

# Product datasheet

Specifications



## intrinsically safe analog output module Modicon Quantum - 8 O

140AIO33000

⚠ Discontinued on: 01-Nov-2020

⚠ Discontinued

### Main

Range Of Product	Modicon Quantum automation platform
Product Or Component Type	Intrinsically safe analog output module
Software Designation	Concept V2.2 and above ProWORX Unity Pro

### Complementary

Product Destination	In conjunction with products for zone 20, 21 or 22
Analogue Output Number	8
Analogue Output Range	0...20 mA 0 to 20000 points 0...25 mA 0 to 25000 points 4...20 mA 15 bits, 0 to 16000 points 4...20 mA 15 bits, 0 to 4095 points
Maximum Loop Resistance	500 Ohm
Absolute Accuracy Error	+/- 0.2 % of full scale at 25 °C
Accuracy Drift According To Temperature	40 ppm/°C <= 70 ppm/°C
Linearity	+/- 1 LSB
Update Time	4 ms
Setting Time	1 ms to +/- 0.1 % of the final value
Isolation Between Channels And Bus	1780 Vrms for 60 s AC
Fault Type	Open circuit 4...20 mA
Power Dissipation In W	12.5 W
Hot Swapping Fallback	Not allowed per intrinsic safety standards
Protection Type	Internal fuse
Marking	CE II1 G/D-EEEx ia IIC
Bus Current Requirement	2.5 A
Module Format	Standard
Net Weight	0.3 kg

### Environment

<b>Standards</b>	CSA C22.2 No 142 UL 508 EN 50020 EN 50014 Directive ATEX 94/9/EC EN 50039 EN 50281-1-1 EN 50284
<b>Dust Zone</b>	Outside zone
<b>Product Certifications</b>	hazardous location class 1, division 1 groups A, B, C SIRA 02ATEX2345X C-Tick.1 FM Class 1 Division 2
<b>Resistance To Electrostatic Discharge</b>	4 kV contact conforming to IEC 801-2 8 kV on air conforming to IEC 801-2
<b>Resistance To Electromagnetic Fields</b>	10 V/m 80...2000 MHz conforming to IEC 801-3
<b>Ambient Air Temperature For Operation</b>	0...60 °C
<b>Ambient Air Temperature For Storage</b>	-40...85 °C
<b>Relative Humidity</b>	95 % without condensation
<b>Operating Altitude</b>	<= 5000 m

## Packing Units

<b>Unit Type Of Package 1</b>	PCE
<b>Number Of Units In Package 1</b>	1
<b>Package 1 Height</b>	5.0 cm
<b>Package 1 Width</b>	31.5 cm
<b>Package 1 Length</b>	16.5 cm
<b>Package 1 Weight</b>	822.0 g

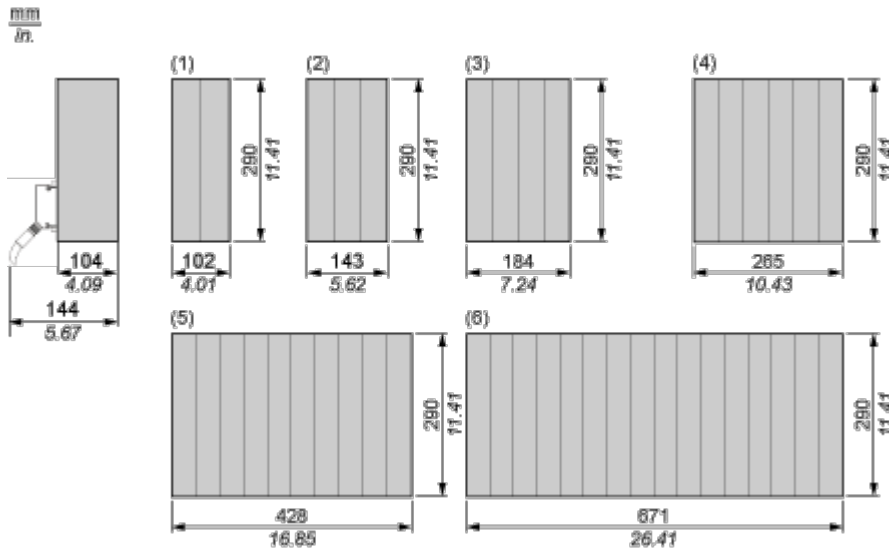
## Contractual warranty

<b>Warranty</b>	18 months
-----------------	-----------

Dimensions Drawings

Racks for Modules Mounting

Dimensions of Modules and Racks



- (1) 2 slots
- (2) 3 slots
- (3) 4 slots
- (4) 6 slots
- (5) 10 slots
- (6) 16 slots

