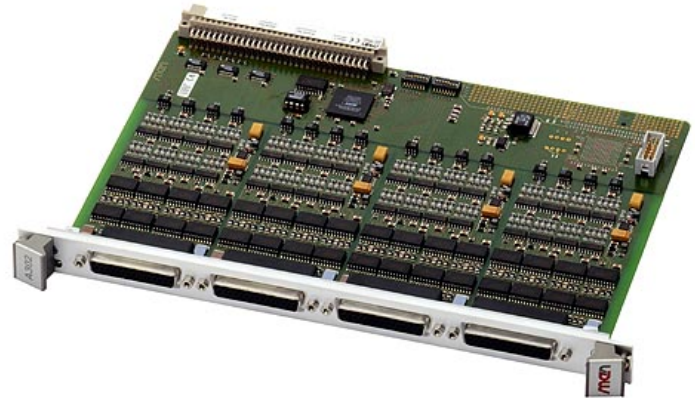


A302 – 6U VMEbus Card with 128 Binary I/Os

- **1-slot A24/D16 VMEbus slave**
- **4 optically isolated units**
- **32 channels for each unit**
- **Individual use of each channel as input or output**
- **Individual edge-triggered interrupts**
- **Input/output load on ground**
- **High-side output switches**
- **Output current 1.9 A per channel or 16 A per unit**
- **Over-current and over-temperature protection**

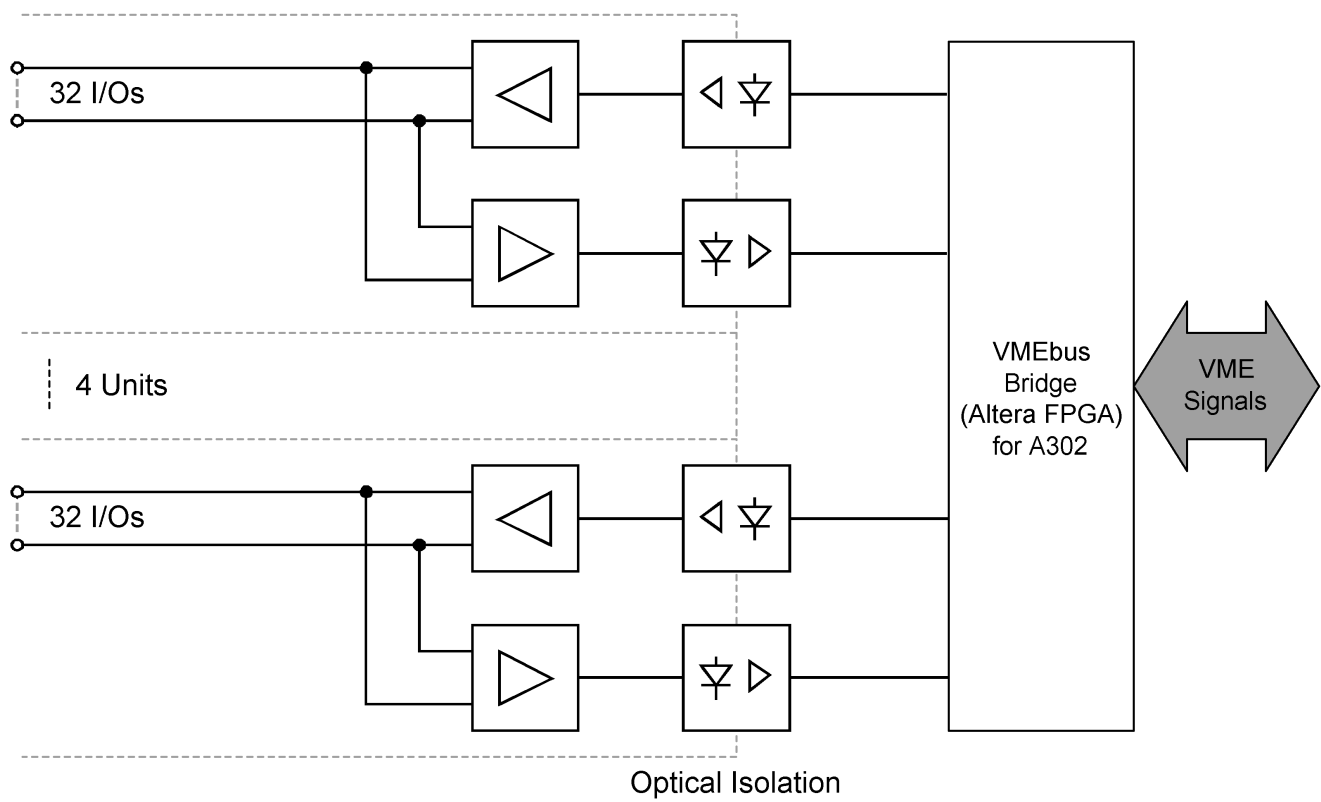


The A302 is an input/output VMEbus target board for 128 binary process signals. The I/Os are divided into four optically isolated units. The card is used for input/output of digital signals with different voltage levels and ground references.

For each unit 32 channels are driven to a 44-pin D-Sub connector. Each channel can be either input or output.

