



Datasheet

Enhanced Single Loop Digital Display

AI-LDI21



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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

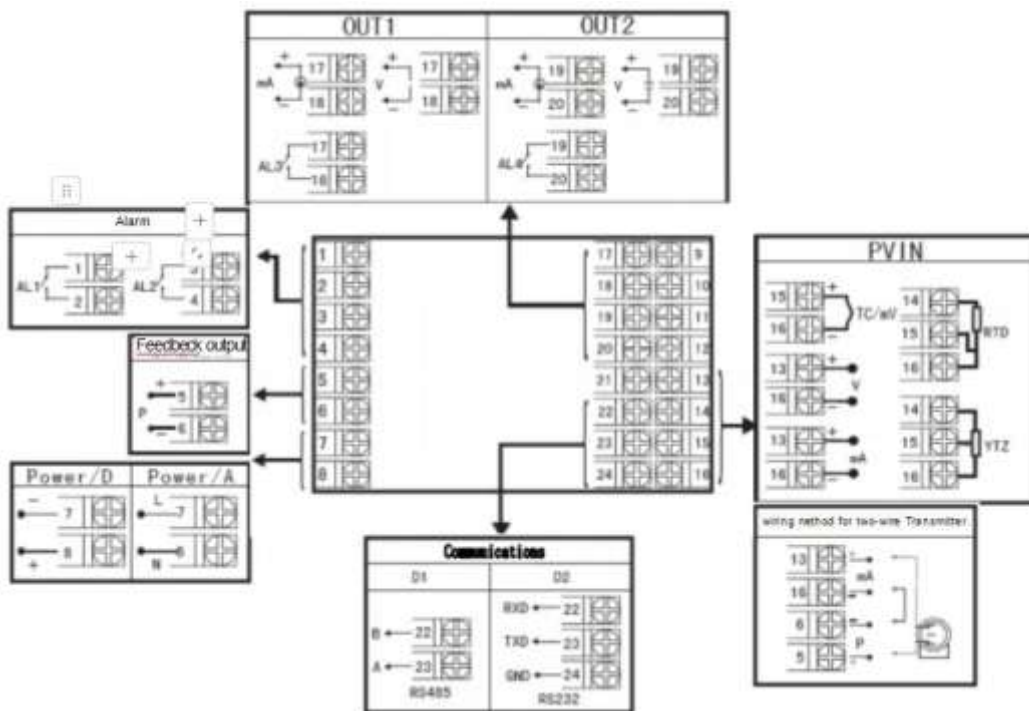
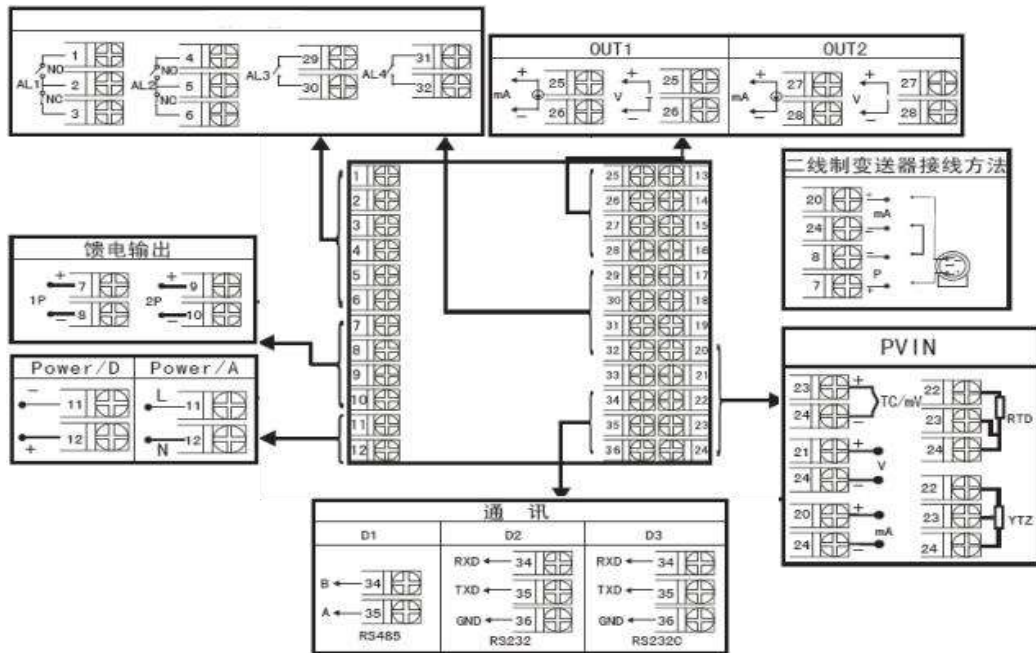
Enhanced Single Loop Digital Display

