Product datasheet

Specifications





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) (Q0Q3) 0.5 A for transistor output (Q0Q15)	

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	20.428.8 V	
nrush current 50 A		
Power consumption in W 32.640.4 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	>= 15 V for input	
Voltage state 0 guaranteed	<= 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	<= 2 μs turn-on, I0I7 terminal(s) for fast input <= 2 μs turn-off, I0I7 terminal(s) for fast input <= 2 μs turn-on, Q0Q3 terminal(s) for fast output <= 2 μs turn-off, Q0Q3 terminal(s) for fast output 50 μs turn-on, I0I15 terminal(s) for input 50 μs turn-off, I0I15 terminal(s) for input <= 34 μs turn-on, Q0Q15 terminal(s) for output	

<= 250 µs turn-off, Q0...Q15 terminal(s) for output

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	
Positive logic (source)	
30 V DC	
2 A	
20 kHz for fast output (PWM mode)	
100 kHz for fast output (PLS mode) 1 kHz for output	
+/- 0.1 % at 0.020.1 kHz for fast output +/- 1 % at 0.11 kHz for fast output	
5 μA for output	
<1 V	
<2.4 W	
Short-circuit protection	
Short-circuit and overload protection with automatic reset Reverse polarity protection for fast output	
10 ms automatic reset output 12 s automatic reset fast output	
64 MB for system memory RAM	
128 MB built-in flash memory for backup of user programs	
<= 16 GB SD card (optional)	
BR2032 lithium non-rechargeable, battery life: 4 year(s)	
2 years at 25 °C	
0.3 ms for event and periodic task 0.7 ms for other instruction	
8 event tasks	
8 external event tasks	
8 external event tasks 4 cyclic master tasks	
8 external event tasks 4 cyclic master tasks 3 cyclic master tasks + 1 freewheeling task	
8 external event tasks 4 cyclic master tasks 3 cyclic master tasks + 1 freewheeling task With	
8 external event tasks 4 cyclic master tasks 3 cyclic master tasks + 1 freewheeling task	
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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
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)
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
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
CE
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
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
90 mm
95 mm
190 mm
0.62 kg
ANSI/ISA 12-12-01
CSA C22.2 No 142
CSA C22.2 No 142 CSA C22.2 No 213
CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL)
CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007
CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL) UL 508
CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL) UL 508 RCM cULus CE
CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL) UL 508 RCM cULus CE UKCA
CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL) UL 508 RCM cULus CE UKCA DNV-GL ABS
CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL) UL 508 RCM cULus CE UKCA DNV-GL ABS LR
CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL) UL 508 RCM cULus CE UKCA DNV-GL ABS
CSA C22.2 No 142 CSA C22.2 No 213 IEC 61131-2:2007 Marine specification (LR, ABS, DNV, GL) UL 508 RCM cULus CE UKCA DNV-GL ABS LR 8 kV in air conforming to IEC 61000-4-2

Resistance to fast transients	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	
Resistance to conducted disturbances	10 V 0.1580 MHz conforming to IEC 61000-4-6 3 V 0.180 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)	
Electromagnetic emission	Conducted emissions - test level: 12069 dBμV/m QP (power lines) at 10150 kHz conforming to IEC 55011 Conducted emissions - test level: 63 dBμV/m QP (power lines) at 1.530 MHz conforming to IEC 55011 Radiated emissions - test level: 40 dBμV/m QP class A at 30230 MHz conforming to IEC 55011 Conducted emissions - test level: 7963 dBμV/m QP (power lines) at 1501500 kHz conforming to IEC 55011 Radiated emissions - test level: 47 dBμV/m QP class A at 2301000 MHz conforming to IEC 55011	
Immunity to microbreaks	10 ms	
Ambient air temperature for operation	-1050 °C (vertical installation) -1055 °C (horizontal installation)	
Ambient air temperature for storage	-2570 °C	
Relative humidity	1095 %, without condensation (in operation) 1095 %, without condensation (in storage)	
IP degree of protection	IP20 with protective cover in place	
Pollution degree	2	
Operating altitude	02000 m	
Storage altitude	03000 m	
Vibration resistance	bration resistance 3.5 mm at 58.4 Hz on symmetrical rail 3 gn at 8.4150 Hz on symmetrical rail 3.5 mm at 58.4 Hz on panel mounting 3 gn at 8.4150 Hz on panel mounting	
Shock resistance	ock resistance 15 gn for 11 ms	

Packing Units

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

Package 3 Width	60.0 cm
Package 3 Length	80.0 cm
Package 3 Weight	52 kg



Green PremiumTM label is Schneider Electric's commitment to delivering products with best-inclass environmental performance. Green Premium promises compliance with the latest regulations, transparency on environmental impacts, as well as circular and low-CO₂ products.

