YEYY

Dongguan Youfan Electronic Technology Co., LTD

YEL48-A/B Current detection controller

Ver1.0

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YEYY

Current detection controller

on-product information

Let you quickly understand our products, please read on!

Brand name: YEYY	Brand name: YEYY
Product model: YEL48-A	Product model: YEL48-B
Product name: DC current detection controller	Product name: AC current detection controller
Power supply voltage: DC8~120V	Power supply voltage: DC8~120V/AC220V/AC380V
Detection range: DC0~10A	Detection range: AC0~30A
Resolution: 0.01 A	Resolution: 0.0 1 A
Working environment: ambient temperature, -20° °C~+50°C (no icing) ambient humidity, below 8 5%	Working environment: ambient temperature, -20°C~+50°C (no icing) ambient humidity, below 85%
accuracy:0.1%	accuracy:1%
Shell material: ABS	Shell material: ABS
Output power: 10 A for 7 A continuous	Output power: 10 A for 7 A continuous
Installation method: plug-in	Installation method: plug-in
Shell material: ABS	Shell material: ABS

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Product features

The double row intelligent digital display has a variety of commonly used functions and can freely adjust the output of one relay

Green material

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485 Communications

Green material

48*48 cabinet plug-in shell

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High detection sensitivity and high precision

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mode declaration

pattern	explain
[P]→0	Manual control is to disconnect three and absorb
[P]→ 1	When the detection current is greater than the upper limit value H, the relay is energized [F04] for a time and then disconnected. When the detection current is less than the lower limit value L, the relay is disconnected
[P]→2	When the detection current is less than the lower limit value L, the relay is energized [F04] for a time and then disconnected. When the detection current is greater than the upper limit value H, the relay is disconnected
[P]→3	When the detected current is greater than the lower limit value L and less than the upper limit value H, the relay is disconnected; otherwise, the relay is connected for [F04] time before being disconnected
[P]→4	When the detected current is greater than the lower limit value L and less than the upper limit value H, the relay is energized [F04] for a short time and then disconnected. In other cases, the relay is disconnected
remarks	1. Long press the Settings button to display the version number when powered on. Long press for more than two seconds to restore the factory Settings 2.[F04] Set to 0, the relay is always engaged 3.H or L is set to 0, and the upper or lower threshold function is invalid
reality Applicatio n examples	Function: greater than H is always on until power off; Parameter Settings: [H] Current value: XXXX [L] Current value: 0 [P] Mode: 1 [F04]:0
	Function: greater than H suction and less than H open; Parameter Settings: [H] Current value: XXXX [L] Current value: 0 [P] Mode: 3 [F04]:0
	Function: each time greater than H, 3S; Parameter Settings: [H] Current value: XXXX [L] Current value: 0

	[P] Mode: 3 [F04]:3. 0

explicit declaration

symbol	explain
PV/ up to patent slip	Actual test current value
SV / lower row	Set value H: upper limit value L: lower limit value
OUT	Relay status indicator is on: the relay is activated Burnout: The relay stops
AT	Working status indication: Bright: automatic working state Kill: Manual/power on delay period/set status
AL1	Upper limit alarm indication: Bright: the current is higher than the set upper limit value; Off: the current is lower than the set upper limit value
AL2	Lower limit alarm indicator: Light: the current is lower than the set lower limit value. Out: the current is higher than the set lower limit value

parameter declaration

Parameter code	Parameter functions	parameter declaration	Set the scope	Windows default
H	Upper limit of current		0~99.99A	5.00A
L	Lower limit of current		0~99.99A	2.50A
P	functioning pattern	See [Function Description]	P00~P04	P01
F01	Power-on delay is judged	The power supply is delayed for this time, When the AT indicator is on, it enters the judgment and filters the initial pressure rise and fall stage.	0~10.0S	0.5S
F02	Relay suction delay	Conditions are met beyond that time The relay closes and filters the fluctuations	0~10.0S	0.1S
F03	The relay is delayed in breaking	Conditions are met beyond that time The relay is disconnected to filter the fluctuations	0~10.0S	0.1S
F04	relay-operating time	When set to 0, the relay is always engaged, and when it is not zero, it is engaged for a set time and then disconnected	0~999.9S	0S
F05	Address number	The station must have a unique address. The address range of the station is 0-255, where 0 is the broadcast address, and	0~255	1

