UNIVERSAL DIGITL

TOUCH SCREEN

Color Paperless Recorder

—— Max. 32 Channels, 7inch LCD TFT ——

Model No.: MPR5000ST

General Specifications

GS 18A16D01-01EN

COLOR PAPERLESS RECORDER
TOUCH SCREEN, UNIVERSAL INPUT
MPR5000ST

■ Overview

MPR5000ST is touch screen universal color paperless recorder, max 32 channels, high accuracy, universal use, easy operation, to be aimed to display, measurement the processes parameters such as temperature, humidity, pressure, flow, vibration etc in various industrial application.

■ Feature

- **High accuracy: +-(0.2%FS +1) digit, 7''TFT LCD Touch Screen**
- **Programmable universal input: T.C., RTD, mA, VDC, mV**
- **Input channels no.: 1,2, 3, 4, 5, 6….32 channels, optional**
- Built in thermocouple automatic cold junction compensation
- **Output: Max. 16 relay ,24VDC feeds, retransmission, optional**
- **RS485 communication port, standard MODBUS-RTU protocol, Ethernet TCP/IP configurable with HMI, SCADA, OPC serve etc.**
- **Flow totalizes with temperature, pressure compensation**
- **Match Function: +, -, x, /, average, max, mini**
- **Powerful** Various curve, barograph, digit for different type display
- **Strong PC software to display data in digital curve, Print and export to excel for further analysis**
- Wide power supply: 100-240VAC; 24VDC

MPR5000ST
7'' color LCD, Touch Screen
Universal Color Paperless Recorder
Installation: 138x138mm, Max.32 channels

Memory Flash Data Saving, Various Screen Display, Easy operation
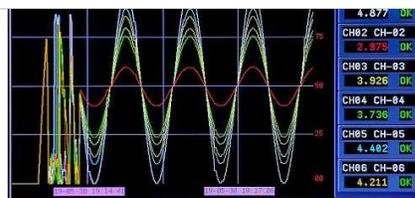

Digital Display 2 channels/screen

Digital Display 6 Channels/screen

Digital Display 32 Channels/screen

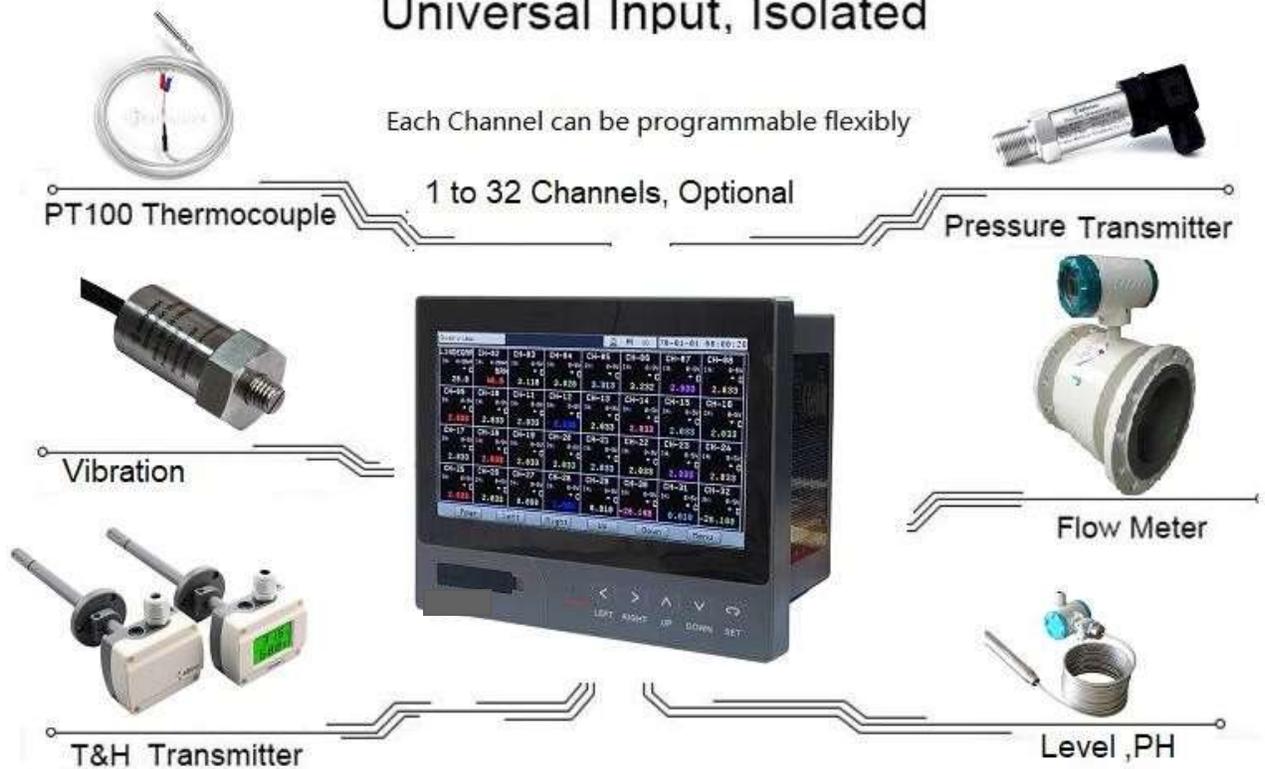**Digital &Barograph Display**

Digital &Curve Display

Digital &Circular Chart Display

Memory Flash Drive Data Saving

Provides flexibility and variety in the handing of record data

Universal Input, Isolated

Each Channel can be programmable flexibly

PT100 Thermocouple

1 to 32 Channels, Optional

Pressure Transmitter

Vibration

Flow Meter

T&H Transmitter

Level ,PH

*Each channel is universal input: Thermocouple, RTD, Analog, MV signals, programable, can be configured with various sensor and transmitter in a recorder for different values reading and memory in industrial application.

