



ASJ60-LD16A Residual Current Monitor

Installation and Operation Manual V1.0

Acrel Co., Ltd.

Declaration

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Before using the product, please read the tips and precautions in this operation manual, and Acrel does not take responsibility for personal injuries or economic losses caused by ignoring tips of this manual.

This product is professional electrical equipment, and any relevant operation needs to be carried out by specialized electrical technicians. Acrel does not take responsibility for personal injuries or economic losses caused by improper operations of non-professionals.

The contents of the manual will be continuously updated and revised, thus the products functions in this manual may inevitably have a slight discrepancy with the real objects during the continuous upgrading process. Users should give first place to the purchased real products, and can search [www. acrel.cn](http://www.acrel.cn) to downloads or through sales channels to obtain the latest version of the manual.

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ASJ60-LD16A Residual Current Monitor

1 Introduction

ASJ60-LD16A residual current monitor is suitable for distribution lines of 400V a.c. and below, to monitoring residual current as a residual current electrical fire monitoring detector, or combined with low-voltage circuit breaker or AC contactor to be residual current devices to protect the electrical circuit from ground fault. Prevent equipment damage and electrical fire accident caused by ground fault current, or provide indirect contact protection against personal electric shock.

ASJ60-LD16A can be used in distribution boxes of petrochemical, industrial plants, large public buildings, kindergartens, nursing homes and other places, as well as in distribution boxes of street lamps, courtyard lamps and landscape lamps for leakage or grounding fault monitoring.

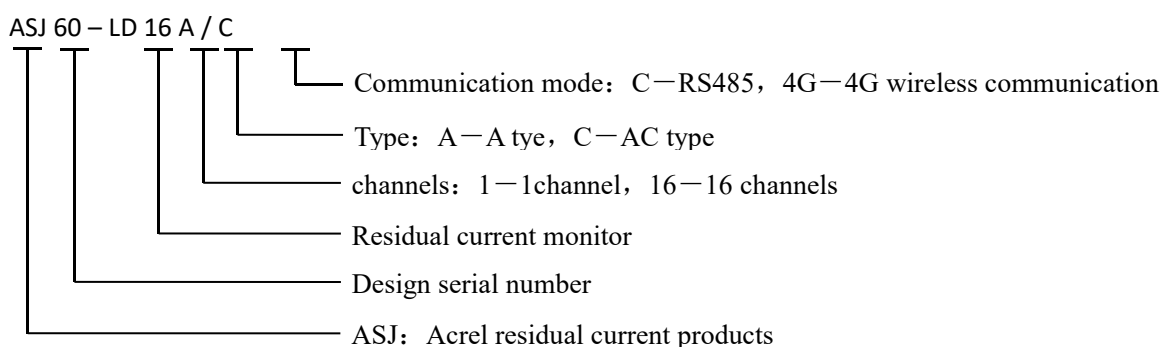
2 Functions features

- Monitoring and display residual current of TN-S, TT distribution lines.
- 16 measuring channels per device for residual current measurement, response value ranges: 1mA...30A.
- Adjustable alarm value with ranges: 1mA...30A, and each channel can be set as over value alarm, operating, or function closing for residual current monitoring
- 1 relay for water log, 16 relays for 16 channels residual current monitor with automatic closing function, adjustable closing times and delay. Closing function can be turned off when the residual monitoring is set alarm and operated mode.
- 2 DI for water log and other switch status.
- RS485 interface with Modbus-RTU protocol, 4G wireless communication.
- 30 fault records, including fault type and fault time.
- Self-test function, test hardware by press test button.
- Reset function, reset fault when it is remove.
- Mute function, to mute the buzzer by press mute button.

3 Reference standard

■ IEC62020-1: 2020 Electrical accessories - Residual current monitors (RCMs) - Part 1: RCMs for household and similar uses.

4 Naming rules



5 Technical parameters

See table 1 below.

Table 1 ASJ60-LD16A basic paramers

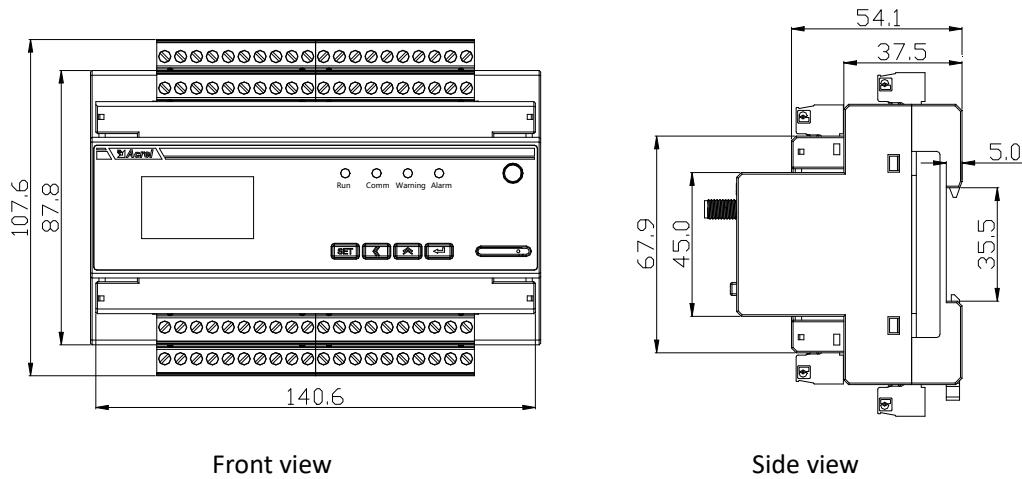
Parameters		指标
Power supply	Voltage range	AC/DC85V~265V
	Power consumption	≤10VA
Input	number of measuring channels(per device)	16 channels
	Range of Residual current measurement	1mA~30A
	Rated residual operating current $I_{\Delta n}$	1 mA ~30A continuous adjustable
	operating characteristic	AC, pulsed DC
	frequency	50Hz±5Hz
	Operating delay	adjustable from 0s to 10s
	Switch status input	2DI with passive dry node input
Output	Output mode	1alarm relay for waterlog(N/C or N/O) 16alarm relays for residual current monitor(N/C or N/O)
	Contact capacity	AC 250V/3A DC 30V/3A
Automatic reclosing	frequency	0-99 adjustable continuously
	Interval time	0-999s adjustable continuously
communication	Mode 1	RS485 interface with Modbus-RTU protocol
	Mode 2 (optional)	4G wireless communication
Environment	Temperature	Operating temerature: -10℃~55℃ Storage temperature: -30℃~70℃
	Humidity	≤95%, No condensation