		the actual address range of the station is 1-255.		
F06	Baud rate	1:96002 :19200 3:38400 4:576005 :115200	1~5	1
F07	Current correction	1. Correct the zero point before connecting to the current 2. Reconnect the reference current and correct it to the reference current to complete the correction 3. After correction, there is a deviation from the reference current, which can be corrected many times		
F08	Number of sampling cycles	The single collection cycle is 20 MS. The fewer the times, the faster the reaction and the greater the beat; the more the times, the slower the reaction and the smaller the beat	5~30	Ten times

Wire connection instructions

YEL48-A		
silk-screen	explain	remarks
1	Power is positive	Use a guard against reverse connection
2	Power supply is negative	Use a guard against reverse connection
3	NC	Not connected
4	normally	

YEL48-B		
silk-screen	explain	remarks
1	Power is on	Use a guard against reverse connection
2	Power is on	Use a guard against reverse connection
3	NC	Not connected
4	normally open	
5	public	
6	normal close	
7	NC	Not connected
8	NC	Not connected
9	mutual inductor	Current transformers do not have positive or negative polarity
10	mutual inductor	Current transformers are not positive or negative
11	485B	
12	485A	

Key instructions

icon	key	state	Not set	setstate
	set up	Long press	Enter the internal parameter Settings	Exit Settings
		Short press	Enter the normal parameter Settings	Exit Settings
	changing-over	Long press	of no avail	of no avail
		Short press	Switch to display H/L	Switch the setting parameters
	subtract	Long press	of no avail	The parameters are reduced
		Short press	reset	Parameter minus 1
	add	Long press	of no avail	Parameter concatenation
		Short press	Control the relay to engage in the PO mode	Add 1 to the parameter
remarks	Internal parameters: FOX conventional parameters: H/L/P			
give an example	Set the upper limit H: Short press [Setting] H to flash, Adjust the parameter value by pressing [Add key]/[Subtract key], and press [Set] to save it			
	Set the relay suction time F04: long press [Setting] to display FOX, Press [Switch] to adjust the parameter code to F04, press [Add key]/[Subtract key] to adjust the parameter value and press [Set] to save			
	Set mode P: short press [Set]H to flash, short press [Switch] to adjust to P press [Add key]/[Subtract key] to adjust the parameter value, and then short press [Set] to save			

Basic communication parameters

protocol	MODBUS RTU
FC	Function codes 03H,06H and 10H
communication interface	RS-485
encoding	Hexadecimal
data bit	8
parity check bit	not have
stop bit	1
Baud rate	The default is 9600
Address number	Default 1

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Register address

Register address (16-bit)	Register address (10 digit)	PLC or configuration address	data type	attribute	content	Set the scope	unit	explanatory note
01H	1	40002	uint	RW	Upper limit of current	0~9999	0.1A	2000 is 20.00A
02H	2	40003	uint	R/W	Lower limit of	0~9999	0.1A	1000 is

					current			10.00A
03H	3	40004	uint	RW	functioning pattern	0~4	--	
04H	4	40005	uint	R/W	Power-on delay is judged	0-100	0.1s	5 is 0.5s
05H	5	40006	uint	R/W	Relay suction delay	0~100	0.1s	5 is 0.5s
06H	6	40007	uint	R/W	The relay opens with a delay	0-100	0.1s	5 is 0.5
07H	7	40008	uint	R/W	relay-operating time	0-9999	0.1s	5 is 0.5s
08H	8	40009	uint	R/W	Address number	0-255	_	
09H	9	40010	uint	RW	Baud rate	1-5	--	
0AH	10	40011	uint	R/W	Current correction	0-9999	0.1A	2000 is 20.00A
0BH	11	40012	uint	R/W	Number of sampling cycles	5~30	--	
0CH	12	40013	uint	R	Relay state 1 closed 0 open	_	--	
0DH	13	40014	uint	R	Manual/automatic 1 automatic 0 manual	_	_	
0EH	14	40015	uint	R	Upper limit alarm 1 alarm 0 no alarm	--	--	
0FH	15	40016	uint	R	Lower limit alarm 1 alarm 0 no alarm	_		

