

# Bảng thông số sản phẩm

Thông số kỹ thuật



## logic controller, Modicon M241, 40 IO, transistor, PNP

TM241C40T

### Main

Range of product	Modicon M241
product or component type	Logic controller
[Us] rated supply voltage	24 V DC
Discrete input number	24, discrete input 8 fast input conforming to IEC 61131-2 Type 1
Discrete output type	Transistor
Discrete output number	16 transistor 4 fast output
Discrete output voltage	24 V DC for transistor output
Discrete output current	0.1 A for fast output (PTO mode) (Q0...Q3) 0.5 A for transistor output (Q0...Q15)

### Complementary

Discrete I/O number	40
Maximum number of I/O expansion module	7 (local I/O-Architecture) 14 (remote I/O-Architecture)
Supply voltage limits	20.4...28.8 V
Inrush current	50 A
Power consumption in W	32.6...40.4 W (with max number of I/O expansion module)
Discrete input logic	Sink or source
Discrete input voltage	24 V
Discrete input voltage type	DC
Voltage state 1 guaranteed	$\geq 15$ V for input
Voltage state 0 guaranteed	$\leq 5$ V for input
Discrete input current	10.7 mA for fast input 7 mA for input
Input impedance	4.7 kOhm for input 2.81 kOhm for fast input
Response time	$\leq 2$ $\mu$ s turn-on, I0...I7 terminal(s) for fast input $\leq 2$ $\mu$ s turn-off, I0...I7 terminal(s) for fast input $\leq 2$ $\mu$ s turn-on, Q0...Q3 terminal(s) for fast output $\leq 2$ $\mu$ s turn-off, Q0...Q3 terminal(s) for fast output 50 $\mu$ s turn-on, I0...I15 terminal(s) for input 50 $\mu$ s turn-off, I0...I15 terminal(s) for input $\leq 34$ $\mu$ s turn-on, Q0...Q15 terminal(s) for output $\leq 250$ $\mu$ s turn-off, Q0...Q15 terminal(s) for output

<b>Configurable filtering time</b>	1 µs for fast input 12 ms for fast input 0 ms for input 1 ms for input 4 ms for input 12 ms for input
<b>Discrete output logic</b>	Positive logic (source)
<b>Output voltage limits</b>	30 V DC
<b>Maximum current per output common</b>	2 A
<b>Maximum output frequency</b>	20 kHz for fast output (PWM mode) 100 kHz for fast output (PLS mode) 1 kHz for output
<b>Accuracy</b>	+/- 0.1 % at 0.02...0.1 kHz for fast output +/- 1 % at 0.1...1 kHz for fast output
<b>Maximum leakage current</b>	5 µA for output
<b>Maximum voltage drop</b>	<1 V
<b>Maximum tungsten load</b>	<2.4 W
<b>Protection type</b>	Short-circuit protection Short-circuit and overload protection with automatic reset Reverse polarity protection for fast output
<b>Reset time</b>	10 ms automatic reset output 12 s automatic reset fast output
<b>Memory capacity</b>	64 MB for system memory RAM
<b>Data backed up</b>	128 MB built-in flash memory for backup of user programs
<b>Data storage equipment</b>	<= 16 GB SD card (optional)
<b>Battery type</b>	BR2032 lithium non-rechargeable, battery life: 4 year(s)
<b>Backup time</b>	2 years at 25 °C
<b>Execution time for 1 KInstruction</b>	0.3 ms for event and periodic task 0.7 ms for other instruction
<b>Application structure</b>	8 event tasks 8 external event tasks 4 cyclic master tasks 3 cyclic master tasks + 1 freewheeling task
<b>Realtime clock</b>	With
<b>Clock drift</b>	<= 60 s/month at 25 °C
<b>Positioning functions</b>	PTO function 4 channel(s) (positioning frequency: 100 kHz) PTO function 4 channel(s) for transistor output (positioning frequency: 1 kHz)
<b>Counting input number</b>	4 fast input (HSC mode) at 200 kHz 16 standard input at 1 kHz
<b>Control signal type</b>	A/B at 100 kHz for fast input (HSC mode) Pulse/direction at 200 kHz for fast input (HSC mode) Single phase at 200 kHz for fast input (HSC mode)
<b>Integrated connection type</b>	Non isolated serial link serial 1 with RJ45 connector and RS232/RS485 interface Non isolated serial link serial 2 with removable screw terminal block connector and RS485 interface USB port with mini B USB 2.0 connector
<b>Supply</b>	(serial 1)serial link supply: 5 V, <200 mA
<b>Transmission rate</b>	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 480 Mbit/s for bus length of 3 m for USB
<b>Communication port protocol</b>	Non isolated serial link: Modbus master/slave

