

The SPR15 is a secure, easy-to-use paperless recorder. It has up to 64 channels (64 internal channels that can be increased with external modules) such as analog input, analog output, digital input and digital relay contact output. mV, V, mA, RTD, TC and ohm can be connected to each analog input channel (universal input) or transferred to it via digital communication. Input channels are freely configurable to suit your process requirement. In addition you can define and use up to 2 relay contact output signals for each analog input channel. It has an intuitive, touch screen display to enable operators to clearly view process data in varying formats such as digital, trend, bar graph, meter, historical and trend gauge.

Data is stored in internal memory, can be used for long term records of your process. If an event occurred on the defined input signal, event is observable on the LCD and user can ACK (acknowledge) it. Horn relay can produce voice alarm on sensitive input.

Applications

Building Automation / Factory Automation/ Machine Automation/ Remote Maintenance/ Remote Diagnosis/ Testing Equipment

Available Features	
Display	15 " True Color LCD (1024x768)
Analog Input Channel	48 Isolated Channel (can be increased with external modules)
Digital Input Channel	48 Isolated Channel*
Analog Output Channel	Up to 16 Isolated Channel*
Digital Output Channel	Up to 48 Isolated Channel*
Event Inputs	8
Alarm	6 Alarm level for each analog input
Internal Memory	1 GB (Increased in accordance with the request)
Interface	RS-485 and Ethernet
Virtual Channels	Included
Batch	-
Screen Builder	To design mimic diagram pages
Security	Up to 50 unique user names with configurable access permission and passwords
Configuration Software	Included
Review/Quick chart Lite Software	Included
Standard View	digital, trend, bar graph, meter, historical, trend gauge

*: Total channel can be up to 64 for internal, and can be increased with external modules.

Specifications

- 48 isolated analog input channels with a sampling rate of 10 sample/sec for every input and ability to increase analog signals with external modules
- Ability to define digital output for analog input (digital control signal) and increase digital outputs via external modules
- Ability to increase digital input channels with external modules
- Ability to increase analog output channels with external modules
- USB port for data transfer, signal settings transfer and upgrade firmware
- Industrial internal memory with a large volume for secure store information for long time
- Quick recovery of data that stored in memory based on time and signal name
- Date and time based on Hijri calendar
- Standard views for displaying measured values
- Software for viewing data and editing device setting on the PC
- Screen saver for increased LCD lifetime
- Ability to remote configuration via FTP(100/100 Base-T)

- Electrical Isolation channel-to-channel and channel to device
- Sampling rate 10 sample/sec for analog inputs and sampling rate 1000 sample/sec for digital inputs
- Can detect input failure and types of error maybe happen on the analog inputs
- Ability to define new signals types using their graph or table
- Scaling on the input signals
- Filtering on the input signals
- Ability to define totalizer for each input signal
- Online viewing of totalized values
- Ability to define mathematical channels on any physical channel and performing functions such as addition, subtraction, multiplication, division, square root, logarithm and power, etc
- Standard Views for display different signals on 1 page with different sizes and saving them and placing them on the START UP
- Different users with configurable access permission and passwords

Device Specifications

Communication	
Interface	RS-485
Format (Parity, Data, Stop)	(N,8,1), (odd,8,1), (even,8,1), (N,8,2), (odd,8,2), (even,8,2)
Baud Rate	1200 ~ 115200 bps
Protocol	MODBUS RTU
Address	1-255
Interface	Ethernet
Connector Type	RJ-45
Protocol	MODBUS TCP, 100 Base T
LCD Display	
LCD	15 " True Color LCD (with LED Backlight)
Resolution	1024 x 768
Touch Screen	Yes (Resistive)
Screen Saver	Yes (Selectable)
Memory	
Internal Memory	1GB up to 4GB secure data storage (Industrial Compact Flash)
Isolation	
Electrical Isolation (Continuous)	2000 VAC channel-to-channel
Power	
System	Industrial Switching Power Supply
AC Input	Universal
Input Range	85 ~ 264 VAC/ 47~63 HZ 120 ~ 370 VDC (Optional) / 24 VDC, 1A (Optional)
Protection	Short Circuit, Overload, Over leakage, Over Temperature
MTBF	374200 hrs
Leakage Current	Low
Cooling By	free air convection
Mechanical	
Dimensions Box (W x H x D)	337mm x 287mm x 363mm
Installation	Panel Mount