* Advanced and powerful touch screen designed: easy and user-friendly screen operation configuration.

USB Pen Driver for Data Transfer Play and Plug, Fast and Easy	Configuration with SCADA, PLC, HMI, OP sever, IOT, CLOUND page flexibly

USB Pen Driver for Data Transfer

Play and Plug

USB PEN DRIVER

Free 8GB USB pen driver and PC software for data transferring to PC automatically , plug and play, easy to operation, data transferred automatically within some minutes when u need to transfer data and insert pen driver

Real Time Data Reading and Monitoring

PC   RS232   RS485 Etherent Converter

USB

RS485/Ethernet

Standard RS485/Ethernet MODBUS protocol, configurable with SCADA, DCS, PLC, HMI, OPC server , IOT, Cloud for real time reading and monitoring in control room remotely, Baud rate: 9600 default,4800,19200; reading and writing functions

■ Dimension (mm)
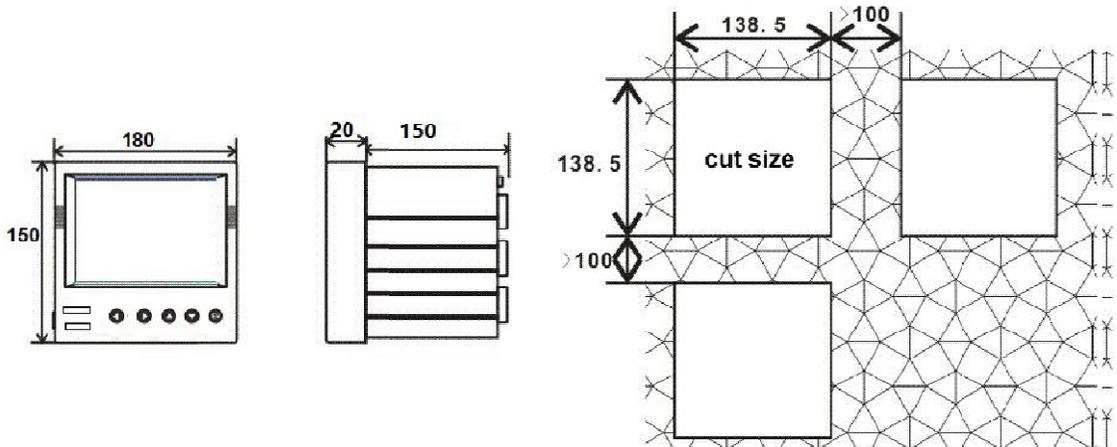
■ Diagram

a. **When input channels ≤16, Relay Output ≤16; When input channels >16, Relay Output ≤8;**
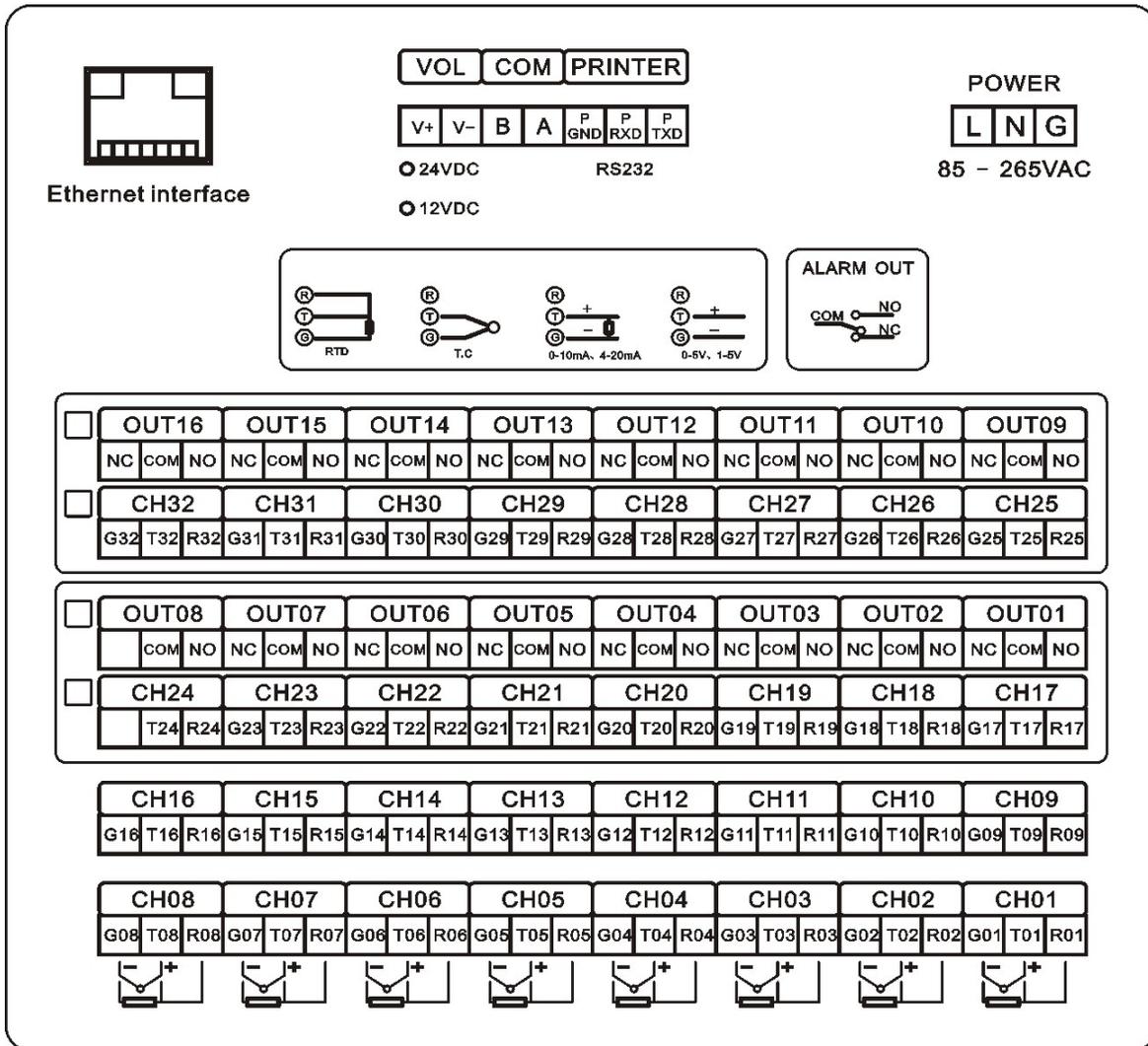
Note: When 4-20ma input, please connect 250ohm resistor in parallel connection in T, G terminal; When 0-10ma input with 500ohm