	Altitude	$\leq 2500\text{m}$
	Mean time between failures	≥ 50000 hours

6 Installation and wiring

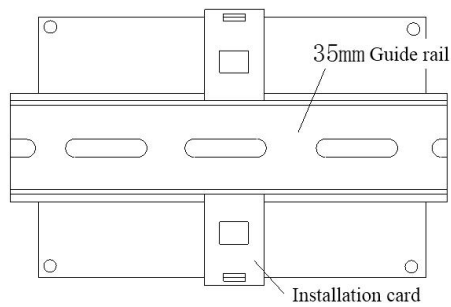
6.1 Dimension diagrams

See the figure below (dimensions in mm)



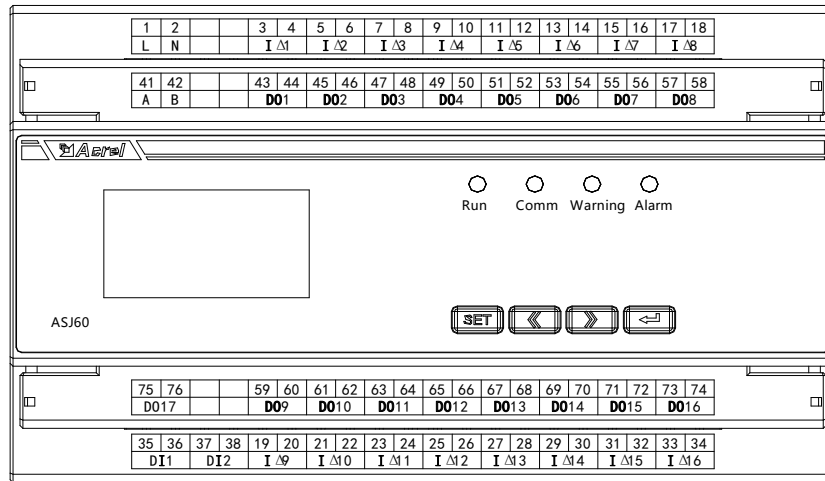
6.2 Installation

ASJ60-LD16A residual current monitor is installed with DIN rail and fixed with snap, as shown in the figure below

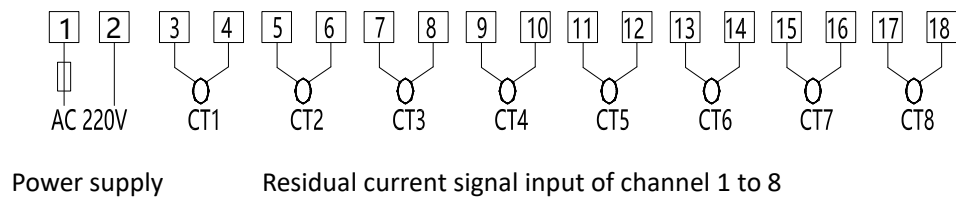


6.3 Wiring diagram

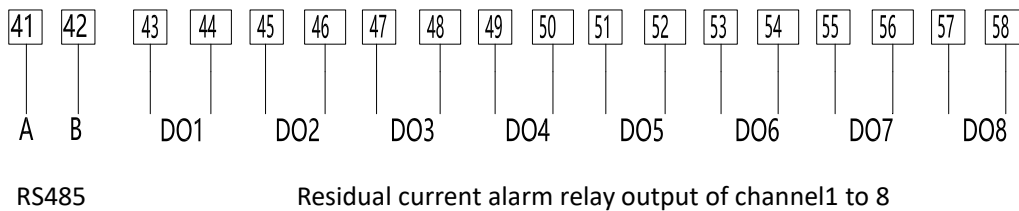
The terminal symbol description of residual current monitor is shown in the figure below.



