

PC Recorder Series

Remote data acquisition hardware and software

- Log, trend, analyze and profile process signals with your PC
- Data collected by PC Recorder Software: PC Recorder Light, MSR128 and MSRpro
- Modbus RTU or Modbus TCP/IP (Ethernet) network
- Full featured PC Recorder Software MSR128 for monitoring up to 128 channels simultaneously
- High speed sampling 50 ms / 8 ch with the basic software PC Recorder Light
- Client/Server System MSRpro for monitoring up to 2048 channels
- Complete lines of M-System's remote I/O products are available to accept a wide variety of field signals



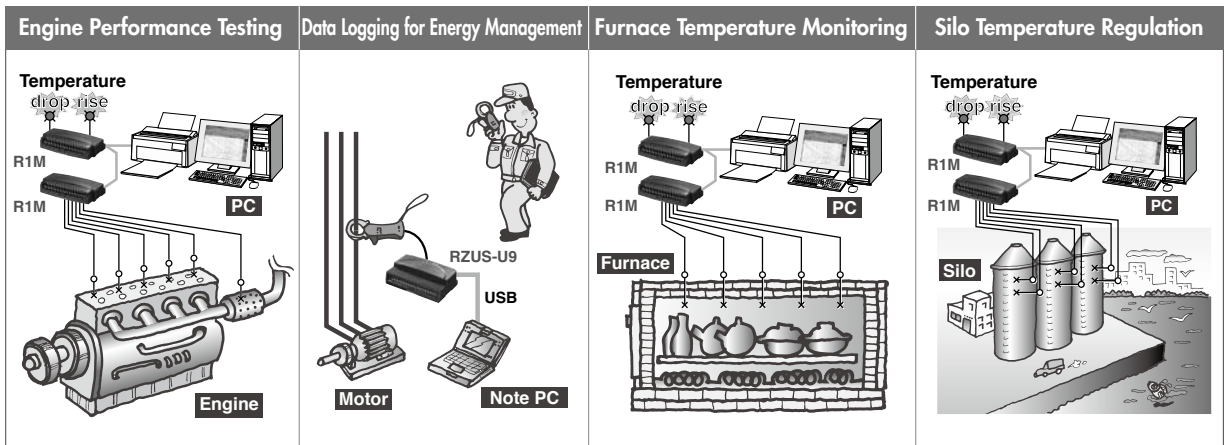
M-System's PC Recorder Series provides a low cost industrial grade data acquisition system using free combinations of remote I/O hardware and monitoring/recording software.

Field I/Os connect directly to the remote I/O modules and data is transmitted via Modbus RTU protocol over an RS-485 network. Ethernet network, Modbus TCP/IP protocol, is also usable either directly by Ethernet I/O modules or via a protocol converter by Modbus RTU I/O modules.

Complete M-System's remote I/O lines including R1, R3, R5, R7 Series, are available for PC Recorder applications. They can handle not only temperature, millivolt/voltage/current or discrete signals, but also other field sensors such as strain gauge and pulse generating pickups. Furthermore, a wide variety of power measuring modules for AC voltage/current, watt/var and energy inputs are ideal to monitor and analyze energy consumption trends in detail by production line to build up a new energy saving scheme.

The R1M, R2M and RZMS/RZUS modules are shipped with the free MSRPAC software package which includes the MSR128 and the PC Recorder Light. These economical modules are ideal for small scale temperature scanning applications such for silos, furnaces, ovens in many industrial fields, greenhouses, hydroponics plants, machine test benches and weather monitors. By using the universal input module RZMS/RZUS, other types of sensors signals, e.g. vibration, can be monitored together for failure analysis applications.

Application Examples



PC Recorder Series

PC Recorder Software MSRPAC
 PC Recorder Software MSRpro
 PC Recorder Hardware I/O Modules

PC Recorder

Four-wire
Signal Conditioners

Two-wire
Signal Conditioners

Power Transducers

Indicators

Limit Alarms

Gateway,
Remote I/O

Paperless Recording
System

PC Recorder

Electronic Actuators
& Position Sensors

Lightning Surge
Protectors

PC Recorder Series

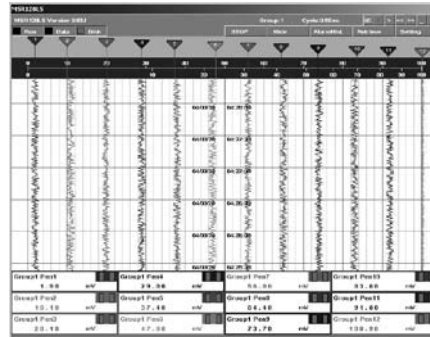
PC Recorder
PC Recorder Software
MSRPAC
PC Recorder Software
MSRpro
PC Recorder Hardware
I/O Modules

