# Product data sheet

Specifications



## Modicon MC80, Controller, 8 DI, 12 DO, 2 HSC, 4 AI

BMKC8030311

To be discontinued on: Dec 1, 2027

To be end-of-service on: Dec 31, 2035

To be discontinued

**Product availability: Non-Stock - Not normally stocked in distribution facility**

## Main

| | |
|---|---|
| **Range of Product** | Modicon MC80 |
| **Product or Component Type** | Processor module |
| **Product Specific Application** | Thermo solar - tower power |

## Complementary

| | |
|---|---|
| **Product compatibility** | BMXFTB28... terminal block high-speed counter module<br>BMXFTB20... terminal block analog input module<br>BMXFTB28... terminal block discrete I/O module |
| **[Us] rated supply voltage** | 24 V - 15...20 % DC |
| **Current Consumption** | <= 700 mA |
| **Isolation voltage** | 1500 V DC |
| **Memory description** | Internal RAM 3840 kB<br>Internal RAM 128 kB data<br>Internal RAM 3590 kB program constants and symbols |
| **Execution time per instruction** | 0.06 µs Boolean<br>0.08 µs mixed |
| **Realtime clock** | With |
| **Function available** | Memory retention without battery |
| **Communication port protocol** | 1 non isolated serial link RJ45 RS485/RS232 0.3...19.2 kbit/s 247<br>1 CANopen SUB-D 9 20 kbit/s...1 Mbit/s 16<br>2 Ethernet RJ45 10/100 Mbit/s |
| **Integrated connection type** | USB port mini B USB |
| **Port Ethernet** | 10BASE-T/100BASE-TX |
| **Bus length** | 0…32.8 ft (0…10 m) serial link non isolated<br>0…49.2 ft (0…15 m) serial link non isolated<br>0…3280.8 ft (0…1000 m) serial link isolated with external isolation tap<br>0…65.6 ft (0…20 m) 1 Mbit/s CANopen<br>0…8202.10 ft (0…2500 m) 20 kbit/s CANopen<br>0…328.08 ft (0…100 m) Ethernet |
| **Communication service** | Read/write variables Modbus<br>Diagnostics Modbus<br>Send/receive character string character mode<br>Process Data Object (PDO) CANopen<br>Service Data Object (SDO) CANopen<br>FDR client Ethernet<br>SNMP Ethernet<br>RSTP support Ethernet |
| **Number of counter** | 2 |
| **Maximum counting frequency** | 60000 Hz |

Price is “List Price” and may be subject to a trade discount – check with your local distributor or retailer for actual price.

Disclaimer: This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications

| | |
|---|---|
| **Counter functions** | Count events<br>Frequency meter<br>Ratio count<br>One shot counting<br>Measure time periods<br>Freelarge counting<br>Loop (modulo) counting |
| **Number of inputs for counter** | 3 auxiliary<br>3 high speed |
| **Logic input for counter** | Positive (sink) |
| **Sensor power supply for counter** | 19…30 V DC |
| **Input compatibility for counter** | 24 V 2-wire/3-wire proximity sensor<br>incremental encoder with push-pull outputs, 10...30 V totem pole<br>24 V 2/3-wire sensor PNP |
| **Number of outputs for counter** | 2 positive |
| **Nominal output current for counter** | 0.5 A per output |
| **Discrete input number** | 8 positive logic (sink) |
| **Discrete input type** | Type 3 |
| **Discrete input current** | 2.4 mA |
| **Discrete input voltage** | 19...30 V DC |
| **Discrete output number** | 12 positive |
| **Discrete output current** | 2 A per output<br>10 A per module |
| **Discrete output voltage** | 19...30 V DC |
| **Protection type** | Overload protection output<br>Short-circuit protection output |
| **Analogue input number** | 4 |
| **Analogue input type** | Current - 20...20 mA<br>Voltage - 10...10 V |
| **Fast read cycle time for analogue input** | 1.3 ms + 1.3 ms x number of channels used |
| **Nominal read cycle time for analogue input** | 6.5 ms for 4 channels |
| **Analogue input resolution** | 16 bits |

