Datasheet

Paperless Recorder

AI-RN30

Arka Instruments LLP

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This product is an industrial paperless recorder with a 3.5-inch TFT true-color full-view LCD display. Various types of current, voltage, thermocouple and thermal resistance, and other industry standard signals can be connected to realize the display, recording, overrun monitoring, report, data communication, signal transmission and Flow accumulation, flow temperature and pressure compensation, and other functions.

Applications

- Metallurgy
- Oil
- Chemical
- Paper making
- Food
- Heat treatment
- Water treatment
- PID adjustment

Features

- Up to 18 analog signal input channels, 4 relay alarm outputs.
- 150mA power distribution output and 1 RS-485 communication interface.
- 1 USB data dump interface.
- 64Mb, 96Mb, 128Mb memory available.
- Support boot interface custom writing.
- Support display screenshot function.
- The shell is made of flame retardant material.

Paperless Recorder

Principle

The RN30 paperless recorder works simply. It uses sensors to collect physical signals like temperature and pressure, which are analog. Then, the analog-to-digital conversion unit changes them into digital data for the microprocessor. The microprocessor runs algorithms to analyze data, applies temperature and pressure compensation for flow measurement, and monitors parameters to trigger alarms if needed. Processed data is stored, and it shows real-time data on the LCD as curves, charts or numbers. It also has USB and RS232 interfaces for data transfer.

Parameters	
Display	3.5-inch TFT true-color LCD display, resolution 320*240, high-definition LED backlight
Dimensions	Dimensions: 96mm×96mm×100mm Hole size: 92mm×92mm
Mounting panel thickness	1.5mm~6.0mm
Weight	0.37kg
Power supply	(85~264)VAC, (47~63)Hz (optional 24VDC power supply)
Internal storage	64M Bytes Flash (optional 96M, 128M)
External dump	Support U disk (standard USB2.0 communication interface)
Maximum power consumption	10W
Relative humidity	(10~85)% (no condensation)
Operating temperature	(0~50)℃
Transport and storage conditions	Temperature(-20~60)℃ Relative humidity (5~95)% (no condensation)
Power distribution specification	150mA, 24 VDC
Power down protection	All data are stored in Flash memory to ensure that all historical data and configuration parameters will not be lost due to power failure. The real-time clock is powered by an internal battery after power failure.
Alarm output	Up to 4 channels, relays are normally open contacts, contact capacity 2A /250VAC (resistive load)
Communication interface	1 way RS-485 communication interface
Protocol	Using Modbus communication protocol
The sampling period	1s