Guide to assessing product sustainability is a white paper that clarifies global eco-label standards and how to interpret environmental declarations.

Learn more about Green Premium >

Guide to assess a product's sustainability >





Transparency RoHS/REACh

Well-being performance

	Mercury Free	
②	Rohs Exemption Information	Yes
	Pvc Free	

Certifications & Standards

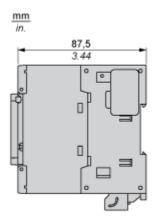
Reach Regulation	REACh Declaration
Eu Rohs Directive	Pro-active compliance (Product out of EU RoHS legal scope)
China Rohs Regulation	China RoHS declaration
Environmental Disclosure	Product Environmental Profile
Weee	The product must be disposed on European Union markets following specific waste collection and never end up in rubbish bins
Circularity Profile	End of Life Information

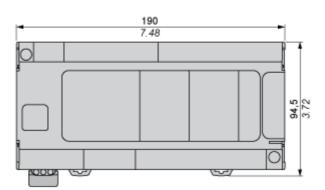
Product datasheet

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Dimensions Drawings

Dimensions

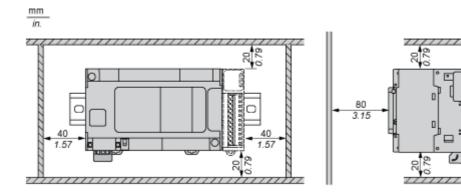




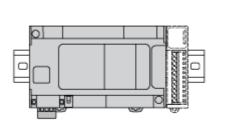
TM241C40T

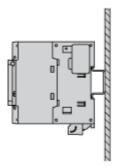
Mounting and Clearance

Clearance

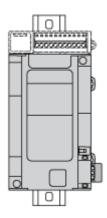


Mounting Position



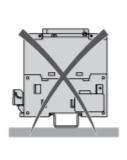


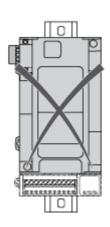
Acceptable Mounting



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

Incorrect Mounting

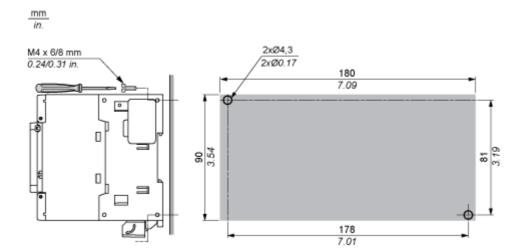






Direct Mounting On a Panel Surface

Mounting Hole Layout

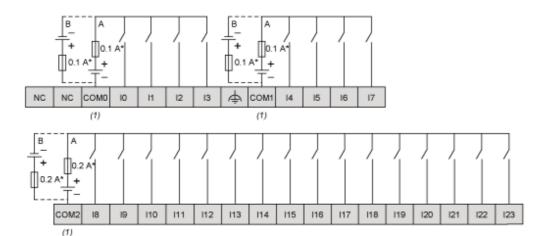


TM241C40T

Connections and Schema

Digital Inputs

Wiring Diagram



(*): Type T fuse

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

(A): Sink wiring (positive logic)

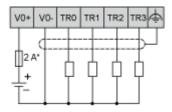
(B): Source wiring (negative logic)

Fast Input Wiring (I0...I7)



Fast Transistor Outputs

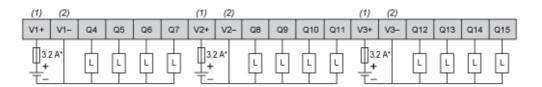
Wiring Diagram



(*): 2 A fast-blow fuse

Transistor Outputs

Wiring Diagram



(*): Type T fuse

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

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USB Mini-B Connection