## Environment

| | |
|---|---|
| **Ambient Air Temperature for Operation** | -13…158 °F (-25…70 °C) |
| **Ambient Air Temperature for Storage** | -40…185 °F (-40…85 °C) |
| **Relative humidity** | 0…95 % |
| **vibration resistance** | 3 gn |
| **Marking** | CE |
| **Standards** | UL 508<br>CSA C22.2 No 213 Class I Division 2 Group C<br>CSA C22.2 No 142<br>IEC 61131-2<br>CSA C22.2 No 213 Class I Division 2 Group A<br>CSA C22.2 No 213 Class I Division 2 Group D<br>CSA C22.2 No 213 Class I Division 2 Group B |
| **Product Certifications** | RCM |

## Ordering and shipping details

| | |
|---|---|
| **Category** | US1PC3418160 |
| **Discount Schedule** | PC34 |
| **GTIN** | 3606485445168 |
| **Returnability** | No |
| **Country of origin** | ID |

## Packing Units

| | |
|---|---|
| **Unit Type of Package 1** | PCE |
| **Nbr. of units in pkg.** | 1 |
| **Package 1 Height** | 5.709 in (14.500 cm) |
| **Package 1 Width** | 4.724 in (12.000 cm) |
| **Package 1 Length** | 10.748 in (27.300 cm) |
| **Package weight(Lbs)** | 2.875 lb(US) (1.304 kg) |
| **Unit Type of Package 2** | S03 |
| **Number of Units in Package 2** | 6 |
| **Package 2 Height** | 11.811 in (30.000 cm) |
| **Package 2 Width** | 11.811 in (30.000 cm) |
| **Package 2 Length** | 15.748 in (40.000 cm) |
| **Package 2 Weight** | 18.633 lb(US) (8.452 kg) |

## Contractual warranty

| | |
|---|---|
| **Warranty (in months)** | 18 |

## Environmental Data

Schneider Electric aims to achieve Net Zero status by 2050 through supply chain partnerships, lower impact materials, and circularity via our ongoing “Use Better, Use Longer, Use Again” campaign to extend product lifetimes and recyclability.

Environmental Data explained >

How we assess product sustainability >

### Use Better

#### Materials and Substances

| | |
|---|---|
| Packaging made with recycled cardboard | No |
| Packaging without single use plastic | No |
| EU RoHS Directive | Compliant By Exemption |
| REACh Regulation | Reference contains Substances of Very High Concern above the threshold |
| California proposition 65 | WARNING: This product can expose you to chemicals including: Lead and lead compounds, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov |

