Datasheet

Enhanced Single Loop Digital Display

SUP-2100

Supmea®

Committed to process automation solutions

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Single-loop digital display controller with automatic SMD packaging technology, has a strong anti-jamming capability. Designed with dual-screen LED display, it could display more contents. It can be used in conjunction with various sensors, transmitters to display temperature, pressure, liquid level, speed, force and other physical parameters, and to output alarm control, analog transmission, RS-485/232 communication etc. More than the traditional digital display meters is a new function to restore the factory default parameters, with easier operation and better applicability.

Applications

- Machinery Manufacturing
- Energy Management System
- Laboratory equipment
- Environmental monitoring area
- HVAC system
- Industrial Automation

Features

- High Precision Measurement
- Multiple signal inputs and outputs
- Intelligent control function
- Flexible parameterisation
- High reliability and stability
- Multiple mounting options and sizes

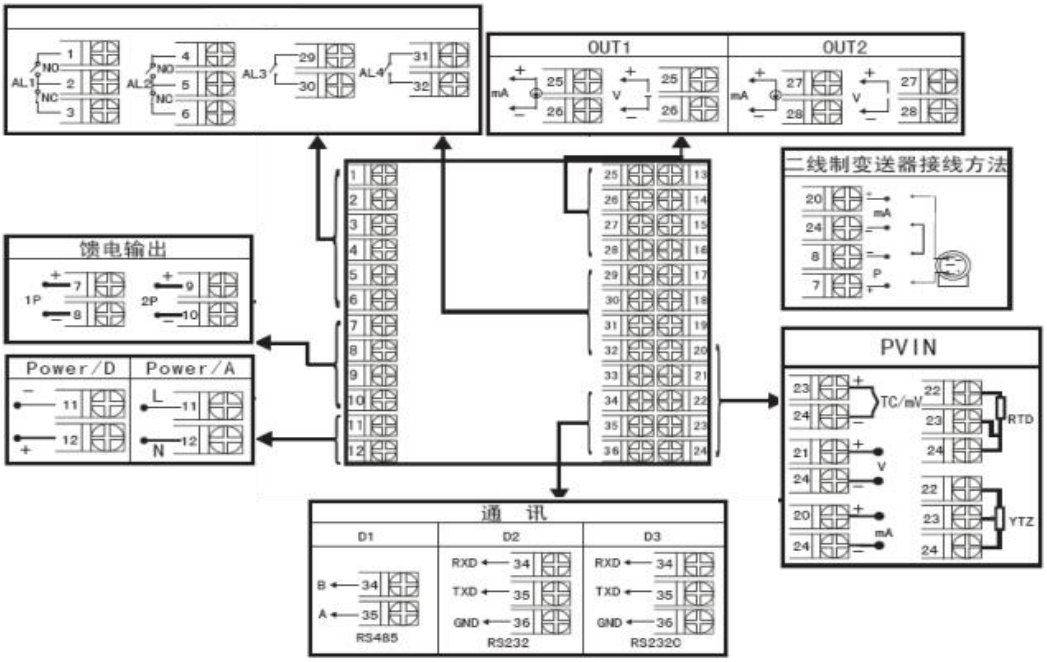
Enhanced Single Loop Digital Display

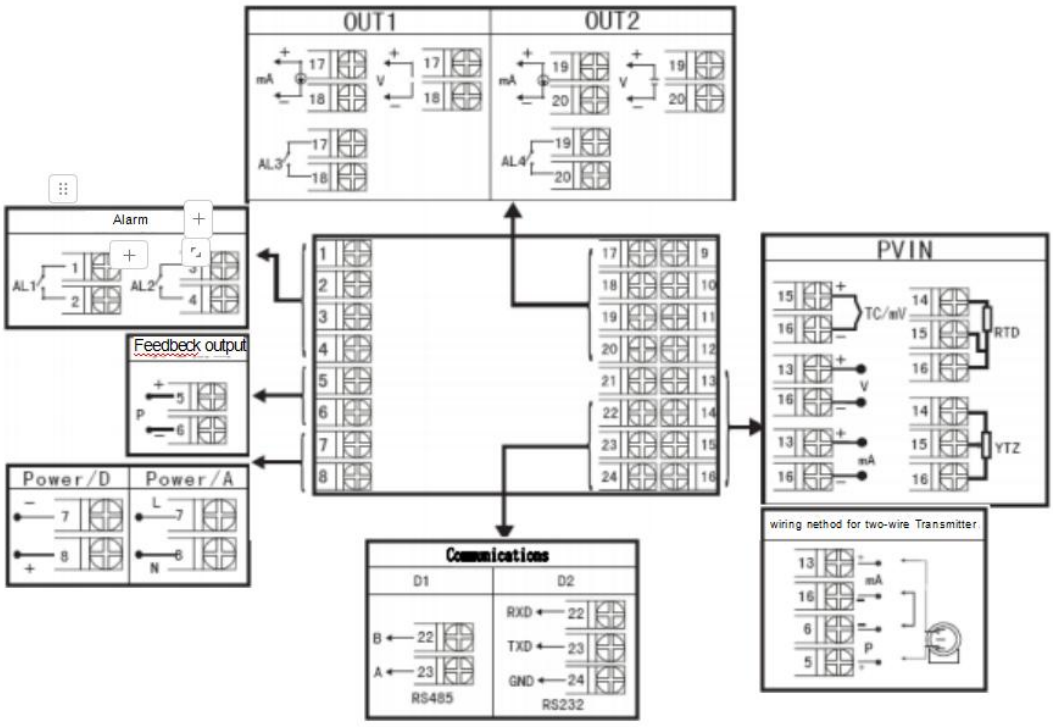
Principle