MODBUS RTU Frame format

message format	length	explain
device address	One byte	The device address range is 1-255 (00H-FFH). 0 (0H) is the broadcast address.
FC	One byte	The device can only use the following function codes for communication 03H,06H,10H.
data segment	elon gate	
CRCL check code (lower byte)	One byte	CRC verification: The MODBUS RTU protocol requires each message The last two are CRC check codes, which are calculated by the CRC-16 algorithm.
CRCH check code (high byte)	One byte	

For example, set the upper limit of current to 20.00 A

command information		
device address	01H	
FC	06H	
Register address	00H	high byte
	01H	lower byte
Data content	00H	high byte
	C8H	lower byte

Respond to messages		
device address	01H	
FC	06H	
Register address	00H	high byte
	01H	lower byte
Data	00H	high byte

check code	D9H	lower byte
	9CH	high byte

For example, read the upper limit of the current, such as 20.00 A

command information		
device address	01H	
FC	03H	
register start address	00H	high byte
	01H	lower byte
register Unit length	00H	high byte
	01H	lower byte
check code	D5H	lower byte
	CAH	high byte

Respond to messages		
device address	01H	
FC	03H	
Number of bytes	02H	
Data content	00H	high byte
	C8H	lower

For example, if you set both the upper limit value of the current value 20.00 A and the lower limit value of the current value 10.00 A, you need to use the 10 H function code

command information		
device address	01H	
FC	10H	
register start address	00H	
	01H	
register Unit length	00H	high byte
	02H	lower byte
Write the number of words	04H	
	00H	The upper byte of

command information		
device address	01H	
FC	10H	
register start address	00H	high byte
	01H	lower byte
register Unit length	00H	high byte

data N (Number of bytes)		the current limit
	C8H	Upper limit of current in low byte
	00H	The upper byte of the current limit
	64H	The lower byte of the current limit
check code	B2H	lower byte
	76H	high byte

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Communication example

function	command frame	response frame
Set the upper limit of current to 20.00 A	0106000100 C8 D99C	0106000100 C8 D99C
Set the lower limit of current to 10.00 A	01060002006429 E1	01060002006429 E1
Query relay status	0103000C 00014409	0103020000 B844

