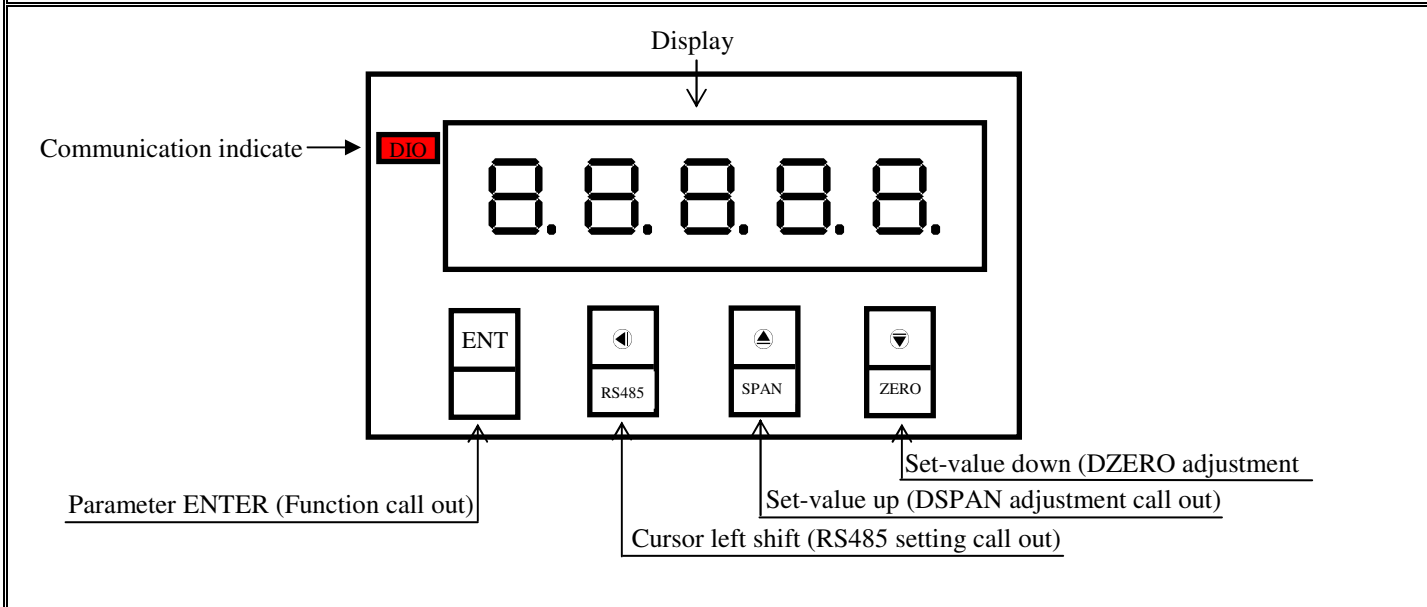


4~20mA LOOP-POWERED, 5 DIGITAL LEDs DISPLAY PROCESS MONITOR (24X48mm) MA24-LD series

■Features

- ⊙ Measuring DC 4~20mA, No power require
- ⊙ Accuracy 0.05% F.S. ±1 digit.
- ⊙ Display range -19999~99999 can be modified
- ⊙ Decimal point can be modified
- ⊙ Display average can be modified (1~20)
- ⊙ RS485 communication interface, Protocol MODBUS RTU MODE
- ⊙ BAUD RATE:38400/19200/9600
- ⊙ 0.4" highlight display
- ⊙ Man-machine interface ,easy to operate.
- ⊙ EEPROM memory saving, data safekeeping about 10 years.

■Name of Parts



Key Introduce	Operation Manual
⊕ Key Function	1. In normal display, The key function is call out setting page 2. In parameter setting page, The key function is data Enter , and go to next page
◀ Key Function	1. In normal display, The key function is call out RS485 setting page 2. Into parameter setting page, the parameter mark & data is alternate display, If need modify data can press shift key into setting procedure, The display is lock parameter data, this time must let off key about 0.2 sec, press again, the cursor (twinkle express) is cycle moving left. (Key Response about 0.2 sec)
▲ Key Function	1. In normal display, The key function is call out adjustment display value DSPAN page 2. Into parameter setting page, the parameter mark & data is alternate display, If need modify data can press up key into setting procedure, The display is lock parameter data, this time must let off key about 0.2 sec, press again, the parameter data will increment. (Key Response about 0.2 sec)
▼ Key Function	1. In normal display, The key function is call out adjustment display value DZERO page 2. Into parameter setting page, the parameter mark & data is alternate display, If need modify data can press down key into setting procedure, The display is lock parameter data, this time must let off key about 0.2 sec, press again the parameter data will decrement. (Key Response about 0.2 sec)
▲ & ▼ Key Function	In setting group or setting page press ▲ & ▼ key return normal display, but if in setting page the modify data will be lost
No Key in anything	In setting group or setting page no key in anything about 2 minutes, return normal display, but if in Setting page the modify data will be lost

Step	Parameter Mark Description	Parameter Mark	Operation Manual
1	Normal display	1 2 3 4 5	Press ⊕ key into P.COD setting page
1-1	P.COD(Pass code input page)	P . C O D	1. Key in 5 digit pass code with ◀ or ▲ or ▼ key
		□ □ □ □ □	2. Press ⊕ key, the pass code is right into DP setting page, otherwise Return to normal display
1-2	DP(Decimal Point) Default=3	□ P	1. Decide decimal point position with ▲ or ▼ key (0 to 4)
		3.	2. Press ⊕ key enter data and into DSPL setting page
1-3	DSPL(Display Low Scale) Default=4.000	□ S P L	1. Decide display low scale with ◀ & ▲ & ▼ key (-19999~99999)
		□ 4 . □ □ □	2. Press ⊕ key enter data and into DSPH setting page
1-4	DSPH(Display High Scale) Default=20.000	□ S P H	1. Decide display high scale with ◀ & ▲ & ▼ key (-19999~99999)
		2 □ . □ □ □	2. Press ⊕ key enter data and into AVG setting page