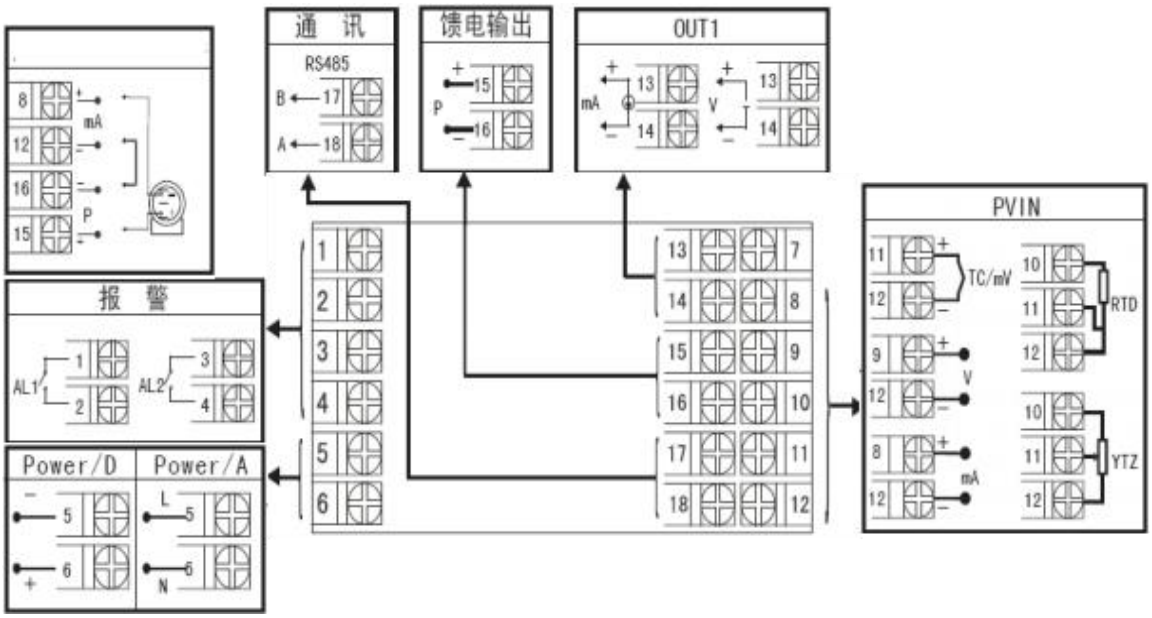
The working principle of the enhanced single loop digital display meter is as follows: It first receives various analog input signals, such as current, voltage, thermocouple, and resistance signals, which come from sensors detecting physical quantities like temperature, pressure, level, etc. These input signals are then converted into digital values through an analog-to-digital converter (ADC). The microprocessor inside the meter takes over, performing advanced digital processing and operations. It uses precise algorithms to linearize nonlinear signals, ensuring highly accurate measurement results. After processing, the measured value is displayed on the digital display screen in a clear and intuitive manner, usually in the form of dual LED digital display or with an additional high-precision bar graph display. Meanwhile, based on preset parameters and control logic, it can generate corresponding output signals, like 4 - 20mA current output for transmitting data to other control systems, relay output for alarm and control functions, and RS-485 or other communication interface signals for data exchange with computers, PLCs, etc., achieving effective measurement, display, and control in different application scenarios.

