# Micronix PV-2019

## 12-bit Data acquisition module with Analogue and digital I/O's

Micronix PV-2019 is a highly compact PC/104 board combining 16 voltage and 8 current inputs (0-20mA) with 12-bit resolution plus 8 digital inputs and 8 digital outputs on just one board. Additionally two analogue channels voltage and/or current outputs and two 32-bit counters add to the versatility of the board. Micronix PV-2019 is the ideal solution for data acquisition and machine and process control applications, combining multiple I/Os in very limited space.

## Micronix PV-2019 Features

- 12-bit resolution of A/D and D/A
- 16 analogue voltage inputs, single-ended
- 8 analogue 0-20mA inputs
- 2 analogue voltage/current outputs
- 8 opto-isolated digital inputs
- 8 opto-isolated digital outputs
- 2 counter inputs, opto-isolated
- Drivers for Windows NT, 9X and Linux
- Low power
- Industrial grade temperature range (-20°C to +70°C)
- Low cost

## Description

Micronix PV-2019 is the most powerful of PC/104 data acquisition modules. The board is a microprocessor based auto calibrating system which needs no potentiometer adjustment. Thus it is ruggedized and resistant to vibrations in the industrial environment. It combines the highest amount of I/O features in a single board and requires +5V only from the system power supply. The board can be configured for 16 different I/O-addresses 200H – 338H.

## Rugged design for every industrial and mobile solution

Micronix PV-2019 is designed with real-world applications in mind. The analogue inputs are protected against voltages up to ±35V, even with the power off. The digital outputs reset to 0 on power up or system reset to force the board into a known state and prevent undesirable system behaviour. The board's single-supply and low-power design minimises the cost of the system power supply. And perhaps best of all, Micronix PV-2019 comes as standard in Industrial (-20-70° C) temperature ranges.

## Micronix PV-2019 Specifications

**Analogue voltage inputs**

| | |
|---|---|
| Number of channels: | 16, single ended |
| Resolution | 12 bits |
| Accuracy | 0.25 % |
| Conversion time | 22 µs typical |
| Ranges | 0-1V, 0-2.5V, 0-5V or 0-10V |
| Max. input voltage | ±35V |
| Input impedance | 1 MΩ // 100pF |

**Analogue current (0-20mA) inputs**

| | |
|---|---|
| Number of channels | 8, single ended |
| Resolution | 12 bits |
| Accuracy | 0.25 % |
| Conversion time | 22 µs typical |
| Ranges | 0-20mA |
| Input impedance | 50Ω // 100pF |

**Analogue outputs**

| | |
|---|---|
| Number of channels | 2, |
| Resolution | 12 bits |
| Accuracy | 0.25 % |
| Speed | 25 µs |
| Ranges, software | 0-10V, 0-20mA and 4- |
| selectable | 20mA, |
| Output source current | 8mA (Voltage outputs) |

**Digital inputs**

| | |
|---|---|
| Number of channels | 8 |
| Max. input voltage | ±30V |
| Logic "1" | Uin > ±10V |
| Logic "0" | Uin < ±1V |
| Max. input current (mA) | (Uin – 1.3)/10kΩ |
| Isolation voltage | 1000 Vrms |

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# Micronix PV-2019

## 12-bit Data acquisition module with Analogue and digital I/O's

## Micronix PV-2019 Specifications --- continued---

**Digital outputs**

| | |
|---|---|
| Number of channels | 8 (Open collector) |
| Max. output voltage | 80V |
| Max. output current (one ch.) | 10 mA |
| Max. output current (all ch.) | 10 mA/ch. |
| Isolation voltage | 1000 Vrms |

**Counters**

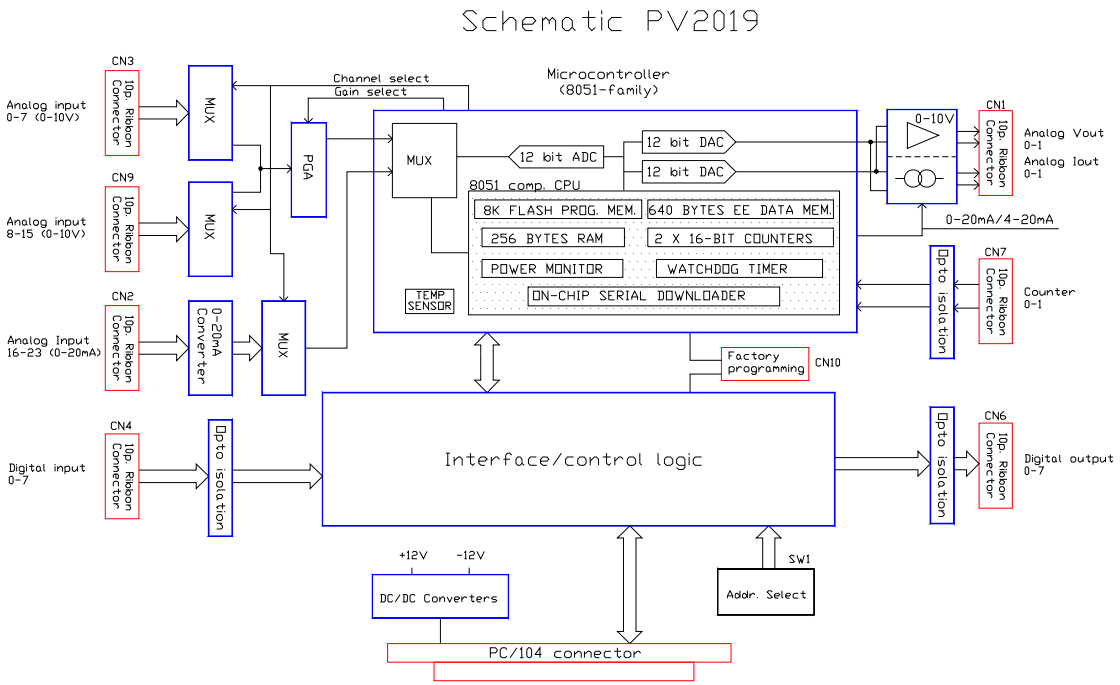
| | |
|---|---|
| Number of channels | 2 |
| Counting frequency | 10 kHz |
| Counting range | 32-bit (0-4294967295) |
| Logic "1" | Uin > +10V |
| Logic "0" | Uin < +1V |
| Max. input current (mA) | (Uin – 1.3)/10kΩ |
| Isolation voltage | 1000 Vrms |

**Power consumption:** 5V, 260mA (all outputs off) to 630mA (all outputs on).

**Environmental**

| | | | |
|---|---|---|---|
| Operating temperature | -20° to 70°C | Dimensions | 96x90x15mm |
| Storage temperature | -40° to 85°C | Weight (g) | 95 g |
| Humidity | 0 to 90% non-condensing | | |

**Drawing:**




## Ordering codes

| Model no. | Description |
|---|---|
| PV-2019 | PC/104 board with 24 AI, 2 AO, 8 DI, 8 DO and 2 Counter inputs |
| PV-2019A | PC/104 board with 8 AI (voltage), 8 DI, 8 DO and 2 Counter inputs |
| /-S | PV-2019(A) with stack-through connector |

### Cables

| | |
|---|---|
| CDB-9F | Ribbon cable with DB-9 connector (F) for PV-2019, 30 cm |
| CDB-9-2019 | Cable-kit for PV-2019 with DB-connectors: 7 cables with DB-9 connectors (F) |