



PointScan/129™



8-Channel (12/24 VDC/VAC) Digital Input & 8-Channel (10 to 30 VDC) Digital Output Module

Features

- 8 digital inputs
 - 12/24 VDC/VAC input range
 - DC sinking/sourcing or AC wiring
 - Programmable digital filtering
 - 100-Hz max count rate per channel
 - 2-kHz high-speed counter (ch. 1 only)
- 8 digital outputs
 - 10 to 30 VDC output voltage range
 - 1A max load per output
 - 8A max load per module
 - 5A max in-rush current (for 100 ms)
 - Time-proportioned outputs/TPO for process control
- Ethernet and RS-485 ports with 1200 Vrms isolation



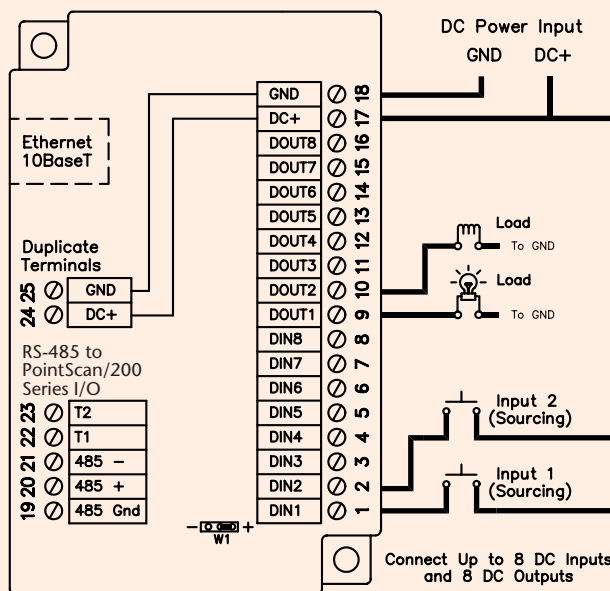
Eight 12/24 VDC/VAC digital inputs are available for monitoring a wide variety of digital devices. They can be user-configured as either sinking or sourcing inputs. Eight 10 to 30 VDC digital outputs are provided for control, and can be individually configured as time proportioned outputs. Additional PointScan/129™ features include an isolated Ethernet (10BaseT @ 10 Mbps) port, an isolated RS-485 port, hot-swap module replacement, and plug-and-play operation.

Digital Inputs. The eight digital inputs can be jumper configured as either sinking or sourcing (24 VDC typical). They can also be user-configured for either slow or fast filter response times. In “fast” mode there is minimal filtering with channels responding to DC input changes in 2 ms, in “slow” mode there is more filtering as channels look for stable inputs for 25 ms (20 Hz counting). Slow mode is typically used for either noisy environments (e.g. mechanical switch closures) or when reading AC inputs. Additional features of the PointScan/129 include the ability to configure channel 1 (only) as a 2-kHz counter, and an input count mode that uses analog input registers to accumulate the positive transitions (OFF to ON) of each input.

Digital Outputs. The eight digital outputs (10 to 30 VDC @ 1A) support direct control of relays, indicators, and other control components. These outputs are designed with clamping diodes that absorb the “turn-OFF” transients when inductive

The PointScan/129 is used to monitor digital devices including proximity switches, limit switches, power circuits, and pushbuttons as well as to control relays and indicators

PointScan/129 Wiring Diagram



loads are switched off. They also are rated to handle the high in-rush current (5A) when switched ON. For applications where it is necessary to drive a load that exceeds the PointScan/129 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/129 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



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Specifications & Ordering Information

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 or 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.

Network Isolation. The PointScan/129 has a single (10BaseT) Ethernet 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/129 module features a pair of floating terminals per input providing channel-to-channel isolation and a choice of sourcing (power switching), sinking (ground switching), or AC signals per input (see wiring diagram for details).

Specifications

Number of Digital Inputs: 8
Nominal Digital Input Range: 12/24 VDC/VAC
Guaranteed ON Voltage: 9 VDC/VAC*
Max Input Voltage: 30 VDC
Guaranteed OFF Voltage: 5.0 VDC
Guaranteed OFF Current: 1.4 mA
Input Resistance: 3.6K Ohms
Nominal Input Current @ 24 VDC: 6.7 mA
Filtered Mode ON/OFF Delay: 25 ms
Filtered Mode Count Feature: 10 Hz max
Fast Mode Count Feature: 100 Hz max (2 kHz on channel 1 only)
Fastest Scan Rate (8 Channels): 2 ms**
Number of Digital Outputs: 8
Max Output Current Per Channel: 1A
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 (100 ms Surge): 5A
Typical ON Voltage: 0.3 Ohms
Typical ON Voltage @ 1A: 0.3 VDC
Time Proportioned Outputs: Configurable for each channel
Fastest Scan Rate (8 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): UL 94V-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: UL1604, CSA C22.2/213-M1987, (Class I, Div 2, Groups A, B, C, D), EN50021 (zone 2)

Ordering Information

Description	Part No.
8-channel (12/24 VDC/VAC) digital input and 8-channel (10 to 30 VDC) output module	PointScan/129
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