Log, Trend, Analyze and Profile Process Signals with Your PC

■ MSRPAC

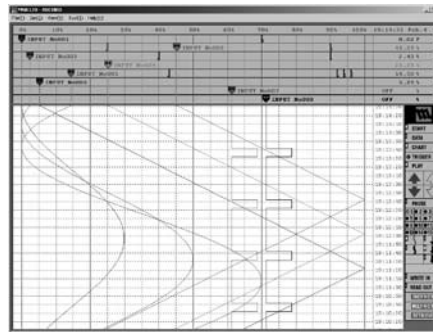
PC Recorder Light MSR128LS / MSR128LV

- Ideal for basic logging and trending purposes.
- Maximum sampling rate of 50 ms for 8 channels, 500 ms to 1 minute for the total of 120 channels.



Full Featured PC Recorder Software MSR128

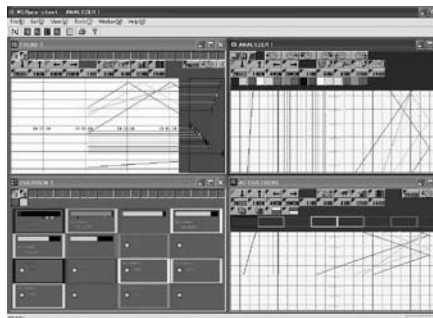
- Ideal for logging, trending and analyzing continuous process and batch applications.
- Up to 128 channels can be monitored simultaneously.
- Maximum sampling rate of 500 ms for 128 channels.
- High speed sampling 100 ms with R3 series TCP/IP module.



■ MSRpro (MSR2K)

Client / Server System High Performance PC Recorder MSRpro

- Max. 2048 points.
- High speed 100 msec. mode up to 256 points.
- Active trend view to compare in real time past and present data overlapped on each other.
- Arithmetic and logic functions, including the ones performed between channels.
- Alarm history and data search functions.



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PC Recorder Series

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PC Recorder

Remote data acquisition hardware and software MSRPAC PC Recorder Software Package

MSR128LS / MSR128LV – PC Recorder Light

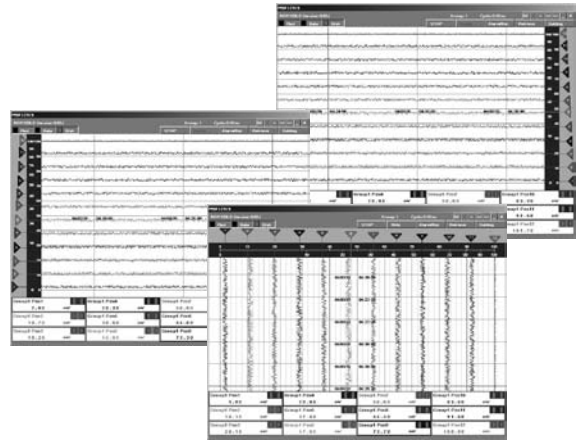
- Ideal for basic logging and trending purposes
- Maximum sampling rate of 50 ms for 8 channels, 500 ms to 1 minute for the total of 120 channels

The MSR128-Light is designed to operate on a PC of relatively low performance, even a Windows 98 PC, though certain functions of the MSR128 which require the PC's high performance, are not available.

The data used for the recorder is saved in CSV format allowing easy export to other Windows programs such as Microsoft Excel.

Two models are available to run on low resolution screens.

- MSR128LV for VGA (Screen area: 640 x 480 pixels)
- MSR128LS for SVGA (Screen area: 800 x 600 pixels)



