

MODEL 38XX Series

VXI DMM & M-Modules



6.5 Digit DMM

Features & Benefits

- **Dynamic Range: +/-3,300,000 Counts.**
- **Isolation: +/-350V to Chassis.**
- **Construction: Shielded Module.**
- **>110dB CMRR.**
- **>95dB Line Rejection.**
- **All Inputs and Outputs Protected for:**
 - **Over Voltage Events**
 - **Source Short Circuits**
 - **Over Current**
 - **ESD**
 - **Noise (Common Mode)**
- **33VDC range is significant in testing Automotive 12V & 24V systems.**
- **One Million Hours MTBF.**
- **No Manual Adjustments Needed.**

ASCOR Model 3801 VXI DMM With M-Module Capability ASCOR Model 3802 VXI DMM Without M-Module Capability

The ASCOR Model 3801 is a one wide, C-size VXI card which comes standard with a Digital Multimeter (DMM) and the capability of adding an industry standard M-Module mezzanine card.

The Model 3802 is the same as the Model 3801 except does not have the M-Module capability.

The on-board 6.5 digit DMM is a high performance Digital Multimeter optimized for a variety of applications such as the following:

- ATE flight line test systems
- Automated production testing
- Control and data acquisition
- Portable field testing
- Laboratory automation
- Disk drive testing
- Resistance network testing
- Semiconductor Parametric testing
- Cable & Connector testers
- Automotive test systems

There are two types of DMMs available with the Model 38XX. The standard DMM (3801-1004 or 3802-1004) provides the following measurement capabilities:

- DC Volts and Current
 - AC Volts and Current
 - Resistance (2-Wire and 4-Wire)
- Each function provides at least four ranges of values. Accuracy on the DC Volts and on the Resistance functions is better than 0.0004%.

The extended capability DMM/LCR (3801-1005 or 3802-1005) provides for all the functions listed above for the standard DMM. In addition the DMM/LCR provides the following additional capabilities:

- Resistance (6-Wire Guarded)
- Temperature (-150°C to +650°C)
- Leakage Current (1nA to 3300nA)
- Capacitance (1nF to 10 mF)
- Inductance (1uH to 3.3H)
- Peak to Peak, Crest & Median (Volts)
- Timing Functions
- Sourcing AC/DC:
 - DCV Source: (-10.0V to +10.0V)
 - ACV Source: (0v to 20V P to P)
 - DC Current: (1.25uA to 12.5mA)

M-Modules Available

The 3801 also has the capability of mounting a single industry standard M-Module mezzanine card. These units provide functions such as:

- Analog/Digital Conversion (A/D)
 - Digital/Analog Conversion (D/A)
 - Universal Timer/Counter (UTC)
- Any industry standard M-Module may be used. M-Modules provided by ASCOR come complete with a software driver provided. Other M-Modules not provided by ASCOR Inc. will require the user to provide their own software driver.

As with all ASCOR VXI Modules, The Model 3801 is a register-based device. The software drivers that are provided were developed using LabWindows/CVI and are written in C++.



Custom Solutions Through Engineering Innovation

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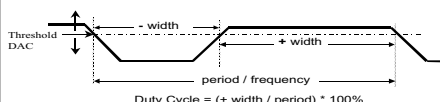
MODEL 38XX

**ASCOR Model 3801 VXI DMM
With M-Module**

**ASCOR Model 3802 VXI DMM
Without M-Module Capability**

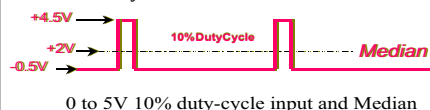
Time Measurement Functions

- Duty Cycle: 0% to 100%
- Period: 3 μ s to 1s
- Frequency: 1Hz to 300KHz



Special AC Measurements

- Median (1005)
 - Measures AC Signal Bias Level
 - Signal Quality Indicator
 - Defines Threshold Level For:
 - Counter, Pulse Width, Duty Cycle, Event Center



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.



