



## PCIe-WDG-CSMA Watchdog Timer & I/O Card Datasheet

### FEATURES

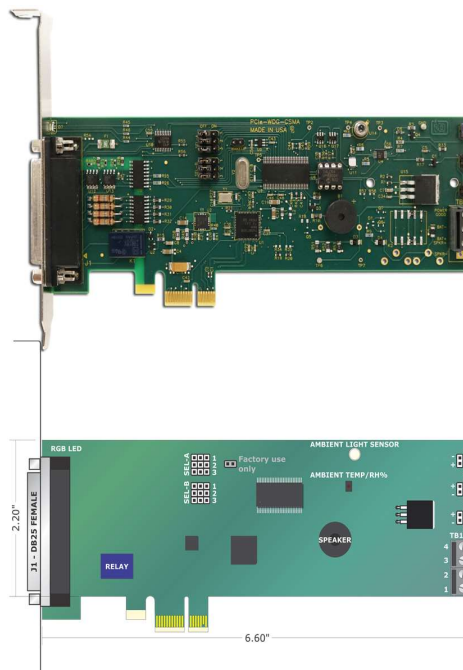
- MD2 Low Profile Watchdog Timer & Computer Status Monitor
- Open collector transistor output to ground power good line or reset switch via pass through upon timeout
- DPDT relay contacts notify external devices when reset signal occurs
- 2 Digital outputs & 2 LVTTTL inputs (5V tolerant)
- DB25 female connector on mounting bracket
- RGB LED at mounting bracket provides at-a-glance status information
- Onboard speaker
- EEPROM for configuration and firmware

### Advanced Model Features

- Analog to Digital Converter with integrated Temp & Humidity sensors and multiplexed inputs
- +12V & +3.3V PCIe Power Monitor
- Ambient light sensor
- External LM335 temperature sensor
- 4 Isolated digital inputs accept up to 31VDC
- 2 Isolated FETs switch from 5 to 34VDC

### FACTORY OPTIONS

- Extended temperature operation (-35° to +70°C)
- RoHS Compliance
- Low Profile Mounting Bracket



### FUNCTIONAL DESCRIPTION

This product is a Low Profile PCIe Watchdog Timer & Utility I/O card. The card is 6.6 inches long and 2.535 inches seated height. External I/O wiring connections are via a female DB25 connector on the card mounting bracket.

The PCIe-WDG-CSM card contains a watchdog timer and on-card RGB LED and speaker alarm to signal watchdog timeout. A DPDT relay, two LVTTTL inputs and two digital outputs, and fused 3.3V general purpose outputs are accessed via the DB25 female I/O connector on the card mounting bracket.

An advanced model, the PCIe-WDG-CSMA, is also available which includes an A/D converter to monitor the computer power supply, and sensors to monitor the internal temperature and humidity, ambient light, and comes with a remote temperature sensor on an 18" cable. A pair of opto-isolated outputs and four opto-isolated inputs are available for general purpose use.

PCIe-WDG-CSMA: Advanced Feature Pack\* Advanced software package multiplies the power of your Watchdog.

Create a customized configuration package and upgrade your PCIe-WDG-CSMA device to

- 1) protect your computer from common problems that can occur during power-on self test (POST)
- 2) control one or more outputs when input(s) toggle or other Events occur
- 3) schedule output changes to occur periodically or at a specific time
- 4) play WAV files when Events happen, including Growl, Bark, "LVTTTL0 falling edge detected", etc.

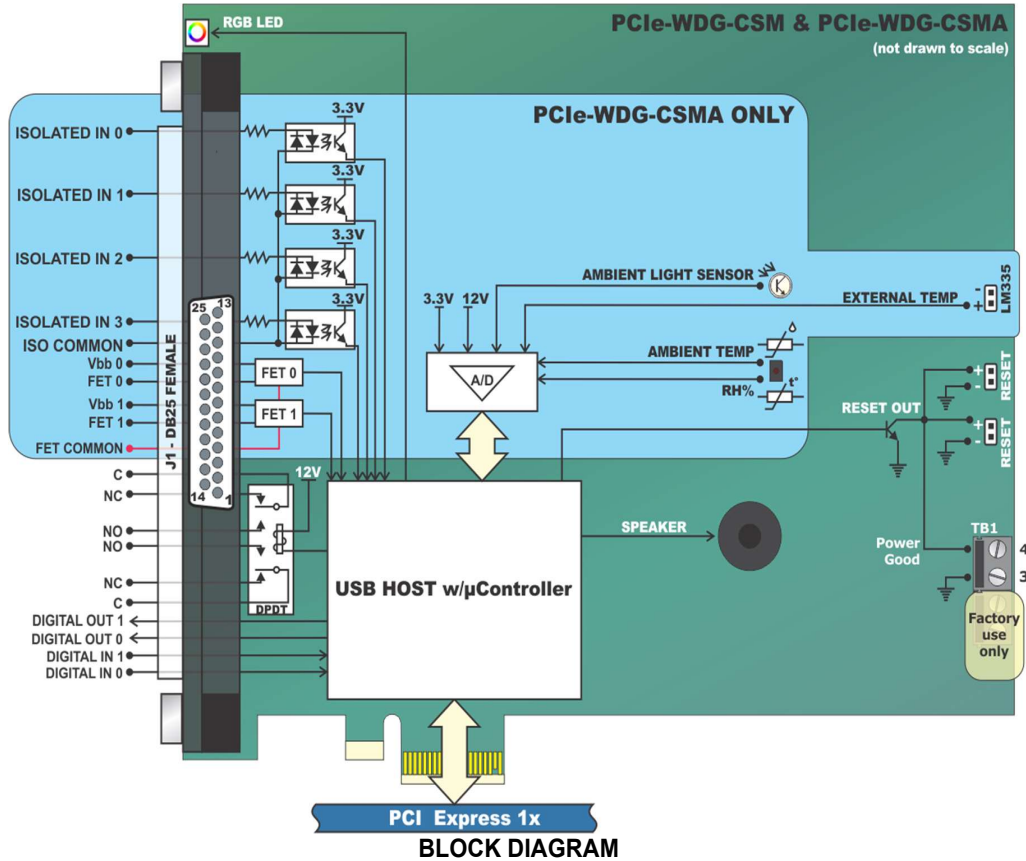
All features can be configured through either a Windows GUI-based settings program or our flexible AIOWDG.dll API, with settings stored in onboard non-volatile memory.

