

# DMC-A2 Series

## Dual Channel AC LVDT Controller



### Description

The DMC-A2 Series Dual Channel AC LVDT Controller is an accurate, high performance, programmable dual channel controller that delivers precise measurement and control for applications using AC LVDT (Linear Variable Differential Transformer) inputs. The 6-digit alphanumeric LED display provides easy to follow setup prompts for all LVDT parameters using the intuitive scrolling text configuration menus.

Used in conjunction with AC LVDTs, DMC-A2 Series Controllers make up a comprehensive, reliable, measurement system. The combination can be applied to a wide variety of demanding measurement applications, such as in process gaging in automated assembly machinery, differential measurements in thickness gaging, and other comparative measurements. Utilize the controller's PLC capabilities in conjunction with the standard relays and you have an economical solution when you need control functions for comparative and direct measurements in smaller automated systems.

The DMC-A2 Series Dual Channel AC LVDT Controller is designed to be upgradeable for expansion of capabilities. You can order the

### Standard Features

- 120-220 VAC operation
- 0-10 VDC analog output
- RS-232 serial output
- Four 5.0A Relays
- Four independently programmable set points
- Supports all standard LVDTs
- Utility software for meter configuration

### Options

- Dual 0-10 VDC analog outputs
- 4-20 mA or 0-20mA output sourcing
- 24 VDC operation
- Ethernet

controller with the standard features and if at a later time you wish to add an option like Ethernet, to add communication to data acquisition software, it can be done at the factory.

The LVDT input module of the DMC-A2 Series Dual Channel AC LVDT Controller is designed to drive and condition the signals from two AC LVDT transducers. The module contains two high-speed micro controllers and a 16-bit dual channel A/D converter. It communicates with the selected controller internally via the .2C data bus. One of the micro controllers generates the sine wave for the AC LVDT excitation frequency. These frequencies are produced as multiples of the line frequency (either 50 Hz or 60 Hz that is selectable via the scrolling text menus).

Up to 16 excitation frequencies are available and are selected using the scrolling text menu in the controller setup. The 16-bit A/D converter has over 130 dB noise rejection at the excitation frequencies and is capable of 40 Hz averaged output on 45 samples. Scrolling text menus provide quick access to a range of configuration modes for easy AC LVDT application setup.

## Specifications

### General

<b>Digital Display:</b>	14-segment alphanumeric, 0.56" (14.2 mm) LEDs
<b>Display Color:</b>	Red
<b>Display Range:</b>	-199999 to 999999
<b>Display Update Rate:</b>	1, 4, 10 or 20 times per second
<b>Display Dimming:</b>	8 brightness levels. Front panel selectable
<b>Scrolling Display Text Messaging:</b>	Full alphanumeric text characters supported
<b>Polarity:</b>	Assumed positive. Displays – negative
<b>Annunciators:</b>	6 red LEDs on front panel; one per setpoint
<b>Front Panel Controls:</b>	PROGRAM, UP, and DOWN buttons
<b>Power Supplies:</b>	Standard high voltage AC / DC power supply 85-265 VAC / 95-370 V DC, or optional low voltage AC / DC power supply 18-48 VAC / 10-72 V DC

### Environmental

<b>Operating Temp:</b>	0 to 50°C (32°F to 122°F)
<b>Storage Temp:</b>	-20°C to 70°C (-4°F to 158°F)
<b>Relative Humidity:</b>	95% (non-condensing) at 40°C (104°F)

### Mechanical

<b>Case Dimensions:</b>	1/8 DIN, 96x48 mm (3.78" x 1.89")
<b>Case Depth:</b>	137 mm maximum (5.39")
<b>Case Material:</b>	94V-0 UL rated self-extinguishing polycarbonate
<b>Weight:</b>	11.5 oz (0.79 lbs.), 14 oz. (0.96 lbs.) when packed

### Approvals

<b>CE:</b>	As per EN-61000-3/4/6 and EN-61010-1
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## Ordering Information

Optional power, analog output, communication and calibration configuration suffixes

- -8xx standard base model
- -9xx for operating on 24 V DC
- -x2x 0-10VDC Dual analog output
- -x3x for 4-20 mA output
- -xx2 for Ethernet communications
- System Calibration (call for details)

Example: DMC-A2-932 is equipped with the following: 1. -9xx 24 V DC Operation; 2. -x3x mA output; 3. -xx2 Ethernet Communication

For specifications on other Macro Sensors LVDT signal conditioners, please visit our website

at [www.macrosensors.com](http://www.macrosensors.com).

### LVDT Input Module

<b>Excitation Voltage:</b>	3 V RMS sine wave, zero DC component THD <2% (1.2 kHz).
<b>Excitation Frequency:</b>	x 16 selectable frequencies available (1.2 kHz to 11.5 kHz). Crystal locked, software driven ± 50 ppm/ °C of full scale (typ.)
<b>Temperature Coefficient:</b>	
<b>Dual LVDT Inputs:</b>	30 k input impedance. Synchronous demodulation of excitation carrier. >130 dB rejection of excitation carrier.
<b>Frequency Response:</b>	500 Hz (-3 dB) low-pass filter
<b>Analog to Digital:</b>	Dual channel $\Sigma\Delta$ A/D converter approaching 19-bit resolution. Ratiometric operation relative to excitation voltage magnitude.
<b>Dual Output Rates:</b>	Rapid and average response outputs. 1 Hz, 2 Hz, 10 Hz, 20 Hz, 40 Hz averaged
<b>Line Frequency Rejection:</b>	50 or 60 Hz noise rejection

### Relay Output Modules

Plug into carrier board from rear:

<b>Four Relay Module:</b>	Available with four 5 A Form A Relays*
<b>*Form A Relay Specifications:</b>	5 A 240 V AC, 4 A 24 VDC Isolation 3000 V. UL and CSA listed



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