DISTECH CONTROLS™

BUILDING OPEN CONTROL PRODUCTS

Remote-I/O

easyCONTROLS™ LONMARK® v3.4 Certified Remote I/O modules

- Universal Inputs
- Triac Outputs (PWM or digital)

Applications

- Value readings
- Point monitoring
- Extending the capability of an open control system

Features

Interoperability

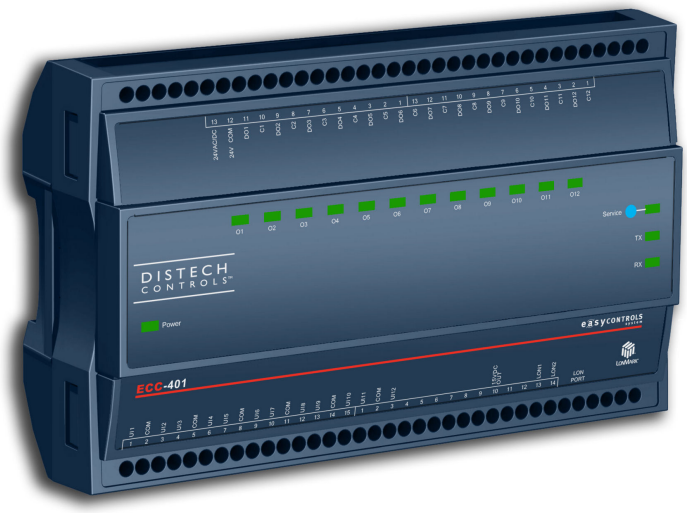
- Based on LONWORKS® technology for peer-to-peer communication between controllers
- LONMARK® certified according to the Interoperability Guidelines Version 3.4

Hardware

- Fire retardant plastic enclosure
- Separable base plate allows base with connectors to be shipped to site for installation while engineering is done at the office
- Light weight enclosure saves on shipping costs
- Universal inputs (software configurable)
- Triac outputs (PWM or digital)
- Status indicator on each output
- Power supply is fuse-protected
- Transmit, receive and power LED indicators
- Audio jack for quick access to LON® network
- Din-rail mounting integrated into the enclosure

Software

- LNS® plug-in or EC-Net^{AX} wizards available for configuration and monitoring
- With an intuitive interface, these provide easy customization of hardware inputs and outputs
- Easily configure all features, including:
  - Input and output properties
  - Hardware input SNVT type



* ECC-401 illustrated

The easyCONTROLS Remote-I/O is designed to extend the capability of an easyCONTROLS system, as well as to monitor and control various HVAC applications. The Remote-I/O uses the LonTalk® communication protocol and are LONMARK certified using the Sensor profile (#1) for its input objects and the Actuator profile (#3) for its output objects.

The Remote-I/O can be configured by using the EC-Configure plug-in through either any LNS-based software such as Distech Controls Lonwatcher, or by using a multi-protocol platform software supporting LONWORKS devices such as the EC-Net^{AX} software powered by the Niagara^{AX} Framework. These configuration interfaces are designed to simplify the configuration of input and output properties such as input types, input min/max values, output types, network variable types, etc.

The easyCONTROLS product line is built to meet rigorous quality standards and carries a two-year warranty. The complete line of easyCONTROLS controllers is designed for use with any LONWORKS-based and/or any other open and interoperable system – such as EC-Net^{AX}. This provides both the contractor and the end user with the flexibility of using "best of breed" products in system design.