<b>Local signalling</b>	1 LED (green) for PWR 1 LED (green) for RUN 1 LED (red) for module error (ERR) 1 LED (red) for I/O error (I/O) 1 LED (green) for SD card access (SD) 1 LED (red) for BAT 1 LED (green) for SL1 1 LED (green) for SL2 1 LED (red) for bus fault on TM4 (TM4) 1 LED per channel (green) for I/O state
<b>Electrical connection</b>	removable screw terminal blockfor inputs and outputs (pitch 5.08 mm) removable screw terminal blockfor connecting the 24 V DC power supply (pitch 5.08 mm)
<b>Maximum cable distance between devices</b>	Unshielded cable: <50 m for input Shielded cable: <10 m for fast input Unshielded cable: <50 m for output Shielded cable: <3 m for fast output
<b>Insulation</b>	Between supply and internal logic at 500 V AC Non-insulated between supply and ground Between input and internal logic at 500 V AC Non-insulated between inputs Between fast input and internal logic at 500 V AC Between output and internal logic at 500 V AC Non-insulated between outputs Between fast output and internal logic at 500 V AC Between output groups at 500 V AC
<b>marking</b>	CE
<b>Surge withstand</b>	1 kV power lines (DC) common mode conforming to IEC 61000-4-5 1 kV shielded cable common mode conforming to IEC 61000-4-5 0.5 kV power lines (DC) differential mode conforming to IEC 61000-4-5 1 kV relay output differential mode conforming to IEC 61000-4-5 1 kV input common mode conforming to IEC 61000-4-5 1 kV transistor output common mode conforming to IEC 61000-4-5
<b>Mounting support</b>	Top hat type TH35-15 rail conforming to IEC 60715 Top hat type TH35-7.5 rail conforming to IEC 60715 plate or panel with fixing kit
<b>Height</b>	90 mm
<b>Depth</b>	95 mm
<b>Width</b>	190 mm
<b>net weight</b>	0.62 kg

## Environment

<b>Standards</b>	ANSI/ISA 12-12-01 CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL) UL 508
<b>Product certifications</b>	RCM cULus CE UKCA DNV-GL ABS LR
<b>Resistance to electrostatic discharge</b>	8 kV in air conforming to IEC 61000-4-2 4 kV on contact conforming to IEC 61000-4-2
<b>Resistance to electromagnetic fields</b>	10 V/m 80 MHz...1 GHz conforming to IEC 61000-4-3 3 V/m 1.4 GHz...2 GHz conforming to IEC 61000-4-3 1 V/m 2 GHz...3 GHz conforming to IEC 61000-4-3

<b>Resistance to fast transients</b>	2 kV (power lines) conforming to IEC 61000-4-4 1 kV (serial link) conforming to IEC 61000-4-4 1 kV (input) conforming to IEC 61000-4-4 1 kV (transistor output) conforming to IEC 61000-4-4
<b>Resistance to conducted disturbances</b>	10 V 0.15...80 MHz conforming to IEC 61000-4-6 3 V 0.1...80 MHz conforming to Marine specification (LR, ABS, DNV, GL) 10 V spot frequency (2, 3, 4, 6.2, 8.2, 12.6, 16.5, 18.8, 22, 25 MHz) conforming to Marine specification (LR, ABS, DNV, GL)
<b>Electromagnetic emission</b>	Conducted emissions - test level: 120...69 dB $\mu$ V/m QP ( power lines) at 10...150 kHz conforming to IEC 55011 Conducted emissions - test level: 63 dB $\mu$ V/m QP ( power lines) at 1.5...30 MHz conforming to IEC 55011 Radiated emissions - test level: 40 dB $\mu$ V/m QP class A at 30...230 MHz conforming to IEC 55011 Conducted emissions - test level: 79...63 dB $\mu$ V/m QP ( power lines) at 150...1500 kHz conforming to IEC 55011 Radiated emissions - test level: 47 dB $\mu$ V/m QP class A at 230...1000 MHz conforming to IEC 55011
<b>Immunity to microbreaks</b>	10 ms
<b>Ambient air temperature for operation</b>	-10...50 °C (vertical installation) -10...55 °C (horizontal installation)
<b>Ambient air temperature for storage</b>	-25...70 °C
<b>Relative humidity</b>	10...95 %, without condensation (in operation) 10...95 %, without condensation (in storage)
<b>IP degree of protection</b>	IP20 with protective cover in place
<b>Pollution degree</b>	2
<b>Operating altitude</b>	0...2000 m
<b>Storage altitude</b>	0...3000 m
<b>Vibration resistance</b>	3.5 mm at 5...8.4 Hz on symmetrical rail 3 gn at 8.4...150 Hz on symmetrical rail 3.5 mm at 5...8.4 Hz on panel mounting 3 gn at 8.4...150 Hz on panel mounting
<b>Shock resistance</b>	15 gn for 11 ms