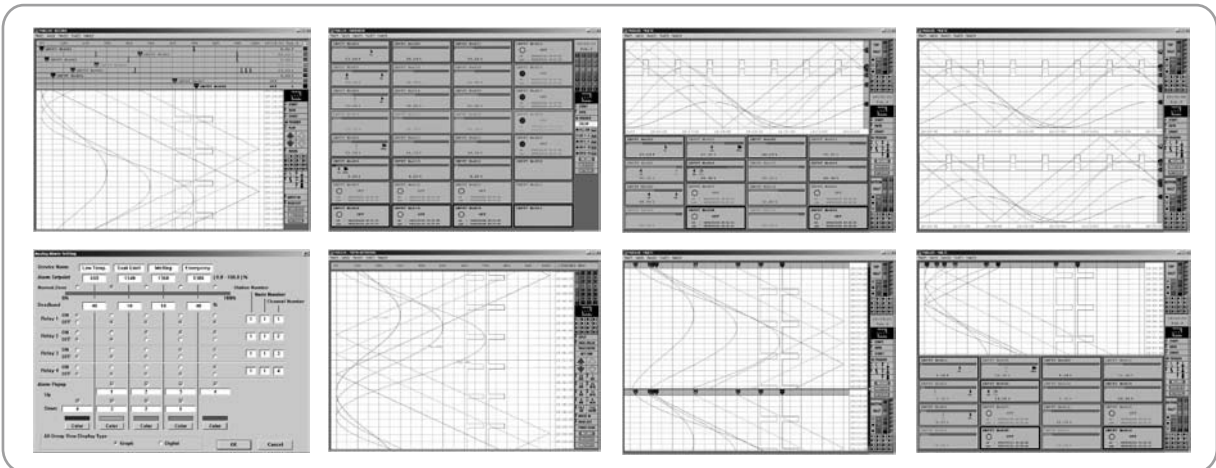
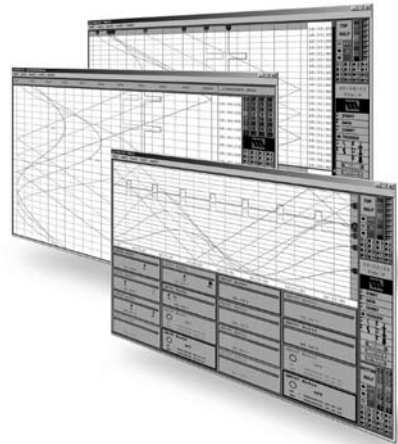
MSR128 – Full Featured PC Recorder Software

- Ideal for logging, trending and analyzing continuous process and batch applications
- Up to 128 channels can be monitored simultaneously
- Maximum sampling rate of 500 ms for 128 channels
- High speed sampling 100 ms with R3 series TCP/IP module

The MSR128 works with all PC Recorder modules. The MSR128 software polls data from the input module, plots the value on the screen and stores it to the PC's hard drive.

The data is polled, plotted and stored at a maximum rate of 500 ms for 128 channels. Historical trends can be recalled, edited and used to be printed as hard copies or to be exported to spreadsheets for further analysis.

Data can be exported in CSV format to popular spreadsheet software packages such as Microsoft Excel.
Data can be directly imported allowing the user to take full advantage of spreadsheet software features.



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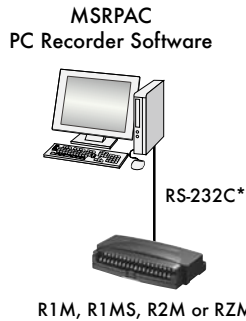
Lightning Surge
Protectors

PC Recorder Series

PC Recorder PC Recorder Software
MSRPAC
PC Recorder Software
MSRpro
PC Recorder Hardware
I/O Modules

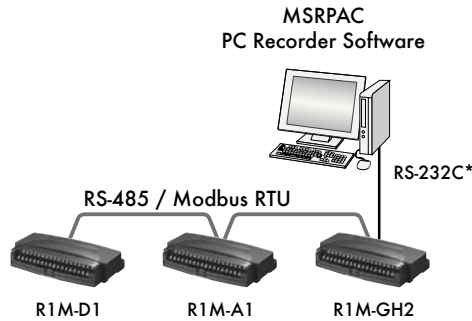
SYSTEM CONFIGURATION EXAMPLES

Minimum Configuration

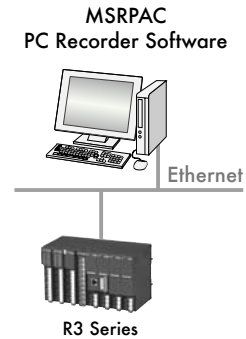


*USB port is usable by using an adaptor.

