set simultaneously), duty sweep (during pulse output) *Up and down sweep operation is supported. (Target: Non-DC function generation waveforms and custom waveforms)
Program functions	Sequence length: Max. 128 steps (Hold on/off can be set by step.) Number of step loops: 1 to 1,000 Number of overall loops: 1 to 50,000 or ∞

*Nota: il modulo MR8791 non è compatibile con gli oscilloscopi registratori mod. MR8847/0x

U8974

NEW

Modulo per alta tensione
(1000VCC / 700VCA)

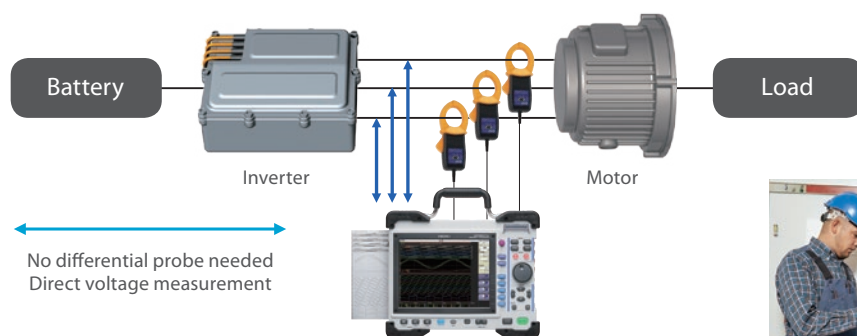


MR8790 è una unità a 4 canali di uscita per la generazione di 4 forme d'onda sinusoidali nel campo di frequenza compreso tra 10mHz e 20kHz.

L'ampiezza massima del segnale sinusoidale di uscita è di 20 V picco-picco.

Dimensions and mass: approx. 106 mm (4.17 in) W × 19.8 mm (0.78 in) H × 196.5 mm (7.74 in) D, approx. 230 g (8.1 oz)

Accessories: None



Supports high voltage systems around the world

HIGH-VOLTAGE UNIT U8974

(Accuracy at 23 ±5°C/73 ±9°F, 20 to 80% rh after 30 minutes of warm-up time and zero adjustment; Accuracy guaranteed for 1 year. Post-adjustment accuracy guaranteed for 1 year)

Measurement functions	Number of channels: 2, for voltage measurement, DC/RMS selectable Maximum rated voltage to ground: 1000 V AC or DC (CAT III), 600 V AC or DC (CAT IV)
Input terminals	Banana input terminal (Input impedance: 4 MΩ, Input capacitance: 5 pF)
Measurement range	200 mV, 500 mV, 1, 2, 5, 10, 20, 50 V/div (DC mode) 500 mV, 1, 2, 5, 10, 20, 50 V/div (RMS mode)
Measurement resolution	1/1600 of measurement range (using 16-bit A/D conversion)
Maximum sampling rate	1 MS/s
Measurement accuracy	±0.25% f.s. (with filter 5 Hz, zero position accuracy included)
RMS measurement	RMS accuracy: ±1.5% f.s. (DC, 30 Hz to 1 kHz), ±3% f.s. (1 kHz to 100 kHz) Response time: High speed 150 ms, Medium speed 500 ms, Low speed 2.5 s
Frequency characteristics	DC to 100 kHz -3 dB
Input coupling	DC / GND
Maximum input voltage	1000 V DC, 700 V AC

*Nota: l'oscilloscopio registratore mod. MR8847/0x necessita di version update (in fabbrica) per essere abbinato al modulo U8974

NEW

HMR-Terminal

Applicazione APP per iPad dedicata ai modelli MR8847, MR8827 e MR874x



HMR-Terminal è una applicazione APP, disponibile esclusivamente per tablet iPad, scaricabile gratuitamente dall'APP-Store che consente di configurare, visualizzare e registrare le forme d'onda dagli oscilloscopi registratori modello MR8847, MR8827, MR8740 e MR8741.

