

D302 - 6U CompactPCI Card with 128 Binary I/Os



- ◆ 1-slot CompactPCI peripheral board
- ◆ 4 optically isolated units with 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: max. 1.9A per channel or 16A per unit
- ◆ Over-current and over-temperature protection

The D302 is an input/output CompactPCI 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 the 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.

Technical Data

Binary I/Os

- 128 binary signals
 - 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
 - Max. 1.9A per channel
 - Max. 16A per unit
- Over-current and over-temperature protection

Output Characteristics

- Output voltage range: 12V..32V
- Output current log. 0: max. 10mA
- Output current log. 1: max. 1.9A
- Switching time for output change: < 200 μ s
- Isolation voltage (optocoupler): 500V DC

Input Characteristics

- 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. 33 μ s, max. 44 μ s
- Excess voltage protection: max. +47V

Peripheral Connections

- Via front panel on four shielded 44-pin HD-Sub receptacle connectors

CompactPCI Bus

- CompactPCI peripheral slot
 - PICMG Spec. 2.0 R3.0 compliant
 - 32-bit data bus
 - 33MHz
- V(I/O): +5V
- Concurrent primary and secondary bus operation

Electrical Specifications

- Isolation voltage
 - 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:

- +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: 129,000h @ 50°C

Mechanical Specifications

- Dimensions: standard double Eurocard, 233.3mm x 160mm
- Weight: 324g

Environmental Specifications

- Temperature range (operation):
 - 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/0.33ms, 6g/6ms
- Vibration: 1g/5..2,000Hz

Safety

- PCB manufactured with a flammability rating of 94V-0 by UL recognized manufacturers

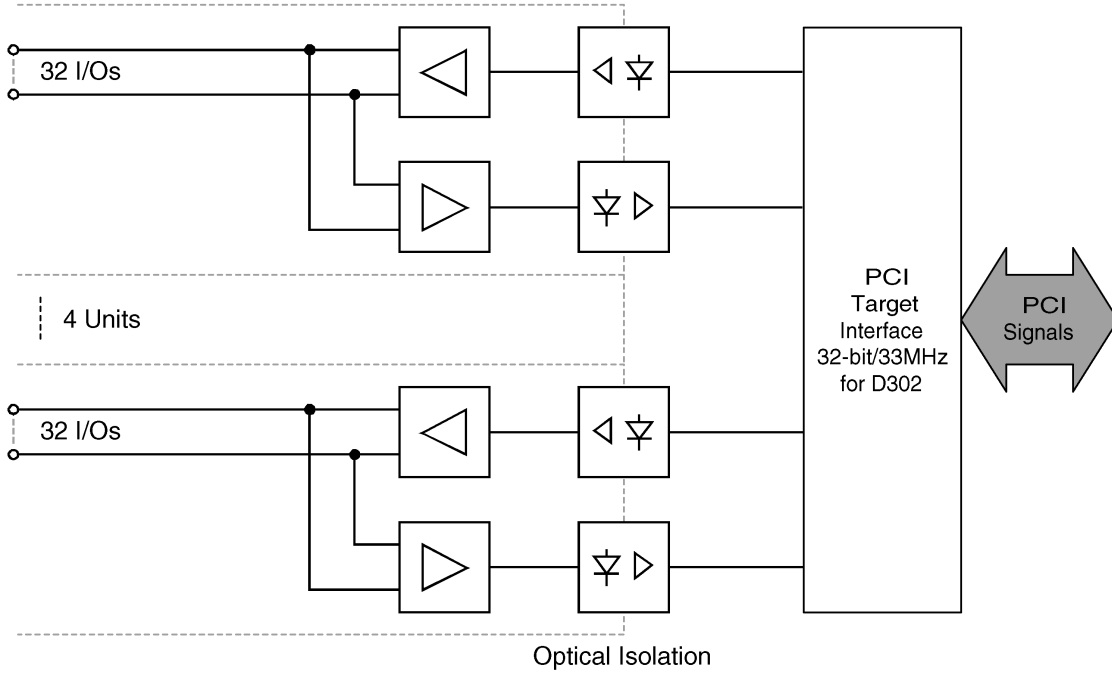
EMC

- Tested according to EN 55022 / 1999-05 (radio disturbance) and EN 55024 / 1999-05 (immunity) with regard to CE conformity

Software Support

- MEN Driver Interface System (MDIS for Windows, Linux, VxWorks, QNX, RTX, OS-9)

Diagram



Related Products

Standard Hardware

02D302-00	D302, CompactPCI 6U, 128-bit binary I/O controller, temperature range 0..+60°C
02D302-01	D302, CompactPCI 6U, 128-bit binary I/O controller, temperature range -40..+85°C

Accessories

05M000-14	M-Module cable, 2.5m, with 44-pin HD-Sub plug/housing to pig tail
05M000-20	M-Module cable, 2m with 44-pin HD-Sub plug/housing to 44-pin HD-Sub plug/housing, (connecting 1:1)
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

13M066-06	MDIS4/2004 low-level driver sources for M66/A302/D302
13M066-70	MDIS4/2004 Windows NT4/W2K driver for M66/A302/D302

To use MDIS4 low-level drivers, you also need one of the MDIS4 system packages available for Windows, Linux, VxWorks, QNX, RTX or OS-9 (MDIS4 = MEN Driver Interface System).

Documentation

20APPN001	Application Note: Using MEN +5V CompactPCI Boards with +3.3V V(I/O)
20D302-00	D302 user manual

For the most up-to-date ordering information and direct links to other data sheets and downloads, see the [D302 online data sheet under www.men.de](http://www.men.de). --> [Click here!](#)

Contact Information

Germany

MEN Mikro Elektronik GmbH
 Neuwieder Straße 5-7
 90411 Nuremberg
 Phone +49-911-99 33 5-0
 Fax +49-911-99 33 5-901
 E-mail info@men.de
 www.men.de

France

MEN Mikro Elektronik SA
 18, rue René Cassin
 ZA de la Châtelaine
 74240 Gaillard
 Phone +33 (0) 450-955-312
 Fax +33 (0) 450-955-211
 E-mail info@men-france.fr
 www.men-france.fr

UK

MEN Micro Ltd
 Whitehall, 75 School Lane
 Hartford, Northwich
 Cheshire UK, CW8 1PF
 Phone +44 (0) 1477-549-185
 Fax +44 (0) 1477-549-178
 E-mail info@menmicro.co.uk
 www.menmicro.co.uk

USA

MEN Micro, Inc.
 PO Box 4160
 Lago Vista, TX 78645-4160
 Phone (512) 267-8883
 Fax (512) 267-8803
 E-mail sales@menmicro.com
 www.menmicro.com

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