



**PROCESS CONTROL**  
**REMOTE MONITORING**  
**HVAC CONTROL**  
**WATER & WASTEWATER**  
**OIL & GAS**

*A unique “open architecture” controller that combines IEC 61131 programmable control, built-in Ethernet, Internet and high-speed serial and wireless communications, data logging, voice & pager alarm dialing and e-mail notification.*



## **EtherLogic LC Controller**

- **High-speed Ethernet**
- **2 Serial Ports + Modem/Radio**
- **Programmable Logic**
- **8 MB Flash Disk**
- **32-bit Math**
- **PID Control**
- **Built-in HMI/MMI**
- **Data Logging**
- **Alarm Logging and Paging**
- **Remote Program Updates**
- **E-mail w/file attachments**
- **Ethernet & Web Server**
- **Built-in Analog/Discrete I/O**
- **4 Universal (AI/DI) Inputs**
- **2 Analog Outputs**
- **10 Discrete Inputs**
- **4 Relay Outputs**
- **I/O Expansion to 8000 points**
- **3 Year Factory Warranty**

**EtherLogic LC™** is an “open architecture” programmable controller with built-in Ethernet networking, wireless, hardwired and modem communications, and a large standard memory capacity for data logging and “over-the-link” program updates.

With 32-bit processing power and high level software tools that minimize programming time, EtherLogic LC™ bridges the gap between traditional PLCs, RTUs and the new generation of Ethernet and Web connected instruments.

### **Open Software**

As an open architecture controller, EtherLogic LC™ includes an **IEC 61131-3** software kernel supporting six industrial control languages. EtherLogic LC™ also supports traditional text programming languages like **C**. With EtherLogic LC™, you can mix and match any of these tools to get the job done quickly and reliably.

In addition to powerful programming tools, the EtherLogic LC™ is supported by ICL’s **ScadaBuilder** software. ScadaBuilder eliminates hours of programming time with point-and-click configuration of serial and network communications, data and alarm logging, alarm annunciation (including pager and e-mail support), and a simple but powerful MMI interface over hardwired, radio and Ethernet connections.

### **Open Communications**

The open architecture design of EtherLogic LC™ extends to its communications capabilities by supporting standard protocols like **Modbus (RTU, ASCII, TCP/IP), DF1, HART, NMEA-0183**, as well as the standard suite of Ethernet and Internet protocols. EtherLogic LC™ is easily integrated into existing factory Local Area Networks and SCADA systems, including all of the top HMI software packages, without special drivers. Need radio or dial-up access/dial-out alarming including voice? Built-in wide temperature range telephone modems and spread spectrum radios are available options.



**Industrial Control Links**  
**(800) 888-1893 www.iclinks.com**

# EtherLogic LC Controller

## UNIVERSAL (ANALOG/DISCRETE) INPUTS

<b>Quantity of Universal Inputs</b>	<b>4</b>
<b>Analog Input Signals</b>	
<b>Voltage</b>	0 or 1 to 5Vdc
<b>Current</b>	0 or 4 to 20mA
<b>Resistance</b>	0 to 65K ohms
<b>Temperature Sensor</b>	10K thermistor (Type I & II)
<b>Discrete Input Signals</b>	Dry Contact Closure
<b>Discrete In Wetting Current</b>	0.5mA (10K resistor to +5Vdc)
<b>Input Overload Tolerance</b>	Input current limited to 50mA Input Voltage limiting at 6Vdc
<b>Overload / Transient Protection</b>	Transorb/Self Resetting Polyfuse
<b>Analog Resolution</b>	10 bits (1 part in 1024)
<b>Analog Non-linearity</b>	0.5 LSB (0.05%)
<b>Temperature Coefficient</b>	
<b>5Vdc</b>	100ppm (0.1 LSB) per °C
<b>20mA and Thermistor</b>	125ppm (0.125 LSB) per °C
<b>DI Pulse Counting Rate</b>	up to 500Hz (50% DC), all 4 ins

## ANALOG OUTPUTS

<b>Quantity</b>	<b>2</b>
<b>Output Type</b>	0 or 4 to 20mA
<b>Resolution</b>	10 bits (1 part in 1024)
<b>Overload / Transient Protection</b>	Transorb/Self Resetting Polyfuse

## DISCRETE INPUTS

<b>Quantity</b>	<b>10</b>
<b>Input type</b>	Optically isolated with 8/2 split shared isolated commons, AC/DC
<b>ON/OFF Input levels</b>	9Vac/Vdc (min) / 6Vac/Vdc (max)
<b>Maximum input level</b>	50 Vac/Vdc
<b>Max. DI Pulse Counting Rate</b>	DI1 to 8: 40Hz, DI9 & 10: 5KHz

## DISCRETE OUTPUTS

<b>Quantity</b>	<b>4</b>
<b>Output Type</b>	Relays, Form A (normally open)
<b>Output Rating</b>	
<b>AC</b>	10A @125 Vac, 5A@250Vac
<b>DC</b>	5A @ 30 Vdc

