Specifications





controller M241 40 IO relay

TM241C40R

EAN Code: 3606480648823

Main

Range Of Product	Modicon M241	
Product Or Component Type	Logic controller	
[Us] Rated Supply Voltage	100240 V AC	
Discrete Input Number	24, discrete input 8 fast input conforming to IEC 61131-2 Type 1	
Discrete Output Type	Relay Transistor	
Discrete Output Number	4 transistor 4 fast output 12 relay	
Discrete Output Voltage	5125 V DC for relay output 5250 V AC for relay output 24 V DC for transistor output	
Discrete Output Current	0.1 A for fast output (PTO mode) (TR0TR3) 2 A for relay output (Q4Q15) 0.5 A for transistor output (TR0TR3)	

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	85264 V	
Network Frequency	50/60 Hz	
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	7 mA for input	
Input Impedance	4.7 kOhm for input	
Response Time	50 µs turn-on, I0I15 terminal(s) for input	
Configurable Filtering Time	1 µs for fast input	
Discrete Output Logic	Positive logic (source)	
Output Voltage Limits	125 V DC relay output 30 V DC transistor output 277 V AC relay output	
Maximum Output Frequency	1 kHz for transistor output 20 kHz for fast output (PWM mode) 100 kHz for fast output (PLS mode)	

100 kHz for fast output (PLS mode)

Accuracy	+/- 0.1 % at 0.020.1 kHz for fast output
Protection Type	Short-circuit protection for transistor output Short-circuit and overload protection with automatic reset for transistor output Reverse polarity protection for transistor output Without protection for relay output
Reset Time	10 ms automatic reset output 12 s automatic reset fast output
Memory Capacity	64 MB for system memory RAM
Data Backed Up	128 MB built-in flash memory for backup of user programs
Data Storage Equipment	<= 16 GB SD card (optional)
Battery Type	BR2032 lithium non-rechargeable, battery life: 4 year(s)
Backup Time	2 years at 25 °C
Execution Time For 1 Kinstruction	0.3 ms for event and periodic task 0.7 ms for other instruction
Application Structure	4 cyclic master tasks 3 cyclic master tasks + 1 freewheeling task 8 external event tasks 8 event tasks
Realtime Clock	With
Clock Drift	<= 60 s/month at 25 °C
Positioning Functions	PTO function 4 channel(s) (positioning frequency: 100 kHz)
Counting Input Number	4 fast input (HSC mode) at 200 kHz 14 standard input at 1 kHz
Control Signal Type	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)
Integrated Connection Type	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
Supply	(serial 1)serial link supply: 5 V, <200 mA
Transmission Rate	1.2115.2 kbit/s (115.2 kbit/s by default) for bus length of 15 m for RS485 1.2115.2 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
Communication Port Protocol	Non isolated serial link: Modbus master/slave
Local Signalling	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
Electrical Connection	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
Maximum Cable Distance Between Devices 	Unshielded cable: <50 m for output

Surge Withstand	2 kV power lines (AC) common mode conforming to IEC 61000-4-5 2 kV relay output common mode conforming to IEC 61000-4-5 1 kV shielded cable common mode conforming to IEC 61000-4-5 1 kV power lines (AC) differential mode conforming to IEC 61000-4-5 1 kV relay output differential mode conforming to IEC 61000-4-5 1 kV relay output differential mode conforming to IEC 61000-4-5 1 kV ransistor output common mode conforming to IEC 61000-4-5	
Mounting Support	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	
Height	90 mm	
Depth	95 mm	
Width	190 mm	
Net Weight	0.62 kg	

Environment

Standards	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
Product Certifications	RCM
	cULus
	CE
	UKCA
	DNV-GL
	ABS
	LR
Resistance To Electrostatic	8 kV in air conforming to IEC 61000-4-2
Discharge	4 kV on contact conforming to IEC 61000-4-2
Resistance To Electromagnetic	10 V/m 80 MHz1 GHz conforming to IEC 61000-4-3
Fields	3 V/m 1.4 GHz2 GHz conforming to IEC 61000-4-3
	1 V/m 2 GHz3 GHz conforming to IEC 61000-4-3
Resistance To Fast Transients	2 kV (power lines) conforming to IEC 61000-4-4
	2 kV (relay output) 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	10 V 0.1580 MHz conforming to IEC 61000-4-6
Disturbances	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
	Conducted emissions - test level: 79 dBµV/m QP/66 dBµV/m AV (power lines) at 0.150.5 MHz conforming to IEC 55011
	Conducted emissions - test level: 73 dBµV/m QP/60 dBµV/m AV (power lines) at
	0.5300 MHz conforming to IEC 55011
	Radiated emissions - test level: 40 dBµV/m QP class A (10 m) 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 (10 m) at 230…1000 MHz
	conforming to IEC 55011
mmunity To Microbreaks	10 ms
Ambient Air Temperature For	-1050 °C (vertical installation)
Operation	-1055 °C (horizontal installation)
Ambient Air Temperature For Storage	-2570 °C

