

Schneider Electric TM200C16R

TM200C16R

controller M200 16 IO relay

Main

Range of product Easy Modicon M200

Product or component

type

Logic controller

[Us] rated supply

voltage

100...240 V AC

Discrete I/O number 16

Discrete input number I8: 1 regular input

I2...I5: 4 fast input

I0, I1, I6, I7: 4 high speed input

Discrete output number 7 relay

Discrete input voltage 24 V

Discrete input voltage

type

DC

Discrete input current 7 mA for input

Discrete input logic Sink or source (positive/negative) type 1 conforming to EN/IEC 61131-2

Discrete output voltage 24 V DC

220 V AC

Discrete output current 2 A

Discrete output type Relay normally open

Power consumption in

VA

51...63 VA at 100...240 V AC (with max I/O)

Complementary

Maximum number of I/O expansion module 4 with 64 discrete output(s) for transistor output

4 with 71 discrete output(s) for relay output

Supply voltage limits 85...264 V

Network frequency 50/60 Hz

Inrush current 50 A

Voltage state 1 guaranteed ≥ 15 V for input

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Voltage state 0 guaranteed ≤ 5 V for input
Input impedance 3.3 kOhm for discrete input
Response time 10 ms turn-off, Q0...Q6 terminal(s) for relay output
10 ms turn-on, Q0...Q6 terminal(s) for relay output
5 μ s turn-off, I0, I1, I6, I7 terminal(s) for high speed input
5 μ s turn-on, I0, I1, I6, I7 terminal(s) for high speed input
100 μ s turn-off, I2...I5 terminal(s) for fast input
35 μ s turn-on, I2...I5 terminal(s) for fast input
100 μ s turn-off, I8 terminal(s) for regular input
35 μ s turn-on, I8 terminal(s) for regular input
Configurable filtering time 0 ms for input
3 ms for input
12 ms for input
Output voltage limits 30 V DC
250 V AC
Maximum current per output common 4 A at COM 0
4 A at COM 1
Electrical durability 100000 Cycles AC-12, 240 V, 480 VA, resistive
100000 cycles DC-12, 24 V, 48 W, resistive
Switching frequency 0.1 Hz with maximum load
Mechanical durability 20000000 cycles for relay output
Minimum load 10 mA at 5 V DC for relay output
Memory capacity 512 byte internal flash with 10000 instructions for backup of programs
Data storage equipment 32 GB micro SD card (optional)

Battery type BR2032 Li-CFx (Lithium-Carbon Monofluoride), battery life: 5 year(s)
Backup time 3 years at 25 ° C (by interruption of power supply)
Execution time for 1 KInstruction 0.3 ms for event and periodic task
Execution time per instruction 0.2 μ s Boolean
Exct time for event task 60 μ s response time
Clock drift ≤ 90 s/month at 25 ° C
Regulation loop Adjustable PID regulator up to 14 simultaneous loops
Control signal type Quadrature (x1, x2, x4) at 100 kHz for fast input (HSC mode)
Pulse/Direction at 100 kHz for fast input (HSC mode)
Single phase at 100 kHz for fast input (HSC mode)
CW/CCW at 100 kHz for fast input (HSC mode)
Counting input number 4 fast input (HSC mode) at 100 kHz 32 bits
Integrated connection type USB port with mini B USB 2.0 connector
Non isolated serial link serial 1 with terminal block connector and RS485 interface
Non isolated serial link serial 2 with terminal block connector and RS232/RS485 interface

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Isolated serial link serial 2 with terminal block connector and RS485 interface
Transmission rate 1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 15 m for RS485
1.2...115.2 kbit/s (115.2 kbit/s by default) for bus length of 3 m for RS232
12 Mbit/s for USB
Communication port protocol USB port: USB - SoMachine-Network
Non isolated serial link: Modbus master/slave - RTU/ASCII or SoMachine-Network
Local signalling 1 LED (green) for PWR
1 LED (green) for RUN
1 LED (red) for module error (ERR)
1 LED (green) for SD card access (SD)
1 LED (red) for BAT
1 LED (green) for SL1
1 LED per channel (green) for I/O state
Electrical connection Mini B USB 2.0 connector for a programming terminal
Removable screw terminal block for inputs
Removable screw terminal block for outputs
Removable screw terminal block, 4 terminal(s) for connecting the serial link1
Removable screw terminal block, 3 terminal(s) for connecting the 100-240 V AC power supply
Maximum cable distance between devices Unshielded cable: <50 m for input
Shielded cable: <10 m for fast input
Shielded cable: <10 m for high speed input
Unshielded cable: <150 m for output
Insulation Non-insulated between inputs
Between output and internal logic at 1780 V AC
Between output groups at 1780 V AC
Between supply and internal logic at 1780 V AC
Between input and internal logic at 500 V AC
Between fast input and internal logic at 500 V AC
Between input groups at 500 V AC
Sensor power supply 24 V DC at 250 mA supplied by the controller
Marking CE
Mounting support Top hat type TH35-15 rail conforming to IEC 60715
Top hat type TH35-7.5 plate or panel with fixing kit conforming to IEC 60715
Height 90 mm
Depth 70 mm
Width 110 mm
Net weight 0.359 kg