### Use Longer

#### Lifetime extension

| | |
|---|---|
| Repair | No |

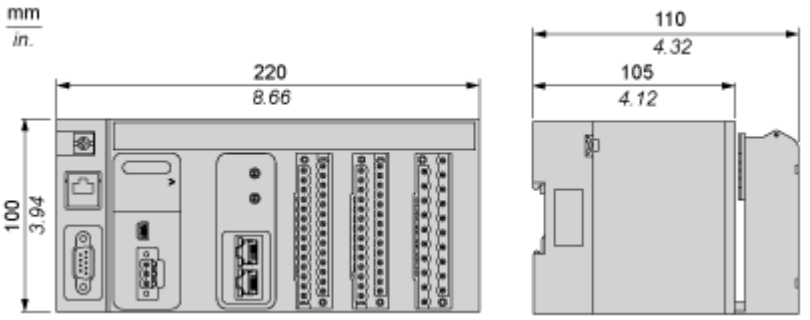
### Use Again

#### Repack and remanufacture

| | |
|---|---|
| Take-back | No |

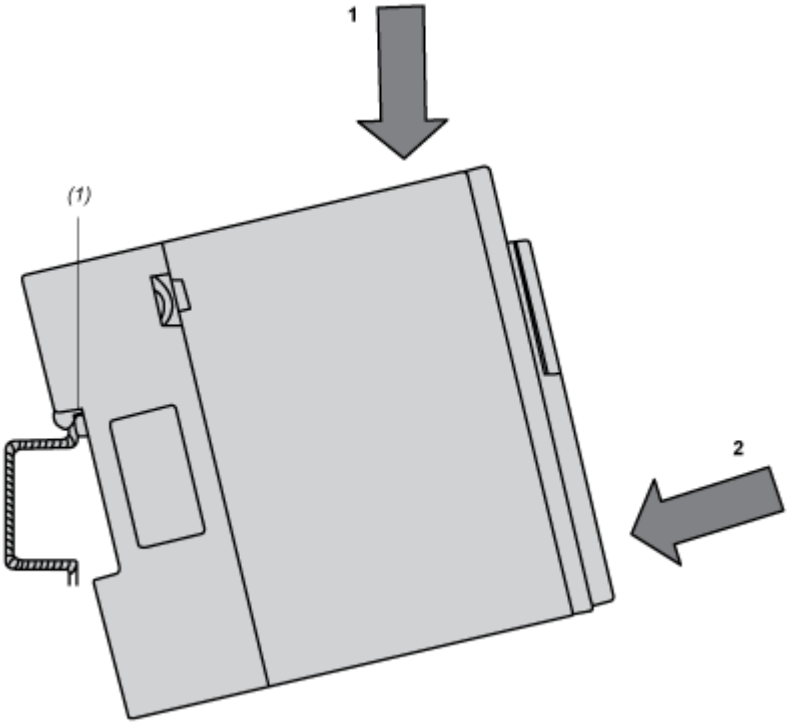
Dimensions Drawings

## Dimensions

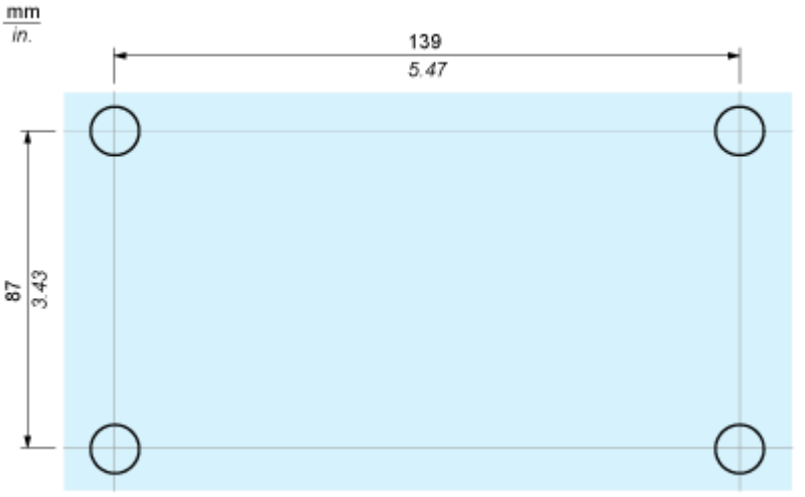


