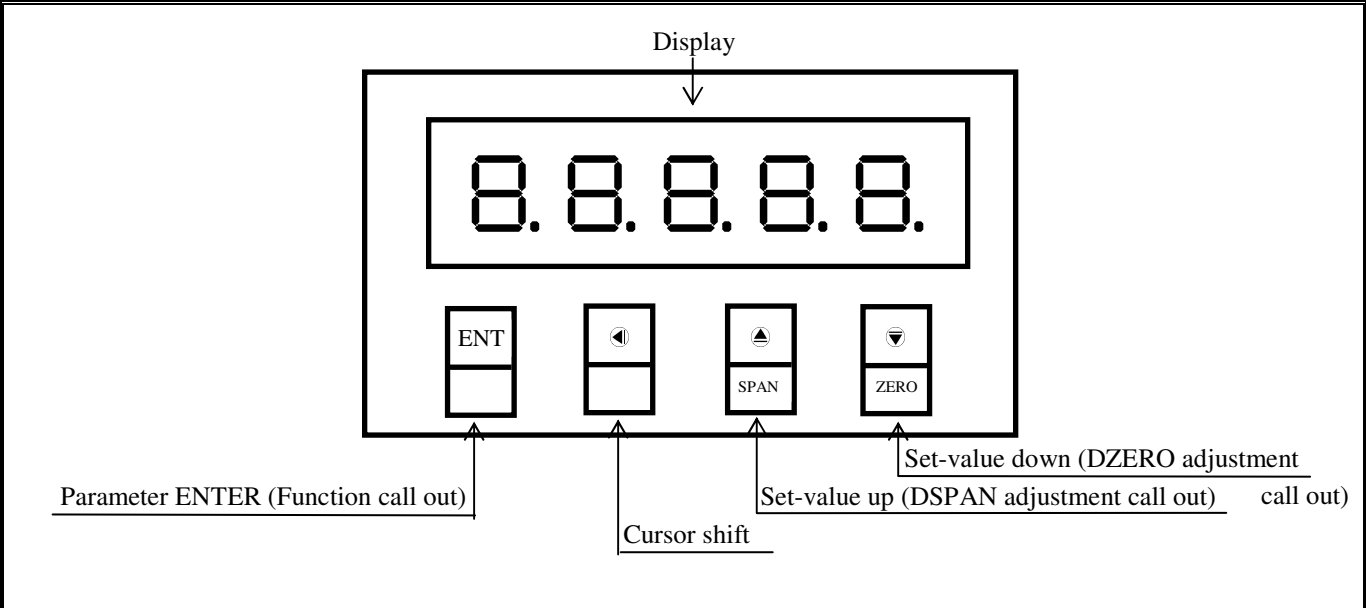


MICROPROCESS 5 DIGITAL PANEL METER(24X48mm) MA24-L series

■Features

- ⊙ Measuring DCA/DCV/ACA/ACV, No power require
- ⊙ Accuracy 0.1% F.S. ±1 digit.
- ⊙ Display range -19999~99999 can be modified
- ⊙ Decimal point can be modified
- ⊙ Display average can be modified (1~20).
- ⊙ FLASH memory saving, data safekeeping about 10 years.
- ⊙ Modified inside parameter, must have pass code.
- ⊙ Man-machine interface ,easy to operate.

■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 | 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 |
| 2 | 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 |
| | | □ □ □ □ □ | |
| 3-1 | DP(Decimal Point) Default=0 | . P | 1.Decide decimal point position with ▲ or ▼ key (0~4) 2. Press ⊕ key enter data and into DSPL setting page |
| | | □ | |
| 3-2 | DSPL(Display Low Scale) Default=0 | . S P L | 1.Decide display low scale with ◀ & ▲ & ▼ key (-19999~99999) 2.Press ⊕ key enter data and into DSPH setting page |
| | | □ □ □ □ □ | |
| 3-3 | DSPH(Display High Scale) Default=99999 | . S P H | 1.Decide display high scale with ◀ & ▲ & ▼ key (-19999~99999) 2.Press ⊕ key enter data and into AVG setting page |
| | | 9 9 9 9 9 | |

