

# CONTROLLERS MicroDAC LT (Optomux)

# FEATURES

- Each Unit Controls/Monitors up to 32 Analog (G5 Only) and/or Digital I/O Modules
- Executes On-Board Programs Created With Borland C
- Network up to 64 MicroDAC LTs per Host Serial Port, Spanning as Much as 4000 Feet
- Communicate Over RS-422/485 at Speeds From 1200 Baud to 115.2 KB
- 100% Optomux Compatible, With Expanded Command Set
- I/O Update Rates of 500 µSec per 32 Digital I/O, and 10 mS per Analog Input or 2 Analog Outputs
- 64-Bit Floating Point Math



APPLICATIONS

Stand Alone Control
Local Control & I/O
Central Processing: Remote I/O
Distributed Processing: Remote I/O
Distributed Processing: Remote I/O SCADA

#### **GENERAL DESCRIPTION**

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MicroDAC LT is a low cost version of MicroDAC for customers who don't need all of the features of MicroDAC. Missing are the battery back-up for the RAM memory, real-time clock, RS-232, and SBX ports. The DIN Rail Mountable metal enclosure is optional. ECP routines written for MicroDAC can be easily transferred to MicroDAC LT and vice versa. By combining MicroDAC, MicroDAC LT and ProMux the cost/performance of a distributed control or data acquisition network is optimized for price and performance.

# **ANALOG & DIGITAL I/O**

MicroDAC LT connects directly to any 8,16,24, or 32 module mounting rack with a 50-pin header. If connected to a G5 rack, any combination of analog and digital I/O modules may be used. Standard and Mini racks permit only a combination of digital modules. MicroDAC LTs can be networked to a host PC which execute programs that monitor the input signals and control the outputs. In addition to simple ON/OFF instructions, commands are included which permit you to:

- Sample analog signals at 10 mS per input
- Flag values above or below prescribed levels
- Capture min/max values
- Calculate the average input signal levelsProvide linearized thermocouple and
- RTD temperature valuesDetermine the width of input pulses
- Count pulses at frequencies up to 1000Hz
- Detect rising or falling edges
- Latch momentary input events
- · Set the level of analog outputs
- · Provide delayed-on or delayed-off outputs

#### **COMMUNICATIONS**

The host computer and MicroDAC LT(s) communicate serially over one or two pair of twisted wires per RS-422/485 in a multi-drop configuration. They use Optomux<sup>™</sup> ASCII format to code the command and the response messages. Application programs running on the host computer issue commands and then await responses from the MicroDAC. The communications speed is selectable between 1.2 and 115.2 KBaud. Each controller on the network is assigned a unique base address. The entire network can span 4000 feet.

#### **EMBEDDEDCONTROLPROGRAMS**

By specifying MicroDAC LT(s) with the optional 64KB of flash memory, you can develop and download C language programs to any of the networked controllers.

Even while an Embedded Control Program (ECP) is running on MicroDAC LT, any Optomux<sup>™</sup> command it receives from the host will be processed as usual, which allows you to delegate some or all of the control and data acquisition responsibility from the host computer. This reduces communications time and improves system response.

For embedded or stand-alone applications, downloaded ECP routines can be initiated on power-up.

Libraries and the appropriate download utility are included with the ECP Programmers Manual.

#### SOFTWARE

Software drivers are available which simplify the task of interfacing host programs written in. Visual Basic or C to the MicroDAC network. Sample programs, set-up and debug utilities are included on the disk with the drivers. Interface drivers for most third party software packages are available through their distributors. Our MicroDAC DDE Server dramatically simplifies data sharing between MicroDACs and Windows applications, such as Microsoft Excel (see Controller Software). Our DLL will assist you in building custom Windows Man-Machine Interfaces or control programs using Visual Basic, Visual C/C<sup>++</sup>, or Borland compilers.

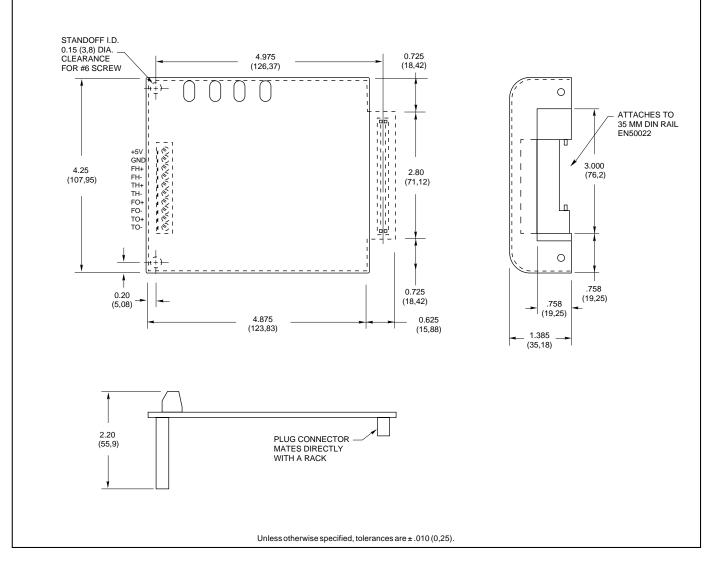
<sup>1</sup>With optional enclosure.

Downloaded from Elcodis.com electronic components distributor



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#### DIMENSIONS In inches (and millimeters)



# **SPECIFICATIONS**

Power Supply: 4.75 to 5.25 Vdc Supply Current (less modules): 300 mA Operating Temperature: 0 to 70°C Humidity: 95% non-condensing Microprocessor: V25 @ 10 MHz Housing Material: Painted steel Connections:

RS-422/485: 10 position terminal block Rack: 50-pin female plug

# Serial Data:

Format: 10-Bit ASCII, 1 Start, 1 Stop, 8 Data Integrity: Message Checksum or 4 Pass + CS **Range of Network:** Compliant with EIA/TIA RS485-A (1 standard load per controller). Operates in multi-drop mode. 64 DIP switch selectable addresses. May require RS485 repeaters for lengths over 4000 feet or more than 32 controllers. Consult factory for special configurations.

# **ORDERING INFORMATION**

Part Number	Description	
MicroDAC LT Controllers		
72-MDL-32AD 72-MDLE-32AD 72-MDL-32ADC 72-MDLE-32ADC	Analog/Digital MicroDAC LT Analog/Digital MicroDAC LT with metal enclosure Analog/Digital with 64K flash for C ECP storage Analog/Digital MicroDAC LT with 64K flash for C ECP storage and metal enclosure	
MicroDAC LT User's Manuals and Software		
72-UMM 72-UMM-D 72-UMM-DDE 72-UMM-DLL 72-UMM-DLL32 72-UMM-E 72-UMM-H 72-UMM-H	Introduction to MicroDAC Driver development and protocol definition. Includes driver source code Optomux DDE Server for Windows 3.1 Optomux DLL for Windows 3.1 Optomux DLL for Windows 95/98/NT C language ECP manual with libraries Programmers manual with Basic and C host drivers & examples Hardware installation and set-up. Includes set-up and debug programs	
Available from your local authorized Gray- hill Distributor. For prices and discounts, contact your local sales office, an authorized Distributor, o		

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