Datasheet

Dual-loop digital display controller

SUP-2200

Supmea®

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Dual-loop digital display controller with automatic SMD packaging technology has a strong anti-jamming capability. 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. Designed with dual-screen LED display, you can set the displaying contents of upper and lower screen, and through mathematic function you can make addition, subtraction, multiplication and division to the two input loop input signals, and it has a very good applicability.

Applications

- Water Treatment and Drainage Engineering
- Complex industrial production processes
- Environmental control systems
- Pharmaceutical and food processing industry
- Water Treatment and Drainage Engineering

Features

- Dual-channel high-precision measurement
- Compatible with a wide range of signal inputs
- Intelligent Alarm and Control
- Powerful data processing capabilities
- Flexible communication network
- High Reliability Design
- Compact and easy to install

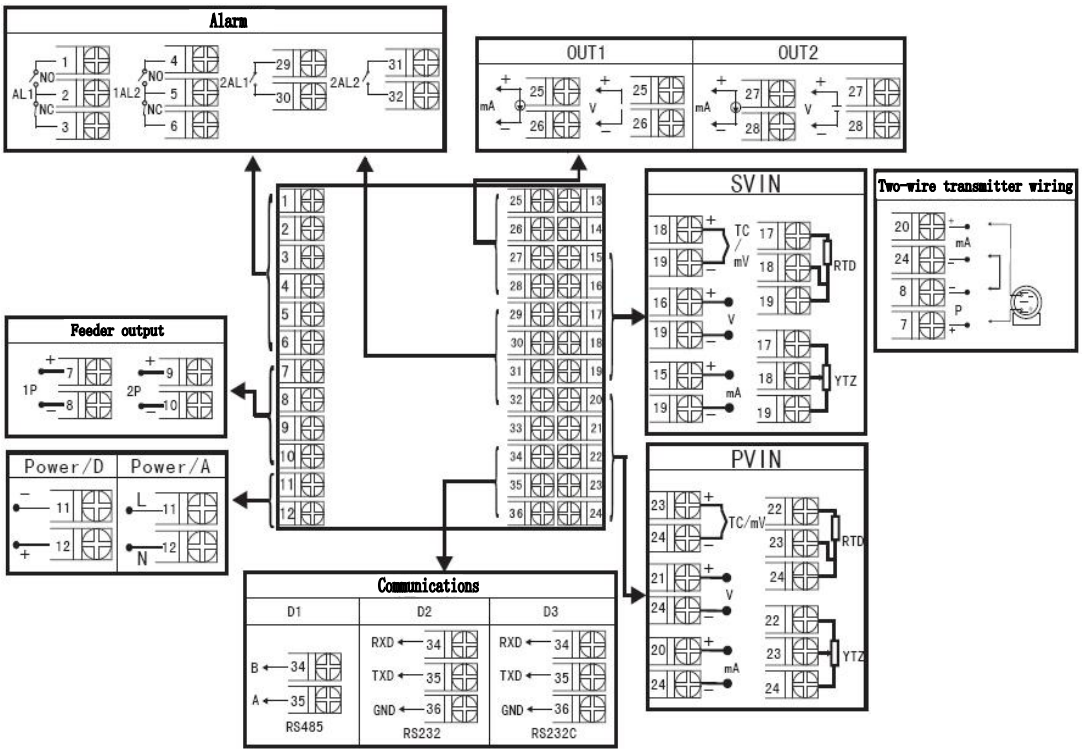
Dual-loop digital display controller

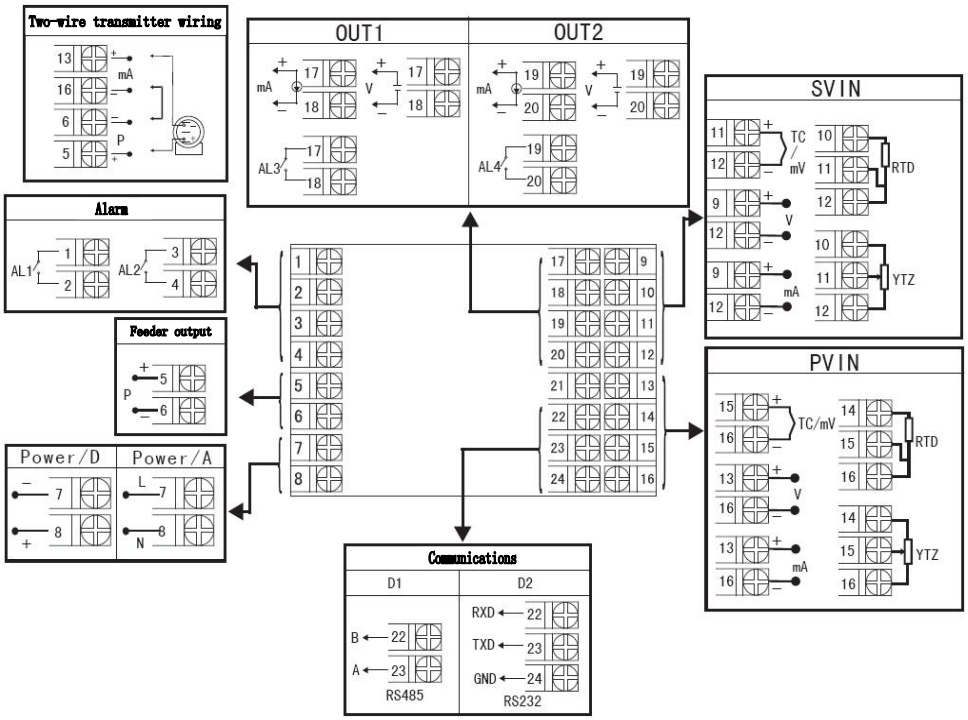
Principle

The working principle of the dual loop digital display meter is as follows. Firstly, it is equipped with two independent measurement channels. Each channel can receive a variety of analog input signals, such as current, voltage, thermocouple, and resistance signals, which are transmitted from different sensors detecting various physical quantities. These input signals are then converted into digital signals through analog-to-digital converters (ADCs). After that, a high-performance microprocessor inside the meter processes the digital signals. It not only conducts basic linear correction but also performs complex operations on the data of the two channels, like calculating the difference or ratio, to meet specific process requirements. The processed measurement results are simultaneously and clearly displayed on the dual-screen or large-screen liquid crystal display, showing values, real-time curves, and historical trend graphs. Meanwhile, for each channel, users can independently set upper and lower alarm thresholds. Once the measured value exceeds the set range, an audible and visual alarm will be triggered immediately to alert the staff. Moreover, based