



# PointScan/102™

## 16-Channel (4 to 20 mA) Analog Input Module



### Features

- 16 single-ended (4 to 20 mA) current inputs with 14-bit resolution
- User-configurable filter settings for noise rejection
- Field replaceable current shunts
- Hot-swap module replacement with plug-and-play start-up
- Self-calibrating for reduced maintenance
- Ethernet and RS-485 ports with 1200 Vrms isolation



Sixteen 4 to 20 mA inputs provide 14-bit, high-resolution analog measurements, and are typically used to monitor sensors and transmitters. Additional PointScan/102™ features include: low-noise inputs with on-board filtering, an isolated Ethernet (10BaseT @ 10 Mbps) port, isolated RS-485 port, hot-swap module replacement, plug-and-play operation, and self-calibration.

Select PointScan/102 when you need to monitor 4 to 20 mA analog signals over an Ethernet network

**Field Replaceable Current Shunt.** Each of the PointScan/102's 16 input channels has a 100 Ohm precision shunt on its input creating a 2V signal when a full-scale, 20 mA is applied. The placement of this shunt in the PointScan/102's terminal base maintains a continuous circuit, even if the analog module is removed. If an excessive voltage is applied to an input, shunts will blow to provide circuit protection. Shunts are socketed for easy field replacement.

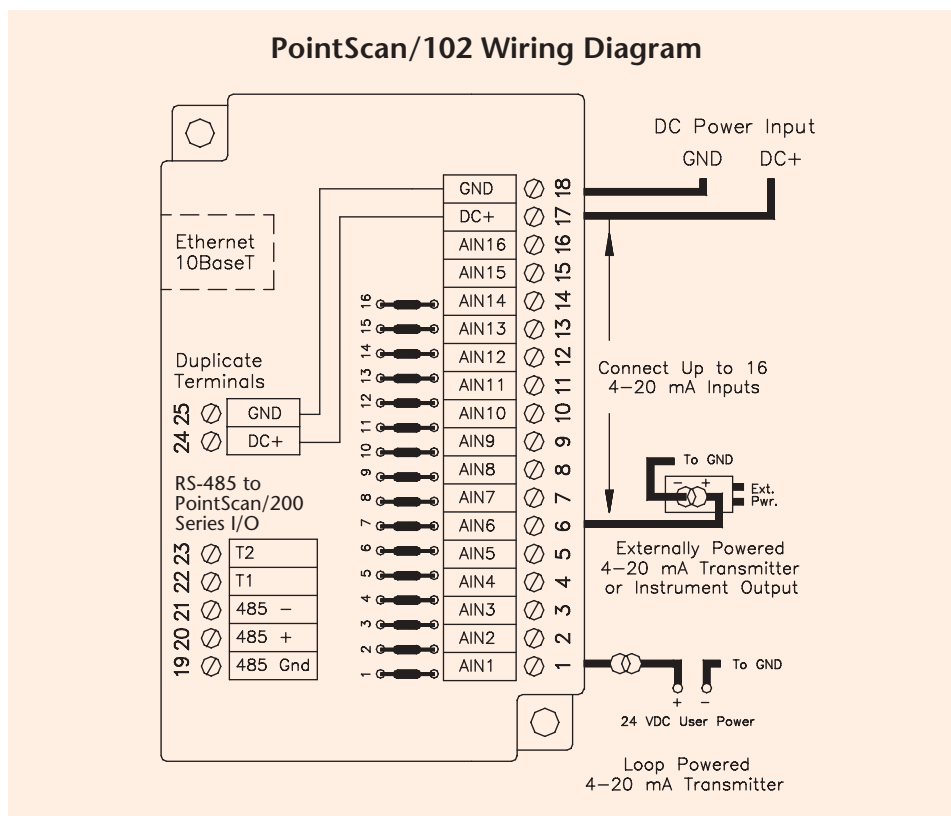
**Open Loop Detection.** The PointScan/102's diagnostics are capable of detecting open instrumentation loops. On a per channel basis, a unique low limit (below 4 mA) value can be defined that signals (to PC) a loss of current.

**Programmable Integration Period.** The PointScan/102's analog inputs are integrated to eliminate the effects of unwanted noise. The slowest setting of 100 ms (5 cycles at 50 Hz and 6 cycles at 60 Hz) is used to eliminate power-line generated noise. The fastest scan time for 16 channels is 5 ms.

**Network Isolation.** The PointScan/102 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.** A high-density, screw-terminal base and only a single input terminal is required for each of the 16 analog inputs (see wiring diagram for details).





# PointScan/102™

## Specifications & Ordering Information

### Specifications

**Number of Channels:** 16  
**Input Range:** 4 to 20 mA  
**A/D Resolution:** 14 bits (0.01%)  
**Full-Scale Accuracy @ 20°C:** ±0.05%  
**Span and Offset Temp. Coefficient:** ±50 ppm per °C typical 100 Ohms  
**Input Current Protection:** Fusible shunts  
**Fastest Scan Rate (16 Channels):** 5 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  
**Isolation (from Ethernet Port):** 1200 Vrms 1 minute

**Required Supply Voltage:** 10 to 30 VDC (0.75W typical)  
**Operating Temperature Range:** -30° to +70°C  
**Storage Temperature Range:** -40° to +85°C  
**Humidity (Non-Condensing):** 5 to 95%  
**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

Description	Part No.
16-channel (4 to 20 mA) analog input module	PointScan/102
Optional hardcopy PointScan/100 series user's manual	1085-0901

For complete information on accessories and cables, visit [www.iotech.com/acc](http://www.iotech.com/acc)

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PointScan/443	p. 268
<b>Software</b>	
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KEPServerEX Lite	p. 271

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