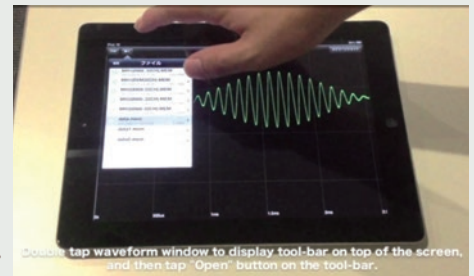
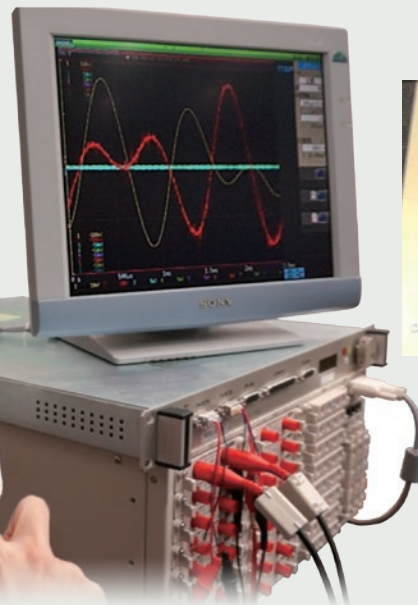
La modifica delle configurazioni e la visualizzazione istantanea sfruttano la connessione wi-fi del tablet, pertanto è necessario che l'oscilloscopio registratore sia connesso ad una rete wi-fi, attraverso la propria interfaccia LAN-Ethernet. Il trasferimento su iPad dei file registrati avviene tramite connessione al server FTP di cui sono dotati gli oscilloscopi registratori compatibili.

Su display remoto è possibile visualizzare ed analizzare fino a 32 canali di misura, sfruttando le funzionalità tattili e di gestione menù tipiche del dispositivo iPad.

Esempio applicativo su scheda di controllo per automotive

Observe waveforms being displayed on the host (Memory HiCorder) in real time on your iPad.

* Graphic data is transferred at high speed! Settings can also be sent.

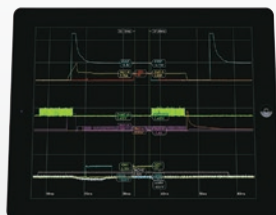


Double tap waveform window to display tool-bar on top of the screen, and then tap "Open" button on the tool-bar.

Download waveform files stored in the host (Memory HiCorder) via FTP

Free app (exclusively for iPad) downloadable from the App Store

- Easy waveform operation on iPad
- Fingertip operation of Max. 32 channels of waveform data
- Operate MEMORY HiCORDER via network, change settings, and monitor waveforms during measurement
- * New function in Ver 2.0



HMR Terminal Brief Specifications

Operating environment	iOS on the iPad (Apple Inc.)
Supported OS	iOS
Functions	<ul style="list-style-type: none"> - Data acquisition: Send to iPad via FTP using a WiFi router, or load to iPad via iTunes (PC app) - Intuitively operate waveform level searches, maximum / minimum / average values, zero position adjustment, and more at your fingertips - Waveform monitor - Meter setting * Logic waveforms and computational waveforms are not supported.

