

# Датчики смещения контактов CR/CTM

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# Contact Displacement Sensor

## MRC-H controllers and accessories

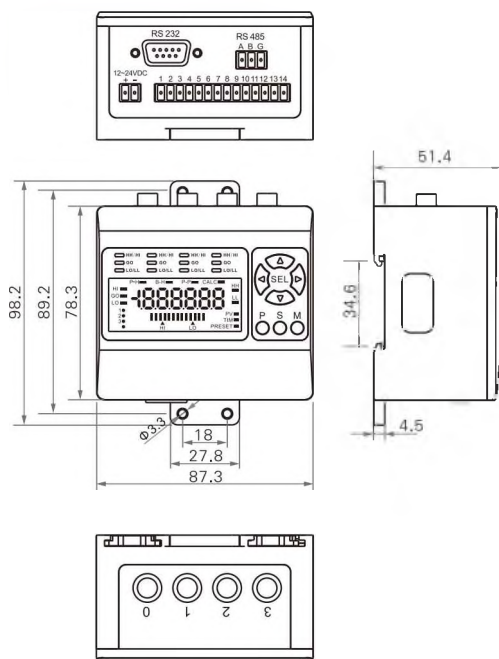


|                          |                               |                                                                                                                                                             |                                   |
|--------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Basic Features           | Housing                       | Retangular                                                                                                                                                  |                                   |
|                          | Display range                 | -199.9999~199.9999                                                                                                                                          |                                   |
|                          | Display resolution            | 5μm/1μm/0.5μm/0.2μm(Displayed according to the type of sensor head)                                                                                         |                                   |
| Electrical data          | Operating voltage             | 12~24VDC                                                                                                                                                    |                                   |
|                          | Power consumption             | ≤240mW(without sensor and subcontrol module connected)                                                                                                      | ≤100mW(without sensor)            |
|                          | Response time                 | 50/100/500/1000ms(Changed in function parameter setting)                                                                                                    |                                   |
|                          | Control input                 | Timer, preset, reset, channel input, no voltage input                                                                                                       |                                   |
|                          | Control output                | NPN output, max. 20mA                                                                                                                                       |                                   |
|                          | Communication protocol        | Modbus RTU                                                                                                                                                  | -                                 |
|                          | Communication interface       | RS232/RS485                                                                                                                                                 | -                                 |
|                          |                               |                                                                                                                                                             |                                   |
| Environmental conditions | Operating temperature         | -10~60°C(No Freezing)                                                                                                                                       |                                   |
|                          | Operating humidity            | 35~80% RH(No Condensation)                                                                                                                                  |                                   |
| Mechanical data          | Expandable                    | 1 main control module, up to 4 sub-control modules can be extended                                                                                          | -                                 |
|                          | Number of connectable sensors | 4                                                                                                                                                           |                                   |
|                          | Dimension                     | Main control module&Sub-control module: 78.3x87.3x51.4mm                                                                                                    |                                   |
|                          | Material                      | Body: ABS Key: ABS Panel: MMA Cable: PVC                                                                                                                    |                                   |
|                          | Weight                        | Main control module approx. 201.6g                                                                                                                          | Sub-control module approx. 168.3g |
|                          | Accessories                   | The main controller can be paired with up to 4 sub-controllers, up to 20 sensor heads, each sensor head needs to be matched with 1pc of CA08FF-S4F2C to use |                                   |
|                          | Model                         | CR-M01                                                                                                                                                      | CR-M01A                           |

