PointScan/121 ™

16-Channel (12/24 VDC/VAC) Digital Input Module with Pulse Counting

Features

- **Sixteen 12/24 VDC/VAC digital inputs**
- **DC sinking/sourcing or AC wiring**
- **Programmable digital filtering**
- **100-Hz max count rate per channel**
- **2-kHz high-speed counter (channel 1 only)**
- **Ethernet and RS-485 ports with 1200 Vrms isolation**

Sixteen 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. Additional PointScan/121™ 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 sixteen digital inputs can be jumper configured as either sinking or sourcing (typically 24 VDC). These inputs 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/121 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.

Network Isolation. The PointScan/121 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/121 module is supplied with a terminal base where all inputs are referenced to a common ground, and where positive DC voltage must be applied to an input to indicate an ON condition (see wiring diagram for details).

The PointScan/121 is used to monitor the state of digital devices including proximity switches, limit switches, power circuits, pushbuttons, and relays

PointScan/121 Wiring Diagram

Distributed I/O & Data Logging Solutions
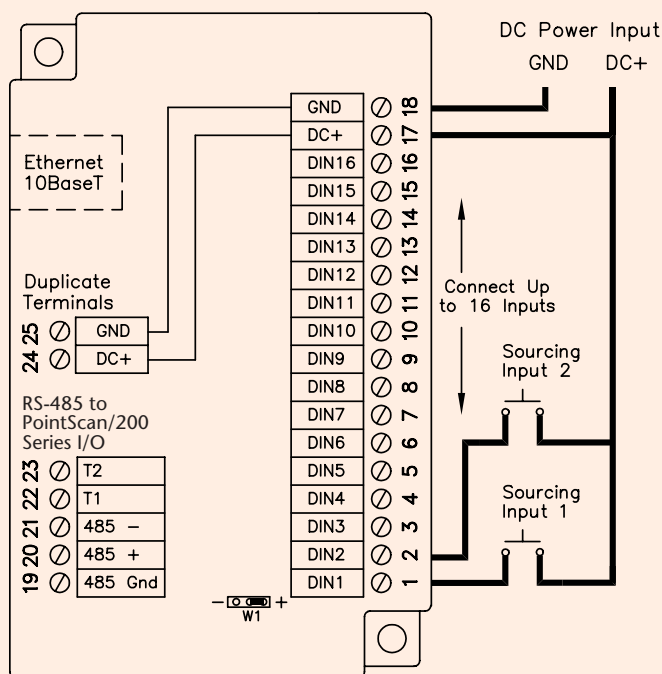
PointScan/121™
Specifications & Ordering Information

Specifications

Number of Input Channels: 16
Nominal Input Voltage: 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)
Fastest Scan Rate (16 Channels): 2 ms*

Ethernet Communications
    Number of Ethernet I/O Nodes: 16,000
    Ethernet Port on Each Module: 10BaseT @ 10 Mbps
    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: UL 1604, CSA C22.2/213-M1987, (Class I, Div 2, Groups A, B, C, D), EN50021 (zone 2)

Ordering Information

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

Related Products

Distributed I/O & Data Logging Solutions

* I/O register update time does not include external communications.