

PORTABLE DATA ACQUISITION RECORDERS

SOLTEC®

FALCON II Series

TA220-2300 ~ 16 Channels

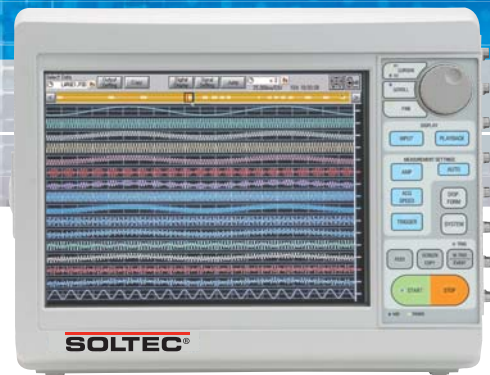
TA220-2800 ~ 32 Channels

“Fast Measurements – Easy Operation – Every Time”

Falcon II - The Newest Generation



Model TA220-2800
32- Channels



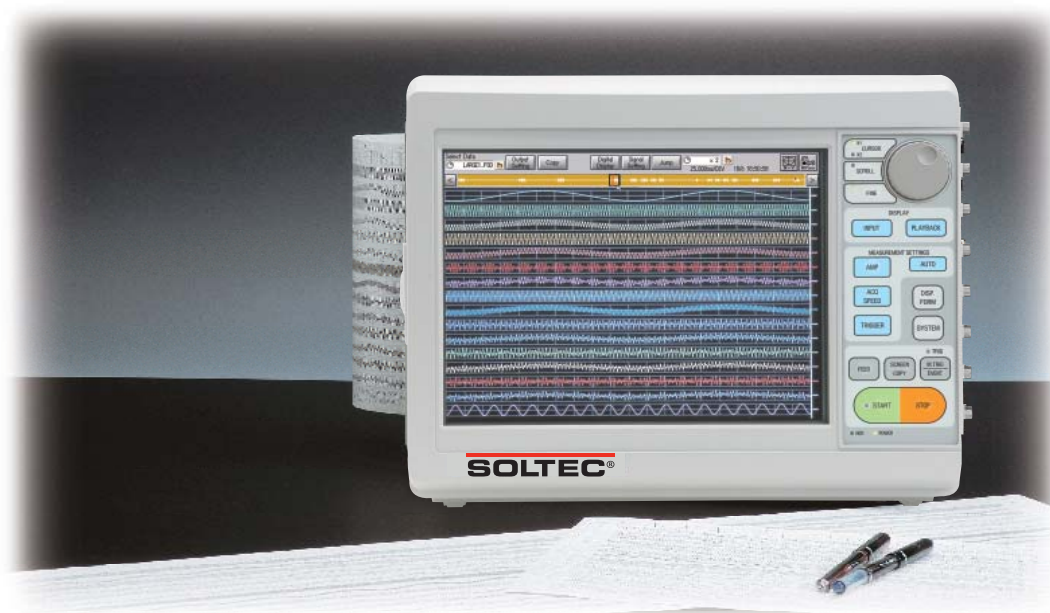
Model TA220-2300
16-Channels

SOLTEC®
www.SoltecCorp.com



Easy Measurements Anywhere - Anytime!

Long-term Recording on Built-in HDD!



Model TA220-2300

The Falcon II series Model TA220-2300 and TA220-2800 Data Acquisition Recorders are unique portable designs offering up to 32-channels of simultaneously sampled data collection, isolated channel-to-channel inputs, simple user operation, quick set-up, convenient color display of data, and a built-in high resolution thermal chart printer. Graphical set-up and signal waveforms are brilliantly displayed on a large, color LCD touch screen. A full range of plug-in modules condition signals for processing in various measuring modes including HDD Recording (for long term recording on a built-in 40GB HDD), Memory Recording (captures high speed transients/events), and Real Time Recording (like a pen recorder). These units are ideal for Maintenance, Production, Quality, and R&D applications.

FEATURES

•Large Color Screen Display

A large 12.1" full color LCD touch screen displays set-up information and acquired data in real time or from memory. View before print or print while viewing data.

•Unique Pen Recorder Mode

Clear graphic, touch to set, amplifier control images eliminate complicated recorder setup. Displayed data signals appear to originate from graphic writing pen nib image while data is recording.

•Enhanced Ease of Stored Data Access

Finding and displaying recorded data has never been easier. Many search features for finding specific data points within a large data file are included. A Thumbnail Bar displays all recorded channel data, while a Jump search function finds max/min points, time, etc.

•Direct Sensor Input

Sensors may be directly connected to the wide selection of plug-in signal conditioning amplifiers to measure AC/DC Voltage, AC/DC Strain, Temperature, Vibration, Pressure, Rotation Pulses, Frequency, etc.

•Long-term Recording

A built-in 40GB HDD provides long-term, high speed data recording for over 120 days on 16-channels with a 10mS simultaneous sampling rate! (60 days on 32 Channels!)

•Standard LAN & USB Ports

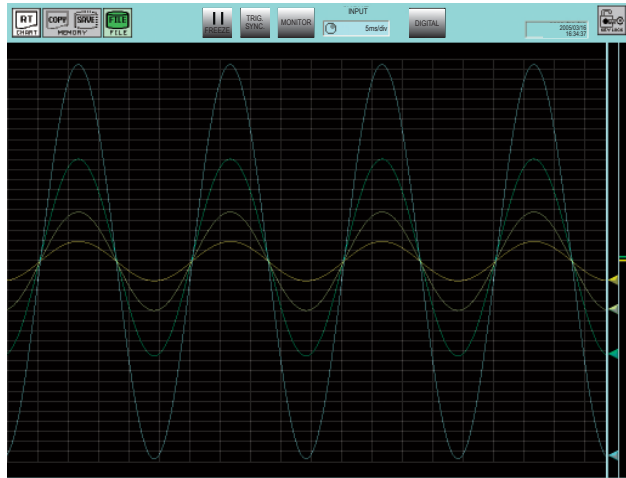
LAN (100BASE-T) for data communication and USB for external storage devices (MO/USB memories) are standard interfaces.

•Built-in Chart Printer

A high resolution, thermal array printer with wide chart paper allows high-speed real time chart printing at 100mm/sec or prints stored files, and portions thereof, on demand.

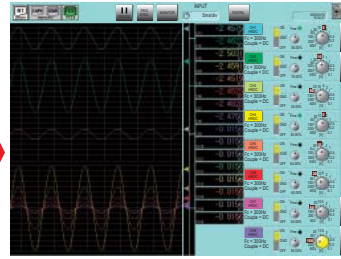
Dynamic Waveform Display

Control Settings, Real Time Recorded Data, and Data Stored in Memory are displayed on a large, 12.1" color touch screen. User selects 1 to 16 channels of waveform and/or numeric value data to be displayed.



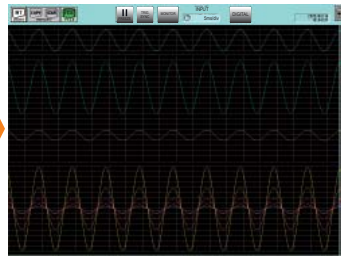
- Full Screen Display - 12.1" Color LCD

Selectable



Selectable - Numeric Value + Amp Control Display

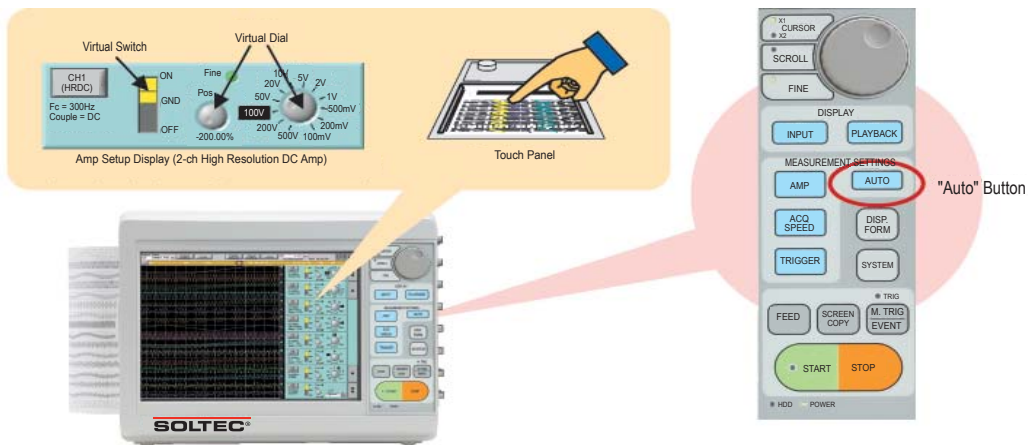
Dividable
as required



Channelize 1 to 16 Channels - Select Channelized or Overlapping

Special Features for Easy Operation

Setup mode screen graphics display selector dials/switches that change position with a simple "finger touch" or using the jog dial. By using the 12.1" color touch panel LCD, measuring conditions can be modified while monitoring waveforms. Each input amplifier can also be automatically set using the "auto" pushbutton on the operation panel.



Direct Sensor Input

The same amplifiers (AP series) from TA220-1000 series are available for direct input of various signals (Voltage, Strain, Temperature, Vibration, Pressure and Rotation Pulses).