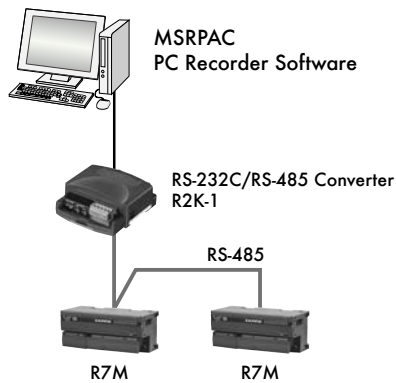
Expanded System via Modbus RTU



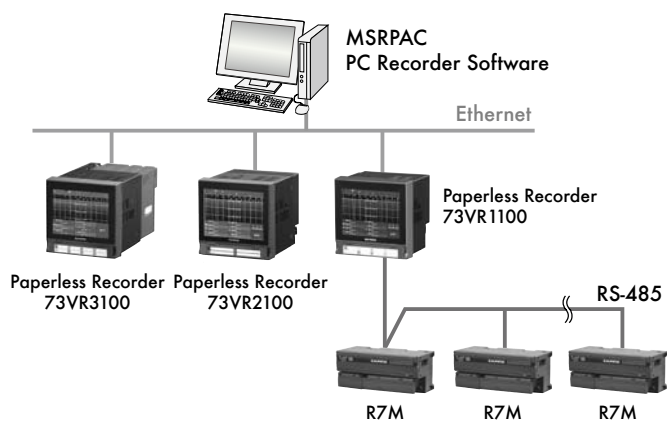
Expanded System via Ethernet



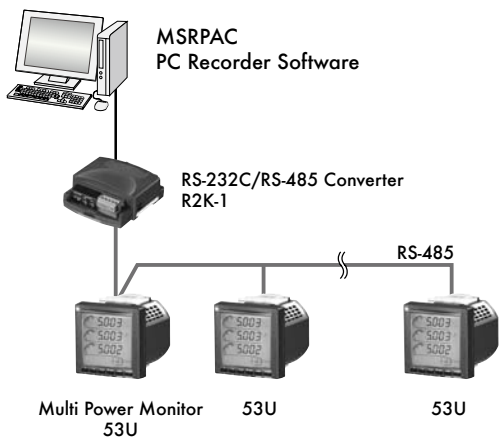
Expanded System via Modbus RTU (R7 + MSR)



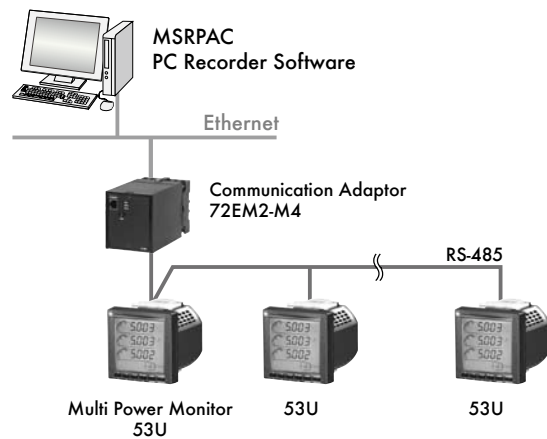
Expanded System via Ethernet (73VR + R7 + MSR)



Expanded System via Modbus RTU (53U + MSR)



Expanded System via Ethernet (53U + MSR)



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MSRpro Client/Server system high performance PC Recorder

- Max. 2048 points
- High speed 100 msec. mode up to 256 points
- Active trend view to compare in real time past and present data overlapped on each other
- Arithmetic and logic functions, including the ones performed between channels
- Alarm history and data search functions

The MSRpro is a 'paperless pen-type' recording system for PC-based data acquisition and analysis. By communicating with I/O modules that have a LAN card communication interface, the MSRpro reads in input signals and stores them in a hard disk as digital data.

By sharing viewing and storing tasks by 'Client' and 'Server,' the MSRpro realizes the recording and operating functions of large number of input signals in high speed.

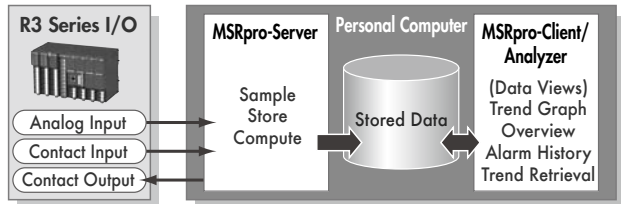
M-System's remote I/O modules, R3 Series, offers a wide variety of input signals including DC and AC signals, temperature, potentiometer, strain gauge and others.

The MSRpro is a suite of three programs:

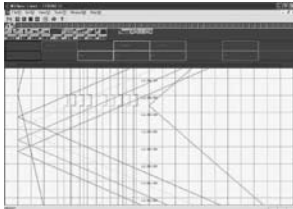
MSRpro-Server Collects and stores input measurement data and executes arithmetic computation to it.

