

# MODEL 1001 & 1002

ASCOR Model 1001 A/D M-Module  
ASCOR Model 1002 D/A M-Module

The Ascor **Model 1001** is a 16 channel Analog to Digital industry standard M-Module. It has 16 single-ended Analog inputs and ADC resolution of 16 bits on the output. The Model 1001 has a single A/D core with an analog multiplexer. A local TMS320C203 DSP provides signal routing, data acquisition, range selection and measurement correction in addition to other functions. The operation of the DSP unit is transparent to the user. Measurement results are continuously updated in dual ported memory without interference of the host. The front end of the unit is optically isolated. The Model 1001 has four input ranges which are software selectable. There are no potentiometers to adjust since measurement correction is handled by the DSP according to factory calibrated system parameters stored in an onboard EPROM.

The Ascor **Model 1002** is a 16 channel Digital to Analog industry standard M-Module. It has 16 D/A converters (DAC) with simultaneous output update capability and 12-bit resolution. A local TMS320C203 DSP provides range selection and output correction in addition to other functions. The operation of the DSP unit is transparent to the user. Each DAC is accessed by a single 16-bit wide write to dual ported memory, providing the simplest possible interface for the software. The front end of the unit is optically isolated. The Model 1002 has two output ranges which are software selectable: +/- 10V bipolar and 0 to 10V Unipolar. There are no potentiometers to adjust since output data correction is handled by the DSP according to factory calibrated system parameters stored in an onboard EPROM.

## ASCOR Model 1001 A/D M-Module ASCOR Model 1002 D/A M-Module

### Specifications:

#### Ascormodel 1001 A/D M-Module

Below are some of the more important specifications of the Model 1001 A/D M-Module.


- Sixteen Single Ended analog inputs
- 16-bit 10 microsecond sampling Analog to Digital converter.
- Accuracy of 0.1%
- 16 on-board active low-pass 2-pole input filters with a cut-off frequency of 1KHz.
- No adjustment potentiometers.
- Analog front end optically isolated.
- On-board isolated power supply for analog front end.
- Data acquisition handled by DSP, transparent to the user.
- Measurement data corrected by the DSP according to calibration data in an onboard EEPROM.
- Programmable moving average filter.
- Measurement results continuously updated in dual ported memory.
- User programmable voltage input ranges :
  - +/-10V Bipolar ( default), 0 to 10V Unipolar, +/-5V Bipolar, 0 to 5v Unipolar.
- Input range per channel is configurable
- Software programmable update rate up to 50 kSPS ( default).
- A08/D16 M-Module interface.
- The unit is accessed at the front with a 25 position D-sub connector.

### Specifications:

#### Ascormodel 1002 DAC M-Module

Below are some of the more important specifications of the Model 1002 D/A M-Module.

- Sixteen 12-bit Digital to Analog Converters (DAC ).
- Common-mode analog voltage outputs.
- Accuracy of 0.4%.
- Simultaneous update capability.
- Output response time of typically 10 micro-seconds.
- No adjustment potentiometers.
- On-board isolated power supply for analog front-end.
- Output updating handled by the on-board DSP, transparent to the user.
- Output data corrected by the DSP according to calibration data stored in an onboard EEPROM.
- Each output channel is accessible by a single 16-bit write to dual ported memory.
- Module setup programmable through a command interface in dual ported memory.
- Two user programmable output ranges : 0 to 10V Unipolar (default) and +/-10V Bipolar.
- A08/D16 M-Module interface.
- Host interrupts supported.
- Identification EEPROM.
- The unit is accessed at the front with a 25 position D-sub connector.

 The CE Mark indicates that the products have completed and passed rigorous testing in the area of radio frequency (RF) emissions, immunity to electromagnetic disturbances and that the products comply with European electrical safety standards.

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# MODEL 1003

## ASCOR Model 1003 Universal Counter Timer M-Module

The ASCOR Model 1003 is a Universal Timer Counter industry standard M-Module that can be used for automated test and measurement applications. The Module has two physical input lines and several measurement functions. The analog front end is software programmable with respect to trigger level, sensitivity, and AC/DC coupling.

### Custom Solutions Through Engineering Innovation

ASCOR, founded in 1987 and headquartered in California's Silicon Valley, provides a complete line of VXI Switching and Digital Modules for industrial, medical, scientific and governmental automatic test applications. Ascort VXI products are the quietest, cleanest, highest density VXI modules commercially available.



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### Custom Solutions Through Engineering Innovation

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## ASCOR Model 1003 Universal Counter Timer M-Module

### Specifications:

#### Ascort Model 1003 UTC M-Module

Below are some of the more important specifications of the Model 1003 UTC M-Module.

- Two counter inputs.
- Programmable AC/DC coupling.
- Front end optically isolated.
- Programmable trigger level and sensitivity.
- 32-bit counter.
- High and low time measurement including average.
- Period measurement including average.
- Totalize during external gate function.
- Measurement of time difference between input A and input B.
- A08/D16 M-Module interface.
- INTA software-end-of-interrupt
- Module identification EEPROM
- The unit is accessed at the front with a 5-Pin D-Sub connector, similar to SCT FM5W5S.

### Interrupt Capabilities:

- Interrupter type A (INTA)

### Input Characteristics:

- Input Voltage Range:
  - +/- 10V input impedance 1 K ohms
  - +/- 300V input impedance 100 K ohms
- Sensitivity:
  - 10mV between +/-10 V
  - 300mV between +/-300V
- Minimum Pulse Duration: 20 ns
- Coupling: AC or DC (programmable)

### Frequency:

- 100 MHz
- Resolution: Measuring time 10 ns

### High Time, Low Time, Period:

- Range: 50 ns to 42s
- Resolution: 10 ns
- Average:
  - Programmable up to 65536 measurements

### Counter:

- Gated by input or software
- Pulse Duration: 50ns (minimal)
- Resolution: 10 ns

### Phase:

- Time Difference: 50 ns (minimal)
- Resolution: 10 ns

### Time Base:

- Frequency: 100MHz clock rate (TCXO)
- Accuracy: +/-2.5 ppm @ 0°C to +70°C



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