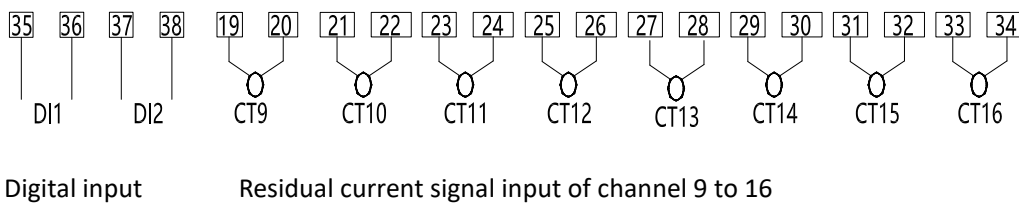
The wiring and description of the lower row terminals on the upper side are shown in the figure below:



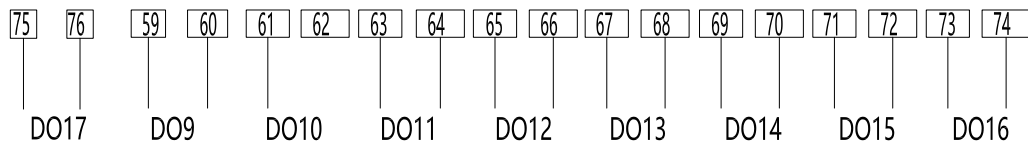
The wiring and description of the upper row terminals on the upper side are shown in the figure below:



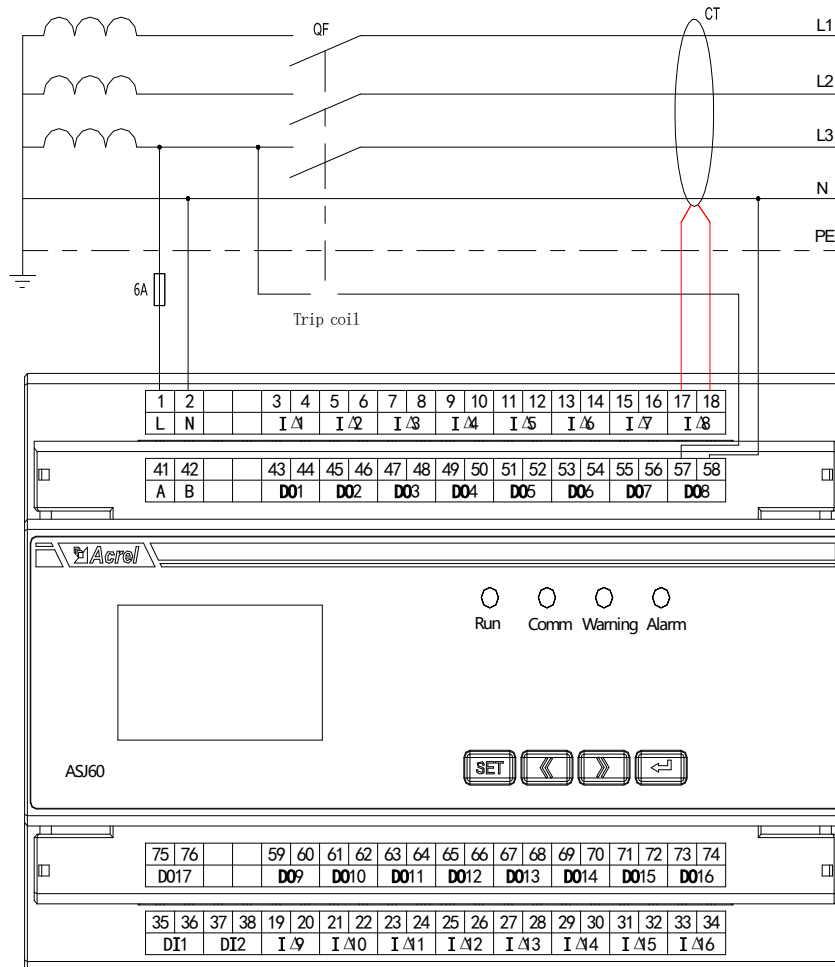
The wiring and description of the lower row terminals on the lower side are shown in the figure below:



The wiring and description of the upper row terminals on the lower side are shown in the figure below:



6.4 Typical connection diagram

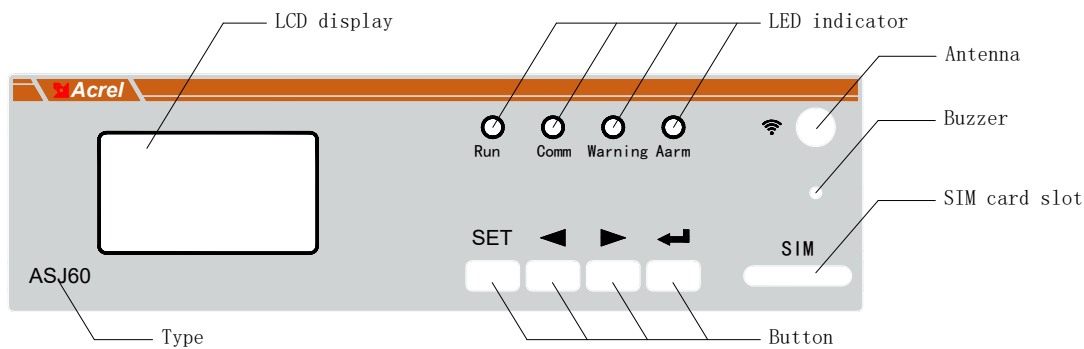


Note:

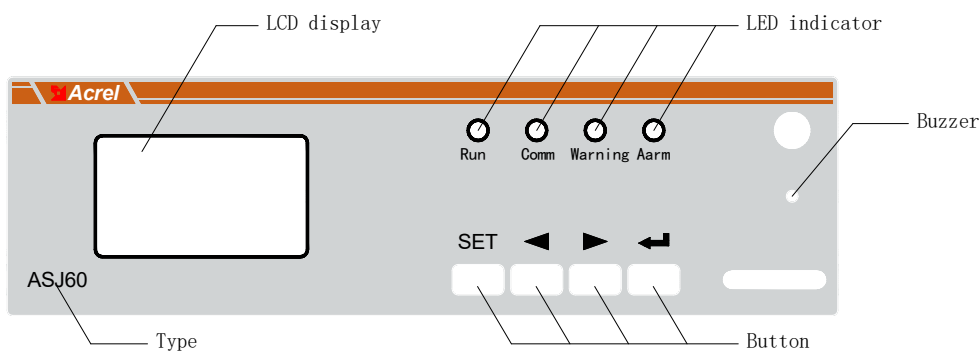
- 1) Each residual current monitor can be configured with up to 16 AKH-0.66/L series residual current transformers to monitor the residual current of 16 circuits.
- 2) The L,N terminals of the residual current monitor are the auxiliary power supply terminals, which need to be connected with AC 220V, and the L terminal can be connected with 6A fuse in series as protection.
- 3) The AKH-0.66/L series residual current transformer need to pass through L,N(single phase)or A,B,C,N(three-phase) lines of the circuit. PE wire does not need to pass through. The output line of residual current transformer is connected to the corresponding circuit terminal of residual current monitor. Unused channels must be closed in the menu to avoid false alarm.
- 4) A,B are communication terminals, when multiple residual current monitors are required to networked through RS485 bus, the communication terminals of each residual current monitor shall be connected hand in hand by 2×1.5mm² shielded twisted pair. A matching resistor(120 Ω) shall be connected in parallel between the two communication terminals of the two deviced at the end and head of the bus, to ensure normal communication.

7 Operation and Application

7.1 Panel Description



Panel without wireless communication function



Panel with wireless communication

7.2 Description of LED indicator

Status of LED	Description
“Run”	Flash one time per second when running
“Comm”	Flash when data communicating
“Warning”	Flash when residual current of one or more circuits over the early warning value.
“Alarm”	Flash when residual current of one or more circuits over the alarm value.

7.3 Function description of each key

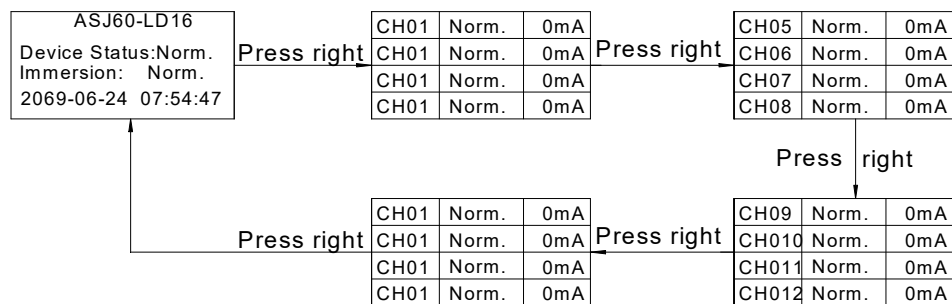
Key	Functions
Enter	In non-programming mode, press this key to enter the programming mode In programming mode, used as the Enter key.
	In non-programming mode, used to view the fault records; In programming mode, used to increase or decrease the values and digits, or to change the protection action status.

	When alarm, press this key for 3 seconds to reset the alarm.
	In non-programming mode, used to view the fault records; In programming mode, used to increase or decrease the values and digits, or to change the protection action status. In operation state, used to start the self-test function.
ESC	In non-programming mode, used to mute the alarm sound; In programming mode, used to return function.

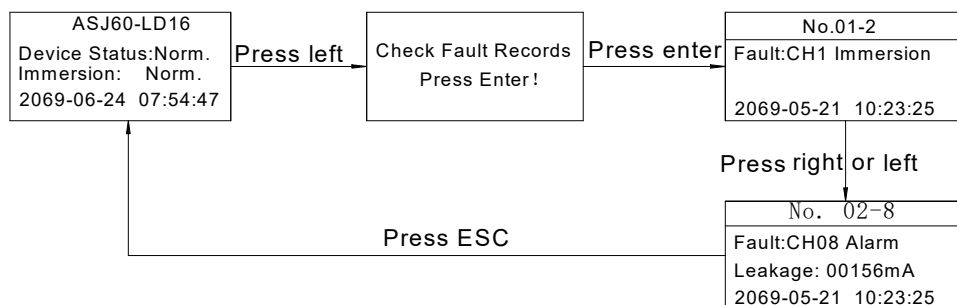
7.4 Key operation descriptions

7.4.1 Operation in non-programming mode

1) View the operation interface

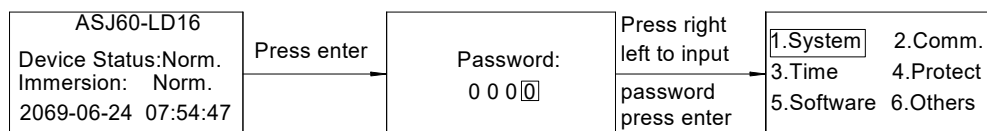


2) View the fault record



7.4.2 Operation in programming mode

1) Enter programming mode



Note: The default password is 0001.