## Packing Units

<b>Unit Type of Package 1</b>	PCE
<b>Number of Units in Package 1</b>	1
<b>Package 1 Height</b>	11.5 cm
<b>Package 1 Width</b>	13.094 cm
<b>Package 1 Length</b>	22.928 cm
<b>Package 1 Weight</b>	760.0 g
<b>Unit Type of Package 2</b>	S03
<b>Number of Units in Package 2</b>	6
<b>Package 2 Height</b>	30 cm
<b>Package 2 Width</b>	30 cm
<b>Package 2 Length</b>	40 cm
<b>Package 2 Weight</b>	5.441 kg
<b>Unit Type of Package 3</b>	P06
<b>Number of Units in Package 3</b>	48
<b>Package 3 Height</b>	75.0 cm

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**Package 3 Width** 60.0 cm

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**Package 3 Length** 80.0 cm

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**Package 3 Weight** 52 kg

## Bền vững

Nhãn **Green Premium™** là cam kết của Schneider Electric trong việc cung cấp sản phẩm với hiệu suất môi trường tốt nhất. Green Premium cam kết tuân thủ các quy định mới nhất, minh bạch về tác động môi trường, cũng như các sản phẩm tuần hoàn và CO<sub>2</sub> thấp.

**Hướng dẫn đánh giá tính bền vững của sản phẩm** là tài liệu kỹ thuật phổ thông giúp làm rõ các tiêu chuẩn nhân sinh thái toàn cầu và cách diễn giải việc khai báo môi trường.

[Tìm hiểu thêm về Green Premium >](#)

[Hướng dẫn đánh giá về sự bền vững của sản phẩm >](#)



Minh bạch [RoHS/REACH](#)

## Hiệu suất sức khỏe

Mercury Free

Rohs Exemption Information [Yes](#)

Pvc Free

## Chứng nhận & Tiêu chuẩn

Reach Regulation

[REACH Declaration](#)

Eu Rohs Directive

Pro-active compliance (Product out of EU RoHS legal scope)

China Rohs Regulation

[China RoHS declaration](#)

Environmental Disclosure

[Product Environmental Profile](#)

Weee

The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins

Circularity Profile

[End of Life Information](#)