on preset conditions, the meter can output relay control signals to achieve automated operations such as equipment start-stop and valve opening and closing. In addition, it supports multiple communication protocols, such as Modbus RTU/TCP and Profibus-DP. Through interfaces like RS-485 and Ethernet, it can exchange data with upper computers (such as DCS and SCADA systems) and communicate with other meters in the industrial Internet of Things architecture to build an intelligent monitoring network.

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


Alarm
AL1
1AL2
2AL1
2AL2
NO
NC
OUT1
OUT2
mA
V
SVIN
PVIN
TC / mV
RTD
YTZ
Two-wire transmitter wiring
Feeder output
1P
2P
Power/D
Power/A
Communications
D1
D2
D3
RXD
TXD
GND
B
A
RS485
RS232
RS232C


Two-wire transmitter wiring
OUT1
OUT2
AL3
AL4
SVIN
PVIN
Alarm
AL1
AL2
Feeder output
P
Power/D
Power/A
Communications
D1
D2
RXD
TXD
GND
B
A
RS485
RS232
TC / mV
RTD
YTZ
mA
V

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
160*80mm (Horizontal / beam)/K
80*160mm (Vertical / beam)/L

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 of Loop 1

SV=-250℃ ---------- Measured values of Loop 2

ALM：○●○● ---------- Alarm Status

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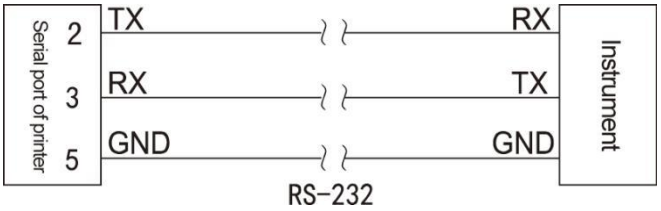
3. Wiring



Ordering code

SUP-2200 -H1-W-00-00-00-0-E1								Description
SUP-2200	-	-	-	-	-	-	-	
	H1							160×80×110mm（horizontal）
	S1							80×160×110mm（titular）
	F1							96×96×110mm（square）
	H2							96×48×110mm（horizontal）
Dimension	S2							48×96×110mm（titular）
	F2							72×72×110mm（square）
	H4							48×48×110mm（square）
	S4							light bar display，160×80×110mm（horizontal）
	F4							light bar display，80×160×110mm（titular）
Input		W						light bar display，96×96×110mm（square）
			00					universal input
			A1					None
Output1			V1					4-20mA
			V2					1-5V
			XX					0-10V
				00				other
				A1				None
Output2				V1				4-20mA
				V2				1-5V
				XX				0-10V
					00			other
communication output					R1			None
					XX			RS485
						0		other
						3		None
Alarm output						4		1-channelSPDT
						A		2-channelSPDT
						B		2-channelSPDT+1-channelSPST
							E1	2-channelSPDT+2-channelSPST
							E0	220VAC，1-channel24VDC
							E2	220VAC，None
Power supply and distribution output							C1	220VAC，2-channel24VDC
							C0	24VDC，1-channel24VDC
							C2	24VDC，None