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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	 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	15 gn for 11 ms	

Packing Units

-	
Unit Type Of Package 1	PCE
Number Of Units In Package 1	1
Package 1 Height	12.8 cm
Package 1 Width	11.46 cm
Package 1 Length	22.61 cm
Package 1 Weight	930 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	6.22 kg
Unit Type Of Package 3	P12
Number Of Units In Package 3	144
Package 3 Height	80.0 cm
Package 3 Width	105.0 cm
Package 3 Length	125.0 cm
Package 3 Weight	136 kg

Contractual warranty

Warranty

18 months

Sustainability Screen Premium

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

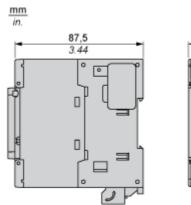
Mercury Free
 Rohs Exemption Information Yes
 Pvc Free

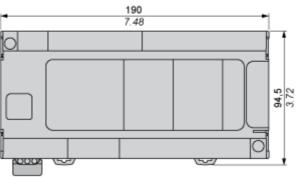
Certifications & Standards

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

Dimensions Drawings

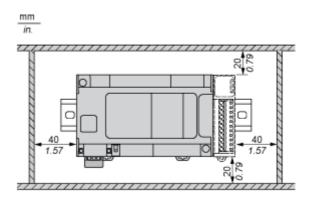
Dimensions

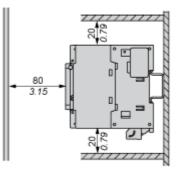




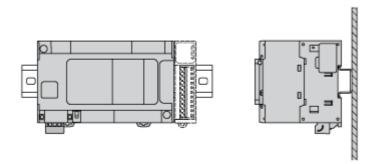
Mounting and Clearance

Clearance

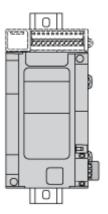




Mounting Position

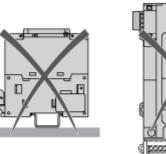


Acceptable Mounting



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

Incorrect Mounting

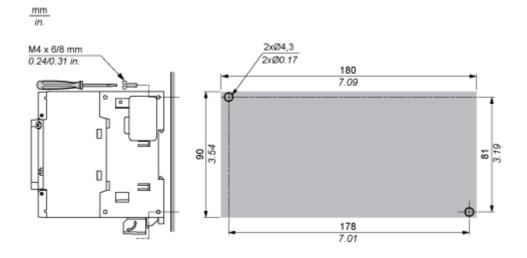






Direct Mounting On a Panel Surface

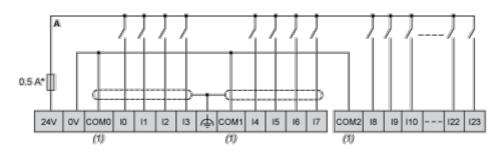
Mounting Hole Layout



Connections and Schema

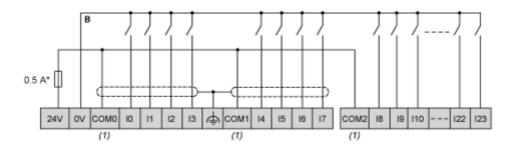
Digital Inputs

Wiring Diagram (Positive Logic)



- (*): Type T fuse
- (1): The COM0, COM1 and COM2 terminals are not connected internally.

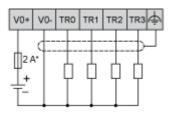
Wiring Diagram (Negative Logic)



- (*): Type T fuse
- (1): The COM0, COM1 and COM2 terminals are not connected internally.

Fast Transistor Outputs

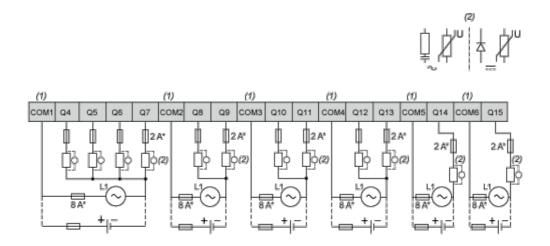
Wiring Diagram



(*): 2 A fast-blow fuse

Relay Outputs

Wiring Diagram



(*): Type T fuse

(1): The terminals COM1 to COM6 are not connected internally.

(2): To improve the life time of the contacts, and to protect from potential inductive load damage, you must connect a free wheeling diode in parallel to each inductive DC load or an RC snubber in parallel of each inductive AC load

USB Mini-B Connection