Analysis diagram

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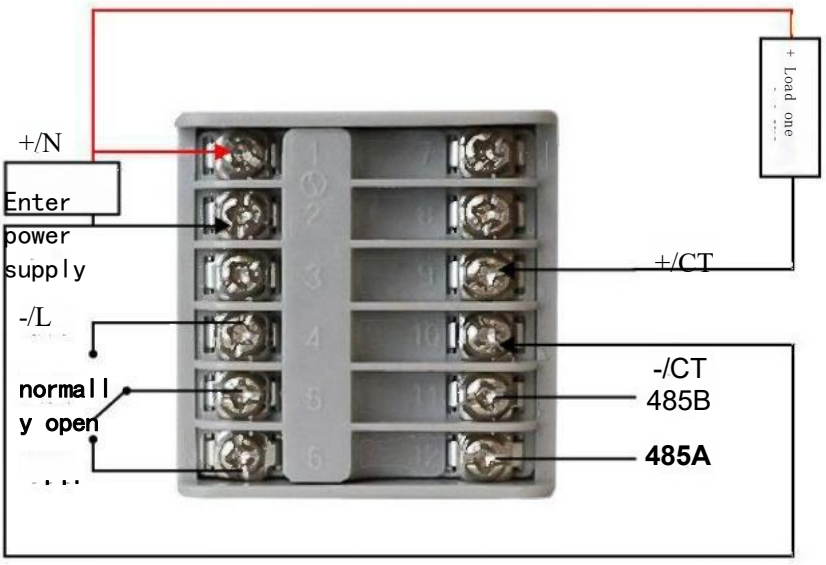
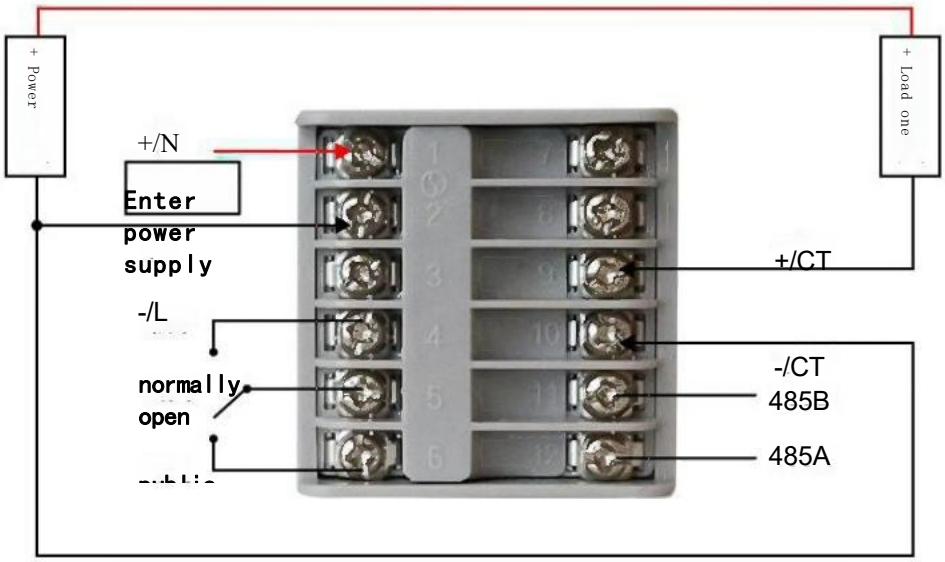
YEL48-A direct power supply wiring diagram



Note: The current detection input terminal of this wiring mode cannot be reversed, otherwise the positive and negative poles will be short circuit

YEL48-A Independent power supply wiring diagram



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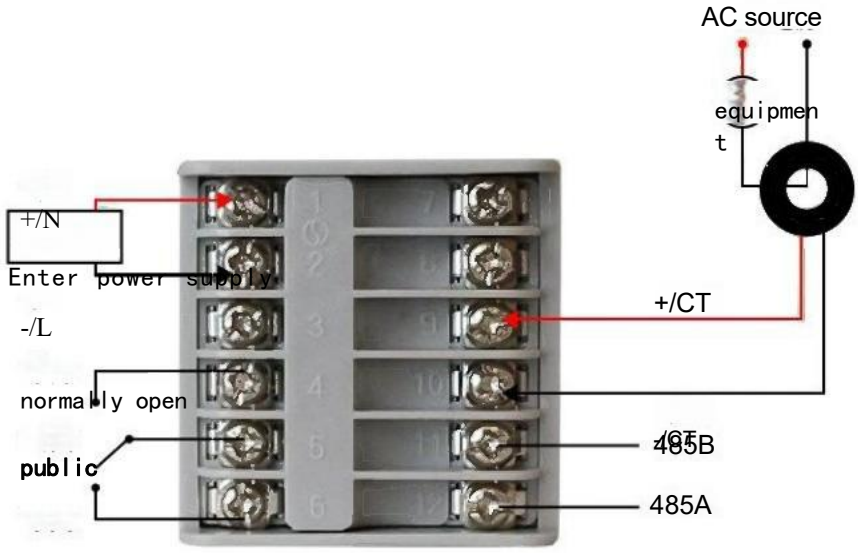
YEL48-B Independent power supply wiring diagram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485A

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NO G◎IN

Three people per person

Product real shot details

Good workmanship, hard quality, focus and professional

Positive live-action

Side shot

Back shot

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