MSRpro-Client/Analyzer Used to view, analyze and print measurement data.

MSRpro-Builder Creates and modifies configurations for either program.



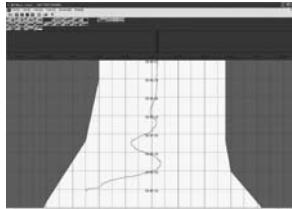
Trend View



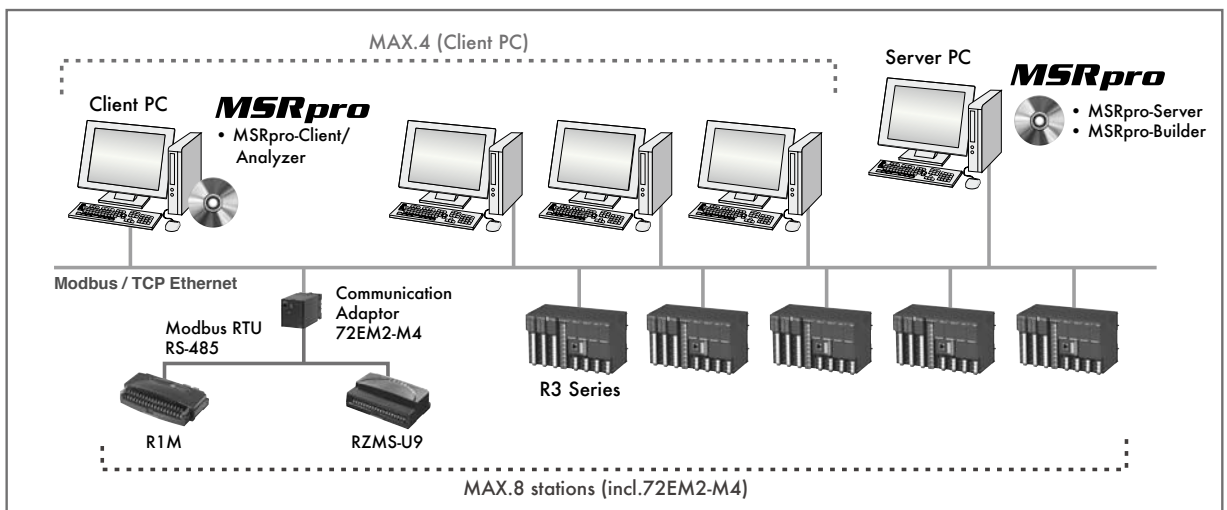
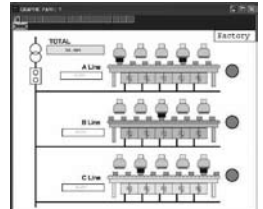
Overview



