

Schneider Electric TM200CE40R

TM200CE40R

controller M200 40 IO relay+Ethernet

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 40

Discrete input number I2...I5: 4 fast input

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

I8...I23: 16 regular input

Discrete output number 16 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 59...69 VA at 100...240 V AC (with max I/O)

Complementary

Maximum number of I/O expansion
module

4 with 128 discrete output(s) for transistor output

4 with 80 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

Voltage state 0 guaranteed ≤ 5 V for input

Input impedance 3.3 kOhm for discrete input

Response time 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...I13 terminal(s) for regular input

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35 µs turn-on, I8...I13 terminal(s) for regular input
10 ms turn-off, Q0...Q15 terminal(s) for relay output
10 ms turn-on, Q0...Q15 terminal(s) for relay output
125 µs turn-off, I14...I23 terminal(s) for regular input
55 µs turn-on, I14...I23 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 2
4 A at COM 0
4 A at COM 1
4 A at COM 3
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 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 µs Boolean
Exct time for event task 60 µs 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
Ethernet Modbus TCP/IP Ethernet with RJ45 connector and 1 Ethernet port 10/100BASE-T interface
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

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12 Mbit/s for USB
10/100 Mbit/s for bus length of 100 m for Ethernet Modbus TCP/IP
Communication port protocol USB port: USB - SoMachine-Network
Non isolated serial link: Modbus master/slave - RTU/ASCII or SoMachine-Network
Ethernet Modbus TCP/IP: Modbus TCP/IP client/server
Local signalling 1 LED (green)PWR:
1 LED (green)RUN:
1 LED (red)module error (ERR):
1 LED (green)SD card access (SD):
1 LED (red)BAT:
1 LED (green)SL1:
1 LED per channel (green)I/O state:
2 LEDs (green)communication (LK/ACT 10/100):
Electrical connection Mini B USB 2.0 connectorfor a programming terminal
RJ45 connectorfor connecting Ethernet network
removable screw terminal blockfor inputs
removable screw terminal blockfor 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 300 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 175 mm
Net weight 0.512 kg

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Environment

IP degree of protection IP20 with protective cover in place

Product certifications RCM

IACS E10

CSA

CULus

Standards EN/IEC 61010-2-201

EN/IEC 61131-2

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/

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IEC 55011

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

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

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

Package 1 Weight 7.400 kg

Package 1 Height 9.000 cm

Package 1 width 18.400 cm

Package 1 Length 13.800 cm

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