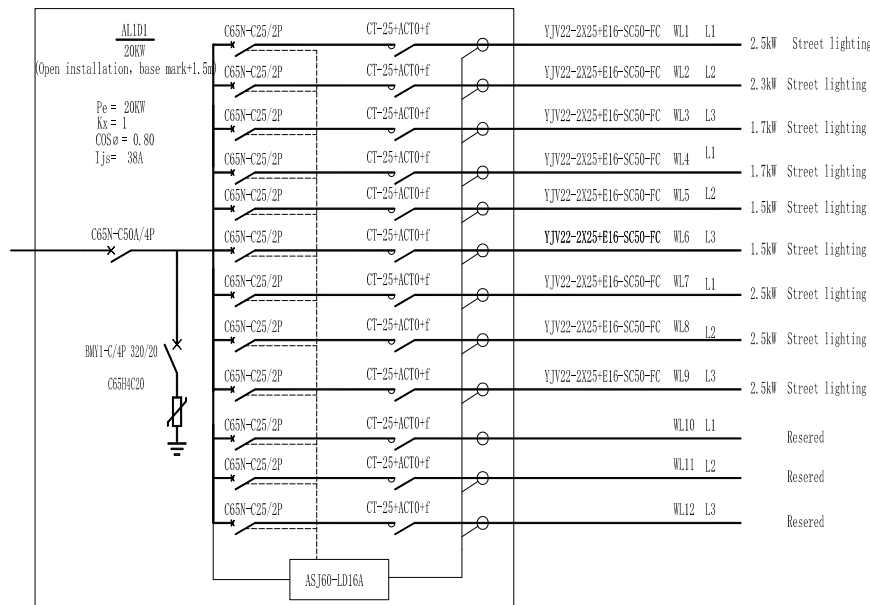
2) Exit programming mode

Press“ESC”to exit the programming mode, Attention to save the parameters before exit.

3) Parameter setting

8 Application case

8.1 Application of residual current monitor in lighting distribution box



9 Communication protocol

9.1 Modbus-RTU communication protocol

9.1.1 Function code 03H or 04H: Read the registers

This function allows the user to acquire the data collected and recorded by equipment and the system parameters. The number of data requested by hosts has no limit, but cannot exceed the defined address range.

The following example shows how to read version of program from No.01 slave controllers, with the address of the insulation resistance value of 0009H.

The host controller sends		Send message	The slave controller returns		Return message
Address code		01H	Address code		01H
Function code		03H	Function code		03H
Start address	High byte	00H	Bytes		02H
	Low byte	09H	Register	High byte	00H
Number of register	High byte	00H	data	Low byte	64H
	Low byte	01H		High byte	B9H
CRC check code	High byte	54H	code	Low byte	AFH
	Low byte	08H			

9.1.2 Function code 10H: write the registers

The function code 10H allows the user to change the contents of multiple registers, which can write the time and date in this meter. The host can write up to 16 (32 bytes) data at a time.

The following example shows a preset address of 01 with an installation date and time of 12:00, Friday, December 1st, 2009, in which the Monday to Sunday are replaced with number 1 to 7.

The host computer sends		Send message
Address code		01H
Function code		10H
Start address	High byte	00H
	Low byte	6AH
Number of registers	High byte	00H
	Low byte	06H
Bytes		0CH
0004H Data to be written	High byte	00H
	Low byte	09H
0005H Data to be written	High byte	00H
	Low byte	0CH
0006H Data to be written	High byte	00H
	Low byte	01H
0007H Data to be written	High byte	00H
	Low byte	0CH
0008H Data to be written	High byte	00H
	Low byte	00H
0009H Data to be written	High byte	00H
	Low byte	00H
CRC check code	High byte	DFH
	Low byte	05H

The slave computer returns		Return message
Address code		01H
Function code		10H
Start address	High byte	00H
	Low byte	6AH
Number of registers	High byte	00H
	Low byte	06H
CRC check code	High byte	60H
	Low byte	17H

9.2 Parameter address table

No.	Address	Parameter	Read/ write	Value range	Word
0-7	0000H— 0007H	SN code	R	SN code, In ASCII code	7
8	0008H	Software code	R	0-65535	1
9	0009H	Version	R	For example 100, means V1.00	1
10-14	000AH-000EH	Reserved			5
15	000FH High byte	Waterlog 1 status	R	0: Normal, 1: Alarm	1
	000FH Low byte	Waterlog 2 status	R	0: Normal, 1: Alarm	
16	0010H	Reserved			1
17	0011H	Channel 1 status	R	0:Normal、1: Pre-warning、2: Alarm	1
18	0012H	CH1 leakage value	R	0-30000 (Unit: mA)	1
19	0013H	Channel2 status	R	0:Normal、1: Pre-warning、2: Alarm	1
20	0014H	CH2 leakage value	R	0-30000 (Unit: mA)	1
21	0015H	Channel 3 status	R	0:Normal、1: Pre-warning、2: Alarm	1
22	0016H	CH 3 leakage value	R	0-30000 (Unit: mA)	1
23	0017H	Channel 4 status	R	0:Normal、1: Pre-warning、2: Alarm	1
24	0018H	CH4 leakage value	R	0-30000 (Unit: mA)	1
25	0019H	Channel 5 status	R	0:Normal、1: Pre-warning、2: Alarm	1
26	001AH	CH5 leakage value	R	0-30000 (Unit: mA)	1
27	001BH	Channel 6 status	R	0:Normal、1: Pre-warning、2: Alarm	1
28	001CH	CH6 leakage value	R	0-30000 (Unit: mA)	1
29	001DH	Channel 7 status	R	0:Normal、1: Pre-warning、2: Alarm	1
30	001EH	CH7 leakage value	R	0-30000 (Unit: mA)	1
31	001FH	Channel 8 status	R	0:Normal、1: Pre-warning、2: Alarm	1
32	0020H	CH8 leakage value	R	0-30000 (Unit: mA)	1
33	0021H	Channel 9 status	R	0:Normal、1: Pre-warning、2: Alarm	1
34	0022H	CH9 leakage value	R	0-30000 (Unit: mA)	1