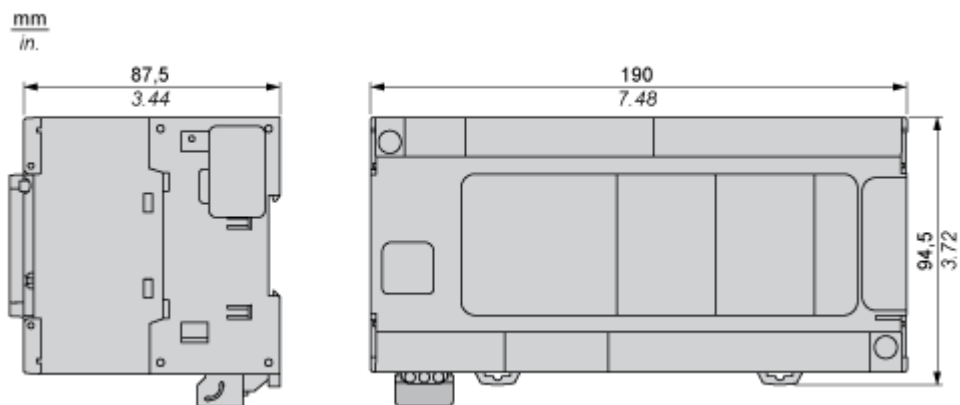
# Bảng thông số sản phẩm

# TM241C40T

## Dimensions Drawings

### Dimensions

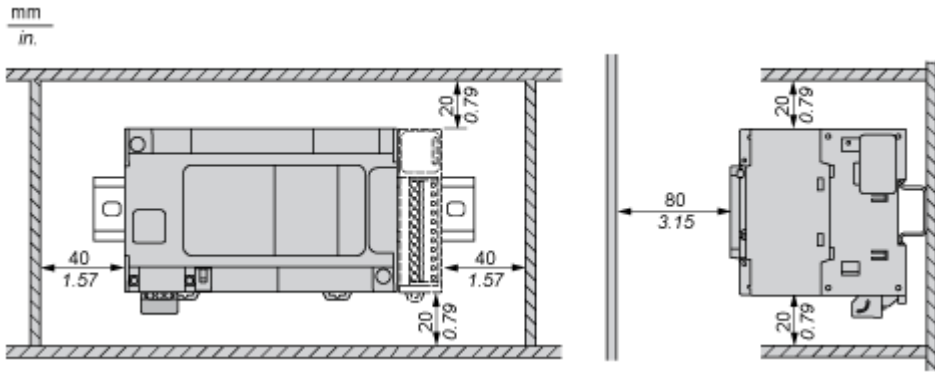
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Mounting and Clearance

Clearance

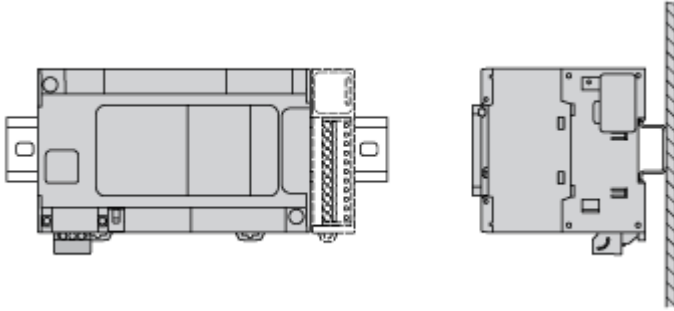
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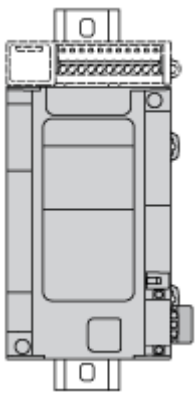


**Mounting Position**

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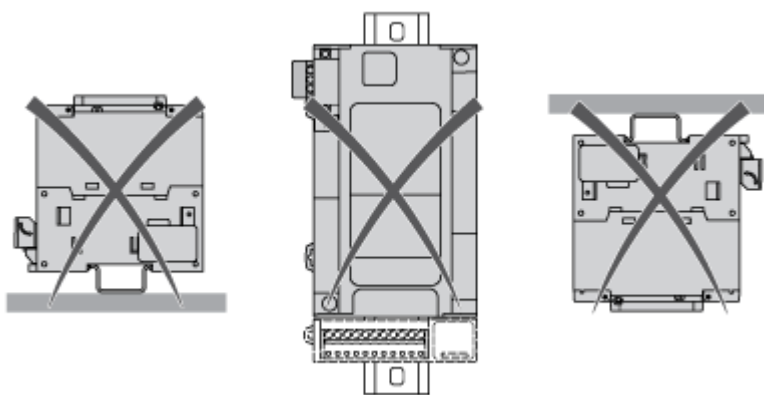