| | | | | | | | | | | | | | | | | | | | |
|----------|---|---|--|---|---|---|---|---|---|---|---|---|--|---|--|---|---|---|---|
| 3-4 | AVG (Average) Default=5 | <table border="1"> <tr><td> </td><td>A</td><td>U</td><td>□</td></tr> <tr><td>□</td><td>□</td><td>□</td><td>□</td></tr> </table> | | A | U | □ | □ | □ | □ | □ | 1.Decide display Average times with ◀&▲&▼ key (1~20) 2.Press Ⓜ key enter data and into LCUT setting page | | | | | | | | |
| | A | U | □ | | | | | | | | | | | | | | | | |
| □ | □ | □ | □ | | | | | | | | | | | | | | | | |
| 3-5 | LCUT (Low Cut) Default=0 | <table border="1"> <tr><td> </td><td>L</td><td>C</td><td>U</td><td>□</td></tr> <tr><td>□</td><td>□</td><td>□</td><td>□</td><td>□</td></tr> </table> | | L | C | U | □ | □ | □ | □ | □ | □ | 1.Decide display low cut with ◀&▲&▼ key (0~999) 2.Press Ⓜ key enter data and into CODE setting page | | | | | | |
| | L | C | U | □ | | | | | | | | | | | | | | | |
| □ | □ | □ | □ | □ | | | | | | | | | | | | | | | |
| 3-6 | CODE(Pass Code) Default=0 | <table border="1"> <tr><td> </td><td>C</td><td>o</td><td>d</td><td>E</td></tr> <tr><td>□</td><td>□</td><td>□</td><td>□</td><td>□</td></tr> </table> | | C | o | d | E | □ | □ | □ | □ | □ | 1.Decide Pass code with ◀&▲&▼ key (0~99999) 2.Press Ⓜ key enter data and return to normal display | | | | | | |
| | C | o | d | E | | | | | | | | | | | | | | | |
| □ | □ | □ | □ | □ | | | | | | | | | | | | | | | |
| Step | Parameter mark description | Parameter mark | Operation manual | | | | | | | | | | | | | | | | |
| 4 | Normal display | 1 2 3 4 5 | Press ▼ key about 3 sec, into DZERO adjustment page | | | | | | | | | | | | | | | | |
| 4-1 | DZERO(Display Zero Adjust) Default=0 | <table border="1"> <tr><td> </td><td>d</td><td>Z</td><td>E</td><td>r</td><td>□</td></tr> <tr><td>□</td><td>□</td><td>□</td><td>□</td><td>□</td><td>□</td></tr> </table> | | d | Z | E | r | □ | □ | □ | □ | □ | □ | □ | 1.Adjustment display zero with ▲ or ▼ key 2.Press Ⓜ key enter data and return to normal display | | | | |
| | d | Z | E | r | □ | | | | | | | | | | | | | | |
| □ | □ | □ | □ | □ | □ | | | | | | | | | | | | | | |
| Step | Parameter mark description | Parameter mark | Operation manual | | | | | | | | | | | | | | | | |
| 5 | Normal display | 1 2 3 4 5 | Press ▲ key about 3 sec, into DSPAN adjustment page | | | | | | | | | | | | | | | | |
| 5-1 | DSPAN(Display Span Adjust) Default=0 | <table border="1"> <tr><td> </td><td>d</td><td>S</td><td>P</td><td>A</td><td>n</td></tr> <tr><td>□</td><td>□</td><td>□</td><td>□</td><td>□</td><td>□</td></tr> </table> | | d | S | P | A | n | □ | □ | □ | □ | □ | □ | 1.Adjustment display span with ▲ or ▼ key 2.Press Ⓜ key enter data and return to normal display | | | | |
| | d | S | P | A | n | | | | | | | | | | | | | | |
| □ | □ | □ | □ | □ | □ | | | | | | | | | | | | | | |
| Appendix | Error Mark Description | Error Mark | Analyze & Description | | | | | | | | | | | | | | | | |
| 1 | Input over error detect | □ F L | Input signal over range (120%) | | | | | | | | | | | | | | | | |
| 2 | Input under error detect | - □ F L | Input signal under range (-20%) | | | | | | | | | | | | | | | | |
| 3 | Display over error detect | □ F L | Display over range (99999) | | | | | | | | | | | | | | | | |
| 4 | Display under error detect | - □ F L | Display under range (-19999) | | | | | | | | | | | | | | | | |
| 5 | 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 | | | | | | | | | | | | | | | | |
| 6 | FLASH error detect | <table border="1"> <tr><td> </td><td>E</td><td>-</td><td>□</td><td>□</td></tr> <tr><td> </td><td> </td><td> </td><td>□</td><td>□</td></tr> <tr><td> </td><td> </td><td> </td><td>Y</td><td>E</td><td>S</td></tr> </table> | | E | - | □ | □ | | | | □ | □ | | | | Y | E | S | FLASH 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 FLASH 2. Decide Yes with ▲ or ▼ key, press Ⓜ key return normal display 3.Parameter was reset, Please follow step set again |
| | E | - | □ | □ | | | | | | | | | | | | | | | |
| | | | □ | □ | | | | | | | | | | | | | | | |
| | | | Y | E | S | | | | | | | | | | | | | | |