Environment
IP degree of protection IP20 with protective cover in place

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Product certifications CSA

CULus

IACS E10

RCM

Standards EN/IEC 61131-2

EN/IEC 61010-2-201

Electromagnetic compatibility Electrostatic discharge immunity test - test level: 8 kV (air discharge) conforming

to EN/IEC 61000-4-2

Electrostatic discharge immunity test - test level: 6 kV (contact discharge)

conforming to EN/IEC 61000-4-2

Susceptibility to electromagnetic fields - test level: 10 V/m (80 MHz...3 GHz)

conforming to EN/IEC 61000-4-3

Magnetic field at power frequency - test level: 30 A/m conforming to EN/IEC 61000-4-8

Electrical fast transient/burst immunity test - test level: 2 kV (power lines)

conforming to EN/IEC 61000-4-4

Electrical fast transient/burst immunity test - test level: 2 kV (relay output)

conforming to EN/IEC 61000-4-4

Electrical fast transient/burst immunity test - test level: 1 kV (I/O) conforming to EN/IEC 61000-4-4

Electrical fast transient/burst immunity test - test level: 1 kV (serial link) conforming to EN/IEC 61000-4-4

1.2/50 μ s shock waves immunity test - test level: 1 kV (power lines (DC)) conforming to EN/IEC 61000-4-5

1.2/50 μ s shock waves immunity test - test level: 2 kV (power lines (AC)) conforming to EN/IEC 61000-4-5

1.2/50 μ s shock waves immunity test - test level: 2 kV (relay output) conforming to EN/IEC 61000-4-5

1.2/50 μ s shock waves immunity test - test level: 1 kV (I/O) conforming to EN/IEC 61000-4-5

1.2/50 μ s shock waves immunity test - test level: 1 kV (shielded cable) conforming to EN/IEC 61000-4-5

1.2/50 μ s shock waves immunity test - test level: 0.5 kV (power lines (DC)) conforming to EN/IEC 61000-4-5

1.2/50 μ s shock waves immunity test - test level: 1 kV (power lines (AC)) conforming to EN/IEC 61000-4-5

Conducted RF disturbances - test level: 10 V (0.15...80 MHz) conforming to EN/IEC 61000-4-6

Conducted emission - test level: 79 dB μ V/m QP/66 dB μ V/m AV (power lines (AC)) conforming to EN/IEC 55011

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Conducted emission - test level: 73 dB μ V/m QP/60 dB μ V/m AV (power lines (AC)) conforming to EN/IEC 55011

Radiated emission - test level: 40 dB μ V/m QP class A (10 m) conforming to EN/IEC 55011

Radiated emission - test level: 47 dB μ V/m QP class A (10 m) conforming to EN/IEC 55011

1.2/50 μ s shock waves immunity test - test level: 1 kV (relay output) conforming to EN/IEC 61000-4-5

Shock resistance 15 gn for 11 ms
30 gn for 6 ms

Immunity to microbreaks 10 ms

Vibration resistance 3.5 mm at 5...8.4 Hz on symmetrical rail
1 gn at 8.4...150 Hz on symmetrical rail
3.5 mm at 5...8.7 Hz on panel mounting
2 gn at 8.7...150 Hz on panel mounting

Relative humidity 10...95 %, without condensation (in operation)
10...95 %, without condensation (in storage)

Ambient air temperature for operation 0...55 ° C (horizontal installation)
Ambient air temperature for storage -25...70 ° C

Pollution degree $\leq$ 2

Operating altitude 0...2000 m
Storage altitude 0...3000 m

Packing Units

Unit Type of Package 1 PCE

Number of Units in Package 1 1

Package 1 Height 9.598 cm
Package 1 Width 12.326 cm
Package 1 Length 13.738 cm
Package 1 Weight 508 g

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