Wiring

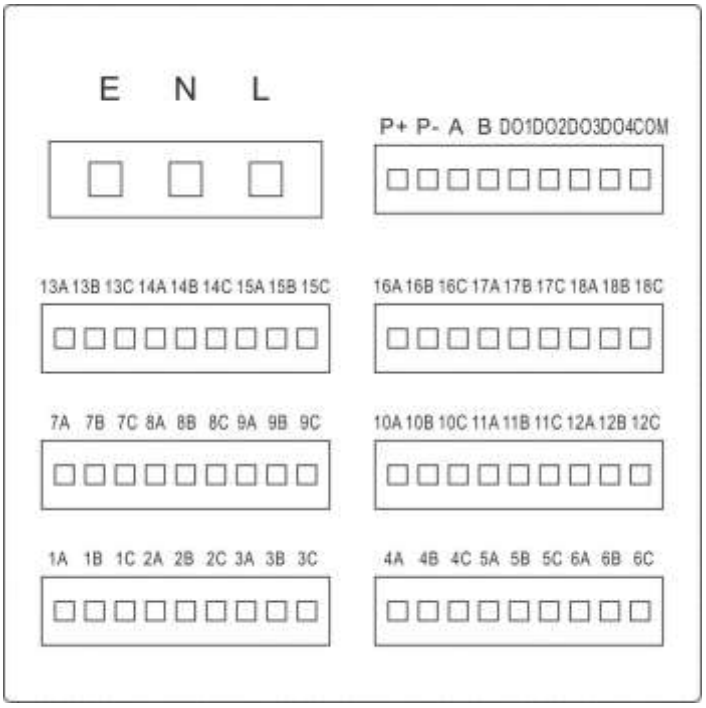


Figure 1 Schematic diagram of basic terminal

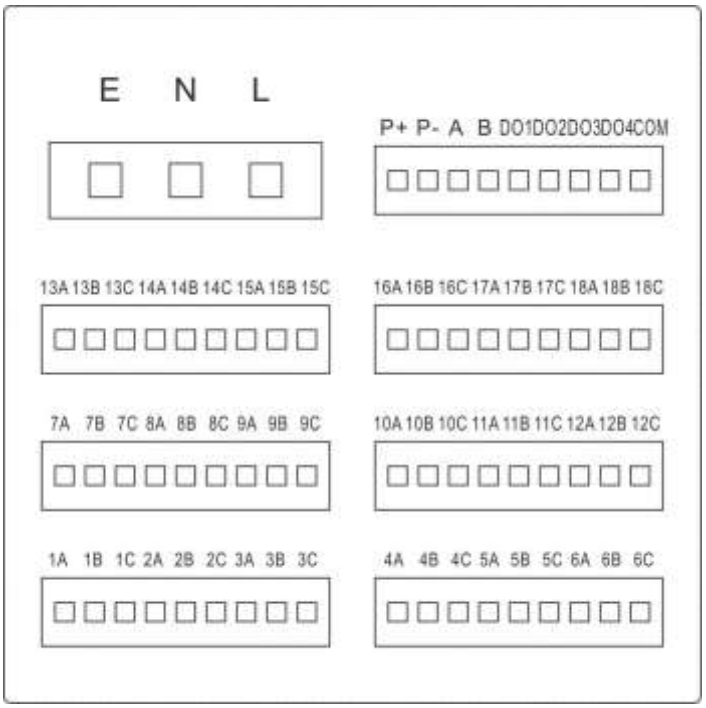


