



## DMM-32X-AT to DMM-32DX-AT Migration Guide

January 22, 2010

The DMM-32DX-AT auto-autocalibrating data acquisition product is upward compatible from the original DMM-32X-AT. Moreover, there are a number of important changes to DMM-32DX-AT which make it a superior analog I/O PC/104 module.

### Product Comparison

DMM-32X-AT	DMM-32DX-AT
12-bit D/A converter	16-bit D/A converter
Tantalum capacitors	Ceramic capacitors improves performance at high altitudes

### Migrating Considerations

Migrating to the DMM-32DX-AT primarily consists of configuring the D/A converter. The D/A configuration jumpers on the DMM-32DX-AT are slightly different than the DMM-32X-AT and can be overridden by software. The differences between the old board D/A and the new board D/A are how the output voltage span and polarity are defined.

The DMM-32DX-AT has jumpers GN1, GN0, F/(V) and B/(U) that set the output voltage span with the following definitions. Jumper F/(V) sets the voltage span to be fixed (5V, 10V or 20V) when removed or  $5V * (n / 250)$  with "n" set by the user when installed. Jumper B/(U) sets the output polarity to unipolar when installed and bipolar when removed. These jumper settings can be overridden when the DMM-32DX-AT is in enhanced mode and then can be set by software, which is a new feature. See the DMM-32DX-AT User's Manual for details.

GN1	GN0	F/(V)	B/(U)	OUTPUT VOLTAGE SPAN
In	In	Out	In	0V to +5V unipolar
In	Out	Out	In	0V to +10V unipolar
In	In	In	In	0V to +VAR unipolar where $+VAR=5V*(n/250)$
In	Out	In	In	0V to +2*VAR unipolar where $+VAR=5V*(n/250)$
In	In	Out	Out	-2.5V to +2.5V bipolar
In	Out	Out	Out	-5V to +5V bipolar
Out	In	Out	Out	-10V to +10V bipolar
In	In	In	Out	-1/2 VAR to +1/2 VAR bipolar where $VAR=5V*(n/250)$
In	Out	In	Out	VAR to +VAR bipolar where $VAR=5V*(n/250)$
Out	In	Out	Out	-2 VAR to +2 VAR bipolar where $VAR=5V*(n/250)$
Out	In	In	In	Not Valid
Out	Out	In	In	Not Valid
Out	In	Out	In	Not Valid
Out	Out	Out	In	Not Valid
Out	Out	In	Out	Not Valid
Out	Out	Out	Out	Not Valid

The DMM-32DX-AT is fully backward compatible with the DMM-32X-AT from a hardware perspective. The on-board connectors are of the same types and have identical pinouts.

When migrating from the DMM-32X-AT to the DMM-32DX-AT the Universal Driver software needs to be upgraded to version 5.92.1 or later.

### Part Number Transition

Users of original DMM-32X-AT Part Number . . .	Should Order New DMM-32DX-AT Part Number
DMM-32X-AT	DMM-32DX-AT

### More Information

Detailed information about DMM-32DX-AT, including a data sheet, User's Manual and ordering information, may be found at [www.diamondsystems.com/products/dmm32dx](http://www.diamondsystems.com/products/dmm32dx).