# 140EHC20200

Modicon Quantum - high-speed counter module - 500000 Hz





#### Main

Range of product	Modicon Quantum automation platform
Product or component type	High-speed counter module
Number of channels	2

### Complementary

Date format         2147483847 dec 32 bits 6535 dec 16 bits           Counting Input type         Incremental or quadrature           Counting frequency         500000 Hz           Discrete input voltage         < 30 V           Operating mode         Incremental or quadrature discrete input           Input resistance         10 kOhm discrete input           Operating threshold         0 V single ended mode 12 V DC at state on >= 1.8 V differential mode           01 V single ended mode 2 V DC at state off         01 V single ended mode 5 V DC at state off           02 V single ended mode 5 V DC at state off         27 V single ended mode 5 V DC at state off           02 V single ended mode 5 V DC at state off         27 V single ended mode 5 V DC at state off           02 V single ended mode 5 V DC at state off         27 V single ended mode 5 V DC at state off           Discrete output type         Field Effect Transistor (FET)           Discrete output voltage         0 V switch off DC           0.4 V switch on DC         0.4 V switch on DC           Load current         4 D A V state off           Voltage drop         0.4 V state on           Protection type         36 V transorb discrete output           Isolation between channels and bus         1780 V rms for 60 s           Fault type         60 output field power	Addressing requirement	6 input words 6 output words	_
Counting frequency       5000000 Hz         Discrete input voltage       < 30 V	Data format		
Discrete input voltage < 30 V  Operating mode Incremental or quadrature discrete input  Input resistance 10 kOhm discrete input  Operating threshold 2 V DC at state on 2 1 N V differential mode 0 1 V DC at state on 2 1 N V differential mode 0 1 N DC at state of 0 1 N V ingle ended mode 12 V DC at state on 2 1 N V ingle ended mode 24 V DC at state on 13 1 N V ingle ended mode 24 V DC at state on 13 1 N V ingle ended mode 24 V DC at state on 13 1 N V ingle ended mode 24 V DC at state on 13 1 N V ingle ended mode 5 V DC at state on 13 1 N V ingle ended mode 5 V DC at state on 13 1 N V ingle ended mode 5 V DC at state of 10 N V ingle ended mode 5 V DC at state of 10 N V ingle ended mode 5 V DC at state of 10 N V ingle ended mode 5 V DC at state of 10 N V ingle ended mode 5 V DC at state of 10 N V V ingle ended mode 5 V DC at state of 10 N V V ingle ended mode 5 V DC at state of 10 N V V V Ingle ended mode 5 V DC at state of 10 N V V V V Ingle ended mode 5 V DC at state of 10 N V V V V V V V V V V V V V V V V V V	Counting input type	Incremental or quadrature	
Incremental or quadrature discrete input	Counting frequency	500000 Hz	
Input resistance 10 kOhm discrete input  Operating threshold 0 V single ended mode 12 V DC at state on >= 1.8 V differential mode 0 (01 V single ended mode 24 V DC at state off 0 (02 V single ended mode 24 V DC at state on 1324 V single ended mode 24 V DC at state on 1324 V single ended mode 24 V DC at state on 27 V single ended mode 24 V DC at state on 27 V single ended mode 24 V DC at state off 3.55 V single ended mode 5 V DC at state off 3.55 V single ended mode 5 V DC at state off 3.55 V single ended mode 5 V DC at state off 3.55 V single ended mode 5 V DC at state off 3.55 V single ended mode 5 V DC at state off 3.55 V single ended mode 5 V DC at state off 3.55 V single ended mode 5 V DC at state off 3.55 V single ended mode 5 V DC at state off 3.55 V single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55 V Single ended mode 5 V DC at state off 3.55	Discrete input voltage	< 30 V	
Operating threshold       0 V single ended mode 12 V DC at state on >= 1.8 V differential mode 02 V single ended mode 24 V DC at state of 02 V single ended mode 24 V DC at state on 1324 V single ended mode 24 V DC at state on 27 V single ended mode 24 V DC at state on 3.55 V single ended mode 5 V DC at state off 3.55 V single ended mode 5 V DC at state off         Discrete output number       4         Discrete output type       Field Effect Transistor (FET)         Discrete output voltage       0 V switch off DC 0.4 V switch off DC 0.4 V switch on DC         Load current       0.5 A         Leakage current       <= 0.4 mA state off	Operating mode	Incremental or quadrature discrete input	
Section 1   Section 2   Section 3   Sect	Input resistance	10 kOhm discrete input	
Discrete output type Field Effect Transistor (FET)  Discrete output voltage 0 V switch off DC 0.4 V switch on DC  Load current 0.5 A  Leakage current <= 0.4 mA state off  Voltage drop 0.4 V state on  Protection type 36 V transorb discrete output  Isolation between channels and bus 1780 Vrms for 60 s  Fault type Loss of output field power  Output short-circuit protection Blown fuse 2.5 A  Power dissipation 4+ (0.4 x total module load current)  Bus current requirement 650 mA  External power requirement 19.230 V  Rack type Distributed Local Remote  Local signalling 2 LEDs channel status  Marking CE  Current consumption <= 1050 mA 24 V DC external power supply  Module format  Standard	Operating threshold	>= 1.8 V differential mode 011 V single ended mode 24 V DC at state off 02 V single ended mode 5 V DC at state on 1324 V single ended mode 24 V DC at state on 27 V single ended mode 12 V DC at state off	