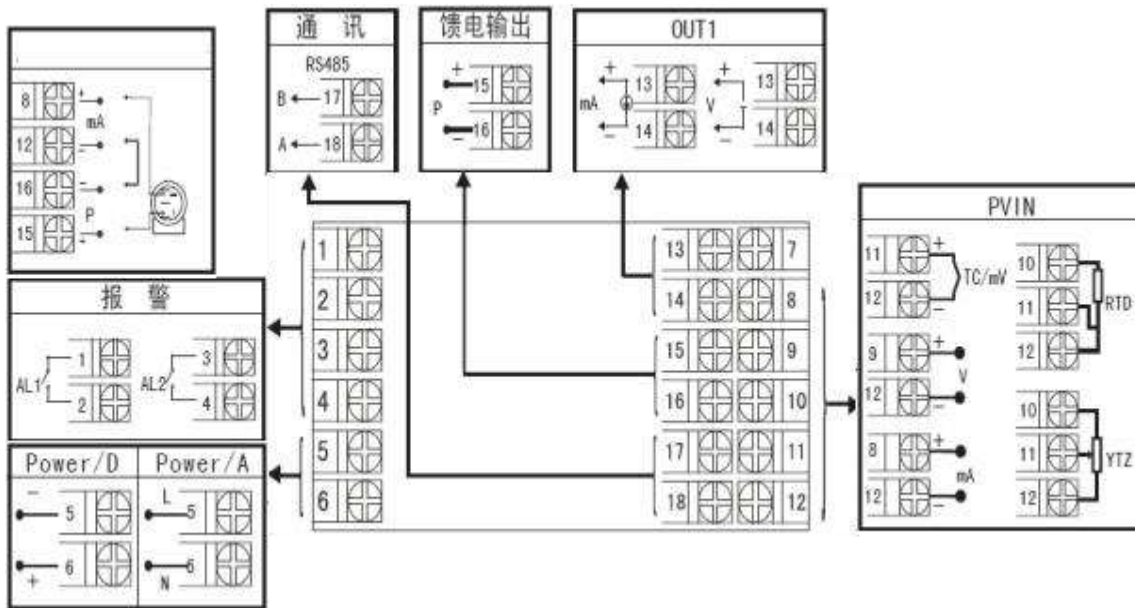
Principle

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 °C; 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





Dimensions

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

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

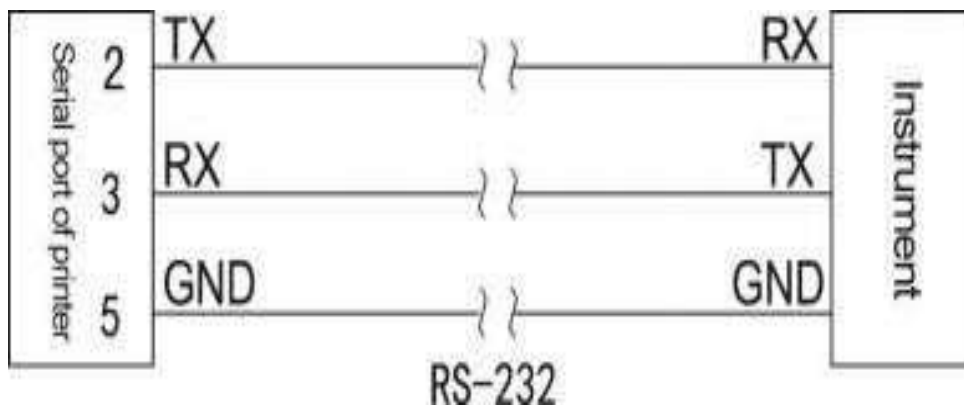
2009-05-16 -----Date

09: 46: 03 -----Time

PV=-250°C ----- Measured values

ALM: ○○○● ----- Alarm Status

3. Wiring



Ordering Code

AI-LDI21-H1-00-00-00-0-E1-P3-T1-	Description
AI-LDI21 - - - - - - H1 S1 F1 H2 Dimension S2 F2 F3 H4 S4 F4 <hr/> Input W 00 A1 Output1 V1 V2 XX <hr/> 00 A1 Output2 V1 V2 XX <hr/> communication output 00 R1 XX <hr/> 0 3 Alarm output 4 A B <hr/> Power supply and distribution output E1 E0 E2 C1 C0 C2	160×80×110mm (horizontal) 80×160×110mm (titular) 96×96×110mm (square) 96×48×110mm (horizontal) 48×96×110mm (titular) 72×72×110mm (square) 48×48×110mm (square) light bar display, 160×80×110mm (horizontal) light bar display, 80×160×110mm (titular) light bar display, 96×96×110mm (square) universal input None 4-20mA 1-5V 0-10V other None 4-20mA 1-5V 0-10V other None RS485 other None 1-channelSPDT 2-channelSPDT 2-channelSPDT+1-channelSPST 2-channelSPDT+2-channelSPST 220VAC, 1-channel24VDC 220VAC, None 220VAC, 2-channel24VDC 24VDC, 1-channel24VDC 24VDC, None 24VDC, 2-channel24VDC



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