Figure 2 Schematic diagram of enhanced terminals

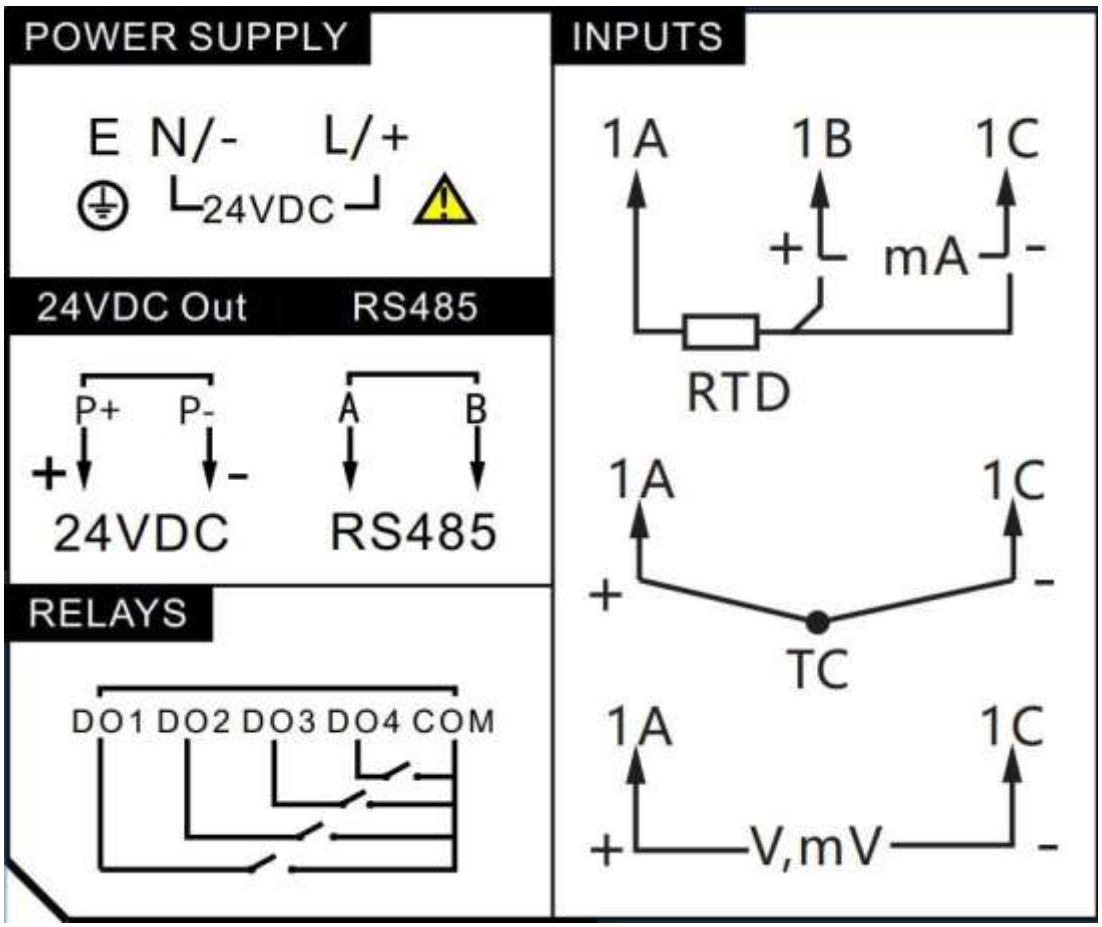
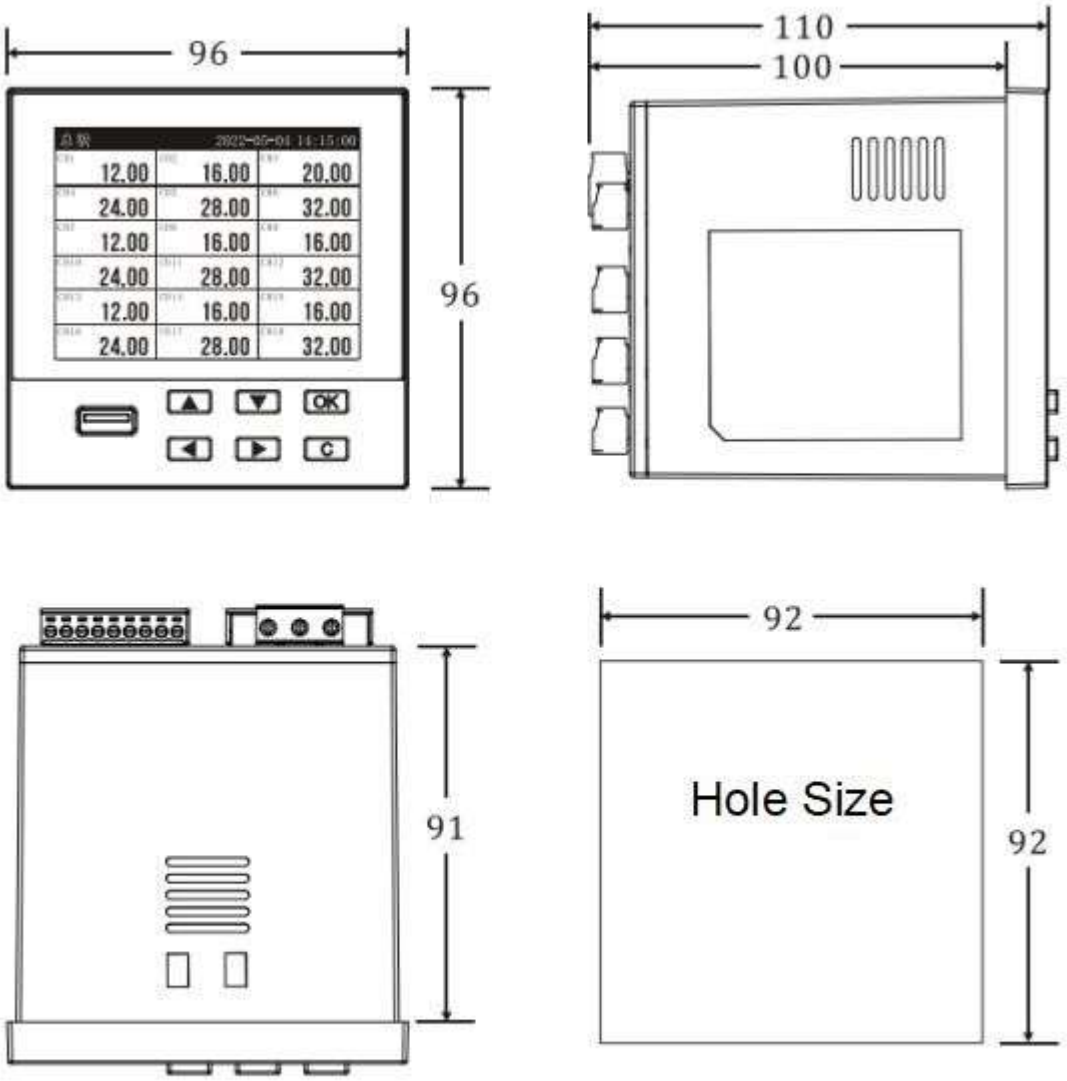