Connections and Schema

Intrinsically Safe Analog Output Module

Cenelec Certified Wiring Diagram

Notes related to CSA certification for this module.

Note 1. Entry parameters per channel:  
 $V_{oc} = 29.42 \text{ V}$   
 $I_{sc} = 93 \text{ mA}$   
 $C_s = 71 \text{ nF}$   
 $L_s = 20 \text{ mH}$

Note 2. Maximum non-hazardous area voltage must not exceed 250 V.

Note 3. Install in accordance with Canadian Electrical Code, Part I for installation in Canada.

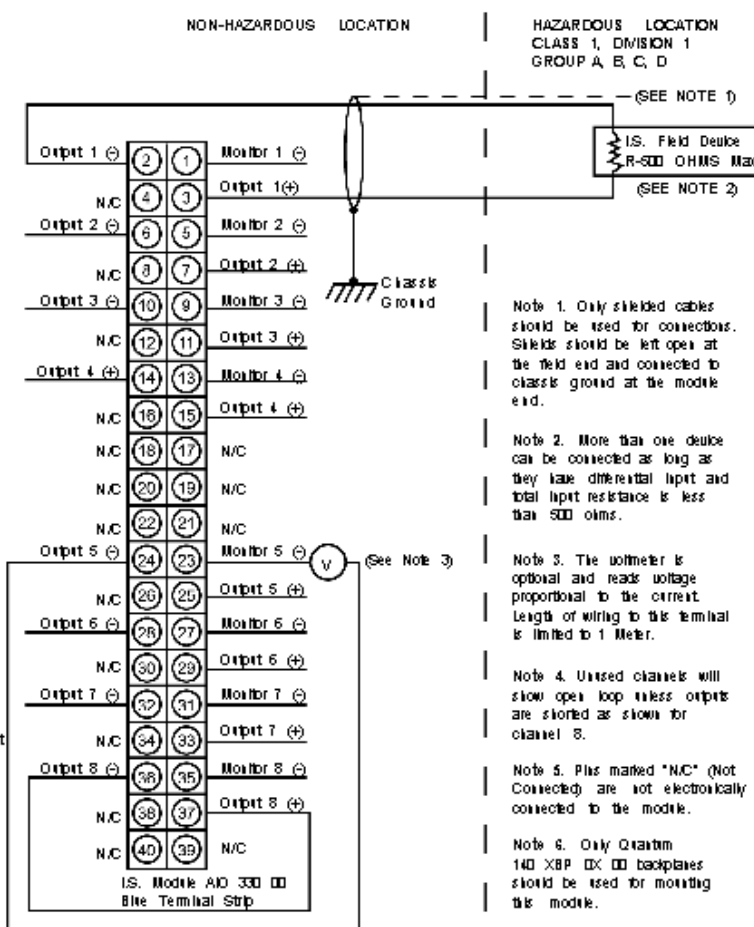
Note 4. Install in accordance with the NEC (ANSI/NFPA 70) and ANS/ISA RP 12.6 for installation in the United States.

Note 5. To maintain intrinsic safety, shield for each cable must be grounded and must extend as close to the terminals as possible.

Note 6. Intrinsically Safe (IS) cables of one module must be routed separately from IS cables of another module.

Note 7. IS devices when connected to IS terminals must satisfy the following conditions:  
 $V_{oc} < V_{max}$   
 $I_{sc} < I_{max}$   
 $C_s > C_1, C_{cable}$   
 $L_s > L_1, L_{cable}$

Note 8. This module is certified as a component for mounting in a suitable enclosure where the suitability of the final combination is subject to acceptance by CSA or an inspection authority having the jurisdiction.



31001364 Rev 00 140 AIO 330 00 Wiring Diagram