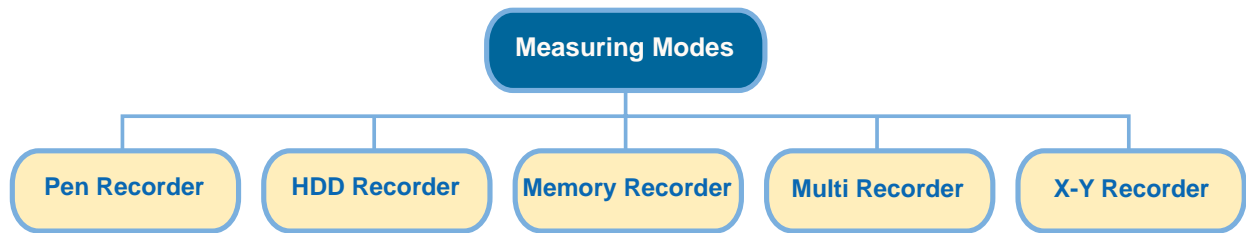


AP Series Plug-In Amplifiers

Amplifier Type	Model No	Sampling	Resolution	Description
2-ch High Resolution DC Amp	TA220-AP11-101	10µs	16-bit	DC amp for high resolution voltage measurement
2-ch High Speed DC Amp	TA220-AP11-103	1µs	12-bit	DC amp for high speed voltage measurement
2-ch Zero Suppression Amp	TA220-AP11-111	10µs	16-bit	DC amp. Eliminates offset element of voltage input signals
2-ch FFT Amp	TA220-AP11-102	10µs	16-bit	DC and Vibration amp with high frequency anti-aliasing
Event Amp	TA220-AP11-105	1µs	8-bit	Amp for recording open/close for contact or H/L for voltage
2-ch TC/DC Amp	TA220-AP11-106	10µs	15-bit	Input amp for thermacouple (R, T, J, K and W) and Voltage
TC/DC Amp	TA220-AP11-107	10µs	14-bit	1-ch Input amp for thermacouple (R,T,J and K) and Voltage
2-ch AC Strain Amp	TA220-AP11-104	10µs	16-bit	Strain amp with AC bridge system. Reduces external noise influence.
2-ch DC Strain Amp	TA220-AP11-110	10µs	16-bit	Strain amp with DC bridge system
2-ch Vibration/RMS Amp	TA220-AP11-109	10µs	16-bit	DC/Vibration amp for measuring signals in RMS
F/V Converter	TA220-AP11-108	10µs	12-bit	Amp for converting Frequency (pulse) into Voltage

User Selectable Measurement Modes

Users can easily select from five (5) Measurement Modes — Pen Recorder mode for real time strip chart recording, HD Recorder mode for long term recording of data to a HDD, X-Y Recorder mode for displaying/recording X-Y correlation of two signals, a Multi Recorder mode captures transients while recording steady - state signals, and a Memory Recorder mode for recording fast events.



Pen Recorder with Virtual Pens

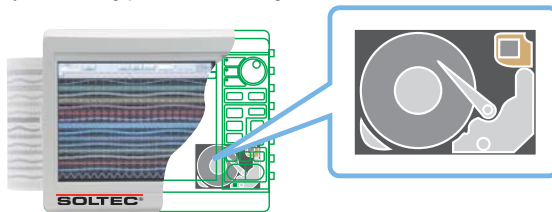
The Pen Recorder mode offers the simple operation of common strip chart pen recorders. All waveforms are displayed with "moving pen nib" images. And, like pen recorders, input amplifiers and chart paper speed (100mm/s to 1mm/min) can be changed while recording using the touch panel.

Easy change of paper feeding speed by one touch

Synchronized waveform recording with external signals
 ***A remote unit (optional) is required.

HDD Recorder for Long-term Recording

A standard, built-in 40GB Hard Disk Drive provides long-term recording. High-speed data is sampled at speeds of 1μs for (1) active channel and 10μs with all 16 channels active and recorded directly to the HDD without interruption. Recorded data is stored in a digital format, as opposed to being printed on chart paper, allowing easy post data analysis and long-period data management.



Recording Time to HardDisk

Sampling Speed	2GB Capacity		40GB Capacity	
	w/1ch	w/16chs	w/1ch	w/16chs
1μs	17 min	N/A	4.9 hrs	N/A
2μs	34.1 min	N/A	9.7 hrs	N/A
5μs	1.4 hrs	N/A	1 day	N/A
10μs	2.8 hrs	10.6 min	2 days	3.1 hrs
20μs	5.5 hrs	21.0 min	4 days	6.0 hrs
50μs	13.8 hrs	52.0 min	10 days	15.2 hrs
100μs	1.1 day	1.7 hr	20.7 days	1.2 day
200μs	2.3 days	3.5 hrs	40.5 days	2.5 days
500μs	5.8 days	8.7 hrs	101 days	6.3 days
1ms	11.8 days	17.7 hrs	207 days	12.9 days
2ms	23.7 days	1.4 days	414 days	25.9 days
5ms	59.2 days	3.7 days	1037 days	64 days
10ms	118 days	7.4 days	2074 days	129 days

***Calculated Values.

Memory Recorder Captures Fast Events

Record fast events using up to 1μs sampling rates and store to internal memory of 2MW per channel. Unused channel memory can be combined up to 32MW if only one channel is active. Multiple trigger modes ensure capture of data for a wide variety of measurement applications.

Recordable Time on Memories

Sampling Speed	Memory (32MW) w/ 1-ch	Memory (2MW/CH) w/ 16chs
1μs	32.768 sec	2.048 sec
2μs	1.09 min	4.096 sec
5μs	2.73 min	10.24 sec
10μs	5.46 min	20.48 sec
20μs	10.9 min	40.96 sec
50μs	27.3 min	1.7 min
100μs	54.6 min	3.41 min
200μs	1.8 hr	6.8 min
500μs	4.5 hrs	17 min
1ms	9.10 hrs	34.1 min
2ms	18.2 hrs	68.3 min
5ms	1.89 day	2.8 hrs
10ms	3.79 days	5.7 hrs
100ms	37.9 days	2.37 days

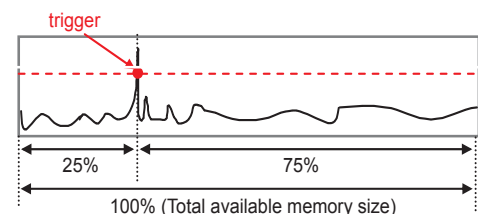
***Above data is calculated value

Trigger Mode

- OR: Activates if signal of ANY selected channel reaches trigger level.
- AND: Activates if signals of ALL selected channels reach trigger level.
- WINDOW: Activates if signal of selected channel(s) enters or exceeds preset levels.

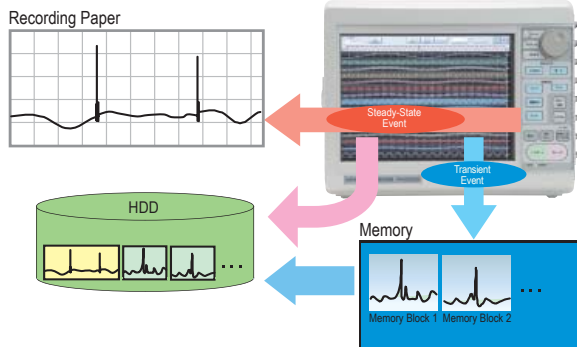
Pre-trigger Function

This function allows user to memory-record data before trigger point. Extent of pre/post trigger point can be preset as proportion of total available memory size.



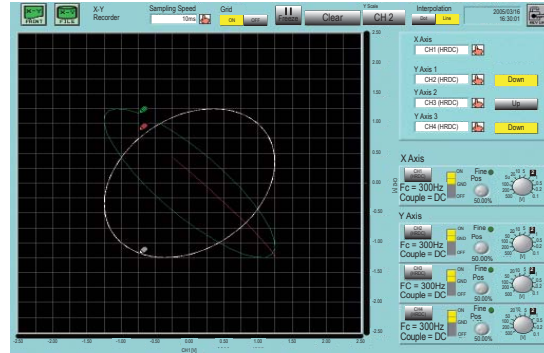
Multi Recorder Simultaneously Records Steady-state & Transient Events

Chart printing, and recording to HDD and Memory can be simultaneously performed in this mode. A steady-state signal can be printed or recorded on the HDD while the system captures high-speed transient events to memory.



X-Y Recorder

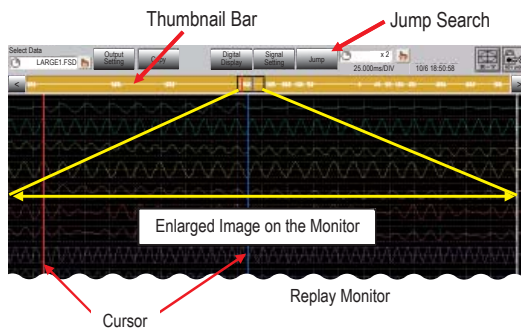
Select any channel as the X input and up to 3 channels for the Y input. Signals are recorded and can be plotted for display and printing with high resolution (1600 x 1600 dots).



Various Features (Easy Recorded Data Access)

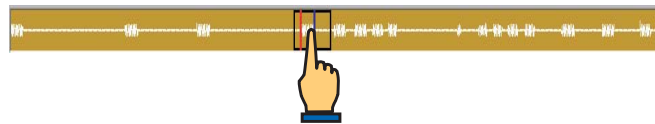
Quickly Search Large Data Files

The TA220-2300 incorporates many advanced functions to simplify searching long-term recordings and/or large data files.



Thumbnail Scroll Bar:

Select a channel and this graphic shows a compressed (thumbnail) view of the memory location of recorded data. Simply touch the graphic data areas of interest and the data is zoomed to the large display for viewing.



Jump Search:

There are four jump search modes as following.