Product Specifications

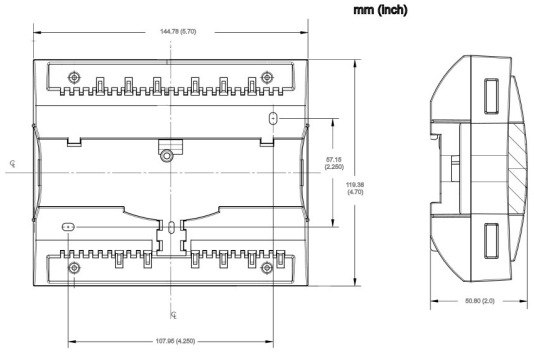


Figure 1: Remote-I/O – ECC-301 dimensions

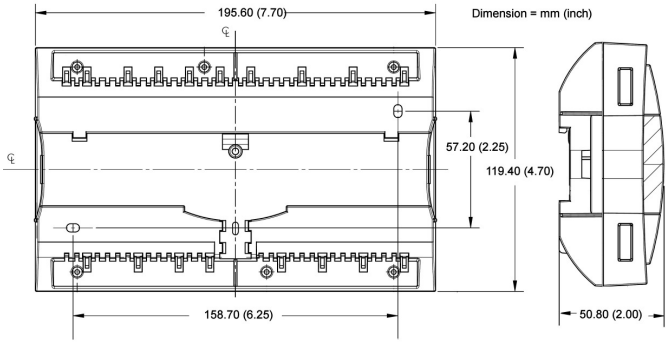


Figure 2: Remote-I/O – ECC-401 & 520 Series dimensions

Power	
Voltage	24VAC; ±15%, 50/60HZ, Class 2
Protection	1.35A auto-reset fuse
Typical Consumption	6VA
Maximum Consumption	15VA
Environmental	
Operating Temperature	0°C to 70°C; 32°F to 158°F
Storage Temperature	-20°C to 70°C; -4°F to 158°F
Relative Humidity	0 to 90% Non-condensing
General	
Processor	Neuron® 3150®; 8 bits; 10MHZ
Memory	Non-volatile Flash 64K (APB application & configuration properties)
Communication	LonTalk Protocol
Transceiver	FT-X1
Channel	TP/FT-10; 78Kbps
Status Indicator	Green LED: power status & LON TX Orange LED: service & LON RX
Communication Jack	LON® audio jack mono 1/8" (3.5mm)
Enclosure	
Material	ABS PA-765A
Color	Blue casing & grey connectors
Dimension w/ Screws	
-ECC-301	5.7x4.7x2.0" (144.8x119.4x50.8mm)
-ECC-401 & ECC-520	7.7x4.7x2.0" (195.6x119.4x50.8mm)
Shipping Weight	
-ECC-301	0.77lbs (0.35kg)
-ECC-401 & ECC-520	0.86lbs (0.39kg)
Installation	Direct din-rail mounting or wall mounting through mounting holes (see figure above for hole positions)

Inputs	
Input Types:	Universal (software configurable)
-Voltage	0-10VDC, Accuracy ±0.5%
-Current	4-20mA with 249Ω external resistor (wired in parallel), Accuracy ±0.5%
-Digital	Dry contact
-Resistor:	
Thermistor	Type 2,3 10KΩ Range: -40°C to 150°C; -40°F to 302°F Accuracy: ±0.5°C; ±0.9°F
Platinum	RTD 1KΩ Range: -40°C to 150°C; -40°F to 302°F Accuracy: ±1.0°C; ±1.8°F PT100 100Ω Range: -40°C to 135°C; -40°F to 275°F Accuracy: ±1.0°C; ±1.8°F
Potentiometer	Translation table configurable on several points, Accuracy ±0.5%
Input Resolution	16 bit analog / digital converter
Electromagnetic Compatibility	
CE -Emission	EN55022 : 1998 class B
-Immunity	EN61000-4-2: 1995, level 3 in air EN61000-4-2: 1995, level 2 by contact EN61000-4-3: 1996, level 2 EN61000-4-4: 1995, level 2 EN61000-4-6: 1996, level 2 ENV 50204 : 1995, level 2
FCC	This device complies with FCC rules part 15, subpart B, class B
Agency Approvals	
UL Listed (CDN & US)	UL916 Energy management equipment
Material[1]	UL94-5VA

1. All materials and manufacturing processes comply with the directive on Waste Electrical and Electronic Equipment (WEEE).

