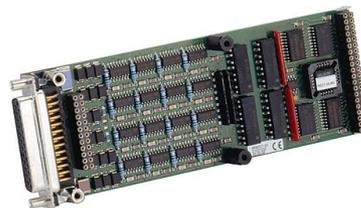


## M27 – 16 Binary Outputs

- **16 outputs 8..36 V**
- **500 mA output current per channel**
- **Thermal and short-circuit protection**
- **Load on supply voltage**
- **Optical isolation**

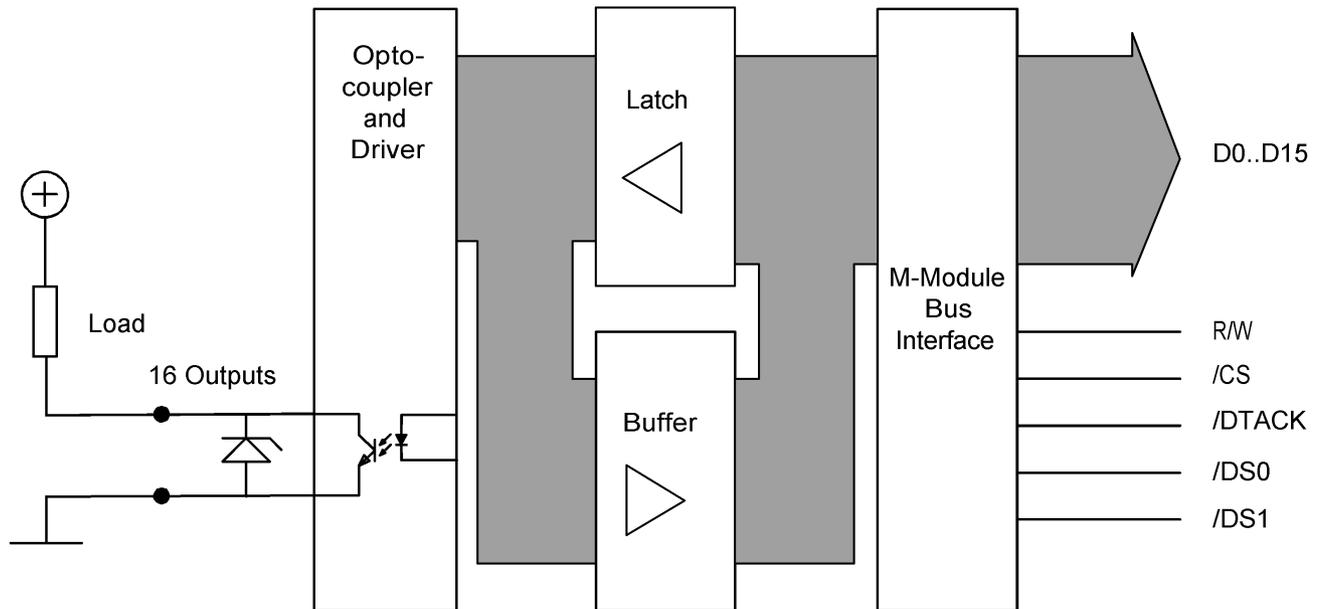
The mezzanine card M27 with its open-collector outputs can be used in process I/O applications (cf. M28 with open-emitter outputs). If there are currents of above 500mA an intelligent power switch guarantees that the respective transistor is switched off.



The M-Module is equipped with suppressor diodes for protection against overvoltage caused by inductive loads. The output registers can be read back.

The M27 is based on the M-Module ANSI mezzanine standard. It can be used as an I/O extension in any type of bus system, i.e. CPCI, VME or on any type of stand-alone SBC. Appropriate M-Module carrier cards in 3U, 6U and other formats are available from MEN or other manufacturers.