I/O Specifications

Analog Input Card		
Channels		8 Per card
Universal Input Type	Voltage	±10V
	Current	0~ 5 mA, 0~ 20 mA, 4~ 20 mA
	Thermocouple	J, T, E, N, XK, XA (K)
	RTD	3850(10Ω), 3850(46Ω), 3850(50Ω), 3850(100Ω), 3911(10Ω), 3911(50Ω), 3911(100Ω),s 3926(10Ω), 3926(50Ω), 3926(100Ω), CU(10Ω), CU(50Ω), CU(100Ω), Ni(10Ω), Ni(50Ω), Ni(100Ω)
Resolution		13-bit
Electrical Isolation (Continuous)		2000 VAC channel-to-channel
Overvoltage Protection		250 VAC
Input Impedance		RTD, TC >1MΩ Volt: 20KΩ
Individual Channel Configuration		Yes
Sampling Rate		10 sample/sec (100 ms parallel sampling)
Channel Fault detection time		3 Sec
Thermal effect		3mΩ/°C for ohm input, 2μV/°C for mV input

Analog Output Card		
Channels		8 Per card
Output Types	Voltage	0~10 V , 0~5 V
	Current	0~20 mA , 4~20 mA , 0~5 mA
Resolution		16-bit
Accuracy		±0.02% of FSR
Voltage Output Load		Max: 10K ohm
Current Load Resistance		400 Ohms
Isolation		2000 VAC
Output Stability Time		0.1 S

Digital Input Card		
Channels		8 Per card
Input Frequency		500 HZ
On Voltage Level		3.5 ~ 150 VDC
Off Voltage Level		0 ~ 2.5 VDC
Input Impedance		47 kΩ
Overvoltage Protection		±150 VDC
Sampling Rate		1000 bps

Digital output Card		
Channels		8 Per card
Relay Type		Signal Relay (Normal Open , Normal Close)
Contact Rating		3 A @ 120 VAC , 3A @ 24 VDC

RTD Input Range

RTD Type	Overall Range
3850(10Ω)	-200 ~ 850°C
3850(46Ω)	-200 ~ 850°C
3850(50Ω)	-200 ~ 850°C
3850(100Ω)	-200 ~ 850°C
3911(10Ω)	-200 ~ 850°C
3911(50Ω)	-200 ~ 850°C
3911(100Ω)	-200 ~ 850°C
3926(10Ω)	-200 ~ 850°C
3926(50Ω)	-200 ~ 850°C
3926(100Ω)	-200 ~ 850°C
CU(10Ω)	-200 ~ 260°C
CU(50Ω)	-50 ~ 180°C
CU(100Ω)	-50 ~ 200°C
Ni(10Ω)	-192 ~ 175°C
Ni(50Ω)	-192 ~ 175°C
Ni(100Ω)	-192 ~ 175°C

Thermocouple Input Range

T/C Type	Overall Range
TC-XK	-250 ~ 1200°C
TC-XA (K)	-250 ~ 1200°C
TC-J	-200 ~ 1200°C
E	-270 ~ 1000°C
T	-270 ~ 400°C
N	-270 ~ 1300°C

Standard Views:

Digital View

- Display maximum 24 channel values
- Display Numerical value and input type of each channel