35	0023H	Channel 10 status	R	0:Normal、1: Pre-warning、2: Alarm	1
36	0024H	CH10 leakage value	R	0-30000 (Unit: mA)	1
37	0025H	Channel 11 status	R	0:Normal、1: Pre-warning、2: Alarm	1
38	0026H	CH11 leakage value	R	0-30000 (Unit: mA)	1
39	0027H	Channel 12 status	R	0:Normal、1: Pre-warning、2: Alarm	1
40	0028H	CH12 leakage value	R	0-30000 (Unit: mA)	1
41	0029H	Channel 13 status	R	0:Normal、1: Pre-warning、2: Alarm	1
42	002AH	CH13 leakage value	R	0-30000 (Unit: mA)	1
43	002BH	Channel 14 status	R	0:Normal、1: Pre-warning、2: Alarm	1
44	002CH	CH14 leakage value	R	0-30000 (Unit: mA)	1
45	002DH	Channel 14 status	R	0:Normal、1: Pre-warning、2: Alarm	1
46	002EH	CH14 leakage value	R	0-30000 (Unit: mA)	1
47	002FH	Channel 14 status	R	0:Normal、1: Pre-warning、2: Alarm	1
48	0030H	CH14 leakage value	R	0-30000 (Unit: mA)	1
49-99	0031H-0063H	Reserved			50
100	0064H	Password	R/W	0-9999	1
101	0065H	LCD contrast	R/W	0-60 (default value 20)	1
102	0066H	Backlight time	R/W	0-60S	1
103	0067H	Reserved			1
104	0068H	Address	R/W	1-247 (default: 1)	1
105	0069H	Baud rate	R/W	0-2: 4800、9600、19200 (Unit: bps) (default value: 1)	1
106	006AH	Year	R/W	1—99 (Unit: year) (Default value: 11)	1
107	006BH	Month	R/W	1—12 (Unit: month) (Default value: 4)	1
108	006CH	Day	R/W	1—31 (Unit: day) (Default value: 20)	1
109	006DH	Hour	R/W	1—24 (Unit: hour) (Default value: 12)	1
110	006EH	Minute	R/W	1—60 (Unit: minute) (Default value: 0)	1
111	006FH	Second	R/W	1—60 (Unit: second) (Default value: 0)	1
112	0070H	Mute mark	R/W	Write 1to mute	1
113	0071H	Reset	R/W	Write 1to reset	1

114	0072H	Self-test	R/W	Write 1 to start self-test	1
115-149	0073H-0095H	Reserved	R/W		36
150	0096H	Unified setting of operated value	R/W	10-30000 (Unit: mA)	1
151	0097H	Unified setting of pre-warning value	R/W	10-30000 (Unit: mA)	1
152	0098H	Unified setting of time delay	R/W	0-6000(step 10) (unit: ms)	1
153	0099H	Unified setting of protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
154	009AH	Unified setting of reclosing	R/W	Reclose: 1: open, 0: colse	1
155	009BH	Unified setting of reclosing time	R/W	Reclosing time: 0-999s	1
156	009CH	Unified setting of reclosing times	R/W	Reclosing times: 0-99 次	1
157	009DH	CH1 Operated value	R/W	10-30000 (unit: mA)	1
158	009EH	CH1 Pre-warning value	R/W	10-30000 (unit: mA)	1
159	009FH	CH1Time delay	R/W	0-60000(step 10) (unit: ms)	1
160	00A0H	CH1 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
161	00A1H	CH2 Operated value	R/W	10-30000 (unit: mA)	1
162	00A2H	CH2 Pre-warning value	R/W	10-30000 (unit: mA)	1
163	00A3H	CH2Time delay	R/W	0-60000(step 10) (unit: ms)	1
164	00A4H	CH2 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
165	00A5H	CH3 Operated value	R/W	10-30000 (unit: mA)	1
166	00A6H	CH3 Pre-warning value	R/W	10-30000 (unit: mA)	1
167	00A7H	CH3Time delay	R/W	0-60000(step 10) (unit: ms)	1
168	00A8H	CH3 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1