b. When input channels ≤16, retransmission Output ≤16; When input channels >16, retransmission Output ≤8;

VOL | COM | PRINTER

V+ | V- | B | A | P GND | P RXD | P TXD

○ 24VDC   RS232

○ 12VDC

POWER

L | N | G

85 – 265VAC

Ethernet interface

RTD   T.C   0-10mA、4-20mA   0-5V、1-5V

ALARM OUT

COM — NO
    — NC

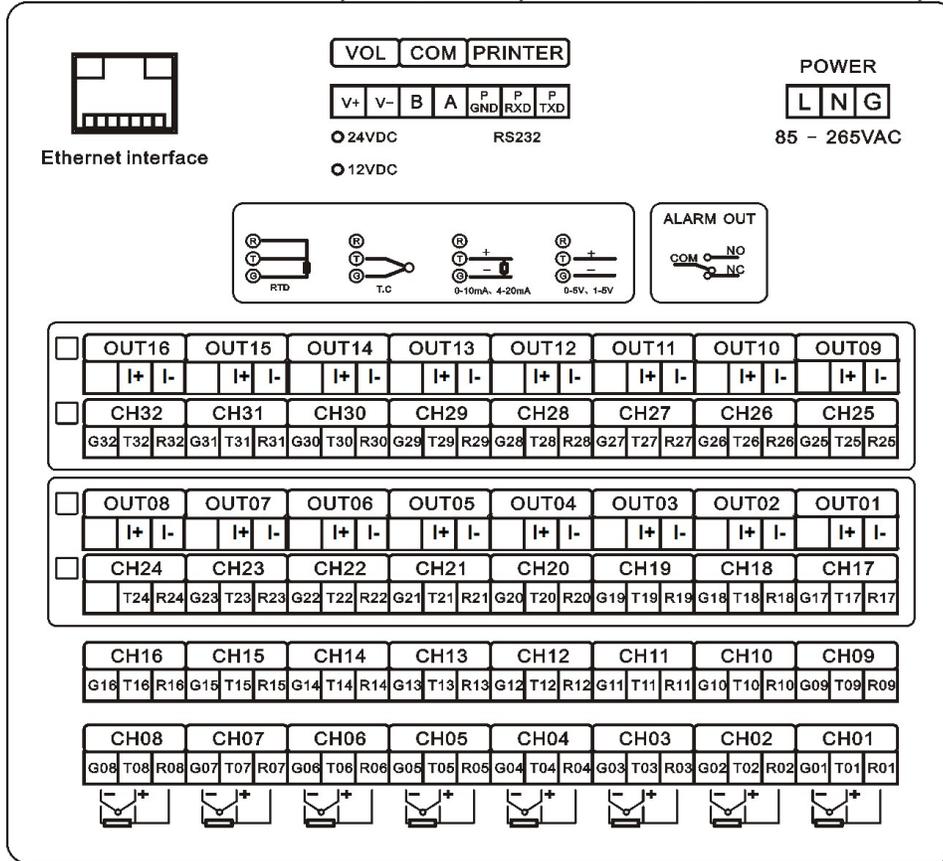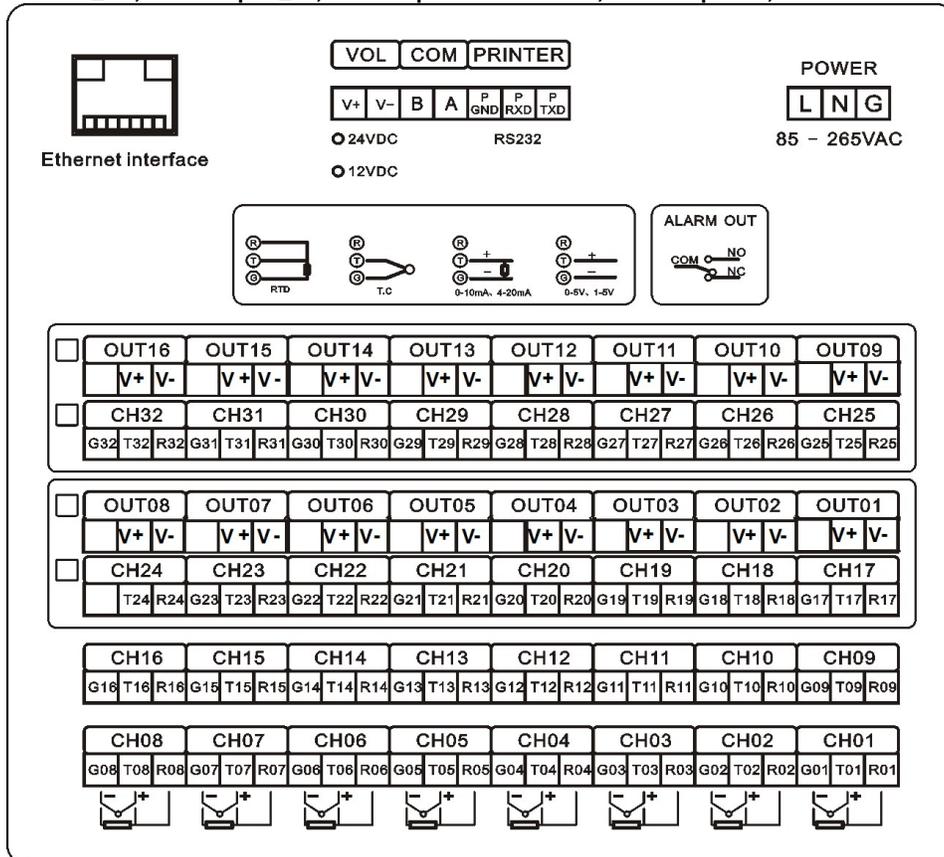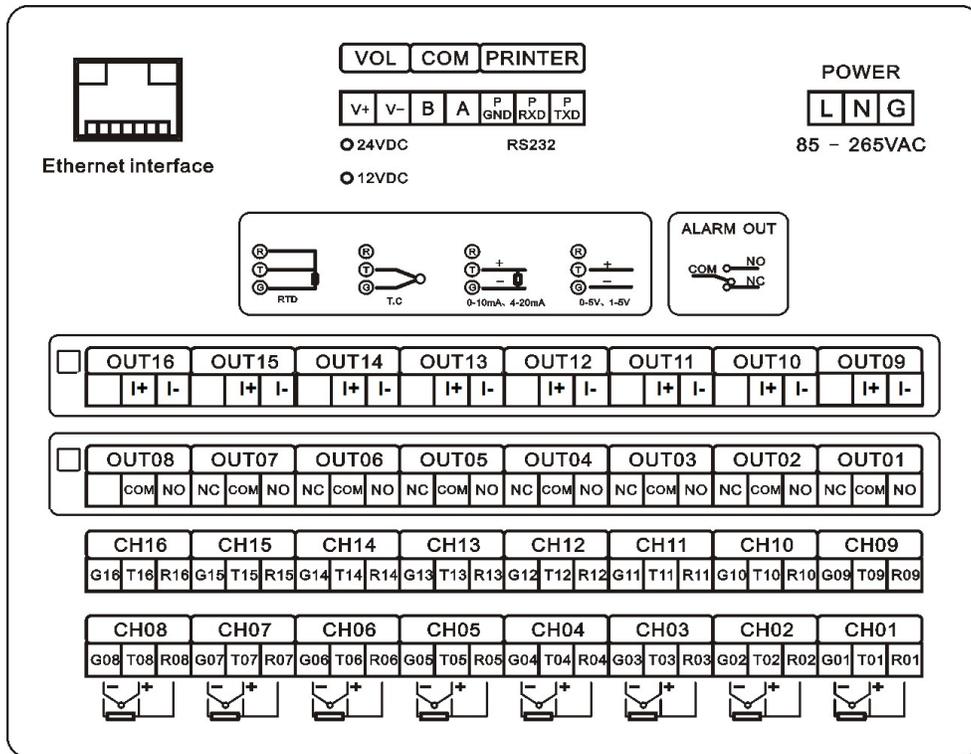| OUT16	OUT15	OUT14	OUT13	OUT12	OUT11	OUT10	OUT09
I+ I-	I+ I-	I+ I-	I+ I-	I+ I-	I+ I-	I+ I-	I+ I-

CH32	CH31	CH30	CH29	CH28	CH27	CH26	CH25
G32 T32 R32	G31 T31 R31	G30 T30 R30	G29 T29 R29	G28 T28 R28	G27 T27 R27	G26 T26 R26	G25 T25 R25

OUT08	OUT07	OUT06	OUT05	OUT04	OUT03	OUT02	OUT01
I+ I-	I+ I-	I+ I-	I+ I-	I+ I-	I+ I-	I+ I-	I+ I-

CH24	CH23	CH22	CH21	CH20	CH19	CH18	CH17
T24 R24	G23 T23 R23	G22 T22 R22	G21 T21 R21	G20 T20 R20	G19 T19 R19	G18 T18 R18	G17 T17 R17