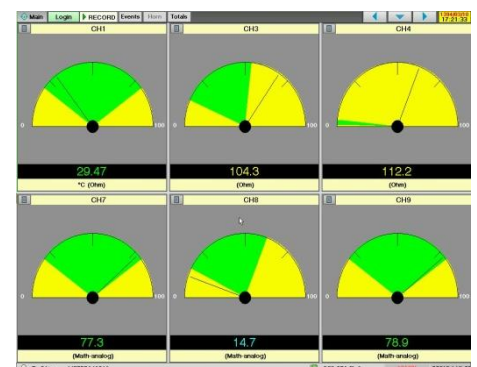
Trend View

- Display maximum 8 channel values as a trend diagram
- Ability to define different color for each channel separately
- Display current time and date information (Hijri calendar)
- Display Numerical value and input type of each channel
- Vertical or horizontal trending
- Ability to determine the trend thickness



Meter View

- Display maximum 12 channel values as meter diagram
- Display Numerical value and input type of each channel
- Change color according the range of values defined for each signal



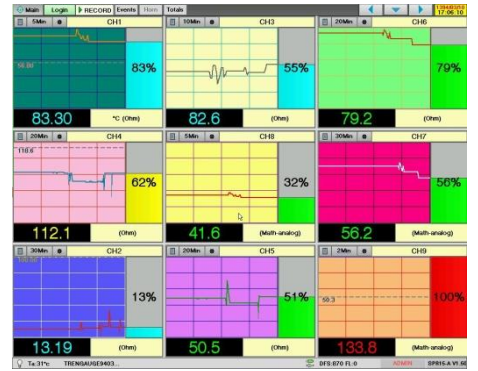
Bar Graph view

- Display maximum 12 channel values
- Bar graph presentation of the analog channels
- Display Numerical value and input type of each channel
- Change color according the range of values defined for each signal



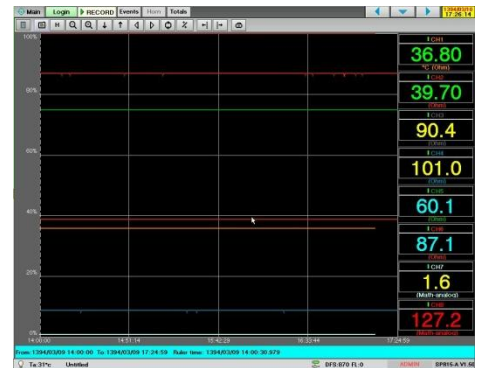
Trend Gauge:

- Up to 15 displays in a page
- Separate trend and bar graph for each channel
- Zooming on each trend
- Separate ruler for each trend
- Numerical data display
- Display Numerical value and input type of each channel
- Change color according the range of values defined for each signal



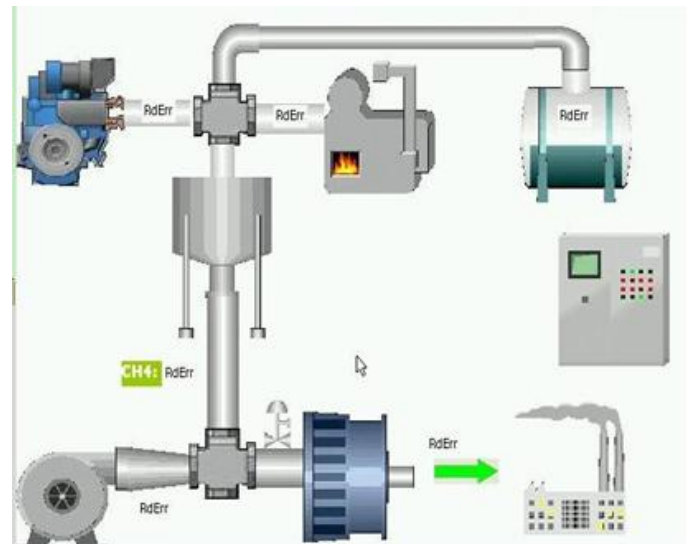
Historical View

- Ability to offline load of maximum 8 channel data
- Ability to define specific time period to load channel data
- Display channels values at any time using ruler
- Vertical or horizontal diagram display



Mimic Diagram

- Ability to design graphic pages or mimic diagram
- The library contains graphics equipment



Mechanical information and installation guide SPR15