Start Point	End Point	Trigger Point	Cursor x1	Cursor x2
Time	Address (Time)	Significant Point	Event	
Year: 2005 Month: 06 Day: 23 Hour: 09 Minute: 38 Second: 15 Jun 23 09:38:15 2005				
<input type="button" value="Apply"/> <input type="button" value="Execute"/> <input type="button" value="Close"/>				

■Time...
Move to specified time

Type	Max Value	Min Address	Min Value	Min Address	List
CH1 HRCO	4.8873	198715	4.8873	82	V
CH2 HRCO	4.8873	198715	4.8873	82	V
CH3 HRCO	4.8873	198715	4.8873	82	V
CH4 HRCO	4.8873	198715	4.8873	82	V
CH5 HRCO	4.8873	198715	4.8873	82	V
CH6 HRCO	4.8873	198715	4.8873	82	V
CH7 HRCO	4.8873	198715	4.8873	82	V
CH8 HRCO	4.8873	198715	4.8873	82	V
CH9 HRCO	4.8873	198715	4.8873	82	V
CH10 HRCO	4.8873	198715	4.8873	82	V
CH11 HRCO	4.8873	198715	4.8873	82	V
CH12 HRCO	4.8873	198715	4.8873	82	V
CH13 HRCO	4.8873	198715	4.8873	82	V
CH14 HRCO	4.8873	198715	4.8873	82	V
CH15 HRCO	4.8873	198715	4.8873	82	V
CH16 HRCO	4.8873	198715	4.8873	82	V
CH17 HRCO	4.8873	198715	4.8873	82	V
CH18 HRCO	4.8873	198715	4.8873	82	V
CH19 HRCO	4.8873	198715	4.8873	82	V
CH20 HRCO	4.8873	198715	4.8873	82	V
CH21 HRCO	4.8873	198715	4.8873	82	V
CH22 HRCO	4.8873	198715	4.8873	82	V
CH23 HRCO	4.8873	198715	4.8873	82	V
CH24 HRCO	4.8873	198715	4.8873	82	V
CH25 HRCO	4.8873	198715	4.8873	82	V
CH26 HRCO	4.8873	198715	4.8873	82	V
CH27 HRCO	4.8873	198715	4.8873	82	V
CH28 HRCO	4.8873	198715	4.8873	82	V
CH29 HRCO	4.8873	198715	4.8873	82	V
CH30 HRCO	4.8873	198715	4.8873	82	V

■Max/Min...
Move to max/min of recorded data

Start Point	End Point	Trigger Point	Cursor x1	Cursor x2
Time	Address (Time)	Significant Point	Event	
0 - 199999				
<input type="button" value="Apply"/> <input type="button" value="Execute"/> <input type="button" value="Close"/>				

■Address (Time)...
Move to elapsed time from start

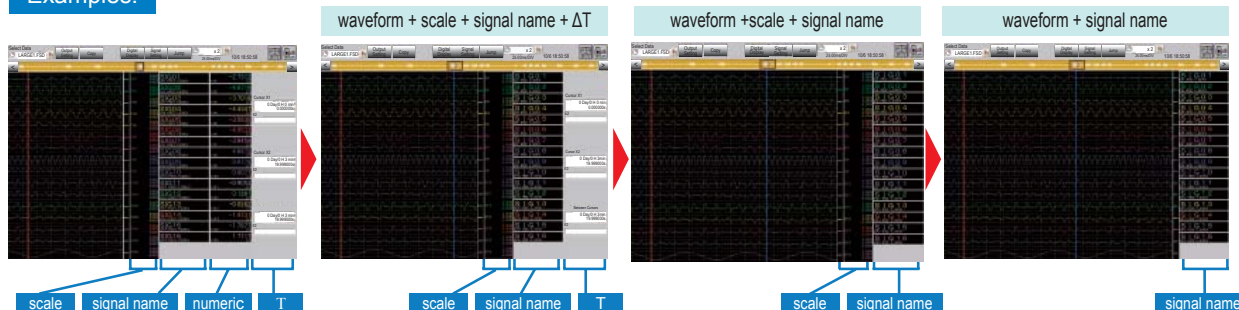
Start Point	End Point	Trigger Point	Cursor x1	Cursor x2
Time	Address (Time)	Significant Point	Event	
<input type="button" value="Apply"/> <input type="button" value="Execute"/> <input type="button" value="Close"/>				

■Event...
Move to marked event

Numeric Display of Waveform

The replay monitor also displays "scale," "signal," "numeric" and "delta T between two cursors".

Examples:



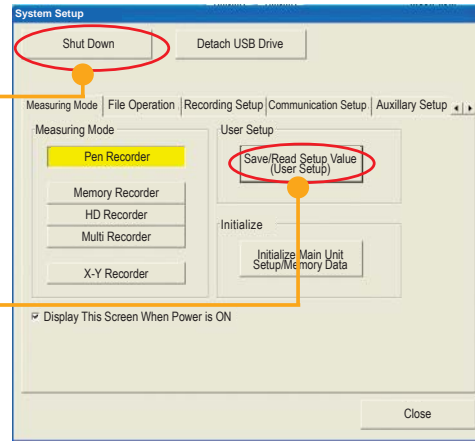
Useful Functions

Shutdown

Power-off using the "shutdown" feature allows users to save measurement conditions and measured data stored on the internal HDD.

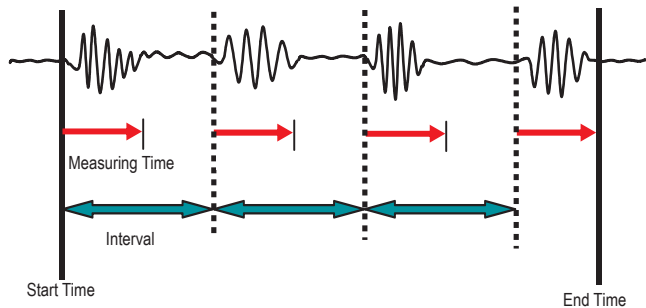
Save User/Application Settings

Store up to (4) unique user/application settings of signal conditioner input and recording conditions. This allows immediate start of measurement without re-entering measurement settings.



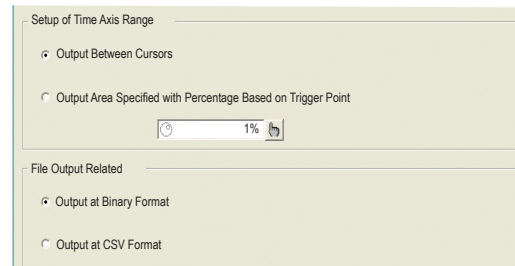
Timer-control Function

Make automatic measurements using either a preset time and interval.



CSV File Conversion: Supports for Analysis

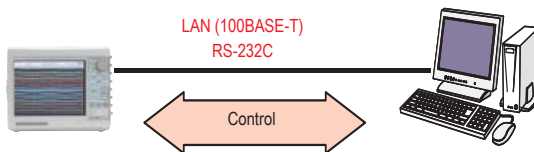
The TA220-2300 can convert measured data into the CSV format for analysis using Excel or other analysis software. It has functions like thinning out and batch conversions.



Connection to a PC and Other Peripheral Devices

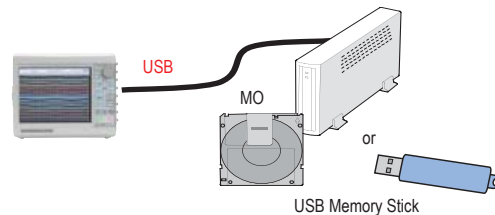
Connection to PC

Users can control the TA220-2300 from a PC via a LAN or RS-232C connection. Waveforms can also be monitored at the PC using the optional NS2100 software.



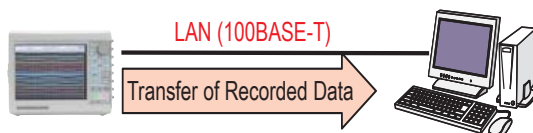
Saving Large Data on External Devices

The TA220-2300 has two standard USB ports. Measured data can be saved on external storage devices via the USB.



File Sharing with PC

File sharing with a PC is possible by transferring recorded data to the PC via a LAN connection.



Automatic Shutdown at Blackout

Connecting to an uninterruptible power supply (UPS), allows the TA220-2300 to be automatically shut down during a blackout via a shut down signal from the UPS.

***This function requires an optional RS-232C unit.

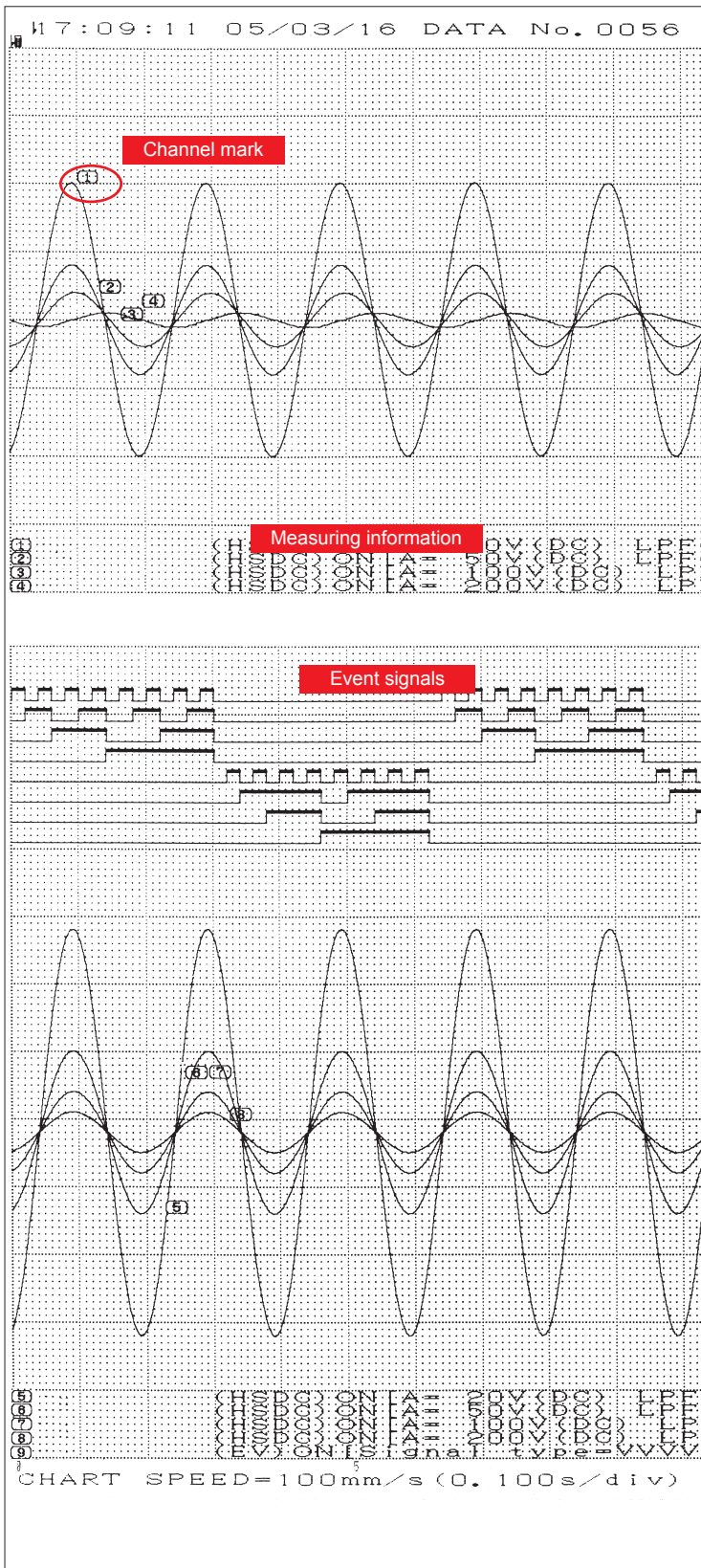


High Speed & High Resolution Recording

High speed(100mm/s) and high resolution(80 dots/mm at 25mm/s) recording is available.