CH16	CH15	CH14	CH13	CH12	CH11	CH10	CH09
G16 T16 R16	G15 T15 R15	G14 T14 R14	G13 T13 R13	G12 T12 R12	G11 T11 R11	G10 T10 R10	G09 T09 R09

CH08	CH07	CH06	CH05	CH04	CH03	CH02	CH01
G08 T08 R08	G07 T07 R07	G06 T06 R06	G05 T05 R05	G04 T04 R04	G03 T03 R03	G02 T02 R02	G01 T01 R01

c. When input channels≤ 16, feed Output ≤16; When input channels >16, feed Output <8;

VOL | COM | PRINTER

V+ | V- | B | A | P GND | P RXD | P TXD

○ 24VDC   RS232

○ 12VDC

POWER

L | N | G

85 – 265VAC

Ethernet interface

RTD   T.C   0-10mA、4-20mA   0-5V、1-5V

ALARM OUT

COM — NO
    — NC

OUT16	OUT15	OUT14	OUT13	OUT12	OUT11	OUT10	OUT09
V+ V-	V+ V-	V+ V-	V+ V-	V+ V-	V+ V-	V+ V-	V+ V-

CH32	CH31	CH30	CH29	CH28	CH27	CH26	CH25
G32 T32 R32	G31 T31 R31	G30 T30 R30	G29 T29 R29	G28 T28 R28	G27 T27 R27	G26 T26 R26	G25 T25 R25

OUT08	OUT07	OUT06	OUT05	OUT04	OUT03	OUT02	OUT01
V+ V-	V+ V-	V+ V-	V+ V-	V+ V-	V+ V-	V+ V-	V+ V-

CH24	CH23	CH22	CH21	CH20	CH19	CH18	CH17
T24 R24	G23 T23 R23	G22 T22 R22	G21 T21 R21	G20 T20 R20	G19 T19 R19	G18 T18 R18	G17 T17 R17

CH16	CH15	CH14	CH13	CH12	CH11	CH10	CH09
G16 T16 R16	G15 T15 R15	G14 T14 R14	G13 T13 R13	G12 T12 R12	G11 T11 R11	G10 T10 R10	G09 T09 R09

CH08	CH07	CH06	CH05	CH04	CH03	CH02	CH01
G08 T08 R08	G07 T07 R07	G06 T06 R06	G05 T05 R05	G04 T04 R04	G03 T03 R03	G02 T02 R02	G01 T01 R01

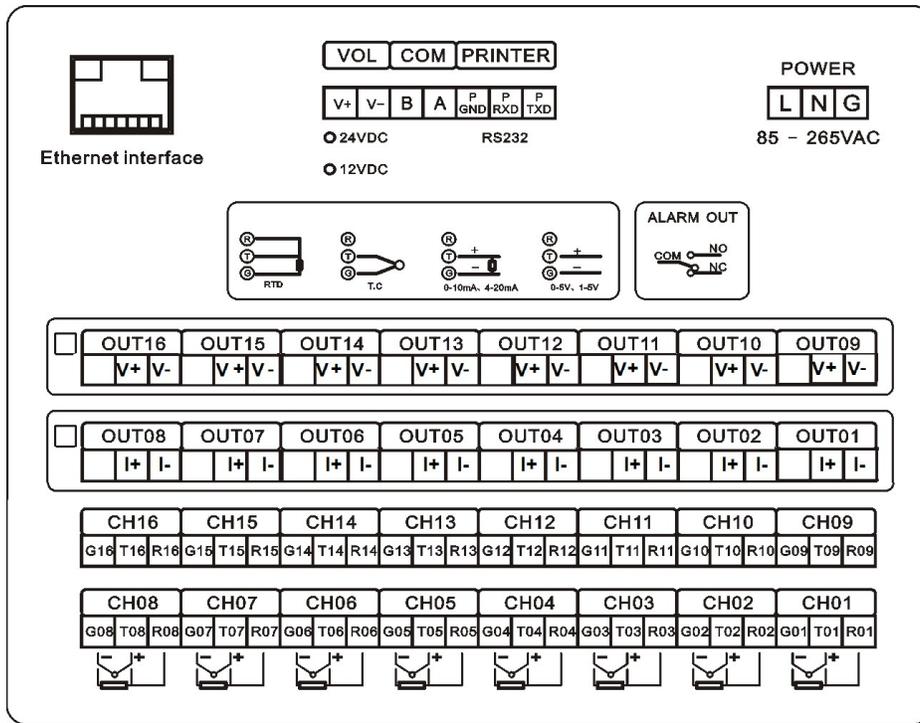**d. When input channels ≤16, relay output≤8+retransmission output≤8**

