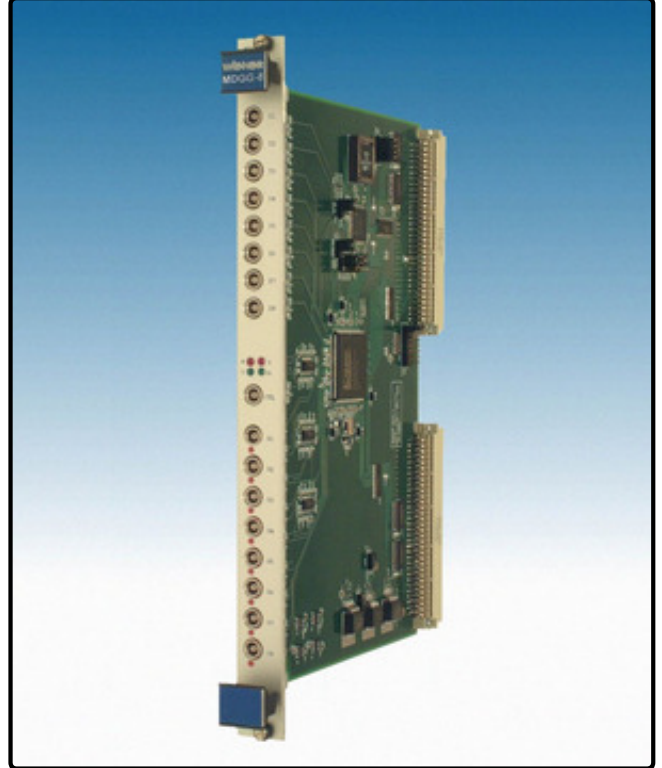
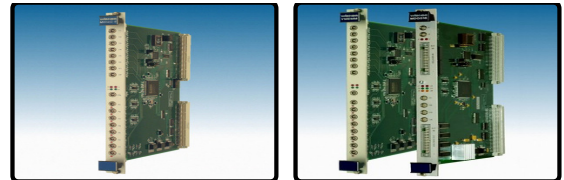


# MDGG - 8 multi functional VME Logic Module

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*MDGG - 8 multi functional VME Logic Module*



**The MDGG-8 is a single wide 6U VME multi functional FPGA based delay logic and timing module which provides often needed functions as gate, delay & pulse generator, logic fan in - fan out, coincidence register and scaler / pre-scaler. The module has 8 inputs and 8 outputs with NIM levels, which are free configurable in regards to their used functionality.**

The MDGG-8 is based on a XC3S400 FPGA with 36kB of block RAM. Two FPGA configuration files can be stored in the on-board flash memory from which the FPGA can boot at power-on (selection by a jumper). The flash memory can be reprogrammed via VME for firmware upgrades.

MDGG-8 can be readily customized within the constraints set by the hardware resources. It may be considered an 9-input/8-output/12-diagnostic LED universal logical module for which the user can develop his own firmware using the free XILINX

WebPack software.

## Main features

- FPGA based VME logic module
  - Pre-programmed standard logic functions as delay gate generator, pulser, scaler, coincidence registers selectable via VME registers
  - Interrupt capability
- 
- single wide 6U A24/D32 VME slave module
  - 8+1 NIM inputs (LEMO connectors), 8 NIM outputs (LEMO connectors), can be programmed to be inverted / non-inverted
  - 8 channel and 4 diagnostic LED's
  - Interrupt capable, IRQ selected by jumper
  - Firmware upgradable via VME
  - Built-in functions (firmware dependent)
    - programmable delay / gate / pulse generators, start/stop latches or pre-scalers (8 ns steps)
    - gated or latching scalers with 1kx32FIFO per channel
    - 8 bit coincidence register
    - combinatorial gates (2 fold OR of 8 fold AND)
    - Flexible configuration and multiplexing of NIM inputs / outputs and logic devices
    - Programmable Veto inputs
    - VME triggering of logic devices and reset of scalers

| Item   | Description                    |
|--------|--------------------------------|
| MDGG-8 | 8 Channel MDGG-8 with LEMO I/O |

### Specifications:

|                   |   |
|-------------------|---|
| <b>Packaging</b>  | single wide 6U VME module                               |
| <b>Inputs:</b>    | 8 channel inputs + 1 common (LEMO 00)                   |
| <b>Outputs:</b>   | 8 channel outputs (LEMO 00)                             |
| <b>LED's:</b>     | 12 Diagnostic LED's, driven by signal stretchers        |
| <b>Firmware:</b>  | Programmed via VME                                      |
| <b>Interface:</b> | VME A24 D32, base address via jumpers.                  |
| <b>VME IRQ:</b>   | Capable of asserting VME IRQ, level selected via jumper |
| <b>Power:</b>     | 5V, 1A  |

### Product Data Sheet

MDGG - 8 multi functional VME Logic Module: [Print Product Data Sheet](#)

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### Documentation

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Manual and Tech-Notes : [MDGG](#)

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Introduction: [WIENER VME VXI VXS introduction](#)

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### Downloads

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CD: [MDGG](#)

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