Mounting and Clearance

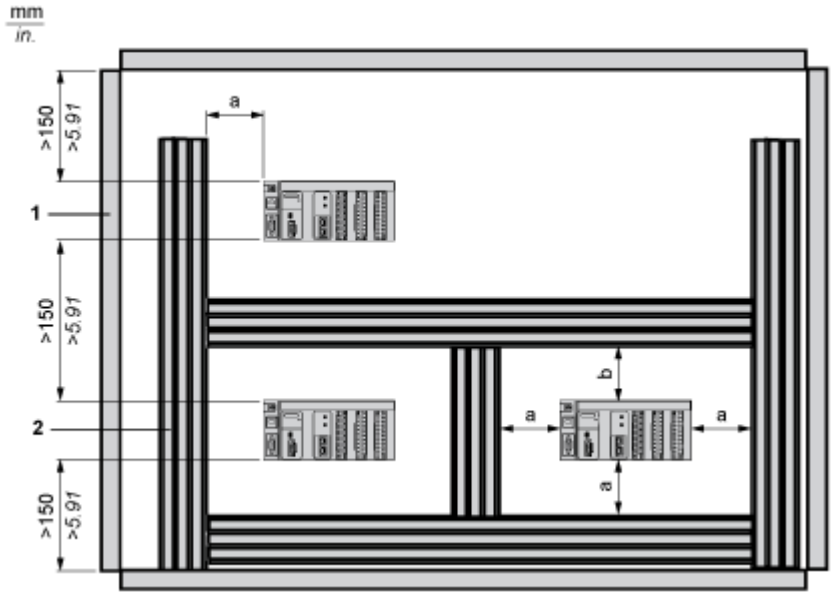
## Mounting on DIN Rails



## Mounting on Panels



## Clearance




a : Greater than or equal to 60 mm (2.36 inch)

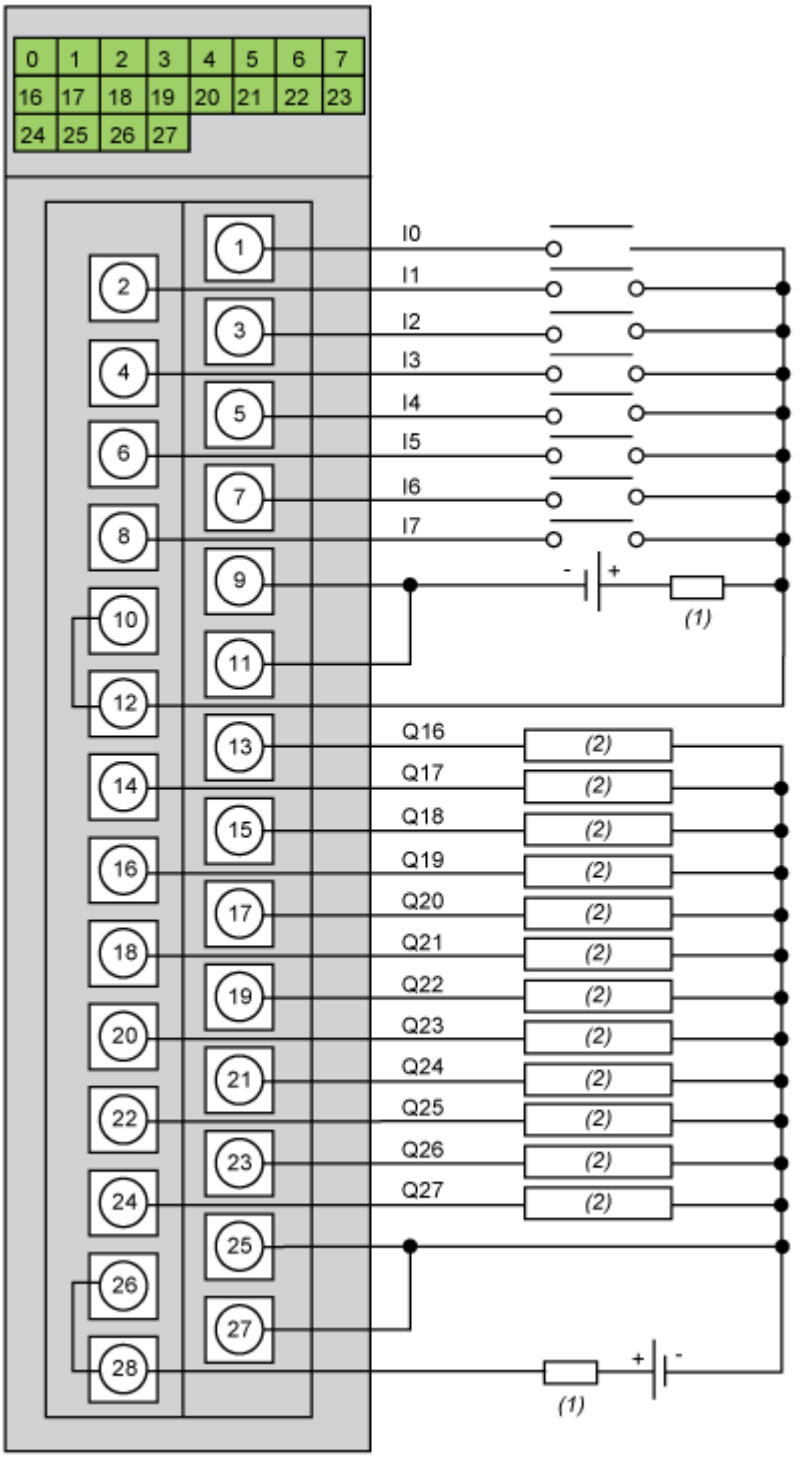
b : Greater than or equal to 80 mm (3.15 inch)