Figure 3 24V wiring diagram

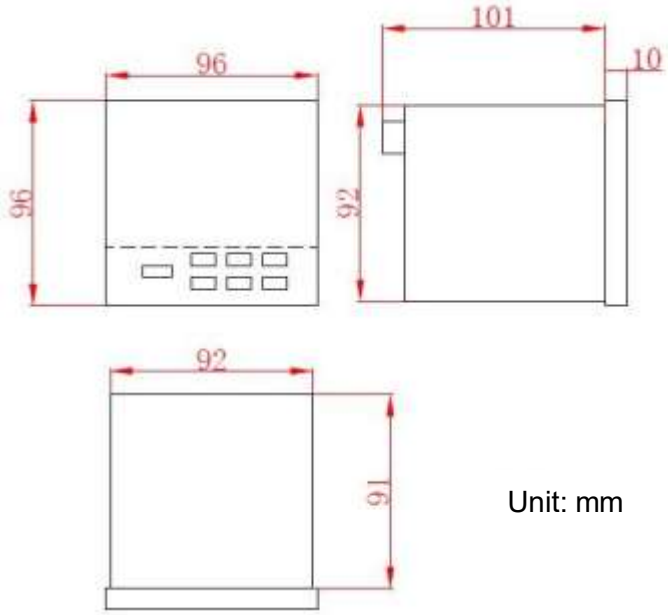
Dimensions



Unit:mm

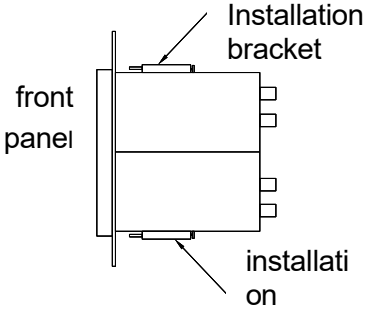
Installation

Dimension drawings

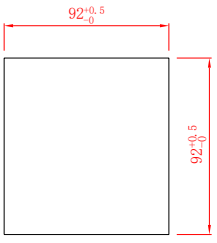


Unit: mm

Installation diagram



Mounting



Unit: mm

Ordering Code

AI-RN30 -01-00-R1-02-1-0-E1							Description
AI-RN30	-	-	-	-	-	-	
Input Channel	01						1
	02						2
	03						3
	04						4
	05						5
	06						6
	08						8
	10						10
	12						12
	14						14
	16						16
	18						18
	XX						other
Converter Output		00					None
		1A					1-channel-20mA
		2A					2-channel-20mA
		4A					4-channel-20mA
		XX					other
Communication Output			R1				RS485
SPST Relay Output				02			2-channel
				04			4-channel
storage capacity					1		64MB
					2		128MB
							None
Computational Function						0	Temperature and pressure compensation
						A	Temperature and pressure compensation+1-channel flow accumulation
						D	Temperature and pressure compensation+2-channel flow accumulation
						E	Temperature and pressure compensation+3-channel flow accumulation
						F	Temperature and pressure compensation+4-channel flow rate accumulation
						G	
Power Supply and Output							E1 220VAC，1-channel24VDC
							C1 24VDC，1-channel24VDC

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