e. When input channels ≤16, relay output≤8+feed output≤8
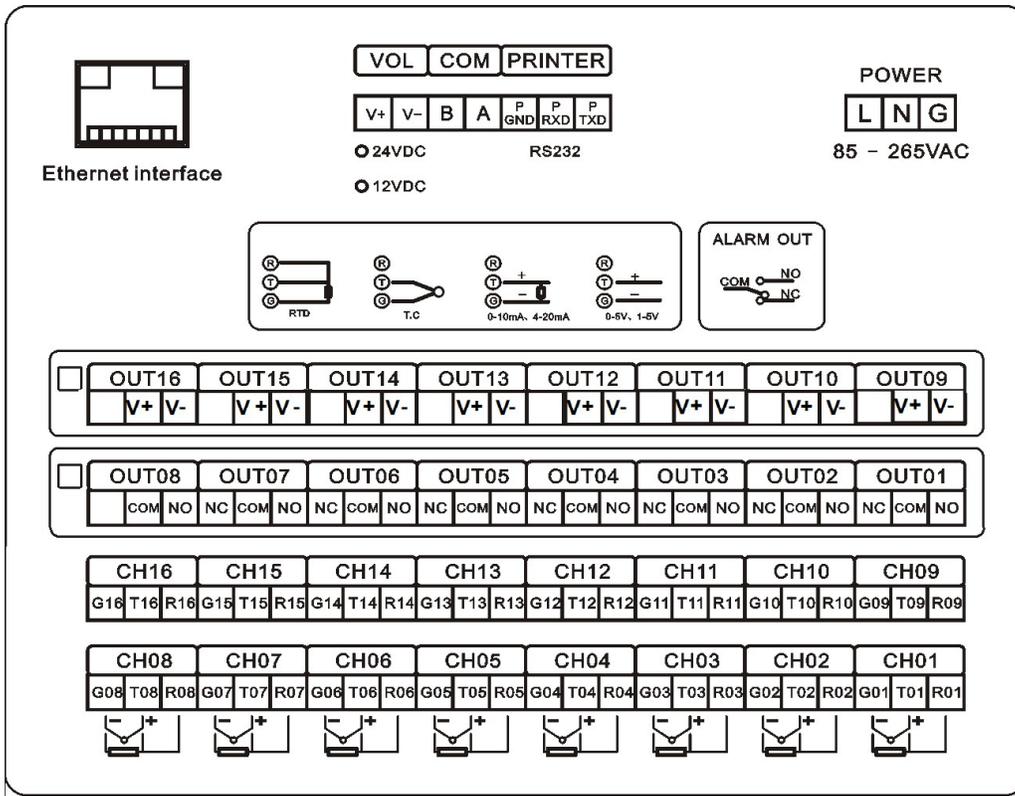
f.   When input channels ≤16, retransmission output≤8+feed output≤8

■ PC Software

PC Software for USB Data Transferring, standard default
Used for history data checking and further analysis

. History Data will be displayed in digit and trend

. History Data can be exporting the data as Excel for further analysis

. History Data can be printed in the curve by printer directly

. Flow Totalizer data display in shifty, weekly, monthly

Suitable for PC Version: Window 2000/XP, VISTA, Win7, 8, 10
Installation: Please copy our software in your PC directly

DCS Software for RS485, Ethernet Communication
Optional, Used for real time mornitoring&reading
while memory automatically

. Data in will be displayed in digit and curve

. History Data can be exporting the data as Excel for further analysis

. History Data can be printed in the curve by printer directly

Suitable for PC Version: Window 2000/XP, VISTA, Win7, 8, 10
Installation: Please copy our software to your PC directly

■ Specification

Input		Input Type		Measured Range	Input Independence
Input No.	1, 2,3, 4,5,6……32, optional	**RTD**	**Pt100**	-200 to 600℃	>20MΩ
Thermocouple Input	K, J, T, E, R, S, B, N, Wre526, Wre325		**CU50**	-50 to150℃	>20MΩ
RTD Input	Pt100, CU50, CU100		**CU100**	-50 to150℃	>20MΩ
Analog Input	4-20mA, 0-10mA, 0-5V, 1-5V, 0-10VDC	**T.C**	**K**	-50 to 1300℃	>20MΩ
mV Input	0－20mV,0-60mV, 0-100mV, 0-500mV		**J**	0 to 1000℃	>20MΩ
Isolation	photoelectric isolation		**T**	-200 to 350℃	>20MΩ
Accuracy	± (0.2%FS +1) digit		**E**	0 to 800℃	>20MΩ
Resolution	0.1℃ when temperature input		**R**	-50 to 1700℃	> 20MΩ
Sample time	0.5~1 second per 8 channels, independent		**S**	-50 to 1700℃	> 20MΩ
Decimal No.	0-4 programmable; 1 when temperature		**B**	300 to 1800℃	>20MΩ
T.C. cold compensation	Built- in auto. Compensation		**N**	0 to 1300℃	>20MΩ
Compensation Tolerance	Max.±1℃		**Wre526**	0-2300℃	>20MΩ
Channel-GND Isolation	1000VAC		**Wre325**	0-2300℃	>20MΩ
Channels 'Isolation	400VAC	**Analog**	**4-20mA**	-20000 to 20000	250 Ω
Temperature shift	50PPM		**0-10mA**	-20000 to 20000	500Ω
CMR Ratio	85-110dB		**0-5VDC**	-20000 to 20000	500KΩ
T.C. wire resistor	Less than 1000Ω		**1-5VDC**	-20000 to 20000	500KΩ
RTD wire resistor	max1000Ω per wire, should same each wire		**0-10VDC**	-20000 to 20000	500KΩ
Inner CPU	32bits ARM CPU, high performance	**mV**	**0-60mV**	-20000 to 20000	>20MΩ
Hardware watchdog	CPU inner integration for long-term stability		**0-100mV**	-20000 to 20000	>20MΩ