**Acceptable Mounting**



**NOTE:** Expansion modules must be mounted above the logic controller.

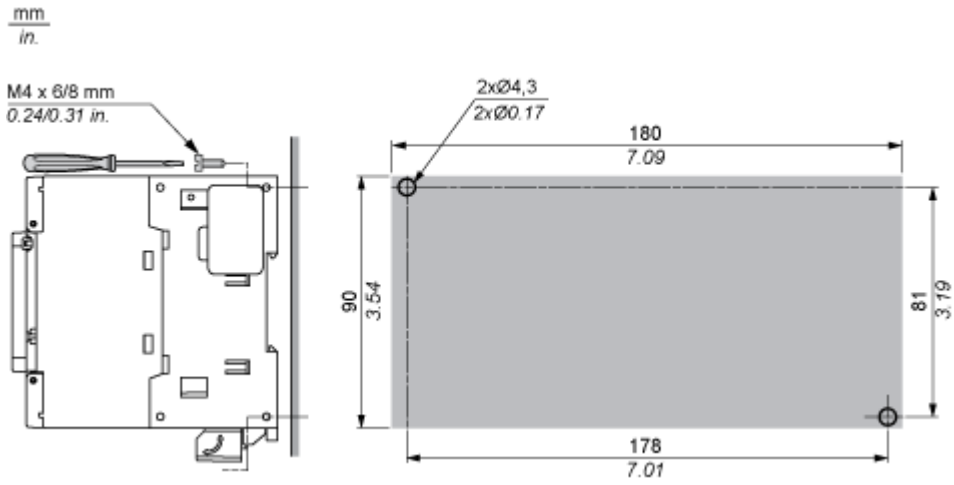
**Incorrect Mounting**



**Direct Mounting On a Panel Surface**

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**Mounting Hole Layout**

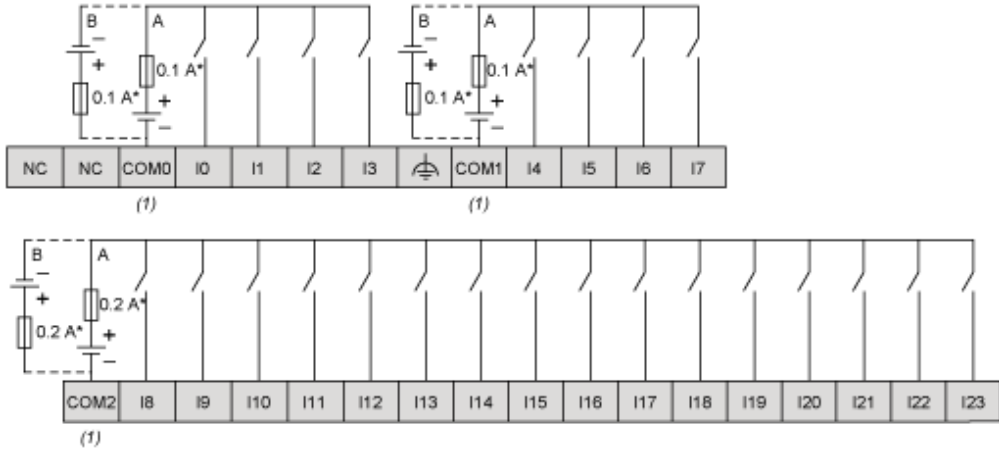


## Connections and Schema

### Digital Inputs

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#### Wiring Diagram



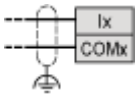
(\*) : Type T fuse

(1) : The COM0, COM1 and COM2 terminals are not connected internally

(A) : Sink wiring (positive logic)

(B) : Source wiring (negative logic)

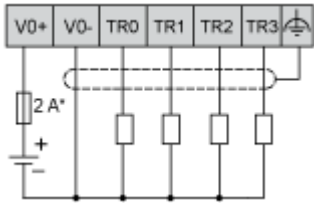
#### Fast Input Wiring (I0...I7)



## Fast Transistor Outputs

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### Wiring Diagram

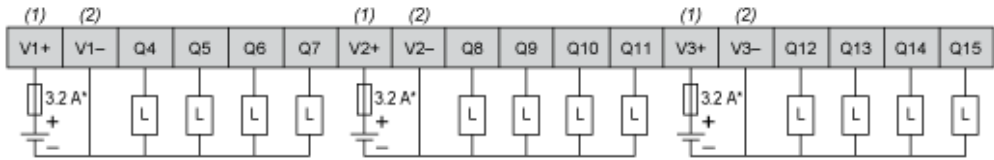


(\*) : 2 A fast-blow fuse

## Transistor Outputs

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### Wiring Diagram



(\*) : Type T fuse

(1) : The V1+, V2+ and V3+ terminals are not connected internally.

(2) : The V1-, V2- and V3- terminals are not connected internally.

USB Mini-B Connection

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