Parameters	
Accuracy	0.2%FS±1 bit
Setting Model	Panel touch key parameter setting values locking; store the setting values permanently
Display Style	-1999 ~ 9999 display range 0 ~ 100% measured value lightness bargraph display; LBD display for working state
Working Environment	Ambient temperature: 0 ~ 50 ℃; Relative humidity: ≤ 85% RH; Far from strong corrosive gas
Power Supply	AC 100 ~ 240V, (50/60HZ); DC 20 ~ 29V
Power	≤5W
Frame	Standard snap-on
Communication	Standard MODBUS communication protocol, RS-485, communication distance up to 1 km, RS-232 ,communication distance up to 15 meters Note: While with communication function, the communication converter should be a active one.

Wiring


OUT1
OUT2
AL1
AL2
AL3
AL4
NO
NC
馈电输出
1P
2P
Power/D
Power/A
二线制变送器接线方法
PVIN
TC/mV
RTD
YTZ
通 讯
D1
D2
D3
RXD
TXD
GND
RS485
RS232
RS232C


OUT1
OUT2
Alarm
AL1
AL2
AL3
AL4
Feedbeck output
Power/D
Power/A
PVIN
TC/mV
RTD
YTZ
wiring nethod for two-wire Transmitter
Communications
D1
D2
RXD
TXD
GND
RS485
RS232


通 讯
RS485
B
A
馈电输出
P
OUT1
mA
V
报 警
AL1
AL2
Power/D
Power/A
L
N
PVIN
TC/mV
RTD
YTZ

Dimension

Dimensions/code
160*80mm (Horizontal)/A
80*160mm (Vertical)/B
96*96mm (squarely)/C
96*48mm (Horizontal)/D
48*96mm (Vertical)/E
72*72mm (squarely)/F
48*48mm (squarely)/H
160*80mm (Horizontal / beam)/K
80*160mm (Vertical / beam)/L
96*96mm (squarely)/M

Print function

Print function

1. Manual print

In the state of measuring screen, press the button to print the current real-time measured values.

2. Regular print

Every interval time, the instrument will control the printer to print the current real-time measured values.

Printing format as followed:

TIME PRINT

2009-05-16 ----------Date

09：46：03 ----------Time

PV=-250℃ ---------- Measured values

ALM：○○○● ---------- Alarm Status

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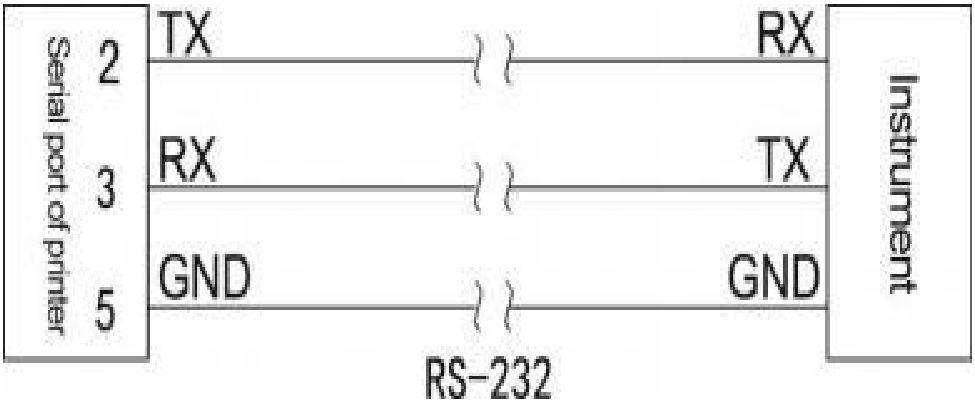
3. Wiring



Ordering code

SUP-2100 -H1-00-00-00-0-E1-P3-T1-E1								Description
SUP-2100	-	-	-	-	-	-	-	
Dimension	H1							160×80×110mm（horizontal）
	S1							80×160×110mm（titular）
	F1							96×96×110mm（square）
	H2							96×48×110mm（horizontal）
	S2							48×96×110mm（titular）
	F2							72×72×110mm（square）
	F3							48×48×110mm（square）
	H4							light bar display，160×80×110mm（horizontal）
	S4							light bar display，80×160×110mm（titular）
	F4							light bar display，96×96×110mm（square）
Input		W						universal input
Output1			00					None
			A1					4-20mA
			V1					1-5V
			V2					0-10V
			XX					other
Output2				00				None
				A1				4-20mA
				V1				1-5V
				V2				0-10V
				XX				other
communication output					00			None
					R1			RS485
					XX			other
Alarm output						0		None
						3		1-channelSPDT
						4		2-channelSPDT
						A		2-channelSPDT+1-channelSPST
						B		2-channelSPDT+2-channelSPST
Power supply and distribution output							E1	220VAC，1-channel24VDC
							E0	220VAC，None
							E2	220VAC，2-channel24VDC
							C1	24VDC，1-channel24VDC
							C0	24VDC，None
							C2	24VDC，2-channel24VDC