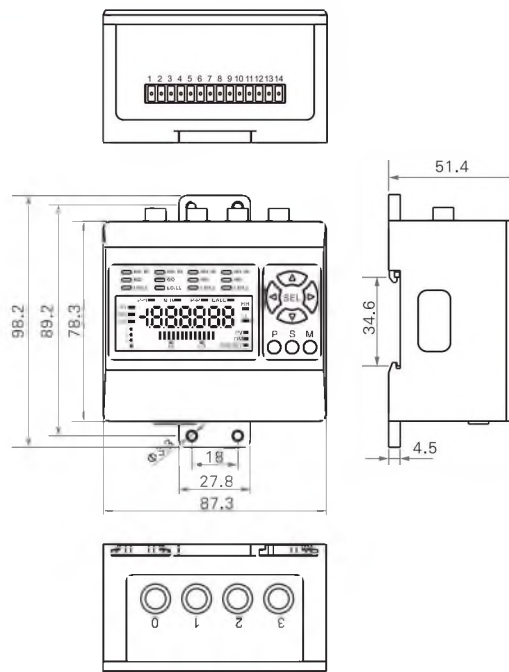
### Dimensions

Unit: mm

Main control module CR-M01



Sub-control module CR-M01A



# Controller

## CR-M02

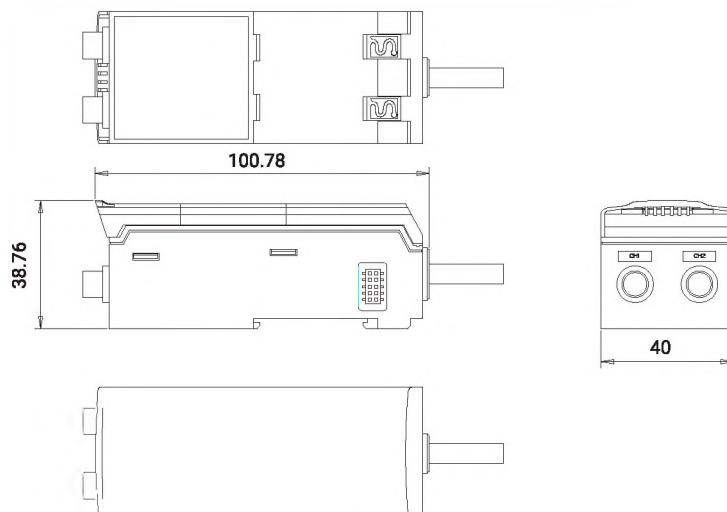


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|                                             |                                                                                   |
|---------------------------------------------|-----------------------------------------------------------------------------------|
| Installation method                         | DIN rail installation                                                             |
| Operating voltage                           | +24VDC±10%                                                                        |
| Current consumption of a single controller  | Under 100mA(When connecting the sensor)                                           |
| Number of connected sensors                 | Two pairs of sensors                                                              |
| The communication with sensors              | RS485                                                                             |
| Number of controllers connected in parallel | Up to 16 controllers can be connected                                             |
| Display                                     | 240*240TFT display                                                                |
| Indicator light                             | Output 1~3 and function indicator light red                                       |
| Analog output                               | Analog output current 4~20mA, voltage 0~5V can be switched                        |
| Switching output                            | 3-channel output, NO, NC, PO, PC can be switched                                  |
| External input                              | 3-channel input, NPN and PNP input optional                                       |
| Display resolution                          | 1μm                                                                               |
| Display range                               | -99.999mm~99.999mm                                                                |
| Protective structure                        | IP40                                                                              |
| Operating temperature                       | -10°C~+50°C                                                                       |
| Working humidity                            | 35%RH~85%RH                                                                       |
| Insulation resistance                       | The resistance of all connecting terminals and shells is above 20MΩ               |
| Dielectric strength                         | All connection terminals and housing withstand voltage AC 1000V                   |
| Vibration resistance                        | Frequency 10~55HZ, 1.5m double amplitude, two hours each in X, Y and Z directions |
| Shock proof                                 | 98m/s <sup>2</sup> (about 10G) 5 times each in X, Y, and Z directions             |
| Model                                       | <b>CR-M02</b>                                                                     |