## COMMUNICATIONS

<b>Serial Port Interfaces</b>	<b>2 + 1 Internal</b>
<b>COM #1 and COM #2</b>	RS-232, 9 pin D Male
<b>COM #2 only</b>	RS-485, 2-pin Terminal Block
<b>Ethernet Port</b>	10Base-T (10 Mb/sec), RJ-45

## COMMUNICATIONS OPTIONS (one only per controller)

<b>Internal Spread Spectrum Radios</b>	900MHz, 1W, up to 115Kbaud 2.4GHz, 0.5W, up to 115Kbaud
<b>Cellular</b>	GSM/GPRS Cellular
<b>Telephone modem w/voice</b>	56K Baud, PC compatible

## CONTROL & COMMUNICATIONS PROCESSOR

<b>CPU</b>	Intel 386EX, 25MHz
<b>Memory</b>	8MB Flash, 1MB RAM
<b>Real Time Clock</b>	Dallas DS1689S (IBM/PC comp.)

## GENERAL SPECIFICATIONS

<b>Field I/O Wiring Terminations</b>	Removable Terminal Blocks
<b>Wire Size</b>	#14 to #26 stranded/solid, #12 stranded only
<b>Dimensions</b>	7.0" W x 6.0" L x 2.5" D (178mm x 152mm x 64mm)
<b>Power</b>	10 to 26Vac, 10 to 28Vdc, 2 Watts typical, 6 Watts maximum (10W max. w/int. modem/radio)
<b>Temperature</b>	-40°C to 75°C (-40°F to 167°F)
<b>Humidity</b>	5 to 95% RH (non-condensing)

## SOFTWARE

<b>IEC 61131-3 (ISaGRAF)</b>	Ladder Diagram (LD) Structured Text (ST) Sequential Function Chart (SFC) Function Block Diagram (FBD) Instruction List (IL) Flow Chart
<b>C/C++</b>	Supports Borland v3.1 through 5.0 with control & communication
<b>SCADABUILDER</b>	<i>Point-and-Click configuration of:</i> Modbus RTU/ASCII - Master/Slave, DF1 (Allen Bradley-Master/Slave), HART, PPP, NMEA-0183 (GPS) Bricknet (Peer-to-peer SCADA)
<b>Ethernet Communications</b>	Modbus TCP/IP, HTTP, FTP, TELNET
<b>Simple MMI</b>	ANSI/VT100 - serial data links, Telnet over Ethernet
<b>Data and Alarm Logging</b>	up to flash disk capacity (7MB typ)

**ORDER PART NUMBERS:** (hardware includes ISaGRAF, ScadaBuilder, operating system and TCP/IP software licenses)

<b>51-0002</b>	EtherLogic LC, 12/24V DIs, Standard (no int. radio/modem)	<b>51-0202</b>	EtherLogic LC, 120V DIs, Standard (no int. radio/modem)
<b>51-0012</b>	EtherLogic LC, 12/24V DIs, 900MHz Freewave Radio	<b>51-0212</b>	EtherLogic LC, 120V DIs, 900MHz Freewave Radio
<b>51-0022</b>	EtherLogic LC, 12/24V DIs, 2.4GHz FreewaveRadio	<b>51-0222</b>	EtherLogic LC, 120V DIs, 2.4GHz FreewaveRadio
<b>51-0032</b>	EtherLogic LC, 12/24V DIs, 900MHz Aerocomm Radio	<b>51-0232</b>	EtherLogic LC, 120V DIs, 900MHz Aerocomm Radio
<b>51-0042</b>	EtherLogic LC, 12/24V DIs, 900MHz Maxstream Radio	<b>51-0242</b>	EtherLogic LC, 120V DIs, 900MHz Maxstream Radio
<b>51-0052</b>	EtherLogic LC, 12/24V DIs, 56K Tel. Modem w/Voice	<b>51-0252</b>	EtherLogic LC, 120V DIs, 56K Tel. Modem w/Voice
<b>51-0062</b>	EtherLogic LC, 12/24V DIs, GSM/GPRS Cellular	<b>51-0262</b>	EtherLogic LC, 120V DIs, GSM/GPRS Cellular
<b>51-0082</b>	EtherLogic LC, 12/24V DIs, HART Modem	<b>51-0282</b>	EtherLogic LC, 120V DIs, HART Modem
<b>51-0092</b>	EtherLogic LC, 12/24V DIs, extra RS-232/RS-485 port	<b>51-0292</b>	EtherLogic LC, 120V DIs, extra RS-232/RS-485 port

**Industrial Control Links** [www.iclinks.com](http://www.iclinks.com) (800) 888-1893 (530) 888-1800 fax (530) 888-7017

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All specifications subject to change without notice. 12/04 PN 60266002