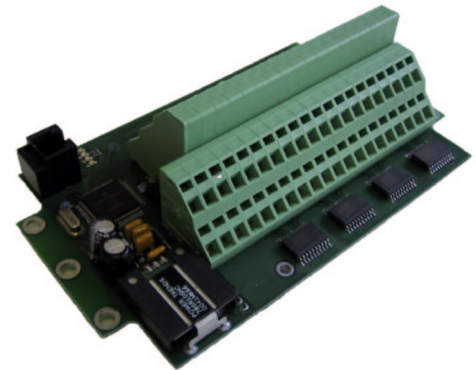


# Multipurpose I/O module

## Specifications

Type	Multipurpose I/O module
Digital inputs	8 (24V, polarity PNP/NPN can be selected in groups of 4)
Analog inputs	4 (8 bits, adapted to VDO automotive sensors, can be adapted to other input types)
Digital outputs	4 (24V, PNP, 3A / channel)
PWM outputs	8 (24V, PNP, 3A / channel, 12-bit current feedback)
Interfaces	RS-232 CAN (CANopen / DeviceNet protocol)
Main processor	Motorola MC68HC08AZ60 (8-bit)
CAN bus transceiver	Philips TJA1050
Operating voltage	9 - 30V (compliant with ISO/DTR 7637 class 4)
Operating temperature range	-40...+85°C (-40...+185°F)
Dimensions	100 x 160 x 100 mm 3.94 x 6.30 x 3.94 inches
Protection Class	IP65 (IP67 available on request)



## Product description

The multipurpose I/O module is designed for both stand-alone and networked applications. The module includes a wide variety of different types of I/O and the connections are all made with spring-loaded connectors enabling easy modification of systems before and after installation. The module software is written in C, and the application can be written by either our engineers or by the customer. The standard application is a CANopen slave module application conforming to CiA draft standard DS-401 (device profile for I/O modules).

The basic configuration of the module includes 8 PNP inputs which can be changed to NPN types in groups of 4 (in ordering). The outputs have a current limitation of 3A / channel, and the outputs are also protected against short-circuit and overtemperature. The PWM outputs have a current measurement in each channel (12 bit resolution), and they are suited for driving proportional valves in the range of 0...2000mA. Output polarity, ramps, dead band and current feedback controller parameters can all be configured by software.

The analog inputs are suited for VDO automotive sensors. These sensors are quite low cost, resistive sensors, which are a good solution for measuring for example temperatures of oil, coolant liquids, air, or other variables in automotive or hydraulic systems. The inputs can be factory-configured also for other input signals, such as a 4...20mA current signal.

The I/O module is designed for harsh environments. The module is mounted in an IP65-protected case, and IP67 rating is also available on request. The standard module has spring-loaded connectors inside the module case, which require no separate external connectors for the wiring. The module can also be supplied with customer-specific connectors. Power supply for the module is in the range of 9 - 40V. The module is protected against reverse battery connection, overvoltage, and load-dump situations. The power supply is tested against the very strict ISO/DTR 7637 class 4 standard.

I/O can be controlled either using RS-232 or CAN buses. A connector for RS-232 or CAN (or both) of desired type can be mounted on the case on request. The module is available with CANopen protocol with DeviceNet protocol available soon. The CAN bus node id is changed through the RS-232 interface using normal terminal software. CAN bus termination can be switched on by using a jumper.

## Applications

- mobile applications, vehicles, work machines
- cranes, elevators
- robotics, material handling machines

## Order code

MVMIO24	-	CO	-	4
		CAN protocol		Number of digital NPN inputs
		CO = CANopen		4 / 8
		DN = DeviceNet		leave blank for all PNP

TD6101MV-05/10/02