## Dimensions

Unit:mm

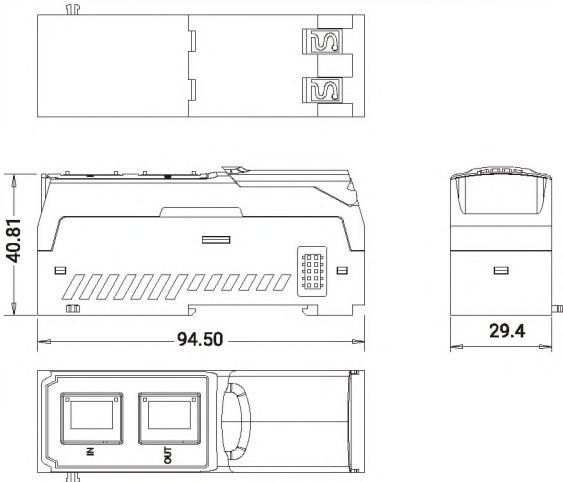




|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Installation method                                              | DIN rail installation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Operating voltage                                                | 24V DC(10~30V DC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Indicator light                                                  | PWR: Power indicator/green<br>RUN: running indicator light/green<br>ERR: Error indicator/red<br>Sensor communication indicator light: red light (RTU communication abnormality)<br>Ethernet port: (green)<br>D-BUS:<br>RTU Communication normal/green light<br>Ethernet port(green):<br>RTU communication abnormality/traffic light alternation of some slave stations<br>No RTU communication activity/off<br>The Ethernet port has established a valid network connection/on.<br>The Ethernet port is in network activity/blinks.<br>The Ethernet port does not establish a network connection or the port is abnormal/off. |
| 100M Ethernet port                                               | 10/100Base-T (X) RJ45, automatic flow control, full and half-duplex mode, MDI/MDI-X automatic detection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Burning port                                                     | The software programming port uses 8-bit terminal blocks with a pitch of 2.0mm, occupying 2-5 positions from the left                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Console port                                                     | The CLI command management port uses 8-position terminal blocks with a spacing of 2.0mm, occupying 6-8 positions from the left                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| RS-485 serial port                                               | Supports 2 RS-485 serial ports, one of which is reserved, using 10-bit terminal blocks with a spacing of 2.0mm, and the serial port occupies 4 bits                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Reset button                                                     | Reset button                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Access terminal, no load power consumption at normal temperature | 10-position terminal block with a pitch of 2.0mm, 2 positions for power supply, 0.7w@10VDC 0.7w@20VDC 0.7w@30VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Full-load power consumption at normal temperature                | 0.7w@10VDC 0.7w@20VDC 0.7w@30VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| High temperature full load power consumption                     | 0.8w@10VDC 0.8w@20VDC 0.8w@30VDC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Operating temperature                                            | -40°C~75°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Storage temperature                                              | -40°C~85°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Working humidity                                                 | 5%~95% ( No condensation )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Model                                                            | CTM01-EC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

Dimensions

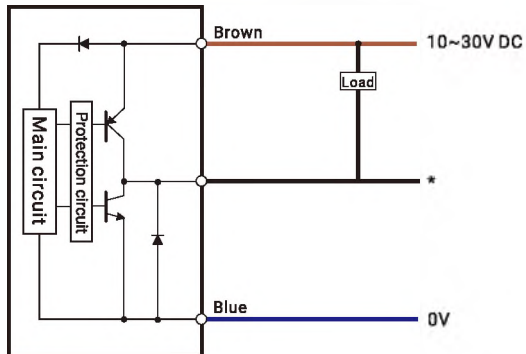
Unit:mm



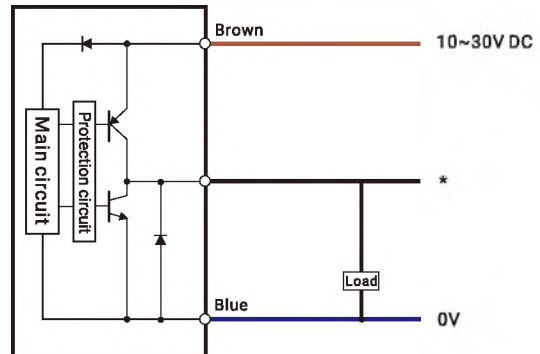
## Circuit Diagram

### Input Circuit Diagram

NPN Output



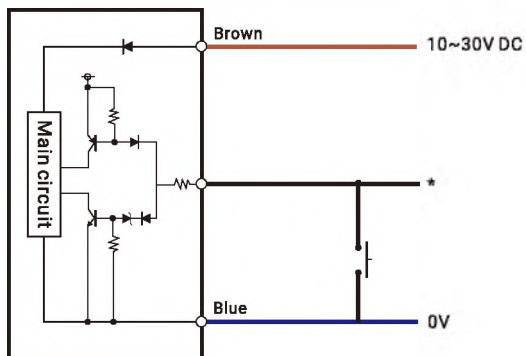
PNP Output



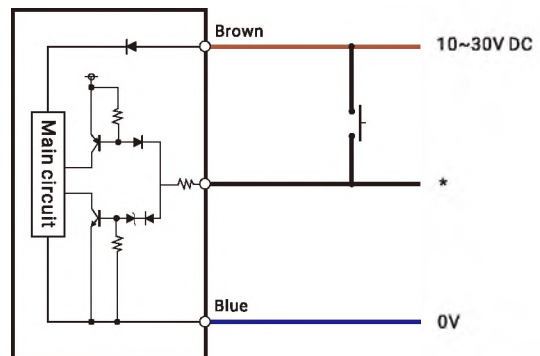
★ Black (HIGH detection output) / White (LOW detection output) / Grey (GO detection output) / Green (Verification input)

### Output Circuit Diagram

NPN Output



PNP Output



★ Pink (External Input 1) / Yellow (External Input 2) / Pink Purple (External Input 3) / Purple (External Input 4)

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