Memory		Display	
Memory Capacity(≤CH16	90days x Record Interval Time/CH numbers	**LCD Size**	7'' color TFT LCD, touch screen
Memory Capacity(≥CH16	180days x Record Interval Time/CH number		
Record interval time	1,2..10…3600seconds, programmable	**LCD Resolution**	640x480 TFT color LCD
CH Numbers	1,2,3,4,5,6…32, ordered total channel 'no.s	**Interval time**	1-3600 seconds, set flexibly
Memory type	Flash memory	**Data Display Type**	Digit, curve, barograph, chart;
Data transfer Media	8GB USB pen driver; 16G, 32G optional	**Background**	50,000hours (lifespan)
Transferred data file	≤CH16: 128MB, ≥CH16: 256MB in recorder	**Screensaver**	0-30,000second, set flexibly
Data File Name	Year/month/Day/Address.dat: 19031801.dat	**Engineer unit**	℃, %, psi,bar,m3/hr, ppm….. programmable
Full capacity memory	earliest data replaced by newest data	**Resolution**	32 Bit AD inner, final resolution:16 bit
Data Format	Binary format or cannot read or write	**Display**	5 digits; Flow totalize:11 digits

Outputs (Option)		Others	
Relay	Max. 16 outputs, programable	**Power Supply**	100-240VAC, 47-63Hz; 24VDC
Retransmission	Max.16 channels, 4-20ma, 0-10ma output	**Consumption**	Maximum 25VA (25W)
Communication	RS485, Ethernet Standard MODBUS-RTU	**Insulation**	Power to ground (housing) > 1500VAC
Printing	RS232 printing port	**Case material**	Metal for case and bezel, acrylic panel (ip20)
Flow Totalize	With temperature pressure compensation	**Mounting**	Panel flush mounting
Math	+,-, x,/, mini, max, average	**Size/Install/N.W.**	180X150X150mm/138X138mm/2.4KG
Feed	Max. 16 output,12VDC,24VDC, max. 125mA	**Working Ambient**	T: 0-50 deg CH: 10%-85 % (No dew)

■ Output Specification (Option)

Relay Output		Flow Totalize	
Output No.	Max. 16 outputs	**Display Type**	Flow rate, Flow totalize, batch totalize
Relay type	NO+NC; 220VAC/30VDC/3A	**Flow rate**	-20000 to 20000, 5 digits
Output type	programmable, Individual output per channel or Common output for all channel,	**Flow Totalize**	0.0 to 2000000000.0, 11digits
Alarming type	HA, HHA, LA, LLA, DIFF. per channel	**Batch Totalize**	0.0 to 200000000.0, 10digits
Alarming display	HA, HHA, LA, LLA will be flashing when alarming occurs in screens	**Decimal no.**	Flow rate: 0-4, Totalizer: 1-5, programable
Serial Communication output		**Compensation**	Temperature, pressure compensation
Output Type	RS485 communication serial port	**Com. Type**	superheating steam, saturated steam, gas linear pressure, linear temperature
Isolation	Photoelectrical isolated	**Square root**	Off, different pressure on, different pressure off
Function	read and write the data and parameter	**Engineer unit**	Flow rate: Kg/h, kg/s, t/h, M3/hr…..
Protocol	Standard MODBUS-RTU protocol		Flow totalize: kg, t, m3….
Baud rate	4800, 9600, 19200		Batch totalize: kg, t,m3…
Address	0-253, programmable	**Retransmission Output**	
Cable	RS485 shielded twisted pair cable	**Output no.& type**	Max. 16 channels, 4-20ma, 0-10ma
Ethernet Communication Output		**Math**	
Output	Ethernet communication output	**Channel no.**	1-32 channels
Isolation	Photoelectrical isolated	**Math type**	Plus.: +, Minus: -, multiply, division: ÷
Function	read and write the data and parameter		Average, Max. Min.
Protocol	Standard MODBUS-TCP/IP protocol	**Decimal No.**	0-4, programmable
Printing Function		**Polyline Math**	
Output Type	RS232 printing port	**Function**	Used for value polyline offset
Data Type	History data in digital or curve	**Channel no.**	1-16 channels
Resolution	240dots/line	**Polyline no.**	0-6, programmable
Interval time	1-30000 seconds, programmable	**Range**	-20000 to 20000
Printing time	Programmable as required	**Decimal no.**	0-4, programmable
Printer (Suggested)		**PC software**	
Type	Dot Matrix, Ribbon mini printer	**PC version**	Window 2000/XP, VISTA, Win7, 8, 10
Resolution	96dots/line,	**PC hardware**	30MB or more
	144dots/line,	**Installation**	Please copy it to your PC directly
	240dots/line	**PC software**	free, Used when USB drive data transfer
size	122.6x66.6x73mm	**Functions**	Display the history data in digital and curve
Cut size	103mm(W)x57mm(H)x65mm(D)		Export the data as excel formal further
Net Weight	1kg		Print the history data in curve by printer
Paper Width	44mm/57mm		Flow totalize display in shift, week, month
Print Width	32mm/48mm	**DCS software**	RS485, Ethernet communication, option
Power supply	5VDC,1.5A	**Functions**	Real time reading, monitoring while memory