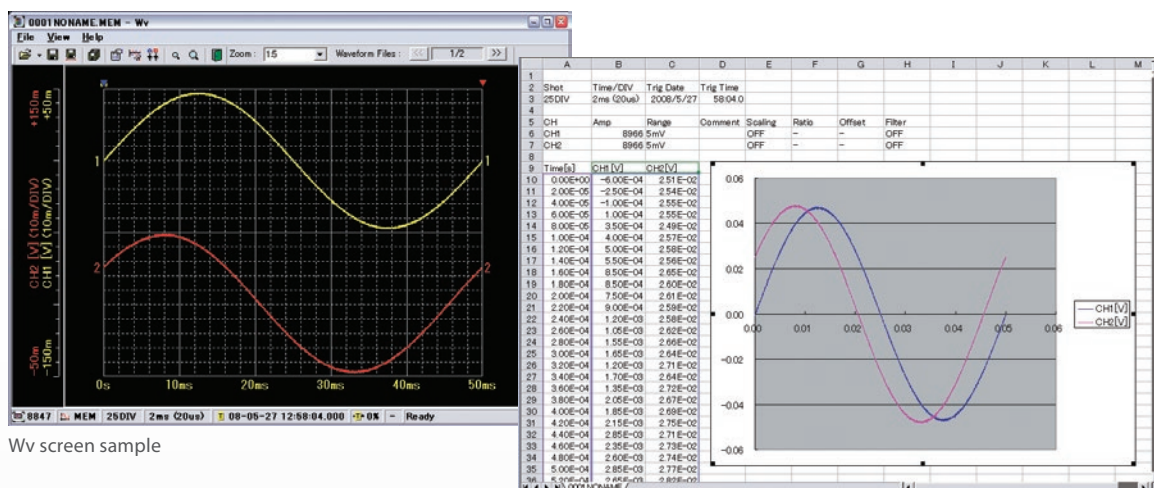
Wave-Viewer software

Applicativo software per la visualizzazione dei dati delle forme d'onda

L'applicativo software Wave-Viewer è fornito in dotazione a tutti gli oscilloscopi registratori presentati in questo catalogo, ad esclusione del modello MR8870/20 per il quale il software si chiama "Wave-Processor" sebbene mantenga le medesime funzionalità e prestazioni.

Wave-Viewer consente di aprire i file dati salvati e di svolgere le seguenti funzioni:

- Visualizzazione delle forme d'onda, così come rappresentate a display sullo strumento
- Possibilità di utilizzare i cursori orizzontali e verticali, scorrere con il puntatore all'interno della forma d'onda, la controllare la posizione del trigger, utilizzare la funzione di zoom per ingrandire/ridurre il dettaglio visualizzato
- Conversione dei file di dati binari in formato CSV o equivalente, per elaborazione su foglio di calcolo commerciale quale Excel, OpenOffice, ...



Wv screen sample

Excel spreadsheet sample

Il trasferimento del file può essere realizzato tramite diverse modalità in funzione delle caratteristiche di comunicazione e interfaccia specifiche di ogni modello di oscilloscopio registratore: tramite connessione LAN, USB, chiave USB, CF card, SD card, FTP server.

Wave-Viewer è compatibile con i Sistemi Operativi Windows 10 (32-bit o 64-bit), Windows 8/8.1 (32-bit o 64-bit), Windows 7 (32-bit o 64-bit), Windows Vista (32-bit), Windows XP (32-bit).

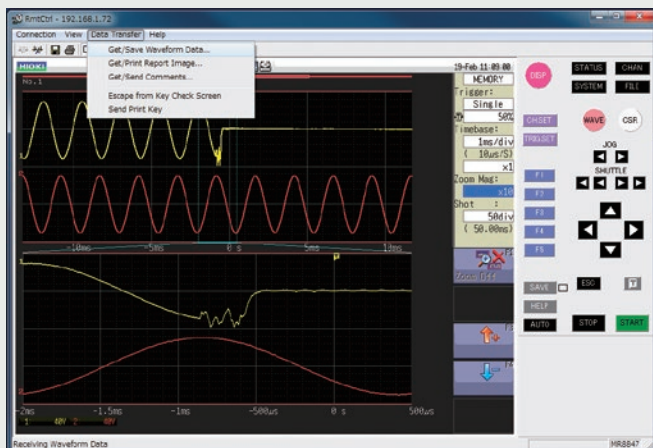
Wave-Processor, specifico per oscilloscopio registratore MR8870/20, è compatibile con i Sistemi Operativi Windows 8/8.1 (32-bit o 64-bit), Windows 7 (32-bit o 64-bit), Windows Vista (32-bit), Windows XP (32-bit), Windows 2000.

Applicativo software per il controllo remoto tramite connessione LAN

L'applicativo software 9333 (opzionale e compatibile con i modelli MR8847/0x, MR8847A/5x, MR8827, MR8741 e MR8741) consente di:

- Abilitare il controllo remoto tramite interfacciamento LAN
- Acquisizione dei dati tramite la funzione di auto-salvataggio su PC del file binario delle forme d'onda
- Trasferimento e salvataggio su PC del file dati di tipo CSV per elaborazione su foglio di calcolo commerciale quale Excel, OpenOffice, ...
- Stampa di report ed immagini del display, sia su stampante termica installata sullo strumento (quando prevista), sia su stampante di rete connessa a PC.

