

Watchdog board, PC control, Temperature monitoring



The PA 030 is a watchdog board used for the monitoring of PC operation and early detection/recovery from failures. The watchdog can provide early warning of fault conditions and initiate an automatic restart facility in case of program hangup due to software or hardware failure. The supervision is made through a software-triggerable timer. If a predefined time is overrun without accessing the board, the system receives the "time-out" information and can take appropriate measures, which may include restarting the PC automatically without need for user intervention (cabling to the PC reset button). The board is equipped with a temperature sensor which continuously monitors the internal temperature of the PC.

Features

- Temperature measurement through a sensor and 8-bit A/D converter:
 - Readable through software
 - Free-running A/D converter and comparison with a programmable limit value
- Temperature measuring range: 0 to 125°C
- PC real operating range: 0 to 60°C
- 16-bit watchdog timer, programmable through software
- Triggering of the watchdog selectable through software
- 2 x 16-bit cascaded timer for generating a reference clock
- Possibility of interrupt with the timer frequency, at EOC, at DOG-OUT, external reset and overtemperature
- DOG-OUT is available on the front connector:
 - As buffered TTL
 - Open Collector
 - Potentially free relay change-over contact
- Addressing through DIP switches
- Peripheral functions can be switched on and off through software
- Reset of the PA 030 through front connector possible

EMC tested acc. to 89/336/EEC

- IEC 61326: electrical equipment for measurement, control and laboratory use

Software drivers

Standard drivers for:

Windows 2000/NT/98/95, MS-DOS
Real-time drivers for Windows 2000/NT/98/95

Drivers for the following application software: LabVIEW 5.01

Samples for:

Visual Basic 8.0 • Visual C++ 5.0 • Borland C++ 5.01, 3.1

PA 030

Watchdog

2 x 16-bit timers

Temperature monitoring 0 °C to 125 °C

Specifications

Quartz oscillator:	2 MHz
Timer:	2 x 16-bit cascaded, software-programmable
Watchdog timer:	16-bit, programmable and triggerable through software
Temperature measurement:	0 to 125 °C free-running and alarm limit readable through software
Real operating range of the PC:	0 to 60 °C
Interrupt:	IRQ 3-5 for XT, IRQ 10-15 for AT adjustable through wire wrap

Signals on front connector

Watchdog:	Typ. 100 ms
Output pulse:	TTL max. 6 mA open collector max. 20 mA / 30 V change-over contact max. 250 mA
Timer output:	TTL, max. 6 mA

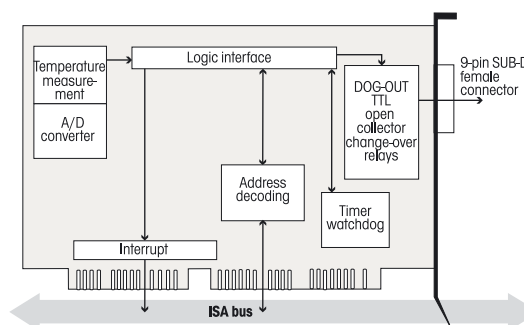
Noise immunity

Test level:	- ESD: 4 kV - Fields: 10 V/m - Burst: 2 kV - Conducted radio interferences: 10 V
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Physical and environmental conditions

Dimensions:	179 x 99 mm
System bus:	ISA
Place required:	short board, 1 XT or AT slot
Operating voltage:	+5 V, ± 5 % from PC
Current consumption:	65 mA typ.
Front connector:	9-pin SUB-D female connector for signal outputs
Temperature range:	0 to 60 °C (with forced cooling)

Simplified block diagram



ORDERING INFORMATION

ADDIMULTI PA 030

Watchdog board. Incl. technical description and software drivers

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