# Diagram



## Technical Data

<b>Output Voltage</b>	<ul style="list-style-type: none"> <li>■ 8..36V; 10µA max. (open)</li> <li>■ 2V max.; 500mA (closed)</li> </ul>
<b>Output Current</b>	<ul style="list-style-type: none"> <li>■ Max. 500mA per channel</li> <li>■ No derating</li> </ul>
<b>Miscellaneous</b>	<ul style="list-style-type: none"> <li>■ Load on supply voltage</li> <li>■ Thermal and short circuit protection</li> </ul>
<b>Peripheral Connections</b>	<ul style="list-style-type: none"> <li>■ Via front panel on a shielded 25-pin D-Sub receptacle connector</li> <li>■ Via carrier board (rear I/O)</li> </ul>
<b>M-Module Characteristics</b>	<ul style="list-style-type: none"> <li>■ A08, D16, IDENT</li> </ul>
<b>Electrical Specifications</b>	<ul style="list-style-type: none"> <li>■ Isolation voltage: <ul style="list-style-type: none"> <li>□ 500V DC between isolated side and digital side</li> <li>□ Voltage between the connector shield and isolated ground is limited to 180V using a varistor; AC coupling between connector shield and isolated ground through 47nF capacitor</li> </ul> </li> <li>■ Supply voltage/power consumption: +5V (4.85V..5.25V), 100mA typ.</li> <li>■ MTBF: 58,000h @ 50°C (derived from MIL-HDBK-217F)</li> </ul>
<b>Mechanical Specifications</b>	<ul style="list-style-type: none"> <li>■ Dimensions: conforming to M-Module Standard</li> <li>■ Weight: 84g</li> </ul>
<b>Environmental Specifications</b>	<ul style="list-style-type: none"> <li>■ Temperature range (operation): <ul style="list-style-type: none"> <li>□ 0..+60°C</li> <li>□ Industrial temperature range on request</li> <li>□ Airflow: min. 10m<sup>3</sup>/h</li> </ul> </li> <li>■ Temperature range (storage): -40..+85°C</li> <li>■ Relative humidity range (operation): max. 95% non-condensing</li> <li>■ Relative humidity range (storage): max. 95% non-condensing</li> <li>■ Altitude: -300m to + 3,000m</li> <li>■ Shock: 15g/11ms</li> <li>■ Bump: 10g/16ms</li> <li>■ Vibration (sinusoidal): 2g/10..150Hz</li> <li>■ Conformal coating on request</li> </ul>
<b>Safety</b>	<ul style="list-style-type: none"> <li>■ PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers</li> </ul>
<b>EMC</b>	<ul style="list-style-type: none"> <li>■ Tested according to EN 55022 (radio disturbance), IEC1000-4-2 (ESD) and IEC1000-4-4 (burst)</li> </ul>
<b>Software Support</b>	<ul style="list-style-type: none"> <li>■ MEN Driver Interface System (MDIS for Windows®, Linux, VxWorks®, QNX®, OS-9®)</li> <li>■ <a href="#">For more information on supported operating system versions and drivers see Downloads.</a></li> </ul>

## Ordering Information

<b>Standard M27 Models</b>	<b>04M027-00</b>	16 binary sink outputs, 0..+60°C
<b>Miscellaneous Accessories</b>	<b>05M000-00</b>	M-Module cable, 2m, with 25-pin D-Sub plug/housing to pig tail
	<b>05M000-17</b>	25 mounting screw sets to fix M-Modules on carrier boards
<b>Software: Linux</b>	This product is designed to work under Linux. See below for all available separate software packages.	
	<b>13MD05-90</b>	MDIS5 System (and Device Driver) Package (MEN) for Linux. This software package includes most standard device drivers available from MEN.
<b>Software: Windows®</b>	This product is designed to work under Windows®. See below for all available separate software packages.	
	<b>13M027-70</b>	MDIS4/2004 / MDIS5 Windows® driver (MEN) for M27, M28 and M81
<b>Software: VxWorks®</b>	This product is designed to work under VxWorks®. For details regarding supported/unsupported board functions please refer to the corresponding software data sheets.	
	<b>13M027-06</b>	MDIS5 low-level driver sources (MEN) for M27, M28 and M81
<b>Software: QNX®</b>	This product is designed to work under QNX®. For details regarding supported/unsupported board functions please refer to the corresponding software data sheets.	
	<b>13M027-06</b>	MDIS5 low-level driver sources (MEN) for M27, M28 and M81
<b>Software: OS-9®</b>	This product is designed to work under OS-9®. For details regarding supported/unsupported board functions please refer to the corresponding software data sheets.	
	<b>13M027-06</b>	MDIS5 low-level driver sources (MEN) for M27, M28 and M81
<b>For operating systems not mentioned here <a href="#">contact MEN sales</a>.</b>		
<b>Documentation</b>	Compare Chart binary I/O M-Modules » <a href="#">Download</a>	
	<b>20M000-00</b>	M-Module Draft Specification, Rev. 3.0
	<b>20M027-00</b>	M27 User Manual

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