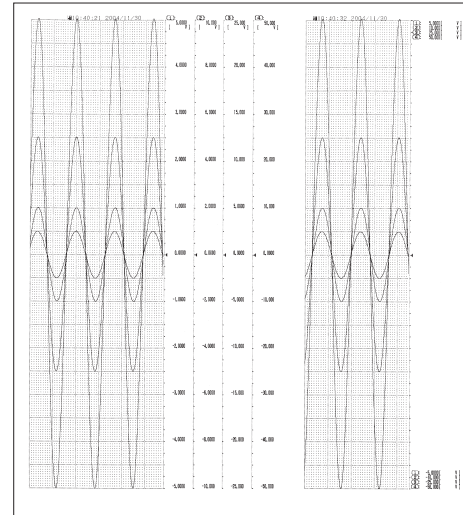
Customizable waveform division & printing size.

Location and amplitude of digital signals can be changed by 8 channels each.



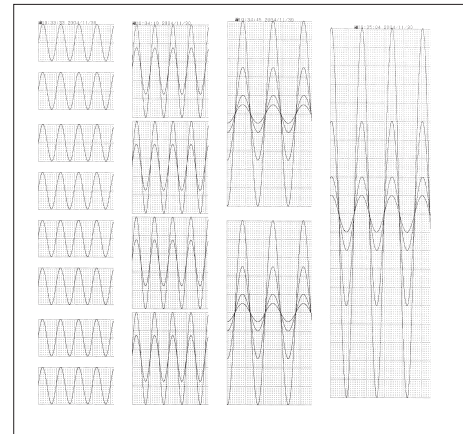
Auto Scaling

Print scales before or after waveforms.



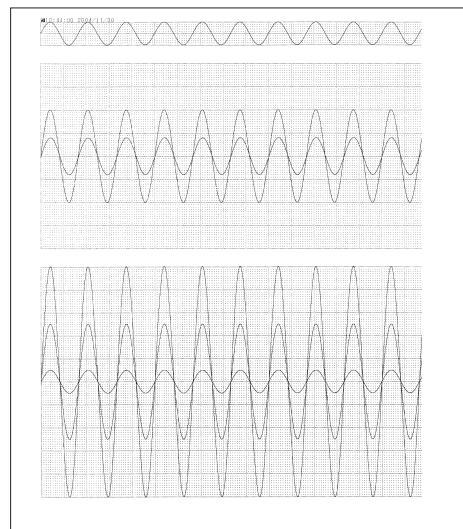
Waveform Division

Select one to sixteen divisions to display or print out.



Customize Printing Format

Users can print waveforms at selected widths from 10mm to 200mm.



Signal Conditioning Unit Selection Guide

Input Signal		Probes and Cables		Plug-In Signal Conditioning Units	
Voltage	±500V DC or AC peak	Isolated BNC cable 0311-5175	BNC-safety jacks adapter 0243-3021	2-ch high resolution DC amp (TA220-AP11-101) DC amp for high resolution measurement A/D: 16 bit 100kS/s, 10µs ±100mV to ±500V	
Current	High current	Clamp Meter 2000A/400A DC and 40 to 1kHz	600A/100A DC to 400Hz	2-ch high speed DC amp (TA220-AP11-103) DC amp for high speed measurement A/D: 12bit 1MS/s, 1µs ±100mV to ±500V	
	Medium current	Clamp Meter 200/20/2A DC to 1kHz		2-ch zero suppression amp (TA220-AP11-111) DC amp for eliminating offset element of input signals A/D: 16bit 100kS/s, 10µs ±100mV to ±500V Suppression voltage range ±13V (at measuring range of ±100mV to 2V) ±110V (at measuring range of ±5V to 500V)	
	Low current	Clamp Meter 20/2/0.2A DC and 40 to 10kHz			
Fluctuation	Voltage	10% and 20% 100/120-V type 200/240-V type	External 100/120 VAC & 200/240 VAC Modules Detect Voltage Fluctuations of 10% and 20%	2-ch TC/DC amp (TA220-AP11-106) Input amp for Thermocouple (R, T, J, K and W) and Voltage A/D: 15bit 100kS/s, 10µs ±100mV to ±50V	
	Voltage Detection	50 VAC to 250 VAC 20V to 250V DC	Detects AC or DC voltage and outputs as High/Low. It supports 4 channels 50 to 150 VAC: Low 100 to 250 VAC: High 20 to 150V DC: Low 80 to 250V DC: High	TC/DC amp (TA220-AP11-107) 1-ch input amp for thermocouple (R, T, J and K) and voltage A/D: 14bit 100kS/s, 10µs ±10mV to ±50V	
Temperature	Thermocouples R, T, J, K, and W* *TA220-AP11-106 only	Covered and sheathed thermocouples		2-ch FFT amp (TA220-AP11-102) DC and vibration amp to prevent high frequency loopback A/D: 16bit 100kS/s, 10µs Power supply for a sensor Anti-aliasing filter (-72dB/OCT) ±100mV to ±500V	
Input Signal		Sensor		2-ch vibration/RMS amp (TA220-AP11-109) DC/vibration amp for measuring signals in RMS A/D: 16bit 100kS/s, 10µs Power supply for a sensor ±100mV to ±500V	
Vibration (impact acceleration)	Amp-embedded charge accelerometer (SV2000 series)				
	Piezoelectric accelerometer (SV1000, 9F, 9G series)	Charge converter This unit is necessary when piezoelectric accelerometers are used.			
Strain, Load, Displacement, Acceleration and Torque	Strain gauge	Bridge Box			2-ch AC strain amp (TA220-AP11-104) Strain amp which reduces external noise (AC bridge system) A/D: 16bit Frequency response: 2kHz Auto-balance ±1k to ±20kµε
	Strain gauge sensors: Load cell, pressure transducer, displacement transducer, torque transducer, slip ring and accelerometer			2-ch DC strain amp (TA220-AP11-110) Strain amp with DC bridge system A/D: 16bit Bridge Voltage (BV): 2VDC and 5VDC Frequency response: 50kHz Measurement range: 800 to 20kµε (at BV=5V) Measurement range: 2k to 50kµε (at BV=2V)	
Input Signal		Probes and Cables		Event amp (TA220-AP11-105) Amp for recording H/L for voltage or open/close for contact Input: 8 logic inputs, voltage or contact	
Logic	Voltage input H: 2.5V or higher L: 0.5V or lower Contact input	Aligator Clip Cord (0311-5009)	Logic IC cable (0311-5007)		
	Open: 2kΩ or higher Short: 2kΩ or lower	IC clip cord (0311-5008)			
Rotational Signal	Voltage input 0.3V to 30V p-p 1Hz to 10kHz	Isolated BNC cable (0311-5175)	BNC-safety jacks adapter (0243-3021)	F/V converter (TA220-AP11-108) Amp for converting frequency (pulse) into voltage A/D: 12bit 0.3V to 30Vp-p 1Hz to 10kHz	
	Rotation pulse				
				Event unit (TA220-RA23-113) Unit for recording H/L for voltage or open/close for contact Input: 16 logic inputs, voltage or contact	

Mainframe Specifications

■ Basic Specifications

Display	12.1 Inch TFT Color LCD (1024 x 768 pixels)
Channel	
TA220-2300	16 ch (8 slots) + optional 16 ch digital inputs
TA220-2800	32 ch (16 slots) + built-in 16 ch digital inputs
Sampling Speed	
TA220-2300	MAX 1 μ s (1MS/s)
TA220-2800	MAX 2 μ s (500kS/s)
Printer	
Printing Method	Thermal
Paper	Width: 219.5mm Length: Roll 30m, Z-fold 210m (requires optional adapter)
Effective Recording Width	1 division (200mm FS) to 16 divisions (10mm FS). Number of divisions and Printing Width can be changed.
Channel Discrimination	Printout includes Channel Number, Waveform and Scale
Grid Pattern	Standard (10mm, 5mm), 10mm, 5mm, no grid
Battery Backup	Clock, setting value: approx 3 to 5 years
Storage Device	40GB Hard Disk Drive (HDD), built-in standard. MO or USB drive via USB port
Interface	LAN (10/100 BASE-T), USB: standard RS-232C, Remote terminal: optional
Operating Environment	Temperature: 5 to 40°C Humidity: 35 to 80%RH (non-condensing)
Power Supply	90 to 264VAC, frequency 50 to 60Hz
Power Consumption	100VA (typical): with TA220-AP11-101 x 8 units*
Dimensions	
TA220-2300	Approx 369.5(W) x 150.5(H) x 301(D) mm (excluding projections)
TA220-2800	Approx 400(W) x 270(H) x 380(D) mm (excluding projections)
Weight	8.0kg or less (TA220-2300 main body only) 8.7kg or less (main body with TA220-AP11-101 x 4 units)