### OPTIONAL ACCESSORIES

ADAP25M		Lowest cost approach, minimum labor (no soldering). Plugs directly on to I/O connector on card mounting bracket, at the back of the PC.
STB-25 & CAB25MF-x		Terminals at 45 degrees, mountable on DIN-Rail, can be located away from the back of the PC.

### SOFTWARE

The card is supported for use in most operating systems and includes Linux and Windows compatible software packages. This package contains sample programs and source code in Delphi and Visual C++ for Windows. Linux support includes installation files and basic samples for programming from user level via an open source kernel driver. Third party support includes a Windows standard DLL interface usable from the most popular application programs. Embedded OS support includes Windows XPe.



## SPECIFICATIONS

### Two Digital Inputs

Pull-up resistors 10k ohm

### Two Digital Outputs

Logic Levels	3.3V
Low Inputs	≤ 0.8V ≤ 1uA
High Inputs	≥ 2.0V ≤ 1uA
Low Outputs	≤ 0.6V ≤ 24mA
High Outputs	≥ 2.5V ≤ 24mA

### Relay

Contacts Dual Form C (DPDT)  
Nominal Ratings 1A, 30VDC, 0.5A 125VAC (resistive)

### Reset Output

Open Collector Transistor to ground

### Isolated Digital Inputs

Quantity: 4, PC isolated, sharing a common return  
Type: Opto-couplers  
Voltage Range: 3 to 31 VDC  
Isolation: 500V channel-to-ground  
Input Resistance: 1.8K ohms in series with opto coupler

### Isolated FET Outputs

Quantity: 2, PC isolated, sharing a common return  
Output Type: High Side Power MOSFET Switch  
Protected against short circuit, over-temp., ESD, can drive inductive loads.  
Voltage Range: 5-34VDC (customer supplied)  
Current Rating: 2A maximum  
Minimum load: Required

### Computer Status Monitor (I<sup>2</sup>C Interface)

#### Sensors (2)

Ambient Temperature -40 to +125°C ±0.3 - 0.7% typical  
Relative Humidity 0-100% RH, ±3% typical

#### Analog Inputs (4)

3.3V from PC Supply  
12V from PC Supply  
Ambient Light Sensor  
LM335 Temp Sensor

#### Environmental

Operating Temperature 0° to 70°C, optional -35° to +70°C  
Storage Temperature -40° to +85°C  
Humidity 5% to 95% RH, w/o condensation  
Card Dimensions 6.6"Length; Height 2.535" seated  
MD2 Low Profile Specification

## ORDERING GUIDE

- PCIe-WDG-CSM PCI Express Watchdog Timer
- PCIe-WDG-CSMA Advanced Watchdog Timer Card

### Factory Options

- Extended temperature operation (-35° to +70°C)
- RoHS Compliance
- Low Profile mounting bracket

### DB25F Connector Pin Assignments

Pin	Signal	Pin	Signal
1	RELAY 1C	14	RELAY 2C
2	RELAY 1NO	15	RELAY 2NO
3	RELAY 1NC	16	RELAY 2NC
4	ISOL IN RETURN*	17	ISOL IN 4*
5	ISOL IN 3*	18	ISOL IN 2*
6	ISOL IN 1*	19	ISOL OUT 2 VBB*
7	ISOL OUT 1 VBB*	20	ISOL OUT 2 VOUT*
8	ISOL OUT 1 VOUT*	21	ISOL OUT RETURN*
9	LVTTL IN 2	22	GND
10	LVTTL IN 1	23	GND
11	LVTTL OUT 2	24	GND
12	LVTTL OUT 1	25	GND
13	3.3VDC via polyfuse		

\*Indicates PCIe-WDG-CSMA version only

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