The binary inputs/outputs can be universally used in industrial systems. They are optically isolated from the system, which is essential for advanced automotive and industrial applications.

Diagram



Technical Data

Binary I/Os	<ul style="list-style-type: none"> ■ 128 binary signals <ul style="list-style-type: none"> □ 4 optically isolated units □ 32 channels for each unit ■ Individual use of each channel as input or output ■ Individual edge-triggered interrupts ■ Input/output load on ground ■ High-side output switches ■ High output current <ul style="list-style-type: none"> □ Max. 1.9A per channel □ Max. 16A per unit ■ Over-current and over-temperature protection
Output Characteristics	<ul style="list-style-type: none"> ■ Output voltage range: 12V..32V ■ Output current log. 0: max. 10mA ■ Output current log. 1: max. 1.9A ■ Switching time for output change: < 200µs ■ Isolation voltage (optocoupler): 500V DC
Input Characteristics	<ul style="list-style-type: none"> ■ Input voltage min.: 0V ■ Input voltage max. external supply voltage (12..32V) ■ Voltage level log. 0: 0V..6V or open ■ Voltage level log. 1: 12V..32V ■ Input current log. 1: 2.03mA @ 24V ■ Switching threshold: 9.2V @ 0.78mA typ. ■ Switching time for input change: min. 33µs, max. 44µs ■ Excess voltage protection: max. +47V
Peripheral Connections	<ul style="list-style-type: none"> ■ Via front panel on four shielded 44-pin HD-Sub receptacle connectors
VMEbus	<ul style="list-style-type: none"> ■ Only one slot required on the VMEbus ■ A24/A16/D16/D08(EO) slave ■ D08(O) interrupter
Electrical Specifications	<ul style="list-style-type: none"> ■ Isolation voltage <ul style="list-style-type: none"> □ 500V DC between isolated side and digital side □ 180V DC between the channels □ 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 ■ Supply voltage/power consumption: <ul style="list-style-type: none"> □ +5V (4.85V..5.25V), 106mA □ +3.3V (3.0V..3.6V), 27mA □ +24V (external supply voltage 12..32V), 78mA (total for all units) ■ MTBF: 98,000h @ 50°C (derived from MIL-HDBK-217F)
Mechanical Specifications	<ul style="list-style-type: none"> ■ Dimensions: standard double Eurocard, 233.3mm x 160mm ■ Weight: 280g
Environmental Specifications	<ul style="list-style-type: none"> ■ Temperature range (operation): <ul style="list-style-type: none"> □ 0..+60°C or -40..+85°C □ Airflow: min. 10m³/h ■ Temperature range (storage): -40..+85°C ■ Relative humidity range (operation): max. 95% without condensation ■ Relative humidity range (storage): max. 95% without condensation ■ Altitude: -300m to + 3,000m ■ Shock: 15g/11ms ■ Bump: 10g/16ms ■ Vibration (sinusoidal): 2g/10..150Hz ■ Conformal coating on request
Safety	<ul style="list-style-type: none"> ■ PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers

Technical Data

EMC	<ul style="list-style-type: none"> Tested according to EN 55022 (radio disturbance), IEC1000-4-2 (ESD) and IEC1000-4-4 (burst)
Software Support	<ul style="list-style-type: none"> MEN Driver Interface System (MDIS for Windows®, Linux, VxWorks®, QNX®, OS-9®) For more information on supported operating system versions and drivers see Downloads.

Ordering Information

Standard A302 Models	01A302-00	128-bit binary I/O controller, 0..+60°C
Miscellaneous Accessories	05M000-14	M-Module cable, 2.5m, with 44-pin HD-Sub plug/housing to pig tail
	05M000-25	M-Module cable, 2m, with 44-pin half-pitch D-Sub plug/housing to 50-pin D-Sub receptacle/housing, (connecting 1:1)
Software: Linux	This product is designed to work under Linux. See below for all available separate software packages.	
	13MD05-90	MDIS5 System (and Device Driver) Package (MEN) for Linux. This software package includes most standard device drivers available from MEN.
Software: Windows®	This product is designed to work under Windows®. See below for all available separate software packages.	
	13M066-70	MDIS4/2004 / MDIS5 Windows® driver (MEN) for M66, A302 and D302
Software: VxWorks®	This product is designed to work under VxWorks®. For details regarding supported/unsupported board functions please refer to the corresponding software data sheets.	
	13M066-06	MDIS5 low-level driver sources (MEN) for M66, A302 and D302
Software: QNX®	This product is designed to work under QNX®. For details regarding supported/unsupported board functions please refer to the corresponding software data sheets.	
	13M066-06	MDIS5 low-level driver sources (MEN) for M66, A302 and D302
Software: OS-9®	This product is designed to work under OS-9®. For details regarding supported/unsupported board functions please refer to the corresponding software data sheets.	
	13M066-06	MDIS5 low-level driver sources (MEN) for M66, A302 and D302
For operating systems not mentioned here contact MEN sales .		
Documentation	Compare Chart 6U VMEbus CPU and I/O cards » Download	
	20A302-00	A302 User Manual

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