*Paper Feed Speed: 20mm/s, Input Signal: 10Hz

■ Communication & Storage Specifications

HDD	
Function	Set conditions of main unit and record/display measured data
Capacity	40GB (system domain 5GB + data storage space 35GB)
LAN	
Function	Control with communication command, Windows and file sharing with Windows PC
Standard	10/100BASE-T
USB	
Function	Data saving on storage device by USB connection
Standard	1.1
Storage Devices	MO/USB drive and HDD devices specified by SOLTEC

■ Trigger Specifications

Trigger Mode	OR, AND, WINDOW, OFF
Trigger Source	Input signal, Manual trigger, External trigger
Trigger Settings	Amps other than event amp Trigger slope: OR, AND or \uparrow or \downarrow WINDOW OUT or IN Level setting: to be set with physical values (e.g. voltage)
	Event unit (optional), event amp (TA220-AP11-105) State settings: H, L, or OFF can be set for each input (w/o trigger slope). Trigger setting: AND or OR of state setting conditions of inputs from 1 to 8.
Trigger Related Functions	
Trigger Output	Print/Display Signal when trigger conditions are met (0 to 5V signal active LOW; pulse width, approx 10ms)
Pre-Trigger	Pre-trigger: 0 to 100% (1% step)
Trigger Mark	Record trigger point with an arrow (\downarrow). Also prints year, date and time the trigger occurred.
Trigger Filter	1 to 65534 samples

■ Measuring Mode (Acquisition/Recording) Specifications

• Pen Recorder Mode

Waveform Printing	
Function	Paper Printout of input signal
Measurement Start Commands	Press Start key, Trigger Detection, or Preset Time. Interval recording available
Paper Speed	100mm/s to 1mm/min (user setting, external synchronization enabled).
Frequency Response	DC to 100kHz (sampling: 10 points/cycle). Varies by input unit.
Printing Density	Voltage axis: 8 dots/mm Time axis: 80 dots/mm (at 25mm/s)
Printing Length	Continuous

• HD Recorder Mode

Data Recording	
Function	Real-time recording of measured data on HDD
Recordable Size	35GB max
Sampling Speed	1 μ s (1 CH), 5 μ s (8 CH), 10 μ s (16 CH) max
Recording Method	Normal or repeated recording during present time
Waveform Printing	See Pen Recorder
Function	Printout input signal data on recording paper (waveform)
Measurement Starting Operation	ON/OFF of printout to recording paper while HD recording
Paper Speed	100mm/s to 1mm/min (user setting, external synchronization enabled)
Frequency Response	DC to 100kHz (sampling: 10 points/cycle). Varies by input units
Printing Density	Voltage axis: 8 dots/mm Time axis: 80 dots/mm (at 25mm/s)
Printing Length	Continuous

• Memory Recorder Mode

Data Recording	
Function	Records measured data to internal memory
Measurement Operation	Once, repeat, and endless
Memory Capacity	32MW. When using 16 channels, 2MW/ch
Memory Division	1, 2, 4, 8, 16, 32, 64, and 128 divisions
Sampling Speed	1 μ s (1MS/s) to 100s (1S/s), user setting, external synchronization enabled
Waveform Recording	
Function	Print memory data onto recording paper (waveform)
Printing Density	Voltage axis: 8 dots/mm Time axis: 10dots/mm
Copy Magnification	x5 to x1/1000
Memory Filing	Data is saved to the memory device in binary or CSV format
Data Backup	Memory backup with HDD (data saved in a specified area of HDD at shutdown)
Save/Copy Area	Copy between cursors or copy area around trigger point 1% FS steps up to 100% FS

• Multi Recorder Mode

Function	Steady-state and transient events can be recorded simultaneously on HDD, memory and/or recording paper
Pen Recorder	Refer to Pen Recorder specifications
HDD Recorder	Refer to HDD Recorder specifications
Memory Recorder	Refer to Memory Recorder specifications (waveform printing not available)

Mainframe Specifications

■ Measuring Mode (Acquisition/Recording) Specifications (cont.)

• X-Y Recorder Mode

Function	ON/OFF of locus enable (pen up & down) Input signal monitor, freeze, copy and X-Y display during data recording available
Axis Setting	X-Axis: 1 channel Y-Axis: 3 channels
Measuring Speed	1ms to 1s
Data Recording	
Function	Record all input signals to HDD
Recordable Size	35GB max
Recording Method	Standard
Waveform Printing	
Function	Printout display waveforms (X-axis: 1 ch, Y-axis: 3 ch) A4 format
Resolution	1600 x 1600 dots (printout), 650 x 650 dots (TFT display)

■ Measured Data Display (Replay Monitor Specifications)

Function	Display recorded data when X-T or X-Y "Replay" mode is selected
Available Measuring Modes	Playback stored data independent of recording mode
Y-T Display	
Waveform Division	1 to 16 divisions
Display Magnification	x100 to x1/10,000
Thumbnail Function	Display data of the selected channel on thumbnail bar
Numeric Display	Numeric value, cursor value, numeric + cursor values
Search Functions	Search by cursor, time, address, max/min and event
X-Y Display	
Channels Allowed	Display up to 1 ch/X-axis and 3 ch/Y-axis
Data Output	To file and/or print on chart paper
Output File Format	Binary or CSV

■ Other Specifications

Printer	
Data Information	Measuring Mode, Year/Month/Day, Measurement Start Time, Data No., 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	Prints event mark and time on chart
List Print	Printout of condition settings (sampling speed, detailed amp settings, etc.) available
Screen Copy	Print screen image
Line Width for Printing	Select base line thickness for each channel (1, 2, 3, or 4 dots)
Auto Function	
Function	Sampling speed and input range can be set automatically by using "auto" mode
Sampling Speed	Auto adjusts sampling speed of active channels based on input signal
Input Range	Auto Range adjust of all active channels
Timer Function	Start/End time and interval can be set
CSV Conversion	Batch conversion of multiple memory blocks or files
Screen Image Saving	Save screen image on HDD in BMP format
Save/Readout of Settings	Save up to 4 settings of input and main unit setting conditions on the HDD
Keylock Function	Prevents operational error (password protected)
Physical Value Conversion	Physical conversion of input signals, full scale change on display, registration of units
Event Unit Waveform Display	Display position of EVENT AMP and EVENT UNIT information (optional) on graphic output can be changed. Set display position and spacing

■ Optional Units

• Remote Unit (TA220-RA23-112)

Function	Start, Stop, Mark Print, Paper Feed is possible via external signal. Synchronization pulse input. Output error signal, input UPS protect signal.
Cable	1.5M, I/O connector (28-pin) and bare wire
Weight	60g or less

• Event Unit (TA220-RA23-113)

Function	Input logic signals directly into main unit (independent from plug-in amps)
Number of Signals	16
Signal Level	0 to 5V, voltage only input (no contact)
Cables	1.5m, I/O connector (34-pin) and bare wire
Weight	60g or less

• RS-232C Unit (TA220-RA23-114)

Standard	JIS X5101 (former C6351) compliant
Transfer Speed	38400, 19200, 9600, 4800, or 2400bps
Connector	D-sub (9-pin) connector
Function	
Shutdown	UPS enabled shutdown
Remote Control	PC Control via RS-232
Weight	50g or less

• AC Bridge Power Supply Unit (TA220-RA23-116)

Function	Bridge AC power source for 2 ch carrier strain amp TA220-AP11-104. Powers up to 8 each TA220-AP11-104 amp units
Power Voltage, Carrier Wave	2Vrms, sine wave 5kHz
Synchronization	Synchronizes with bridge power units installed in other TA220-2300 units
Weight	60g or less



Visit www.SoltecCorp.com for all your testing needs or email us at Sales@SoltecCorp.com

Plug-In Signal Input Module Specifications

■ 2-CH High Resolution Amp (TA220-AP11-101) & 2-CH High Speed Amp (TA220-AP11-103)

Input	2 ch unit, isolated unbalanced input, isolated BNC connector
Input Coupling	AC/DC coupling
Input Impedance	1MΩ or higher
Measurement Range	± 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500V FS
Range Accuracy	TA220-AP11-101: within ±0.3%FS (within ±0.8% FS at ±500V) TA220-AP11-103: within ±0.5% FS (within ±0.8% FS at ±500V)
Offset Accuracy	TA220-AP11-101: within ±0.3% FS (at 25°C) TA220-AP11-103: within ± 0.5% FS
Linearity	TA220-AP11-101: within ±0.1% FS (at 25 °C) TA220-AP11-103: within ±0.2%FS
Allowable Input Voltage	Range of ±10V to 500V: ±500V max (DC or AC peak values) Range of ±0.1V to 5V: ±100v max (DC or AC peak values)
CMV	Unit only: 42V (DC or AC peak values) With isolated BNC cable: 300VAC (optional)
Frequency Response	TA220-AP11-101 DC coupling: DC to 50kHz (+0.5, -3dB) w/AC coupling: 0.3 to 50kHz (+0.5, -3dB) TA220-AP11-103 DC coupling: DC to 400kHz (+0.5, -3dB) w/AC coupling: 0.3 to 400kHz (+0.5, -3dB)
Low-Pass Filter	TA220-AP11-101/bessel type (attenuation factor:-12dB/OCT) 30, 300, 3kHz, OFF (+0.5, -3db) TA220-AP11-103/bessel type (attenuation fator:-12dB/OCT) 5, 50, 500, 5k, 50kHz, OFF (+0.5,-3dB)
A/D Converter/ Sampling Speed	TA220-AP11-101: 16bit, 100kHz max (simultaneous 2-ch sampling) TA220-AP11-103: 12 bit, 1MHz max (simultaneous 2-ch sampling)
Temperature Stability	TA220-AP11-101/ zero point: within ±0.2% FS/ °C TA220-AP11-103/ zero point: within ±0.2% FS/ °C
Gain (Range)	Within ±0.1% FS/ °C
Weight	TA220-AP11-101: approx 230g or less TA220-AP11-103: approx 240g or less

■ Event Amp (TA220-AP11-105)

