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Find the *OMEGA OMEGABUS D3132* at our website: *Click HERE*

OMEGABUS® Computer-to-Analog Output Modules

D3000 and D4000

The D3000 and D4000 are compatible with the OMEGABUS® D1000 and D2000 and may be used in any combination. Up to 124 modules may be strung on one set of wires. All modules are supplied with screw terminal plug connectors and captive mounting hardware. The connectors allow system expansion, reconfiguration, or repair without disturbing field wiring. Their small size allows them to be mounted in virtually any location or position including explosion-proof housings and DIN rails. Utility software (D1000-SW) is available upon request at no charge on an IBM-compatible disk.



The D4000 modules offer several additional features. A slew rate may be programmed, which causes the output to ramp at an adjustable rate in either an increasing or decreasing direction. The ramp can be initiated and maintained by commands from the computer or with external switch closures to the module. The D4000 module provides a readback feature which allows the computer to verify the integrity of the output.

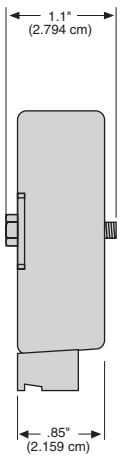
The D4000 modules also include a watchdog timer circuit that can be set such that if the computer fails to communicate with the module after a preset time period, the module will reset itself to an adjustable default value. This feature minimizes the risks of communication failure.

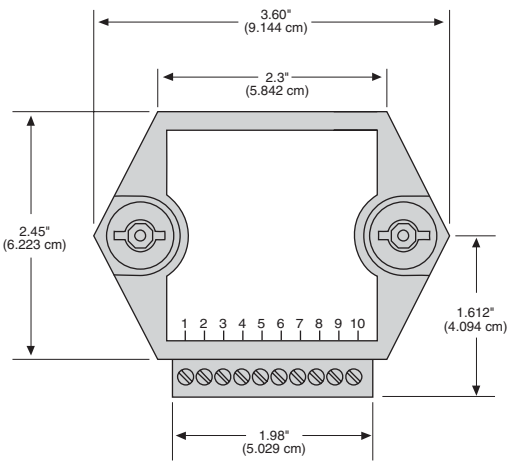
The A1000 RS-232 to RS-485 converter and repeater can be used if an RS-485 port is not available in your PC, and it is necessary to communicate long distances away. The A1000 also provides power for the modules. RS-232 modules can be used for distances less than 50 feet.

- **Analog Output Ranges: 0-1 V, ±1 V, 0-5 V, ±5 V, 0-10 V, ±10V, 0-20 mA, 4-20 mA**
- **Programmable High/Low Output Limits**
- **500 V rms Output Isolation**
- **Scaling in Engineering Units**
- **12-Bit Resolution**
- **Baud Rates: 300 to 38,400**
- **Output Protection: 240 Vac (Current Output), ± 30 V (Voltage Outputs)**

The D3000 and D4000 computer-to-analog output interfaces are designed to be mounted remotely from a host computer and communicate with standard RS-232 and RS-485 serial ports. Simple ASCII commands are used to control a 12-bit digital-to-analog converter that is scaled to provide commonly used current and voltage ranges. An on-board microprocessor provides the communications interface and many intelligent analog output functions. These modules offer an extremely flexible, easy-to-use, and cost-effective approach to data acquisition.

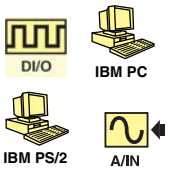
SERIAL I/O A/OUT





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The D3000 and D4000 modules may be stacked for multiple outputs

Common Specifications, D3000 and D4000

ANALOG OUTPUT

- Single channel analog output
  Voltage: 0-1 V, ± 1 V, 0-5 V, ± 5 V, 0-10 V, ± 10 V
  Current: 0-20 mA
- Input isolation to 500 V rms
- 12-bit measurement resolution
- Accuracy (integral and differential non-linearity): 0.1% FSR (max)
- Zero drift: ±30 μV/°C (voltage output)
  ±1.0μA/°C (current output)
- 1000 conversions per second
- Settling time to 0.1% FS 300 μs typical (1 ms max)
- Programmable output slew rate: 0.01 V/s (mA/s) to 10,000 V/s (mA/s) (D4000 only)
- Autozero and autocalibration-no adjustment pots
- Voltage compliance: ±12 V
- Output current, short circuit current: 5 mA min, 10 mA max

ANALOG OUTPUT READBACK (D4000)

- 8-bit analog-to-digital converter

DIGITAL INPUTS

- Voltage levels: ±30 V without damage
- Three digital inputs (all models)
- Switching levels: High, 3.5 V min, low, 1.0 V max
- Internal pull-up resistors for direct switch input

COMMUNICATIONS

- RS-232, RS-485
- Up to 124 modules with A1000 converter/repeater, 32 without A1000
- User selectable channel address (via software command)
- Selectable baud rates: 300, 600, 1200, 2400, 4800, 9600, 19.2K, 38.4K
- ASCII format command/response protocol
- Parity: odd, even, none
- All communications setups (address, baud rate,parity) stored in nonvolatile memory using EEPROM
- Checksum can be added to any command or response
- Communications distance up to 10,000 feet with RS-485 modules

Power Requirements: Unregulated 10 V to 30 Vdc, 0.75 W max (voltage output), 1.0 W max (current output)
Case: ABS with captive mounting hardware
Connectors: screw terminal barrier plug (supplied)
Temperature Range: Operating: -25°C to 70°C
Storage: -25°C to 85°C
Relative Humidity: 0 to 95% non-condensing

Software and Accessories

Model No.	Description
A1000	RS-232 to RS-485 converter
A1000-CABLE	RS-232 9-pin cable

To Order *(Specify Model Number)*
D3000 Series Output Module Voltage Output

Model No.	Output Range	Input
D3121	± 1 V	RS-232C
D3122	± 1 V	RS-485
D3131	± 5 V	RS-232C
D3132	± 5 V	RS-485
D3141	± 10 V	RS-232C
D3142	± 10 V	RS-485
D3161	0 to 1 V	RS-232C
D3162	0 to 1 V	RS-485
D3171	0 to 5 V	RS-232C
D3172	0 to 5 V	RS-485
D3181	0 to 10 V	RS-232C
D3182	0 to 10 V	RS-485

Each unit is supplied with a CD ROM that includes a complete operator's manual and Windows setup software.

D1000 Series digital transmitters are also available with Modbus RTU protocol. To order transmitters Modbus RTU protocol, add suffix "M" at the end of the model number, no additional charge.

MOST POPULAR MODELS HIGHLIGHTED

D3000 Series Output Module Current Output

Model No.	Output Range	Input
D3251	0 to 20 mA	RS-232C
D3252	0 to 20 mA	RS-485

D4000 Series Output Module Voltage Output

Model No.	Output Range	Input
D4121	± 1 V	RS-232C
D4122	± 1 V	RS-485
D4131	± 5 V	RS-232C
D4132	± 5 V	RS-485
D4141	± 10 V	RS-232C
D4142	± 10 V	RS-485
D4161	0 to 1 V	RS-232C
D4162	0 to 1 V	RS-485
D4171	0 to 5 V	RS-232C
D4172	0 to 5 V	RS-485
D4181	0 to 10 V	RS-232C
D4182	0 to 10 V	RS-485

D4000 Series Output Module Current Output

Model No.	Output Range	Input
D4251	0 to 20 mA	RS-232C
D4252	0 to 20 mA	RS-485

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