169	00A9H	CH4 Operated value	R/W	10-30000 (unit: mA)	1
170	00AAH	CH4 Pre-warning value	R/W	10-30000 (unit: mA)	1
171	00ABH	CH4Time delay	R/W	0-60000(step 10) (unit: ms)	1
172	00ACH	CH4 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
173	00ADH	CH5 Operated value	R/W	10-30000 (unit: mA)	1
174	00AEH	CH5 Pre-warning value	R/W	10-30000 (unit: mA)	1
175	00AFH	CH5Time delay	R/W	0-60000(step 10) (unit: ms)	1
176	00B0H	CH5 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
177	00B1H	CH6 Operated value	R/W	10-30000 (unit: mA)	1
178	00B2H	CH6 Pre-warning value	R/W	10-30000 (unit: mA)	1
179	00B3H	CH6Time delay	R/W	0-60000(step 10) (unit: ms)	1
180	00B4H	CH6 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
181	00B5H	CH7 Operated value	R/W	10-30000 (unit: mA)	1
182	00B6H	CH7 Pre-warning value	R/W	10-30000 (unit: mA)	1
183	00B7H	CH7Time delay	R/W	0-60000(step 10) (unit: ms)	1
184	00B8H	CH7 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
185	00B9H	CH8 Operated value	R/W	10-30000 (unit: mA)	1
186	00BAH	CH8 Pre-warning value	R/W	10-30000 (unit: mA)	1
187	00BBH	CH8Time delay	R/W	0-60000(step 10) (unit: ms)	1
188	00BCH	CH8 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
189	00BDH	CH9 Operated value	R/W	10-30000 (unit: mA)	1
190	00BEH	CH9 Pre-warning value	R/W	10-30000 (unit: mA)	1
191	00BFH	CH9Time delay	R/W	0-60000(step 10) (unit: ms)	1
192	00C0H	CH9 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
193	00C1H	CH10 Operated value	R/W	10-30000 (unit: mA)	1

194	00C2H	CH10 Pre-warning value	R/W	10-30000 (unit: mA)	1
195	00C3H	CH10 Time delay	R/W	0-60000(step 10) (unit: ms)	1
196	00C4H	CH10 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
197	00C5H	CH11 Operated value	R/W	10-30000 (unit: mA)	1
198	00C6H	CH11 Pre-warning value	R/W	10-30000 (unit: mA)	1
199	00C7H	CH11Time delay	R/W	0-60000(step 10) (unit: ms)	1
200	00C8H	CH11 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
201	00C9H	CH12 Operated value	R/W	10-30000 (unit: mA)	1
202	00CAH	CH12 Pre-warning value	R/W	10-30000 (unit: mA)	1
203	00CBH	CH12 Time delay	R/W	0-60000(step 10) (unit: ms)	1
204	00CCH	CH12 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
205	00CDH	CH13 Operated value	R/W	10-30000 (unit: mA)	1
206	00CEH	CH13 Pre-warning value	R/W	10-30000 (unit: mA)	1
207	00CFH	CH13 Time delay	R/W	0-60000(step 10) (unit: ms)	1
208	00D0H	CH13 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
209	00D1H	CH14 Operated value	R/W	10-30000 (unit: mA)	1
210	00D2H	CH14 Pre-warning value	R/W	10-30000 (unit: mA)	1
211	00D3H	CH14Time delay	R/W	0-60000(step 10) (unit: ms)	1
212	00D4H	CH14 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
213	00D5H	CH15 Operated value	R/W	10-30000 (unit: mA)	1
214	00D6H	CH15 Pre-warning value	R/W	10-30000 (unit: mA)	1
215	00D7H	CH15 Time delay	R/W	0-60000(step 10) (unit: ms)	1
216	00D8H	CH15 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
217	00D9H	CH16 Operated value	R/W	10-30000 (unit: mA)	1
218	00DAH	CH16 Pre-warning value	R/W	10-30000 (unit: mA)	1

219	00DBH	CH16Time delay	R/W	0-60000(step 10) (unit: ms)	1
220	00DCH	CH16 Protective switch	R/W	0-No alarm, no opening, 1-only pre-warning, 2-only opening, 3-Alarm and opening	1
221	00DDH	预留			1
222	00DEH	CH1 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
223	00DFH	CH1 Reclosing time	R/W	Reclosing time: 0-999s	1
224	00E0H	CH1 Reclosing times	R/W	Reclosing times: 0-99 times	1
225	00E1H	CH2 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
226	00E2H	CH2 Reclosing time	R/W	Reclosing time: 0-999s	1
227	00E3H	CH2 Reclosing times	R/W	Reclosing times: 0-99 times	1
228	00E4H	CH3 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
229	00E5H	CH3 Reclosing time	R/W	Reclosing time: 0-999s	1
230	00E6H	CH3 Reclosing times	R/W	Reclosing times: 0-99 times	1
231	00E7H	CH4 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
232	00E8H	CH4 Reclosing time	R/W	Reclosing time: 0-999s	1
233	00E9H	CH4 Reclosing times	R/W	Reclosing times: 0-99 times	1
234	00EAH	CH5 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
235	00EBH	CH5 Reclosing time	R/W	Reclosing time: 0-999s	1
236	00ECH	CH5 Reclosing times	R/W	Reclosing times: 0-99 times	1
237	00EDH	CH6 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
238	00EEH	CH6 Reclosing time	R/W	Reclosing time: 0-999s	1
239	00EFH	CH6 Reclosing times	R/W	Reclosing times: 0-99 times	1
240	00F0H	CH7 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
241	00F1H	CH7 Reclosing time	R/W	Reclosing time: 0-999s	1
242	00F2H	CH7 Reclosing times	R/W	Reclosing times: 0-99 times	1
243	00F3H	CH8 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
244	00F4H	CH8 Reclosing time	R/W	Reclosing time: 0-999s	1
245	00F5H	CH8 Reclosing times	R/W	Reclosing times: 0-99 times	1
246	00F6H	CH9 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
247	00F7H	CH9 Reclosing time	R/W	Reclosing time: 0-999s	1

