



PointScan/142™

16-Channel (10 to 30 VDC) Digital Output Module



Features

- 16 digital outputs
 - 10 to 30 VDC output voltage range
 - 1A max load per output
 - 8A max load per module
 - 5A max in-rush current (100 ms)
 - Surge suppressors prevent damage from inductive loads
 - Time-proportioned outputs/TPO for process control
- Ethernet and RS-485 ports with 1200 Vrms isolation

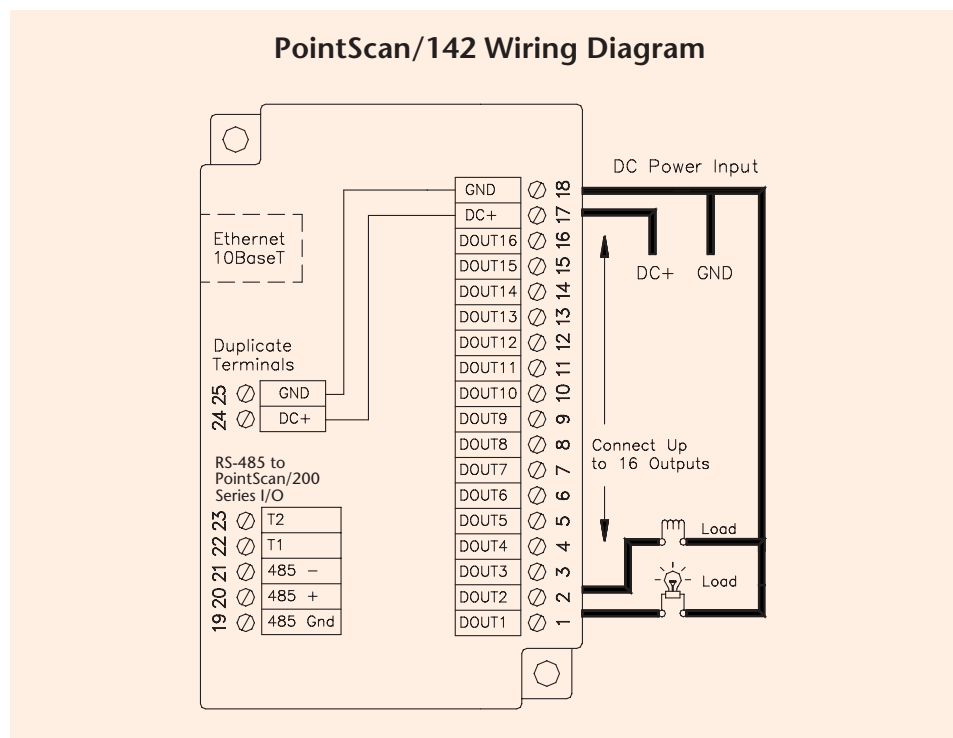


Sixteen 10 to 30 VDC digital outputs are provided for a wide range of control applications. Each channel can be individually configured as time proportioned outputs for variable control. Additional PointScan/142™ features include an isolated Ethernet (10BaseT@ 10Mbps) and RS-485 ports, hot-swap module replacement, and plug-and-play operation.

The PointScan/142 is used to provide an economical solution for applications with a high concentration of digital outputs used to control relays, solenoids, and valves

Digital Outputs. The sixteen digital outputs (10 to 30 VDC @ 1A) support direct control of relays, solenoids, indicators, and other control-related components. These outputs are designed with clamping diodes that absorb the “turn-OFF” transients when inductive loads are switched off. They are rated to handle high in-rush current (5A) when switched ON. For applications where it is necessary to drive a load that exceeds the PointScan/142 module’s (1A) current output rating, or when using a voltage source other than one powering the module, an interposing relay or power switch can be used.

To provide a low-cost and high-performance method to control heaters and other process variables, the PointScan/142 provides time proportioned outputs (TPO). In this mode, digital outputs pulse ON and OFF with a duty cycle (ON to OFF ratio) that is in proportion to an analog output value assigned to control that output. Typically the analog output register associated with the TPO is linked to the output of a PID or other control algorithm, and each time proportioned output is cycled ON and



OFF quickly to provide smooth control. Output ON and OFF times are programmable to avoid fluctuations in the process control in accordance with the dynamics

of the system. For example, minimum pulse time is applicable for slow reacting power controllers such as mechanical relays and piloted valves.



PointScan/142™

Specifications & Ordering Information

Network Isolation. The PointScan/142 has a single Ethernet (10BaseT) port that is isolated from the PC by 1200 Vrms, and a single RS-485 port that is also isolated by 1200 Vrms. This isolation protects PCs from damage caused by high voltages and protects the system from ground loops. The result is more reliable measurements in high-voltage environments.

Field I/O Connection. The PointScan/142 module's digital outputs are all powered by the module's (DC) power source (internally connected), and all loads must return to the same ground as the module.

Specifications

Number of Output Channels: 16
Output Range: 10 to 30 VDC
Max Output Current per Channel: 1A
Max Output Current: 8A (entire module)
Max OFF State Leakage Current: 0.05 mA
Min Load Current per Channel: 0.1 mA
In-Rush Current: 5A (100 ms surge)
Typical ON Resistance: 0.3 Ohms
Typical ON Voltage @ 1A: 0.3 VDC
Time Proportioned Outputs: Configurable for each channel*
Fastest Scan Rate (16 Channels): 2 ms**
Ethernet Communications
Number of Ethernet I/O Nodes: 16,000
Ethernet Port on Each Module: 10BaseT@10Mbps
Protocols Supported: TCP/IP, MODBUS ASCII/RTU
Number of I/O per Node: 512
Required Supply Voltage: 10 to 30 VDC (0.75W typical)
Operating Temperature Range: -30° to +70°C
Storage Temperature Range: -40° to +85°C
Flammability (Module Plastic): UL94V-0 materials
Electrical Safety: UL 508, CSA C22.2/14; EN61010-1 (IEC1010), CE
EMI Emissions: FCC part 15, ICES-003, Class A; EN55022, CE
EMC Immunity: EN50082-1 (IEC801-2, 3, 4) CE
Surge Withstand: IEEE-472 (ANSI C37.90)
Vibration: IEC68-2-6
Hazardous Locations: UL 1604, CSA C22.2/213-M1987, (Class I, Div 2, Groups A, B, C, D), EN50021 (zone 2)

Ordering Information

Description	Part No.
16-channel (10 to 30 VDC) digital output module with isolated Ethernet and RS-485	PointScan/142
Optional hardcopy PointScan/100 series user's manual	1085-0901

For complete information on accessories and cables, visit www.iotech.com/acc

Related Products

Hardware	
PointScan/440	p. 265
PointScan/443	p. 268
Software	
KEPServerEX	p. 271
KEPServerEX Lite	p. 271

* Time Proportioned Outputs control the duty cycle of the output in proportion to an analog output register value. The cycle time and minimum pulse time are configurable.
** I/O register update time does not include external communications