A Giga-tronics Company

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Model 3801-1004 or 3802-1004 Digital MultiMeter (DMM) for VXI

DC Volts

- 100nV Resolution
- 4 ranges (330mV, 3.3V, 33V, 330V)
- Accuracy is better than 0.004%

DC Current

- 10nA Resolution
- 4 ranges (3.3mA, 33mA, 330mA, 2.5A)
- Accuracy is better than 0.1%

AC Volts (RMS)

- 100nV Resolution
- 4 ranges (330mV, 3.3V, 33V, 250V)
- Accuracy is better than 0.9% (20 Hz to 50 KHz)

AC Current (RMS)

- 1nA Resolution
- 4 ranges (3.3mA, 33mA, 330mA, 2.5A)
- Accuracy is better than 0.9% (20 Hz to 50 KHz)

Resistance (Two Wire)

- 10u ohms Resolution
- 5 ranges (330 ohms, 3.3 Kohms, 33 Kohms, 330 Kohms, 3.3 Mohms)
- Accuracy is better than 0.003%

Resistance (Four Wire)

- 10u ohms Resolution
- 4 ranges (330 ohms, 3.3 Kohms, 33 Kohms, 330 Kohms)
- Accuracy is better than 0.003%

Model 3801-1005 or 3802-1005 Digital MultiMeter (DMM) for VXI

DC Volts

- 100nV Resolution
- 4 ranges (330mV, 3.3V, 33V, 330V)
- Accuracy is better than 0.004%

DC Current

- 10nA Resolution
- 4 ranges (3.3mA, 33mA, 330mA, 2.5A)
- Accuracy is better than 0.1%

AC Volts (RMS)

- 100nV Resolution
- 4 ranges (330mV, 3.3V, 33V, 250V)
- Accuracy is better than 0.9% (20 Hz to 50 KHz)

AC Current (RMS)

- 1nA Resolution
- 4 ranges (3.3mA, 33mA, 330mA, 2.5A)
- Accuracy is better than 0.9% (20 Hz to 50 KHz)

Resistance (Two Wire)

- 10u ohms Resolution
- 8 ranges (33 ohms, 330 ohm, 3.3 Kohms, 33 Kohms, 330 Kohms, 3.3 Mohms, 33 Mohms, 330 Mohms)
- Accuracy is better than 0.003%

Resistance (Four Wire)

- 10u ohms Resolution
- 8 ranges (33 ohms, 330 ohm, 3.3 Kohms, 33 Kohms, 330 Kohms, 3.3 Mohms, 33 Mohms, 330 Mohms)
- Accuracy is better than 0.003%

Resistance (Six Wire Guarded)

- 5 ranges (33 ohms, 330 ohm, 3.3 Kohms, 33 Kohms, 330 Kohms)
- Accuracy is better than 0.03%

Temperature

- 0.01° C Resolution
- Range is -150° C to 650° C
- Accuracy and Range depend on RTD Type
- The internal temperature of the 1005 can also be monitored

Leakage

- 3 Ranges (100 nA, 1000nA, 3300nA)
- Accuracy is better than 2.0%

Capacitance

- 7 Ranges (10nF, 100nF, 1uF, 10uF, 100uF, 1mF, 10mF)
- Accuracy is better than 2% .

Inductance

- 6 Ranges (33uH, 330uH, 3.3mH, 33mH, 330mH, 3.3H)

Peak to Peak, Crest, and Median

- 4 Ranges (330mV, 3.3V, 33V, 250V)
- Accuracy is better than 1.5%

Timing Functions

- Timing Functions (5 available)
 - ACV Frequency & Period
 - ACI Frequency & Period
 - Duty Cycle Measurement
 - Pulse Width
 - Totalizer

AC/DC Voltage Source and Current Source

- DC Voltage Source: (-10.0V TO +10.0v)
Accuracy is better than 0.13%
- AC Voltage Source: (0 to 20 V Peak to Peak)
Accuracy is better than 0.8%.
- DC Current Source: 5 Ranges (1.25uA, 12.5uA, 125uA, 1.25mA, 12.5mA)
Accuracy is better than 0.2%