1-5	AVG (Average) Default=5	A U C 0 0 0 0 5	1.Decide display Average times with ◀&▲&▼ key (1~20) 2.Press Ⓜ key enter data and into LCUT setting page
1-6	LCUT (Low Cut) Default=0	L C U E 0 0 0 0 0	1.Decide display low cut with ◀&▲&▼ key (-99~99) 2.Press Ⓜ key enter data and into CODE setting page
1-7	CODE(Pass Code) Default=0	C O D E 0 0 0 0 0	1.Decide Pass code with ◀&▲&▼ key (0~99999) 2.Press Ⓜ key enter data and into LOCK setting page
1-8	LOCK(Panel Lock) Default=NO	L O C K n o	1. Decide panel lock with ▲&▼ key (NO or YES) 2.Press Ⓜ key enter data and return to normal display
Step	Parameter mark description	Parameter mark	Operation manual
2	Normal display	1 2 3 4 5	Press ◀ key about 3 sec, into RS-485 setting page
2-1	ADDR(Communication –Address) Default=0	A D D R 0 0 0 0 0	1. Decide address with ◀&▲&▼ key (0~255) 2. Press Ⓜ key enter data and into BAUD setting page
2-2	BAUD(Communication Baud Rate) Default=19200	B A U D 1 9 2 0 0	1. Decide baud rate with ▲&▼ key (38400,19200,9600) 2. Press Ⓜ key enter data and into PARI setting page
2-3	PARI(Communication Parity Check) Default=n.8.2.	P A R I n . 8 . 2	1. Decide parity check with ▲&▼ key(n.8.2,n.8.1,even,odd) 2. Press Ⓜ key enter data and return normal display
Step	Parameter mark description	Parameter mark	Operation manual
3	Normal display	1 2 3 4 5	Press ▼ key about 3 sec, into DZERO adjustment page
3-1	DZERO(Display Zero Adjust) Default=0	D Z E R O 0 0 0 0 0	1.Adjustment display zero with ▲ or ▼ key 2.Press Ⓜ key enter data and return to normal display
Step	Parameter mark description	Parameter mark	Operation manual
4	Normal display	1 2 3 4 5	Press ▲ key about 3 sec, into DSPAN adjustment page
4-1	DSPAN(Display Span Adjust) Default=0	D S P A N 0 0 0 0 0	1.Adjustment display span with ▲ or ▼ key 2.Press Ⓜ key enter data and return to normal display
Appendix	Error Mark Description	Error Mark	Analyze & Description
1	Input over error detect	I O F L	Input signal over range (120%)
2	Display over error detect	D O F L	Display over range (99999)
3	Display under error detect	- D O F L	Display under range (-19999)
4	A/D Converter error detect	A D E R	1.Input signal over range (180%) 2. Inside circuit damage Please moving input signal if still display ADER, please contact us
5	EEPROM error detect	E - 0 0 n o Y E S	EEPROM write over 100 thousand times (guarantee 10 years) Please power reset, if still display E-00,doing following step: 1.E-00 & No alternate display for inquire reset EEPROM 2. Decide Yes with ▲ or ▼ key, press Ⓜ key return normal display 3.Parameter was reset, Please follow step 1-4 set again

MA24-LD Modbus RTU Mode Protocol Address Map

Data format 16Bit/32Bit, sign bit 8000~7FFF(-32768~32767),80000000~7FFFFFFF(-2147483648~2147483647)

位址	名稱	說明	動作
0000	ID	Judge type code MA24-LD is 00	R
0001	DP	DP, range 0000~0004(0~4)0:10 ⁰ ,1:10 ⁻¹ ,2:10 ⁻² ,3:10 ⁻³ ,4:10 ⁻⁴	R/W
0002	LOCK	LOCK, range 0000~0001(0~1)0:NO,1:YES	R/W
0003	BAUD	BAUD, range 0000~0002(0~2)0:38400,1:19200,2:9600	R/W
0004	PARI	PARI, range 0000~0003(0~3)0:N.8.2.,1:N.8.1.,2:EVEN,3:ODD	R/W
0005	AVG	AVG, range 0001~0014(1~20)	R/W
0006	ADDR	ADDR, range 0000~00FF(0~255)	R/W
0007	LCUT	LCUT, range FF9D~0063(-99~99)	R/W
0008	CODE	CODE, range 00000000~0001869F(0~99999) high byte	R/W
0009		CODE, range 00000000~0001869F(0~99999) low byte	R/W
000A	DSPL	DSPL, range FFFF1E1~0001869F(-19999~99999) high byte	R/W
000B		DSPL, range FFFF1E1~0001869F(-19999~99999) low byte	R/W
000C	DSPH	DSPH, range FFFF1E1~0001869F(-19999~99999) high byte	R/W
000D		DSPH, range FFFF1E1~0001869F(-19999~99999) low byte	R/W
000E	DISPLAY	DISPLAY, range FFFF1E1~0001869F(-19999~99999) high byte	R
000F		DISPLAY, range FFFF1E1~0001869F(-19999~99999) low byte	R