1 : Installation or casing

2 : Wiring duct or tray

Connections and Schema

**Discrete I/O Connection**

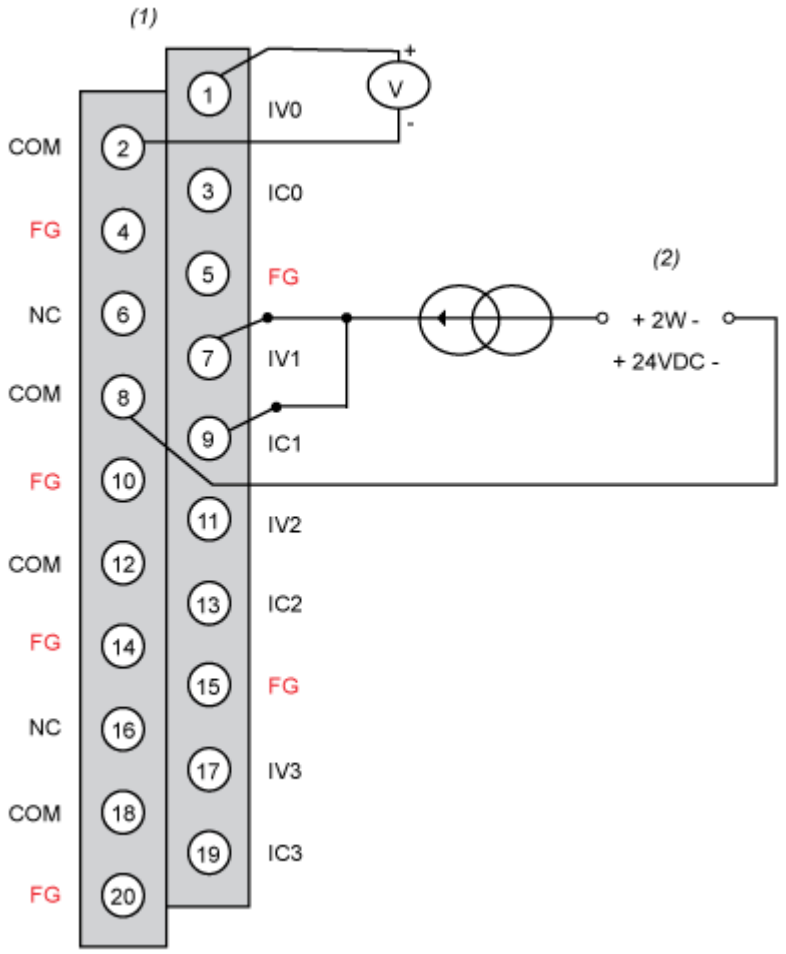



(1) : Fuse

(2) : Pre-actuator

**Power supply:** 24 Vdc
**Input fuse:** fast blow fuse of 0.5 A
**Output fuse:** fast blow fuse of 12 A

## Analog Input Connection




(1) : Cabling view

(2) : Loopsupply

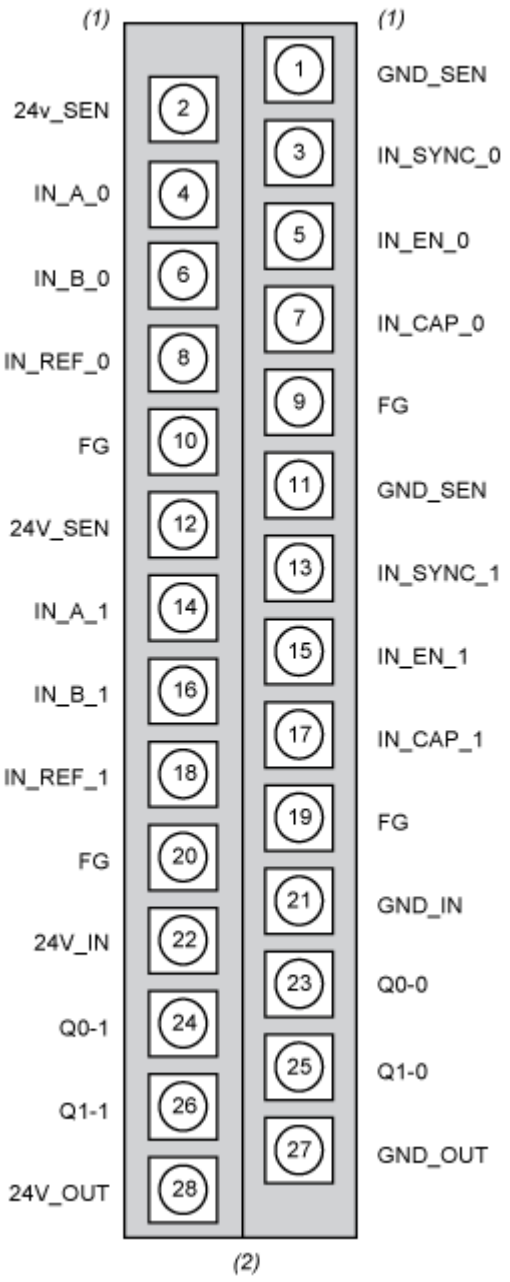
COM : Common pin for each channel

IVx : Pole input for channel x

ICx: Current reading resistor + input

FG: Functional ground

## High Speed Counter Connection




(1) : Symbol

(2) : 28-pin Connector

| Pin Number | Symbol | Description |
|---|---|---|
| 2,12 | 24V_SEN | 24 Vdc output for sensors supply |
| 1,11 | GND_SEN | 24 Vdc output for sensors supply |
| 9,10,19,20 | FG | Functional ground |
| 4,14 | IN_A_0 IN_A_1 | Input A |

| Pin Number | Symbol | Description |
|---|---|---|
| 6,16 | IN_B_0 IN_B_1 | Input B |
| 3,13 | IN_SYNC_0 IN_SYNC_1 | Synchronization input |
| 5,15 | IN_EN_0 IN_EN_1 | Enable input |
| 8,18 | IN_REF_0 IN_REF_1 | Homing input |
| 7,17 | IN_CAP_0 IN_CAP_1 | Capture input |
| 22 | 24V_IN | 24 Vdc input for sensors supply |
| 21 | GND_IN | 24 Vdc input for sensors supply |
| 23 | Q0-0 | Q0 output for counting channel 0 |
| 24 | Q0-1 | Q1 output for counting channel 0 |
| 25 | Q1-0 | Q0 output for counting channel 1 |
| 26 | Q1-1 | Q1 output for counting channel 1 |
| 28 | 24V_OUT | 24 Vdc input for actuators supply |
| 27 | GND_OUT | 24 Vdc input for actuators supply |