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Output Configuration and Remote-I/O Controller Selection Guide

The Remote-I/O series of controllers is comprised of three different devices, each having its own output configuration, but all having identical input, power, environmental and general specifications.

ECC-301	
Inputs:	8
Outputs:	8 Digital
	Triac 1.0A @ 24VAC External power supply PWM output: adjustable period from 2 seconds to 15 minutes

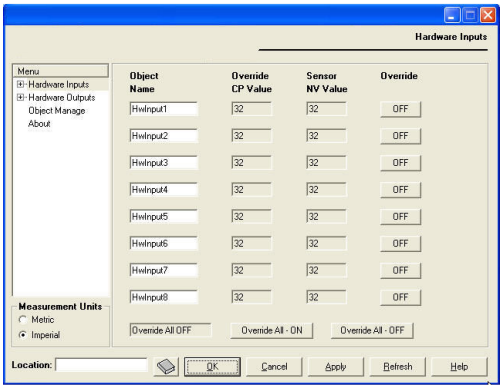
ECC-401	
Inputs:	12
Outputs:	12 Digital
	Triac 1.0A @ 24VAC External power supply PWM output: adjustable period from 2 seconds to 15 minutes

ECC-520	
Inputs:	16
Outputs:	0

Distech Controls Software Plug-ins and Wizards

Software Preview

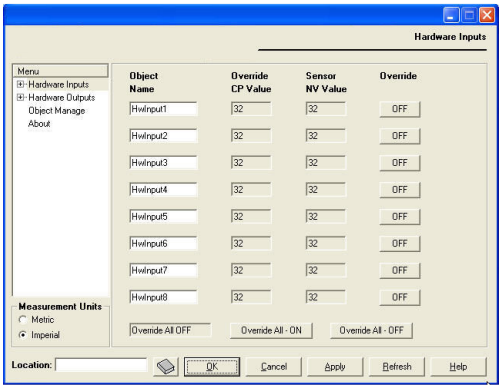
LNS Configuration Plug-in*



Easily configure all of the devices' parameters including inputs, outputs, fan and valve settings, heating and cooling setpoints, amongst others. You can also enable and configure additional built-in features such as optimum start, load shedding, frost protection and slave operation mode.

* LNS Plug-ins can be used with any LNS based network management and GUI tool, such as Distech Controls' Lonwatcher or Londisplay.

EC-Net^{AX} Wizards and EC-Net Shadow Object



Designed for use with the Niagara^{AX} Framework, the EC-Net^{AX} Wizards offer all the same features accessible within the LNS plug-in. Simply add the device to your LON network and immediately launch the configuration wizard with a couple clicks of your mouse!

Can also be used with the Niagara Framework, where the EC-Net Remote I/O Shadow Object allows you to add a Remote I/O device on your network for control and monitoring purposes.

Product Warranty and Total Quality Commitment

The easyCONTROLS product line is built to meet rigorous quality standards and carries a two-year warranty. Distech Controls is an ISO 9001 registered company. Distech Controls' products provide both the contractor and the end user with the flexibility of using "best-of-breed" products in system design.