Active Trend

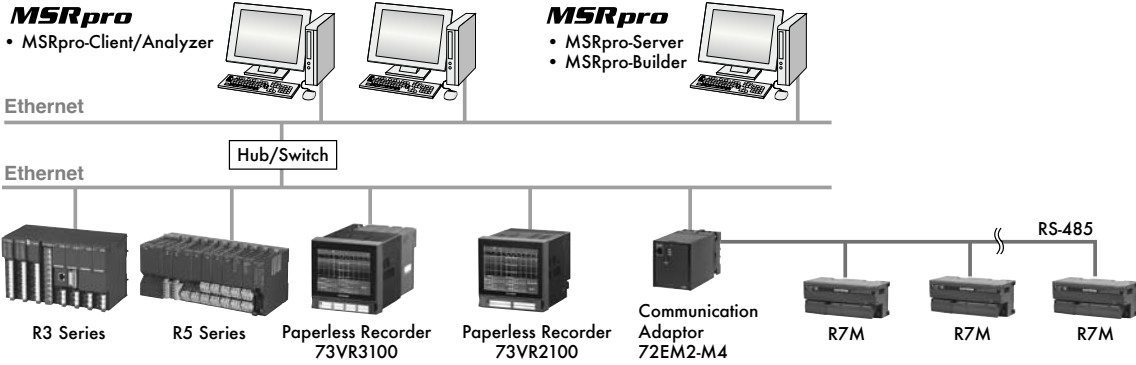


Graphic

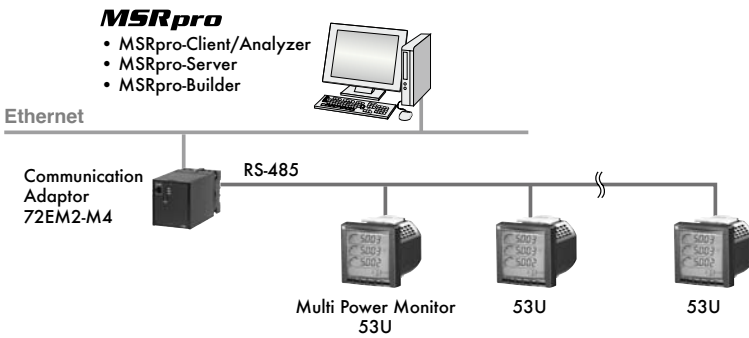


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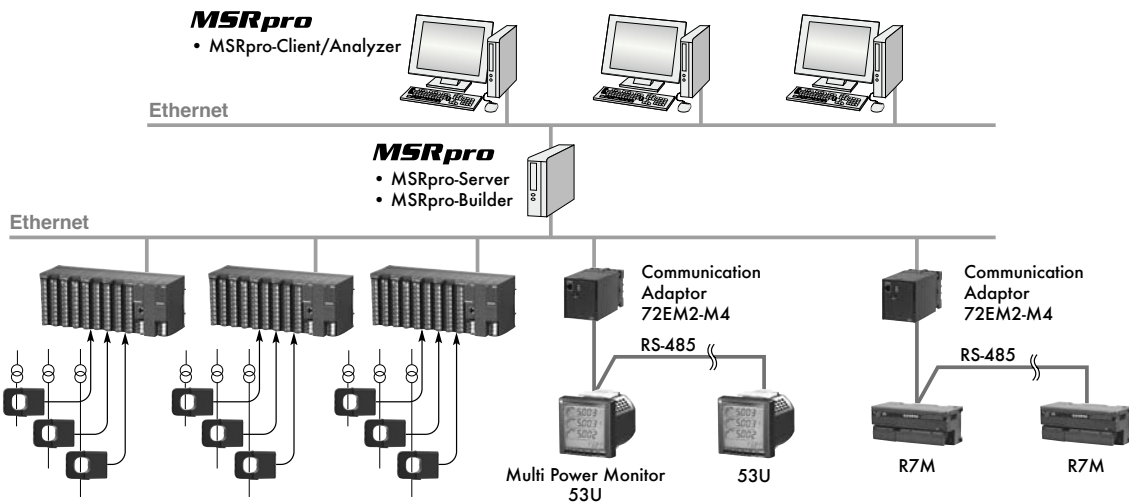
Expanded System via Ethernet (73VR + R7 + MSR)



Expanded System via Ethernet (53U + MSR)



Power Monitoring System



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Two-wire Signal Conditioners

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Lightning Surge Protectors

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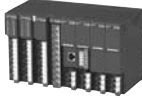
Complete M-System's remote I/O lines are available for PC Recorder applications. Choose from a wide variety of simple all-in-one modules and flexible mixed signal modules depending on your needs.

I/O Modules Usable for MSRPAC

MSR128LS / MSR128LV RC Recorder Light

Mixed signal I/O modules in free combinations of number and type

The MSRPAC is not included.



R3 Series



R5 Series

All-in-one I/O modules with the MSRPAC included in the product package

The MSRPAC is included in the hardware product package. Economical solution for basic trending/recording applications.



R2 Series



R1M Series



RZ Series

MSR128 Full Featured PC Recorder Software

Mixed signal I/O modules in free combinations of number and type The MSRPAC is not included.



R3 Series



R5 Series



R7M Series



53U

All-in-one I/O modules with the MSRPAC included in the product package

The MSRPAC is included in the hardware product package. Economical solution for basic trending/recording applications.



R2 Series



R1M Series



RZ Series

Paperless Recorders with the MSR128 included in the 73VRPAC2



73VR Series

I/O Modules Usable for MSRpro

MSRpro Client/Server System High Performance PC Recorder

Modbus RTU modules connected via the 72EM2-M4

All-in-one I/O modules



R2 Series



R1M Series



RZ Series



R7M Series



53U

Direct Ethernet connection

Mixed signal I/O modules



R3 Series



R5 Series

Paperless Recorders with the MSR128 included in the 73VRPAC2



73VR21xx, 73VR3100

Protocol Converters

Ethernet Communication Adaptor (Modbus use)
model : 72EM2-M4



RS-232C / RS-485 Converter
model : R2K-1