Input	8 channels/unit
Input Type	Common signal ground isolated from chassis ground
Input Signals	Set Voltage or Contact for each channel Voltage input: 0 to +24V Detection level: H=2.5V or higher, L=0.5V or lower Contact input: H=Open, 2kΩ or higher, L=Close, 250Ω or lower
Response Time	Within 1μs
Input Connectors	Supplied with two each: Logic IC Cable (0311-5007) with Alligator Clip Adaptor Set (0311-5009) & IC Clip Adaptor Set (0311-5008)
Weight	100g or less

■ 2-CH Thermocouple/DC Amps (TA220-AP11-106) & (TA220-AP11-107)

Input	TA220-AP11-106: 2-ch unit, isolated unbalanced input, M4 terminal block TA220-AP11-107: 1-ch unit, isolated unbalanced input, 2 binding posts	
Input Coupling	DC coupling	
Input Impedance	10MΩ or higher (approx 1MΩ at 5, 10, 20, 50VFS in DC range)	
Thermocouple	TA220-AP11-106: R, T, J, K, W TA220-AP11-107: R, T, J, K	
Measuring Range (Temperature)	TA220-AP11-106	TA220-AP11-107
R:	0 to 1600°C FS	800°C FS (0 to 800°C), 1600°C FS (0 to 1600°C)
T:	-200 to 400°C	200°C FS (-200 to 200°C), 400°C FS (-200 to 400°C)
J:	-200 to 1000°C FS	200°C FS (-200 to 200°C), 1000°C FS (-200 to 1000°C)
K:	-200 to 1350°C FS	200°C FS (-200 to 200°C), 1200°C FS (-200 to 1200°C)
W:	0 to 2300°C FS	N/A
Measurement Range (Voltage)	TA220-AP11-106: 100, 200, 500mV, 1, 2, 5, 10, 20, 50V FS TA220-AP11-107: 10, 20, 50, 100, 200, 500mV, 1, 2, 5, 10, 20, 50V FS	

■ 2-CH Thermocouple/DC Amps (TA220-AP11-106) & (TA220-AP11-107) (continued)

Range Accuracy	Temperature: ±0.5% FS (within ±1% at 0°C or lower) Voltage: ±0.5% FS
Cold Junction Compensation	Internal/external switchable. Accuracy: within ±2°C (within ±1°C at stable temperature of 20°C at input terminal)
Linearity	Within ±0.1% FS
Allowable Input Voltage	50V (DC or AC peak values)
CMV	TA220-AP11-106: 42V (DC or AC peak values) TA220-AP11-107: 300V (DC or AC peak values)
Frequency Response	Bessel type (attenuation factor: -18dB/OCT) DC to 40kHz (+0.5, -3dB)
Low-Pass Filter	1, 30, 500, 5kHz, OFF (+0.5, -3dB)
A/D Converter/ Sampling Speed	TA220-AP11-106: 15-bit, 100kHz max (simultaneous 2-ch sampling) TA220-AP11-107: 14-bit, 100kHz max
Temperature Stability	When used as a Temp Amp: Gain (range), within ±0.04% FS/°C When used as a DC Amp: Zero point within ±0.03% FS/°C, Gain Range: within ±0.01 FS/°C
Weight	TA220-AP11-106: 240g or less. TA220-AP11-107: 200g or less.

■ 2-CH AC Bridge, Low Noise, Carrier Type Strain Amp (TA220-AP11-104) & 2-CH DC Strain Amp (TA220-AP11-110)

Input	2-ch unit, isolated unbalanced input, isolated NDIS connector	
Input Coupling	TA220-AP11-104: balanced input (isolation between channels inside unit between each channel and chassis) TA220-AP11-110: DC	
Input Impedance	10MΩ or higher (TA220-AP11-110 only)	
Bridge Power Supply	TA220-AP11-104: sine wave 2Vrms, 5kHz (AC bridge power supply TA220-RA23-116 required) TA220-AP11-110: 2V, 5V DC	
Applicable Gauge Resistance	TA220-AP11-104: 120 to 1kΩ TA220-AP11-110: 120 to 2kΩ (at BV=2V), 350 to 2kΩ (at BV=5V)	
Gauge Factor	TA220-AP11-104: 1.9 to 2.2 TA220-AP11-110: 2.0	
Range of Balance	TA220-AP11-104: Resistance: ±2% (10000 με) or lower Capacitance: 2000pF or lower TA220-AP11-110: ±3% (15000 x 10 ⁻⁶ Mc) or lower	
Balance Method	TA220-AP11-104	TA220-AP11-110
Resistance	Auto-Balance	Auto-Balance
Capacitance	Auto-balance (500pF or lower eliminated)	N/A
Balance Time	Within 1s for 1 channel	0.5s for 1 channel
Balance Accuracy	Within ±0.5%	±0.3% FS
Max Sensitivity (TA220-AP11-104)	500με FS (with bridge voltage of 2V or higer)	
Measurement Range	TA220-AP11-104	TA220-AP11-110
Strain	1k, 2k, 5k, 10k, 20kμε FS. (at BV=2V)	1k, 2k, 5k, 10k, 20k, 50kμε FS (at BV=2V) 800, 2k, 4k, 8k, 20kμε FS (at BV=5V)
Voltage	N/A	2, 5, 10, 20, 50mV FS
Accuracy	Within 0.3% FS (TA220-AP11-110 only)	
Internal Calibrator Accuracy	±0.5k, 1k, 2k, 3k, 5kμε Accuracy: within ±0.5FS (TA220-AP11-104 only)	
Linearity	TA220-AP11-104: ±0.2% FS TA220-AP11-110: ±0.1% FS	
CMV	300VAC	
Allowage Input Voltage	±8V (DC or AC peak value)	
Frequency Response	TA220-AP11-104: DC to 2kHz (+1, -3dB) TA220-AP11-110: DC to 50kHz (+0.5, -3dB)	
Low-Pass Filter	TA220-AP11-104: butterworth type (Attenuation factor: -12dB/OCT) 10, 30, 100, 300Hz and OFF (+1, -3dB) TA220-AP11-110: bessel type (Attenuation factor: -12dB/OCT) 10, 30, 300HZ, 1kHz and OFF (+1, -3dB)	
A/D Converter/ Sampling Speed	16 bits, 100kHz max	
Temperature Stability	Zero Point: within ±0.05% FS/ °C (TA220-AP11-104) within±0.01% FS/ °C (TA220-AP11-110) Gain (range): within ±0.05% FS/ °C (TA220-AP11-104) within ±0.01% FS/ °C (TA220-AP11-110)	
Weight	TA220-AP11-104: 285g or less TA220-AP11-110: 240g or less	

Plug-In Signal Input Module Specifications

■ 2-CH Vibration/RMS Amp (TA220-AP11-109)

Input	2-ch unit, isolated unbalanced input, isolated BNC connector
Input Coupling	AC/DC coupling
Input Impedance	1MΩ or higher
Power Supply for Sensor	2mA, 18V or higher
Measurement Range	0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500V
Accuracy	Voltage: within ±0.3% FS (within ±0.8% FS at ±500V) RMS: within ±2% FS (DC and 40Hz to 20kHz)
Linearity	Within ±0.1% FS
Crest Factor	2.8 max (when used as RMS amp)
CMV	Unit only: 42V (DC or AC peak values) With isolated BNC cable: 300 VAC (optional)
Frequency Response	DC coupling: DC to 50kHz (+1, -3dB) AC coupling: 1 to 50kHz (+1, -3dB)
Low-Pass Filter	Butterworth type (attenuation factor: -24dB/OCT) 30, 100, 300Hz 1kHz and OFF
High-Pass Filter	Butterworth type (attenuation factor: -24dB/OCT 10, 30, 100Hz and OFF
A/D Converter/ Sample Rate	16-bit, 100kHz max
Temperature Stability	Zero point: ±0.02% FS/ °C Gain (range): within ±0.01% FS/ °C
Weight	270g or less

■ Charge Converters (TA220-AP11-901, TA220-AP11-902, TA220-AP11-903)

Gain	1.0mV/pC ±5% (TA220-AP11-901, TA220-AP11-902), 0.1mV/pC ±5% (TA220-AP11-903)
Max Input Charge	5000pC (TA220-AP11-901, TA220-AP11-902) 50000pC (TA220-AP11-903)
Frequency Range	Approx 1.6Hz to 50Hz
Max Output Voltage	5Vp-p or lower
Drive Voltage	12 to 25 VDC
Drive Current	0.5 to 5mA
Rated Noise	20μVrms or lower
Phase	180°
Operating Temperature	-20 to 80°C (TA220-AP11-901) -20 to 110°C (TA220-AP11-902, TA220-AP11-903)
Connector	Input: miniature connector (10-32UNF) Output: male BNC terminal (TA220-AP11-901) female BNC connector (TA220-AP11-902, TA220-AP11-903)
Weight	20g or less (TA220-AP11-901), 65g or less (TA220-AP11-902, TA220-AP11-903)

■ F/V Converter (TA220-AP11-108)

Input	1-ch unit, isolated unbalanced input, BNC connector
Input Coupling	AC/DC coupling
Input Impedance	100kΩ or higher
Input Frequency Range	1Hz to 10kHz (pulse width: 20μs or longer)
Measurement Range	0.1, 0.2, 0.5, 1, 2, 5, 10kHz FS
Accuracy	Within ±0.5% FS
Linearity	Within ±0.3% FS
Trigger Level	Selectable: 0V or 2.5V
Allowable Input Voltage	±100V (DC or AC peak values)
CMV	Unit only: 42V (DC or AC peak values) With isolated BNC cable (optional): 300VAC
Response Time	Approx 20ms (10kHz range)
A/D Converter/ Sample Rate	16-bit, 100kHz max Sample Rate: 100kHz
Temperature Stability	Zero point: within ±0.03% FS/ °C Gain (range): within ±0.02% FS/ °C
Weight	125g or less

■ 2-CH Zero Suppression Amp (TA220-AP11-111)