■ Order Code

MPR5000S color paperless recorder (installation size：138x138mm)										Description
MPR5000S	-X	-X	-X	-X	-X	-X	-X	-X	-X	MPR5000S universal paperless recorder
Screen	**T**									Touch screen 7inch LCD color TFT
Channels No.	-01									1 channel
	-02									2 channels
	-XX									……………
	-32									32 channels
Communication Output										None
		-C1								photoelectric- isolated RS485 communication
		-C2								photoelectric- isolated RS232 communication
		-C3								photoelectric- isolated Ethernet communication
Flow Totalize, Math Function										None
			-F							Flow totalizer; Math Function
*Relay Output (*As below notes)										None
				-NOC						1 Relay output: NO+NC ,30VDC/3A, 220VAC/3A
				………						………………
				16NOC						16 Relays output: NO+NC ,30VDC/3A, 220VAC/3A
*Retransmission Output (*As below notes)										None
					T					1 Channels' isolated 4-20mA, 0-10mA output
					..					………………………………..
					16T					16 Channels 'isolated 4-20mA ,0-10mA output
Auxiliary power supply										None
						-P3				24VDC auxiliary power supply, max125mA
						-P2				12VDC auxiliary power supply, max 125mA
Print Output										None
							-P			RS232 Printing port for mini printer
Power Supply									-N		100-240VAC
								-D		24VDC
High Resolution 0.01 ℃ of Temperature measurement Specified Functions										None
									SP	Pt100-2:Pt100 input: -100 to 300 ℃, Resolution:0.01degc, Acc.:+-0.05%FS :+-0.2℃ Remove CU100 signal
									SK	K-300:K thermocouple input: -100 to 300℃, Resolution:0.01degc, Acc.:+-(0.05%FS+1) ℃: +-1.2℃；Remove Wre326 signal
									ST	T-300:T thermocouple input: -100 to 300℃, Resolution:0.01degc, Acc.:+0.05%FS :+-1.2℃ Remove Wre526 signal
									SPKT	PT100-2, K-300, T:300 signal all included

MPR5000S color paperless recorder (cutout size：138x138mm)										Description
MPR5000S	-X	-X	-X	-X	-X	-X	-X	-X	-X	MPR5000S universal color paperless recorder
Screen	T									180X150X150mm, Touch screen 7inch LCD color
Channels No.	-01									1 channel
	-02									2 channels
	-XX									……………..
	-32									32 channels
Communication Output										None
		-C1								photoelectric- isolated RS485 communication
		-C2								photoelectric- isolated RS232 communication
		-C3								photoelectric- isolated Ethernet communication
Flow Totalize, Math Function										None
			-F							Flow totalizer; Math Function
*Relay Output (*As below notes)										None
				-NOC						1 Relay output: NO+NC ,30VDC/3A, 220VAC/3A
				………						………………
				16NOC						16 Relays output: NO+NC ,30VDC/3A, 220VAC/3A
*Retransmission Output (*As below notes)										None
					T					1 Channels' isolated 4-20mA, 0-10mA output
					..					………………………………..
					16T					16 Channels 'isolated 4-20mA ,0-10mA output
*Feed output: Auxiliary power supply for transmitter Output (*As below notes)										None
						2P3				2 channels feeds :24VDC output, max. 125mA
						2P2				2 channels feeds :12VDC output, max. 125mA
						……				…...
						16P3				16 channels feeds :24VDC output, max.125mA
						16P2				16 channels feeds :12VDC output, max.125mA
Print Output										None
							-P			RS232 Printing port for mini printer
Power Supply								-N		100-240VAC
								-D		24VDC
High Resolution 0.01 ℃ of Temperature measurement Specified Functions										None
									SP	Pt100-2:Pt100 input: -100 to 300 ℃, Resolution:0.01degc, Acc.:+-0.05%FS :+-0.2℃ Remove CU100 signal
									SK	K-300:K thermocouple input: -100 to 300℃, Resolution:0.01degc, Acc.:+-(0.05%FS+1) ℃: +-1.2℃ ; Remove Wre326 signal
									ST	T-300:T thermocouple input: -100 to 300℃, Resolution:0.01degc, Acc.:+0.05%FS :+-1.2℃ Remove Wre526 signal
									SPKT	PT100-2, K-300, T:300 signal all included

Notes:

1. **Please choose the relative order code for correct functions you need**

E.g.: Order Code: MPR5000ST-06- C1-F-2NOC-N:

MPR5000ST: Universal input, touch screen color paperless recorder

06: 6 channels

C1:RS485 communication output,

2NOC:2 relay output: NO+NC, 3A

F: Flow totalizer with temperature and pressure compensation, math Function,

Power Supply:100-240VAC

Default standard USB function and pc software: USB data transferring and PC software.

*Notes: the function is not required; it Is not required to be chosen in order code.

2. **The terminals are common for input channels >16, relay, retransmission, relay output no., feed outputs**

a.   When input channels ≤16, it supports Relay Output ≤16; When input channels >16, Relay Output ≤8;

b.   When input channels ≤16, It supports Retransmission Output ≤16; When input channels >16, Retransmission Output ≤8

c.   When input channels ≤16, It supports Feeds Output ≤16; When input channels >16, Feeds Output ≤8

d.   When input channels ≤16, it supports Relay Output ≤8+ Retransmission Output ≤8

e.   When input channels ≤16, it supports relay output≤8+feed output≤8

f.   When input channels ≤16, it supports retransmission output≤8+feed output≤8

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