



Counter/Flowmeter Input Module Quantum Automation Series 140 EHC 204 00sc Four-Channel 140 EHC 208 00sc Eight-Channel



The four-channel 140 EHC 204 00sc and eight-channel 140 EHC 208 00sc provide Quantum Automation Series CPUs the capacity to handle a wide variety of count and flow applications. These modules feature four or eight incremental counter or turbine flowmeter inputs. For counting applications, each input can count to rates of 50KHz. When inputs are used in pairs, they can be configured for up/down and quadrature counting. The Counter/Flowmeter also features typical turbine flowmeter setup parameters such as K (scaling) and M (calibration) factors in addition to input control lines for meter proving.

These modules incorporate proprietary Schneider Automation technology so it operates and performs like other Quantum products, ensuring easy installation. The modules allow use of up to eight inputs structured as four groups of two inputs. Each of the input groups can be configured as 5, 12 or 24 Vdc counters or as turbine flow (variable reluctance coil) AC inputs.

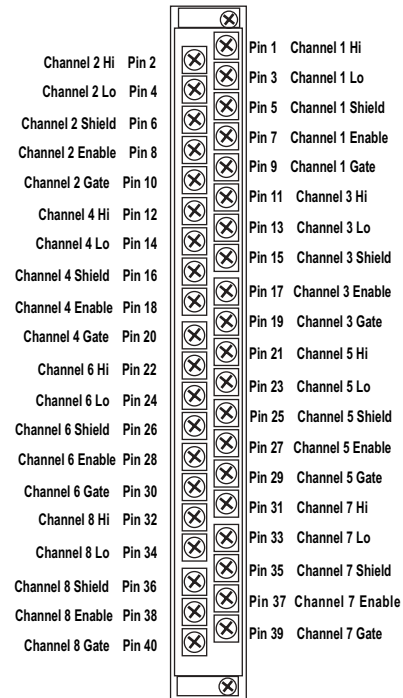
The Quantum Counter/Flowmeter features:

- Setup for incremental, up/down or quadrature counting.
- Scaling of input counts or input frequency to engineering units.
- Simultaneous frequency/count display.
- Flags can annunciate when a zero or limit has been achieved.
- Over-range flag when count or frequency exceeds a preset limit.
- Start, stop, reset and preset control.

The Counter/Flowmeter resides in a standard Quantum backplane and offers:

- Versatility with the module's unique ability to interface with different sensor types, eliminating the need for signal conditioners.
- Over voltage protection and active band pass filtering. Features 1000 Vdc channel-to-backplane isolation.
- Reduced installation costs as meters may be interfaced directly with the module, without additional external conditioning devices.
- A wide variety of convenient, user selectable features such as automatic conversion of signals into engineering units.
- Easy installation with support from Concept, Modsoft and ProWORX NxT programming software and is configured quickly using ladder register settings.

Designed for data acquisition in process industries such as utility, water/wastewater, oil/gas, food/beverage and building automation, the 140 EHC 204 00sc and 140 EHC 208 00sc modules are the ideal solution for those who need to acquire signals from a large number of sources within an individual process or throughout a facility.



Note: The field wiring terminal block (Modicon #140 XTS 002 00) or the 140 CFA040 00 40 pin Cablefast Terminal block must be ordered separately. The terminal block includes the removable door.

Counter/Flowmeter Input Module
Quantum Automation Series
140 EHC 204 00sc Four-Channel
140 EHC 208 00sc Eight-Channel

Specifications	4-Channel/ 8-Channel										
Number of Channels	4/8 Channels of Counter Inputs 2/4 Channels of Quadrature Encoding 4/8 Input Enable and Gate Control Lines										
Input Registers Required	9/9										
Output Registers Required	6/10										
LEDs	7/11 - One each for Ready, Active, Fault, Channel										
Input Modes	DC Counter, AC Flowmeter										
Input Ranges	<table> <thead> <tr> <th>Voltage Category</th> <th>Operating Voltage</th> </tr> </thead> <tbody> <tr> <td>5 Vdc</td> <td>3.5 to 75 Vdc</td> </tr> <tr> <td>12 Vdc</td> <td>9 to 75 Vdc</td> </tr> <tr> <td>24 Vdc</td> <td>10.5 to 75 Vdc</td> </tr> <tr> <td>AC</td> <td>0.05 to 75 Vac</td> </tr> </tbody> </table>	Voltage Category	Operating Voltage	5 Vdc	3.5 to 75 Vdc	12 Vdc	9 to 75 Vdc	24 Vdc	10.5 to 75 Vdc	AC	0.05 to 75 Vac
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5 Vdc	3.5 to 75 Vdc										
12 Vdc	9 to 75 Vdc										
24 Vdc	10.5 to 75 Vdc										
AC	0.05 to 75 Vac										
Counter Speed	0 to 50 kHz										
Input Frequency	0 to 50 kHz										
Min Pulse Time											
DC Mode	10 microseconds										
External Enable/Disable and Gate Input (Meter Proving)	Enable and Disable setup time = 10 microseconds Enable and Disable setup time = 10 microseconds										
Accuracy											
Counter Mode	+/-1 count										
Frequency Instantaneous Mode	0.8% @ 50KHz 0.1Hz Resolution										
Count Value Range	Low Range 64K, Extended Range 16M										
Nominal Input Impedance	15 KOhms										
Counter Voltage Input	Programmable 5,12,24 Vdc										
Channel Update Time											
Without Scaling	<1 ms per channel										
With Scaling	<1.5 ms per channel										
Power Dissipation	4.1 / 6.6 Watts (maximum)										
Backplane Current Draw	470mA/670mA @ 5V (maximum)										
Isolation Voltage	1000 Vdc Wiring to Backplane/Chassis to Ground										
Environmental Conditions											
Operational Conditions	0 to 60 degC (32 to 140 degF)										
Storage Temperature	-40 to +85 degC (-40 to 185 degF)										
Relative Humidity	5 to 95% (non-condensing)										
Certifications	UL/cUL (Class I, Div 2, Groups ABCD) CE per Council Directive 89/336/EEC for EMC										



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