Input	2-ch unit, isolated unbalanced input, isolated BNC connector
Input Coupling	AC/DC coupling (max input ±30V for AC coupling and measurement range for ±0.1 to 2V)
Input Impedance	1MΩ or higher
Measurement Range	±0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500V FS
Range Accuracy	Within ±0.5% FS (within ±0.8% FS at ±500V FS)
Offset Accuracy	Within ±0.5% FS
Linearity	Within ±0.2% FS
Allowable Input Voltage	Range of ±5V to ±500V: ±500V max (DC or AC peak value) Range of ±0.1V to ±2V: ±100V max (DC or AC peak value)
CMV	42V (DC or AC peak values) When using isolated BNC cable (optional): 300VAC
Frequency Response	DC coupling: DC to 5kHz (+0.5, -3dB) AC coupling: 0.3 to 5kHz (+0.5, -3dB)
Low-Pass Filter	Bessel type (attenuation factor: -12dB/OCT) 30, 300, 3kHz OFF (+0.5, -3dB)
Suppression Voltage	±13V at ±0.1, 0.2, 0.5, 1 and 2V range ±110V at ±5, 10, 20, 50, 100, 200, 500V range
Resolution	500μV or less at ±0.1, 0.2, 0.5, 1 and 2V range 5mV or less at ±5, 10, 20, 50, 100, 200, 500V range
Accuracy	Within ±0.5% (at suppression voltage +13V max)
Temperature Stability	±0.005%/°C (at suppression voltage +13V max)
Auto Zero Suppression	Recognize current input voltage and suppress the voltage automatically. Time: within 1 sec Remain voltage: within ±(resolution of suppression voltage x 10)V
A/D Converter/ Sample Rate	16-bit, 100kHz max (simultaneous sampling of 2 chs)
Temperature Stability	Zero point: within ±0.03% FS/ °C Gain (range): within ±0.01% FS/ °C
Weight	260g or less

■ 2-CH FFT Amp (TA220-AP11-102)

Input	2-ch unit, isolated unbalanced input, isolated BNC connector
Input Coupling	AC/DC coupling (only AC coupling when connected with amp embedded piezoelectric accelerometer)
Input Impedance	1MΩ or higher
Power Supply for Sensor	2mA, +18V or higher
Measurement Range	±0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500V FS
Range Accuracy	Within ±0.3% FS (within ±0.8% FS at ±500V)
Linearity	Within ±0.1% FS
Allowable Input Voltage	±500V (DC or AC peak values) (±30V for AC coupling and ±0.1 to 5V range)
CMV	Unit only: 42V (DC or AC peak values) When using isolated BNC cable (optional): 300VAC
Frequency Response	DC coupling: DC to 50kHz (+0.5, -3dB) AC coupling: 0.3 to 50kHz (+0.5, -3dB)
Low-Pass Filter	Bessel type (attenuation factor: -12dB/OCT) 30, 300, 3kHz, OFF (+0.5, -3dB)
Anti-Aliasing Filter	20, 40, 80, 200, 400, 800Hz, 2, 4, 8, 20, 40kHz Drop characteristics: -72dB/OCT at 1.5 x fcutoff
Offset Accuracy	Within ±0.3% FS (at 25) °C
A/D Converter/ Sample Rate	16-bit, 100kHz max
Temperature Stability	Zero point: within ±0.02% FS/ °C Gain (range): within ±0.01% FS/ °C
Weight	240g or less

Main Unit & Accessories

Main Unit	Item		Model	Comments
	Main Unit*1	Falcon II	TA220-2300	
	Standard Accessories		AC power cable, 1 roll recording paper, 1 set paper hold flanges, 1 each user's manual	

*1 Input units are not included

Input Unit	Item		Model	Comments
	Input Unit	2 ch High Resolution DC Amp	TA220-AP11-101	Input: $\pm 100\text{mV}$ to $\pm 500\text{V}$, A/D resolution: 16-bit, sampling: 10 μs
		2 ch High Speed DC Amp	TA220-AP11-103	Input: $\pm 100\text{mV}$ to $\pm 500\text{V}$, A/D resolution: 12-bit, sampling: 1 μs
		2 ch Zero Suppression Amp	TA220-AP11-111	Input: $\pm 100\text{mV}$ to $\pm 500\text{V}$, A/D resolution: 16-bit, sampling: 10 μs
		2 ch FFT Amp	TA220-AP11-102	Anti-aliasing filter: 72dB/OCT, with power supply for sensor
		Event Amp	TA220-AP11-105	Input: 8 logics (voltage/contact)
		2 ch TC/DC Amp	TA220-AP11-106	Input: R, T, J, K, W ($\pm 100\text{mV}$ to $\pm 500\text{V}$), A/D resolution: 15-bit
		TC/DC Amp	TA220-AP11-107	Input: R, T, J, K ($\pm 10\text{mV}$ to $\pm 50\text{V}$), A/D resolution: 14-bit
		2 ch AC Strain Amp*2	TA220-AP11-104	Frequency response: 2kHz, bridge power supply: 5kHz
		2 ch DC Strain Amp	TA220-AP11-110	Input: 800 $\mu\epsilon$ to 20k $\mu\epsilon$ (BV=5V), 2k $\mu\epsilon$ to 50k $\mu\epsilon$ (BV=2V)
		2 ch Vibration/RMS Amp	TA220-AP11-109	Input: $\pm 100\text{mV}$ to $\pm 500\text{V}$, sampling: 10 μs , power supply for sensor
		F/V Converter	TA220-AP11-108	Input: 1Hz to 10kHz

*2 Optional AC bridge power unit (TA220-RA23-116) required

Optional Unit	Item		Model	Comments
	Interface	Remote Unit	TA220-RA23-112	w/ cable (1.5m, I/O connector 28-pin and open wire)
		Event Unit	TA220-RA23-113	w/cable (1.5m, I/O connector 28-pin and open wire)
		RS-232C Unit	TA220-RA23-114	
		AC Bridge Power Supply Unit	TA220-RA23-116	
	Hand Carrying Case (w/ Casters)		TA220-RA11-117	
	Soft Carrying Case		TA220-RT36-115	
	Dust Cover		TA220-RA11-121	
	Roll Paper Take-up		TA220-RT31-164	
	Z-fold Paper Storage Box		TA220-RA12-103	Includes Z-fold paper adaptor (TA220-RA12-301)
	Z-fold Paper Adapter		TA220-RA12-301	
	Mobile Cart		TA220-RA11-118	
	Charge Converter*3		TA220-AP11-901	1.0mV/pC, small type (connected to input amp), connectors (input: miniature connector, output: BNC male)
	Charge Converter*3		TA220-AP11-902	1.0mV/pC, connectors (input: miniature connector, output: BNC female)
	Charge Converter*3		TA220-AP11-903	0.1mV/pC, for high sensitivity sensors connectors (input: miniature connector, output: BNC female)
	AC/DC Voltage Detector		1539	4 inputs
	AC Voltage Level Detector		1540	1 input, 100VAC/120VAC
	AC Voltage Level Detector		1543	1 input, 220VAC/240VAC
	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
	Digital Clamp Meter		2003A*4	for high current (2000A, 400A/DC and 40 to 1kHz)
	AC/DC Clamp Meter		8005*5	for high current (600A, 100A/DC to 400Hz)
	AC/DC Clamp Meter		8113*5	for medium current (200A, 20A, 2A/DC to 1kHz)
	Clamp Meter		8112*5	for low current (20A, 2A, 0.2A/DC 40 to 10kHz)
	Signal Input Cable (for Clamp Meter Output)		0311-5184*6	length: 2m, small plug for microphone and isolated BNC

*3 Required when using piezoelectric accelerometer with 2 ch vibration/RMS amp or 2 ch FFT amp

*4 Use Signal input cable (0311-5184) if connecting output from 2003A to TA220-2300

*5 Use a BNC adaptor (0243-3021) if connecting output from 8005, 8112 and 8113 to TA220-2300

*6 Cable from 2003A output to isolated BNC connector of TA220-2300

Optional Units	Item		Model	Comments
	Signal Input Cable		0311-5175	length: 2m, isolated BNC connector and alligator clip (+: red, -: black)
	Signal Input Cable		0311-5200	length: 2m, isolated BNC connector and metal BNC
	Signal Input Cable		0311-7155	length: 2m, isolated BNC connector and open wire
	Signal Input Cable		0311-5158*7	length: 2m, S terminal and alligator clip (+: red, -: black)
	Signal Input Cable		0311-5155*7	length: 2m, S terminal and open wire
	Signal Input Cable		0311-5173*7	length: 2m, S terminal and BNC
	Signal Input Cable		0311-5160*7	length: 2m, 2-banana and alligator clip (+: red, -: black)
	Signal Input Cable		0311-5174*7	length: 2m, 2-banana and BNC
	Signal Input Cable		0311-5177*7	length: 2m, safety-BNC and open wire
	AC Bridge Power Distribution Cable		0311-2057	length: 2m, BNC connector and alligator clip (+: red, -: black), mold color: black
	AC Bridge Power Distribution Cable		0311-5084	length: 2m, BNC connector and alligator clip (+: red, -: black), mold color: red
	AC Bridge Power Distribution Cable		47226	length: 2m, BNC connector and BNC connector
	Logic IC Cable		0311-5007	logic IC cord (1 pc)
	Logic IC Cable		0311-5008	IC clip cord (4 pcs/set)
	Logic IC Cable		0311-5009	alligator clip cord (4 pcs/set)
	Event Input Cable		0311-5001	1.5m, DIN8P and open wire
	Event Input Extension Cable		0311-5005	1.5m, DIN8P plug and DIN8P socket
	BNC Adaptor		0243-3021	Isolated BNC and S terminal plug
	BNC Adaptor (for distribution)		0243-2118	AC bridge power distribution
	AC Power Cable		47326	length: 2.5m
	DC Power Cable		0311-5167	