Discrete output voltage  0 V switch off DC 0.4 V switch on DC  Load current  0.5 A  Leakage current  <= 0.4 mA state off  Voltage drop  0.4 V state on  Protection type  36 V transorb discrete output  Isolation between channels and bus  1780 Vrms for 60 s  Fault type  Loss of output field power  Output short-circuit protection  Blown fuse 2.5 A  Power dissipation  4 + (0.4 x total module load current)  Bus current requirement  650 mA  External power requirement  19.230 V  Rack type  Distributed Local Remote  Local signalling  2 LEDs channel status  Marking  CE  Current consumption  <= 1050 mA 24 V DC external power supply  Module format  Standard	Discrete output number	4	
Load current0.5 ALeakage current<= 0.4 mA state off	Discrete output type	Field Effect Transistor (FET)	
Leakage current       <= 0.4 mA state off	Discrete output voltage		_
Voltage drop  Protection type  36 V transorb discrete output  Isolation between channels and bus  1780 Vrms for 60 s  Fault type  Loss of output field power  Output short-circuit protection  Blown fuse 2.5 A  Power dissipation  4 + (0.4 x total module load current)  Bus current requirement  650 mA  External power requirement  19.230 V  Rack type  Distributed Local Remote  Local signalling  2 LEDs channel status  Marking  CE  Current consumption  <= 1050 mA 24 V DC external power supply  Module format  Standard	Load current	0.5 A	
Protection type 36 V transorb discrete output  Isolation between channels and bus 1780 Vrms for 60 s  Fault type Loss of output field power  Output short-circuit protection Blown fuse 2.5 A  Power dissipation 4+ (0.4 x total module load current)  Bus current requirement 650 mA  External power requirement 19.230 V  Rack type Distributed Local Remote  Local signalling 2 LEDs channel status  Marking CE  Current consumption <= 1050 mA 24 V DC external power supply  Module format Standard	Leakage current	<= 0.4 mA state off	
Isolation between channels and bus  Fault type  Loss of output field power  Output short-circuit protection  Blown fuse 2.5 A  Power dissipation  4 + (0.4 x total module load current)  Bus current requirement  650 mA  External power requirement  19.230 V  Rack type  Distributed Local Remote  Local signalling  2 LEDs channel status  Marking  CE  Current consumption  <= 1050 mA 24 V DC external power supply  Module format  1780 Vrms for 60 s  Standard	Voltage drop	0.4 V state on	
Fault type       Loss of output field power         Output short-circuit protection       Blown fuse 2.5 A         Power dissipation       4 + (0.4 x total module load current)         Bus current requirement       650 mA         External power requirement       19.230 V         Rack type       Distributed Local Remote         Local signalling       2 LEDs channel status         Marking       CE         Current consumption       <= 1050 mA 24 V DC external power supply	Protection type	36 V transorb discrete output	
Output short-circuit protection  Blown fuse 2.5 A  Power dissipation  4 + (0.4 x total module load current)  Bus current requirement  650 mA  External power requirement  19.230 V  Rack type  Distributed Local Remote  Local signalling  2 LEDs channel status  Marking  CE  Current consumption  <= 1050 mA 24 V DC external power supply  Module format  Standard	Isolation between channels and bus	1780 Vrms for 60 s	
Power dissipation 4 + (0.4 x total module load current)  Bus current requirement 650 mA  External power requirement 19.230 V  Rack type Distributed Local Remote  Local signalling 2 LEDs channel status  Marking CE  Current consumption <= 1050 mA 24 V DC external power supply  Module format Standard	Fault type	Loss of output field power	
Bus current requirement 650 mA  External power requirement 19.230 V  Rack type Distributed Local Remote  Local signalling 2 LEDs channel status  Marking CE  Current consumption <= 1050 mA 24 V DC external power supply  Module format Standard	Output short-circuit protection	Blown fuse 2.5 A	
External power requirement  Rack type  Distributed Local Remote  Local signalling  2 LEDs channel status  Marking  CE  Current consumption  <= 1050 mA 24 V DC external power supply  Module format  Standard	Power dissipation	4 + (0.4 x total module load current)	
Rack type  Distributed Local Remote  Local signalling  2 LEDs channel status  Marking  CE  Current consumption  <= 1050 mA 24 V DC external power supply  Module format  Standard	Bus current requirement	650 mA	
Local RemoteLocal signalling2 LEDs channel statusMarkingCECurrent consumption<= 1050 mA 24 V DC external power supply	External power requirement	19.230 V	
Marking CE Current consumption <= 1050 mA 24 V DC external power supply Module format Standard	Rack type	Local	
Current consumption <= 1050 mA 24 V DC external power supply  Module format Standard	Local signalling	2 LEDs channel status	
Module format Standard	Marking	CE	
	Current consumption	<= 1050 mA 24 V DC external power supply	
Product weight 0.35 kg	Module format	Standard	
	Product weight	0.35 kg	

### **Environment**

Resistance to electrostatic discharge	4 kV contact conforming to IEC 801-2 8 kV on air conforming to IEC 801-2	
Resistance to electromagnetic fields	10 V/m 801000 MHz conforming to IEC 801-3	
Ambient air temperature for operation	060 °C	
Ambient air temperature for storage	-4085 °C	
Relative humidity	95 % without condensation	
Operating altitude	<= 5000 m	
Standards	UL 508	
Product certifications	CSA No 142 C-Tick.1 FM Class 1 Division 2 UL	

## Offer Sustainability

Sustainable offer status	Green Premium product
RoHS	Compliant - since 0901 - Schneider Electric declaration of conformity
Product environmental profile	Available
Product end of life instructions	Need no specific recycling operations