9333 è compatibile con i Sistemi Operativi Windows 8/8.1 (32-bit o 64-bit), Windows 7 (32-bit o 64-bit), Windows Vista (32-bit), Windows XP (32-bit).



9333 Brief Specifications

Supported OS	Windows 8/7 (32/64-bit), Vista (32-bit), XP (9333 ver.1.09 or later)
Functions	<ul style="list-style-type: none"> - Auto-saves waveform data to PC, Remote control of Memory HiCorder (by sending key codes and receiving images on screen), print report, print images from the screen, receive waveform data in same format as waveform files from the Memory HiCorder (binary only) - Waveform data acquisition: Accept auto-saves from the Memory HiCorder, same format as auto-save files of Memory HiCorder (binary only), print automatically with a Memory HiCorder from a PC. The Memory HiCorder's print key launches printouts on the PC - Waveform viewer: Simple display of waveform files, conversion to CSV format, etc.

9335

Applicativo software per l'analisi e l'elaborazione dei dati delle forme d'onda

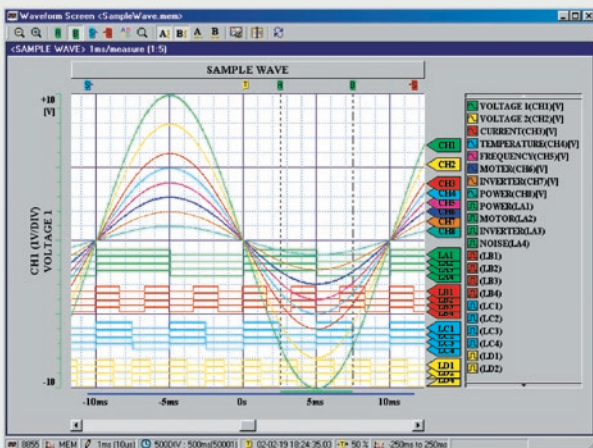
L'applicativo software 9335 (opzionale e compatibile con i modelli MR8847/0x, MR8847A/5x, MR8827, MR8741 e MR8741) consente di visualizzare, convertire, calcolare e stampare tramite PC le forme d'onda e i dati acquisiti dall'oscilloscopio registratore in uso.

9335 consente all'operatore di realizzare a monitor le svariate modalità di visualizzazione ed analisi numerico-grafiche disponibili sul display dell'oscilloscopio registratore.

In particolare, è possibile realizzare rappresentazioni su diagramma X-Y, rivelare tracciare e identificare i fenomeni di interesse inserendo marcatori di riferimento, cercare un particolare evento in base a data ora o ampiezza, e ri-assegnare una nuova condizioni di trigger.

9335 incorpora 19 tipologie di funzioni di calcolo che consentono di realizzare analisi statistiche semplici e veloci.

9335 è compatibile con i Sistemi Operativi Windows 8/8.1 (32-bit o 64-bit), Windows 7 (32-bit o 64-bit), Windows Vista (32-bit), Windows XP (32-bit), Windows 2000.



9335 Brief Specifications

Supported OS	Windows 8/7 (32/64-bit), Vista (32-bit), XP
Functions	<ul style="list-style-type: none"> - Display functions: Waveform display, X-Y display, Cursor function, etc. - File loading: Readable data formats (.MEM, .REC, .RMS, .POW) / Maximum loadable file size: Maximum file size that can be saved by a given device (file size may be limited depending on the computer configuration) - Data conversion: Conversion to CSV format, Batch conversion of multiple files, etc.
Printing	<ul style="list-style-type: none"> - Print function: Printing image file output (expanded META type, ".EMF") - Print formatting: 1 up, 2-to-16 up, 2-to-16 rows, X-Y 1-to-4 up, preview, hard copy