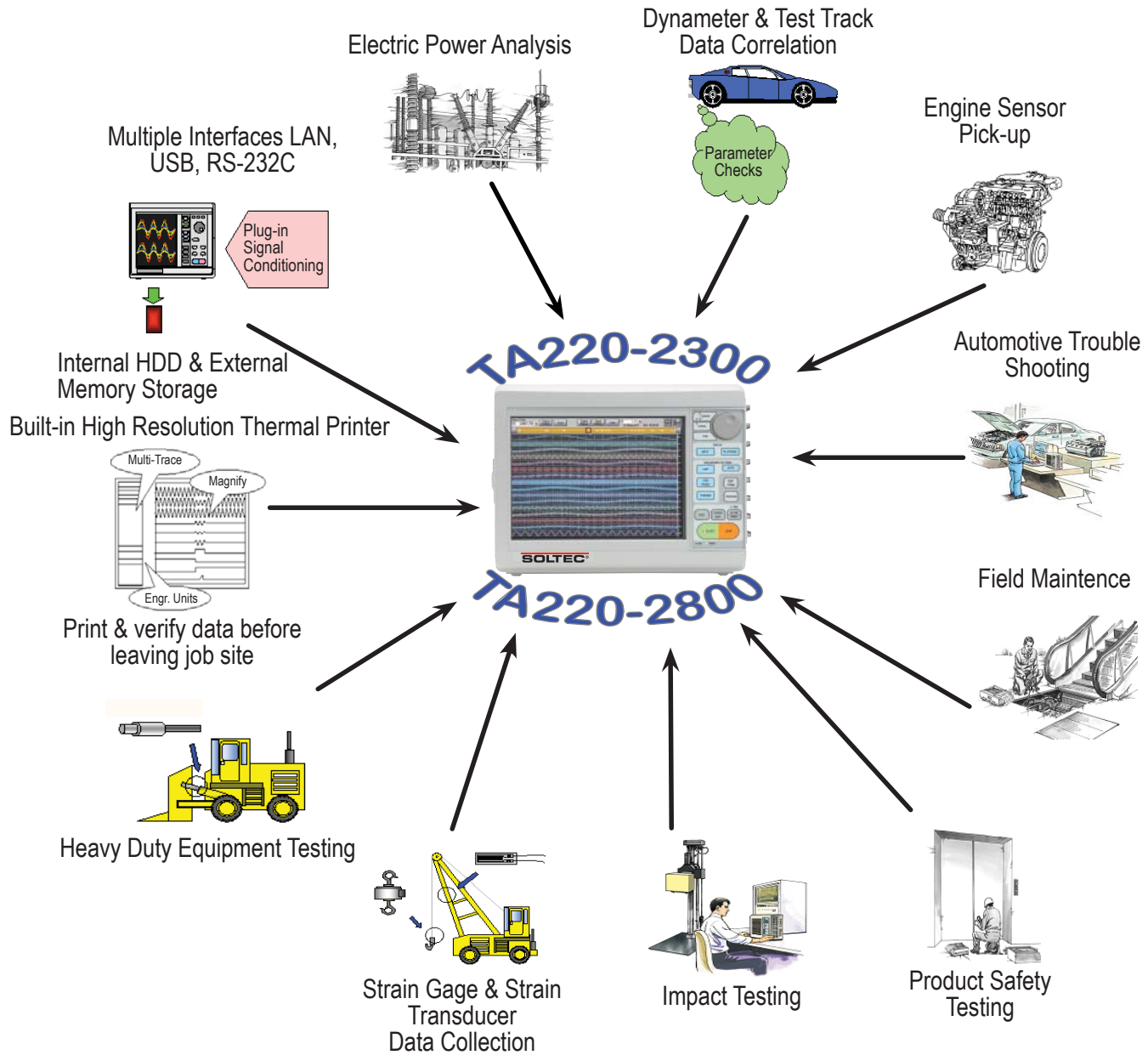
*7 BNC adaptor (0243-3021) required if connecting to input with isolated BNC terminal

Recording Paper	Item		Model	Comments
	220 x 30m roll paper		RS13-01-22-30M	
	220 x 30m roll paper with perforations		RS13-01-22-30M P	
	220 x 210m Z-fold paper		ZS13-01-22-210M	

Software	Item		Model	Comments
	Omniviewer		NS2100	
	Unifizer Software		NS3100	

TA220-2300 & TA220-2800 Applications

A Data Acquisition Recorder for all Reasons! No Lab or Maintenance Facility should be without SOLTEC's **FALCON II TA220-2300 & TA220-2800** Data Acquisition Recorders!



PCB Strain Gage Testing

SOLTEC's PCB Strain Gage Testing Kits include everything needed to quickly and efficiently find when and where failures occur on PCBs. Kits include: Strain Gages, Strain Gage Attachment Toolkits, and Strain Data Recorders. We provide Professional and Experienced Training on PCB strain gage attachment procedures, evaluation of data, and report generation.

Plug-In Signal Conditioning Modules:

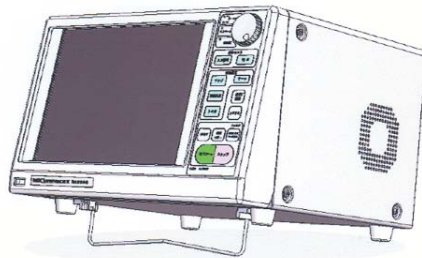
- Simultaneously records up to 16 & 32 channels of data
- Interfaces with all common transducers
- Measures Directly
 - Temperature
 - AC & DC Voltage
- Strain Gage and Strain Transducers
 - Vibration
 - Acceleration
 - RMS
 - Current
 - FFT
 - Timing
 - Events

32-Channel Data Acquisition Recorder Mainframe

Need 32-Channels of Simultaneous, Independent Measurement?
The TA220-2800 Mainframe is Your Solution!

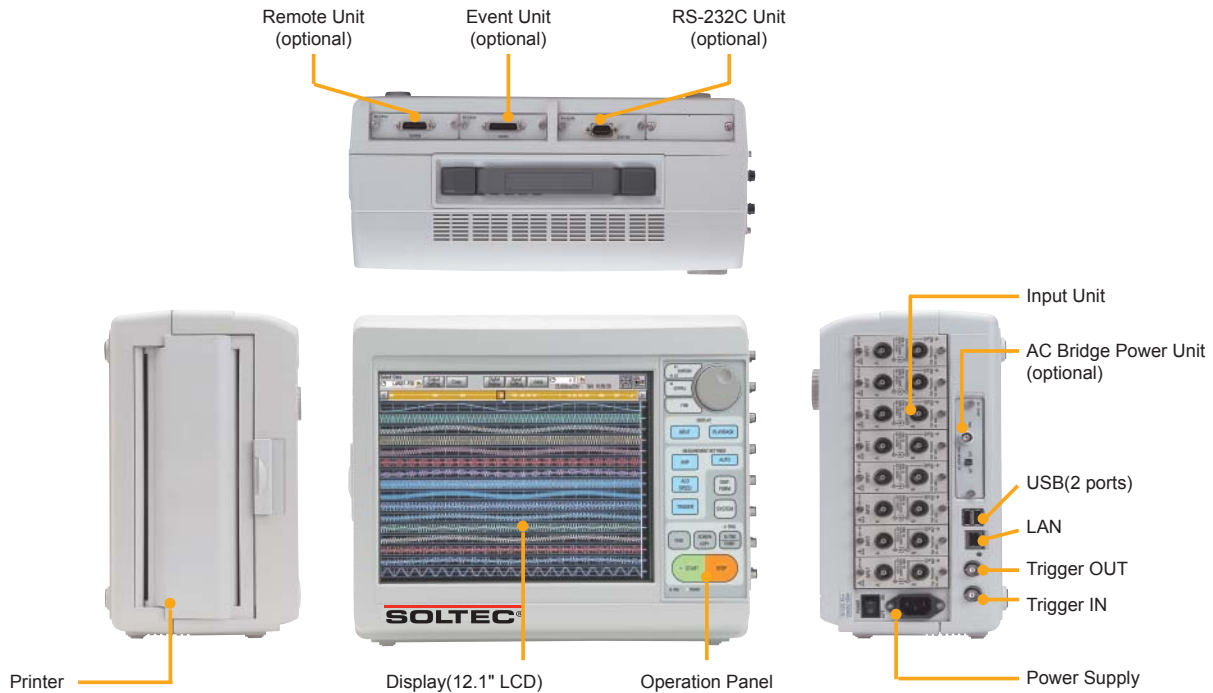


Model TA220-2800
32-Channels



- Multi-Channel Measurement up to 32-Channels.
- Direct Sensor Input. Use the Same Plug-In Signal Input Modules as the Model TA220-2300 & TA220-1000 Series 16 Channel Mainframes (See Pages 10& 11). The Model TA220-2800 main frame includes 16 Module Slots and Built-in 16 Digital Timing/Event Inputs
- Brilliant Color, 12.1" TFT Color Touch Display Guarantees Easy Data Visibility.
- Built-in, 40GB HDD Provides 60-days Continuous Recording of 32-Channels Sampled at 10mS Intervals.
- 19" Rackmount and Table-top Design Includes Built-in High Resolution Chart Printer.

Model TA220-2300 Main Unit



Optional Accessories*



Remote Unit (TA220-RA23-112)



Event Unit (TA220-RA23-113)



RS-232C Unit (TA220-RA23-114)



AC Bridge Power Unit
(TA220-RA23-116)



Z-fold paper adaptor
Z-fold Paper Storage Box
(TA220-RA12-103)



Roll Paper Take-up
(TA220-RT31-164)



Soft Carrying Case
(TA220-RT36-115)



Hard Carrying Case with Casters
(TA220-RA11-117)

*Model TA220-2300 main frame only. Please contact SOLTEC for Model TA220-2800 main frame Accessory Part Numbers.



**SAFETY
CAUTIONS**

Please read product "WARNING" & "CAUTION" section of the Operation Manual before using.

SOLTEC®

12977 Arroyo Street
San Fernando, CA 91340, USA
Phone: (818) 365-0800 x411
Toll Free: (800) 423-2344
Fax: (818) 365-7839
Info@SoltecCorp.com
www.SoltecCorp.com