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Recommended Peripherals

Recommended Optional Accessories

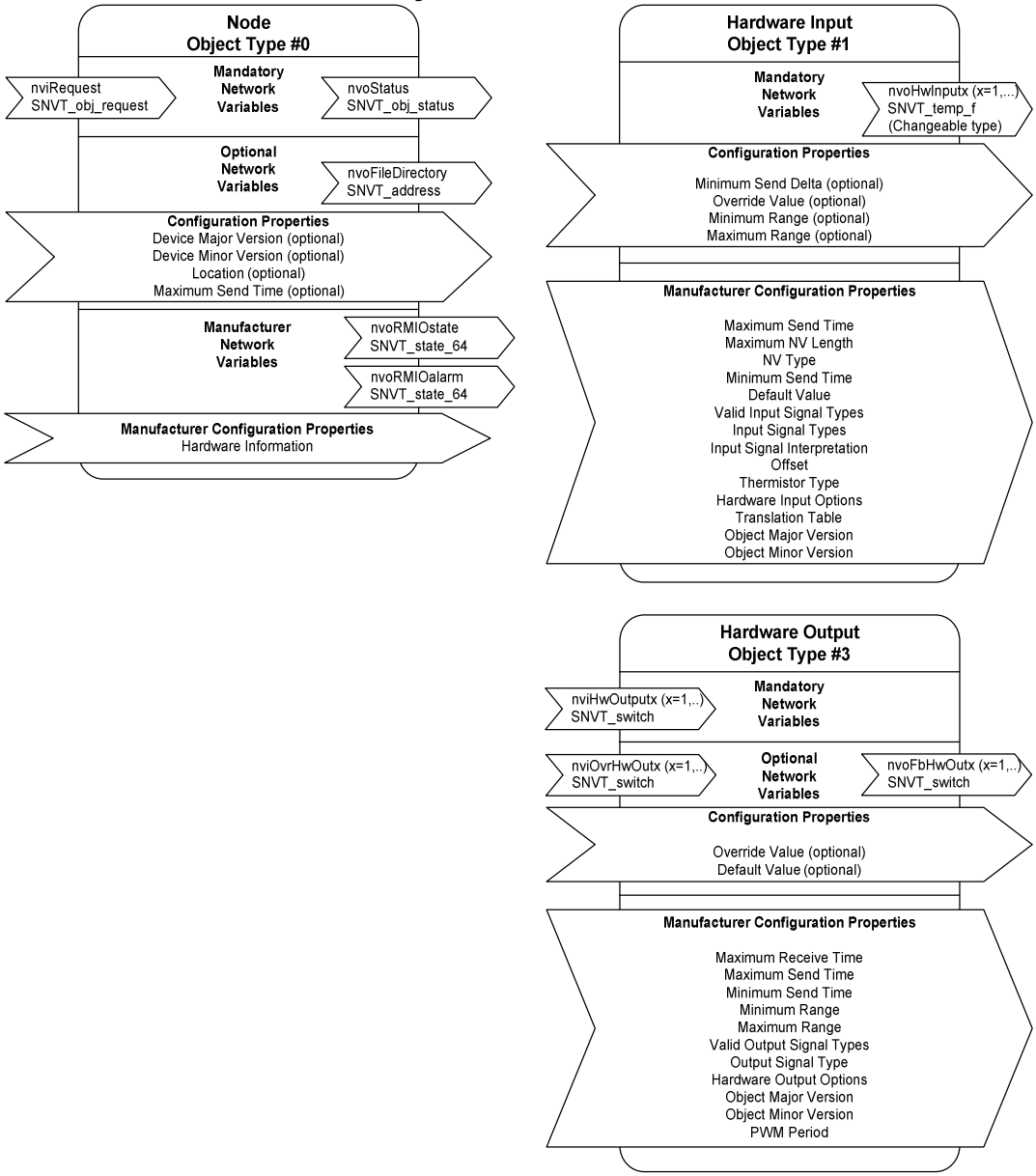
Temperature Sensors

EC-SENSOR	Room sensor
EC-SENSOR-LO	Room sensor with LED and override push button
EC-SENSOR-SLO-CW	Room sensor with LED, override push button and setpoint adjustment (cool/warm)
EC-SENSOR-SLO-C	Room sensor with LED, override push button and setpoint adjustment (°C)
EC-SENSOR-SLO-F	Room sensor with LED, override push button and setpoint adjustment (°F)
EC-SENSOR-AVG	Averaging room sensor, no setpoint (Up to 3 in parallel)
EC-SENSOR-AVG-LO	Averaging room sensor with LED and override push button

Other Peripherals

Please contact sales@distech-controls.com for a complete list of available products and peripherals.

LONMARK® Objects & Network Variables



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