248	00F8H	CH9 Reclosing times	R/W	Reclosing times: 0-99 times	1
249	00F9H	CH10 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
250	00FAH	CH10 Reclosing time	R/W	Reclosing time: 0-999s	1
251	00FBH	CH10 Reclosing times	R/W	Reclosing times: 0-99 times	1
252	00FCH	CH11 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
253	00FDH	CH11 Reclosing time	R/W	Reclosing time: 0-999s	1
254	00FEH	CH11 Reclosing times	R/W	Reclosing times: 0-99 times	1
255	00FFH	CH12 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
256	0100H	CH12 Reclosing time	R/W	Reclosing time: 0-999s	1
257	0101H	CH12 Reclosing times	R/W	Reclosing times: 0-99 times	1
258	0102H	CH13 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
259	0103H	CH13 Reclosing time	R/W	Reclosing time: 0-999s	1
260	0104H	CH13 Reclosing times	R/W	Reclosing times: 0-99 times	1
261	0105H	CH14 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
262	0106H	CH14 Reclosing time	R/W	Reclosing time: 0-999s	1
263	0107H	CH14 Reclosing times	R/W	Reclosing times: 0-99 times	1
264	0108H	CH15 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
265	0109H	CH15 Reclosing time	R/W	Reclosing time: 0-999s	1
266	010AH	CH15 Reclosing times	R/W	Reclosing times: 0-99 times	1
267	010BH	CH16 Reclosing switch	R/W	Reclosing switch: 1: Open, 0: Close	1
268	010CH	CH16 Reclosing time	R/W	Reclosing time: 0-999s	1
269	010DH	CH16 Reclosing times	R/W	Reclosing times: 0-99 times	1
270-299	010EH-012B	Reserved			30
300	012CH	Number of faults	R	0-30	1
301	012DH 高字节	Event record 1	R	Event1-Fault circuit	1
	012DH 低字节		R	Event1-Fault type	
302	012EH		R	Event1-Fault value	1
303	012FH		R	Event1-Year	1
304	0130H		R	Event1-Month	1
305	0131H		R	Event1-Day	1

307	0132H		R	Event1-Hour	1
308	0133H		R	Event1-Minute	1
309	0134H		R	Event1-Second	1
310-541	0136H-021DH	The rules and formats of event 2-30 are the same with event 1.			1

10 Power up and debugging instructions

10.1 Wiring check

The wiring of residual current monitor should be checked before power up, and mainly check whether there is wrong connection, missing connection or short circuit according to wiring diagram showed in part 5.3.

1) Check whether terminals L and N of auxiliary power supply for residual current monitoring are reliably connected to AC 220V.

2) Check whether the secondary line of each residual current transformer is reliably connected to the corresponding terminals.

3) Check whether each DO output of the instrument is reliably connected with the shunt coil of the circuit breaker of the corresponding transformer monitoring circuit and its power supply.

10.2 Common failures and their elimination

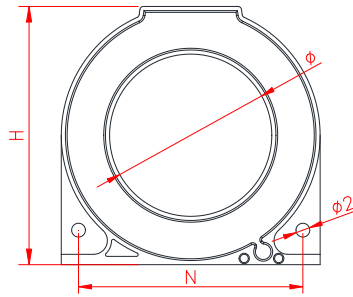
After ensuring the wiring, power on the system and check whether each device is abnormal. For common problems, judge the cause and eliminate fault according to the fault type of each device:

Device name	faults	Possible causes and elimination
ASJ60-LD16A Residual current monitoring device	The LCD displays the alarm, and the alarm indicator is on	Residual current of one or more circuits exceeds the alarm setting value. Check the cause and eliminate the fault.
	The device doesn't light up	Check the wiring of power supply. If the wiring is normal, please contact the manufacturer's technicians for confirmation.
	Abnormal communication or no communication	1) Check the wiring of communication。 2) Check the address and baud rate, the default baud rate is 9600, and should be consistent with the monitoring host.

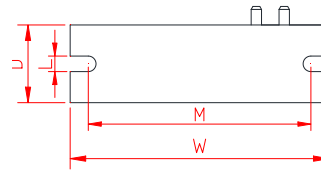
Note: In case of the above faults, power off for fault elimination and adjust the wiring until everything is normal.

11 Accessory: Residual current transformor

Akh-0.66/I series residual current transformer shall be used, the outline and installation dimensions are as follows. (Unit: mm)



Front view



Bottom view

The aperture of residual current transformer can be selected according to the rated current of the circuit.

The following are the specific parameters of two common sizes.

Type	Rated current (A)	Shapes and sizes (mm)			Aperture (mm) Φ	Installation dimension (mm)			
		W	H	D		M	N	L	$\Phi 2$
-L20	30	50.5	44.5	19	20	40.5	40.5	3	3
-L45	100	75	75	22	46	65	65	4.3	4

Modified Records

No.	Time	Versions	Reasons for revision
01	2021-5-20	First edition	
Note:			