



Presentation

The EC-HPU-L controller is a microprocessor-based heat pump unit controller designed to control any heat pump unit application. The EC-HPU-L controller uses the LonTalk® communication protocol and is LONMARK certified using the heat pump unit profile #8051. The EC-HPU-L is designed to work with all types of heat pumps, including dual mode and water-to-refrigerant heat pumps.

The EC-HPU-L 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 and EC-Net^{AX} software powered by the Niagara Framework and Niagara^{AX} Framework respectively. These configuration interfaces are designed to simplify configuring and sequencing methods by prompting the user for the necessary configuration data. The controller then automatically selects the operation sequence according to the input and output configurations and dynamically adapts itself to the network variables that are bound to the controller.

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.

Applications

Designed to meet the requirements of any heat pump unit application

- Controls heat pump applications such as:
- Dual mode heat pumps
- Modulating valves
- Water to refrigerant heat pumps
- Controls up to 4 stages of cooling or heating
- Compatible with a wide range of sensors and actuators

Features & Benefits

Hardware

- Fire retardant light weight plastic enclosure
- Separable base plate allows base with connectors to be shipped to site for installation while engineering is done at the office
- Operate controller as a stand-alone unit or as part of a networked system
- Universal outputs and power supply are fuse-protected
- Audio jack for quick access to LON® network
- DIN rail mounting integrated into the enclosure

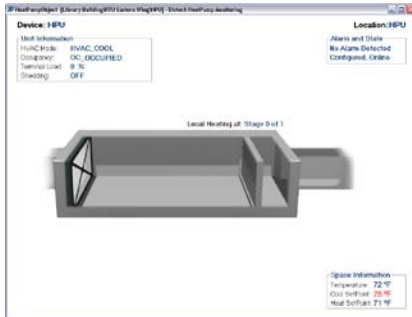
Software

- LNS® plug-in or Niagara Framework™ EC-Net or Niagara^{AX} Framework™ EC-Net^{AX} wizards available for configuration and monitoring
- With an intuitive interface, these provide easy customization of hardware I/O, control sequences and communication schemes
- Easily configure all features, including:
 - Input and output types and properties
 - Heating and cooling stages
 - Control variable speed fans and floating valves
 - PID control loops
- Additional built-in features:
 - Optimum start
 - Load shedding
 - Frost protection
 - Slave operation mode
 - Dehumidification cycle
 - Changeable network variable types
- Allows the use of spare I/O points to be linked to other controllers on the network
- Application settings and control sequences stored in a 64K non-volatile Flash memory

Distech Controls' Wizards and plug-ins

Software Preview

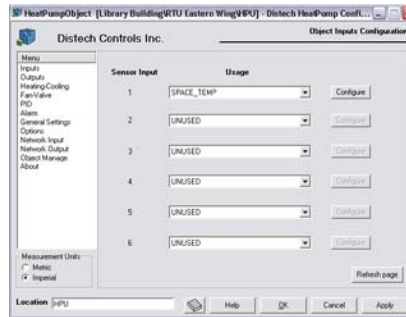
LNS Monitoring Plug-in*



The monitoring plug-in is a graphical user interface that monitors all device parameters including inputs, outputs, alarms and device status. There is no more need to create any graphics pages and as it can be launched from any GUI that supports plug-in applications, graphics dynamically adapt themselves to the configuration of the device as well as the real time values being monitored.

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

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.

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



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. Through EC-Net add pre-defined shadow objects into your database and then launch the wizard.

Complementary Products

Communicating Sensors

Allure EC-Smart-Sensor



EC-Smart-Sensor-100

Communicating sensor with 2-line LCD, setpoint adjustment, occupancy override, and room temperature display

EC-Smart-Sensor-200

Communicating sensor with 2-line LCD, setpoint adjustment, fan speed control, occupancy override, HVAC mode selection, and room temperature display

EC-Smart-Sensor-FC

Communicating sensor with 2-line LCD, setpoint adjustment, fan speed control, and room temperature display

EC-Smart-Sensor-FC-CF

Communicating sensor with 2-line LCD, setpoint adjustment, fan speed control, room temperature display, and °C/°F toggle button

Allure EC-Sensor



EC-Sensor

Room temperature sensor with communication jack

EC-Sensor-O

Room temperature sensor with occupancy override button and communication jack

EC-Sensor-S

Room temperature sensor with setpoint adjustment and communication jack

EC-Sensor-SO

Room temperature sensor with setpoint adjustment, occupancy override button, and communication jack

EC-Sensor-SOF

Room temperature sensor with setpoint adjustment, occupancy override button, fan speed selection, and communication jack

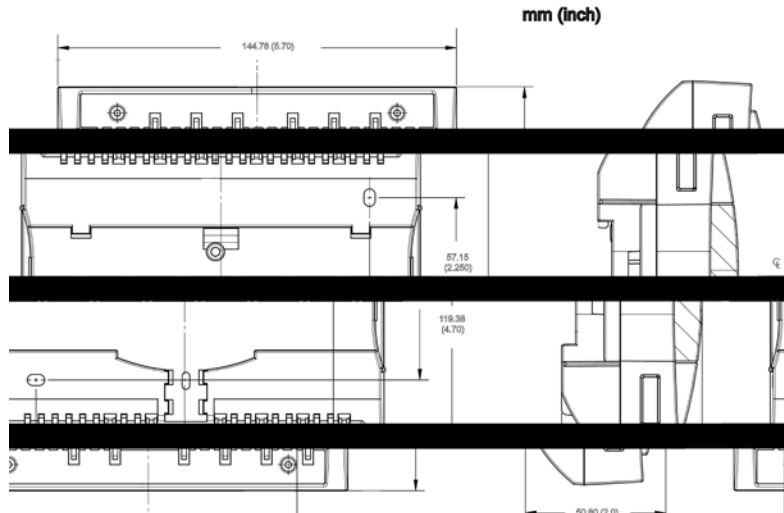
Other

For more information on any of the products listed above, please refer to our website www.distech-controls.eu.

Product Warranty & Total Quality Commitment

All Distech Controls product lines are built to meet rigorous quality standards and carry a two-year warranty. Distech Controls is an ISO 9001 registered company.

Dimensions



Specifications

Power		Inputs	
Voltage	24VAC; $\pm 15\%$, 50/60HZ, Class 2	Quantity	6
Protection	1.35A auto-reset fuse	Input Types:	Universal (software configurable)
Typical Consumption	6VA	-Voltage	0-10VDC, Accuracy $\pm 0.5\%$
Maximum Consumption	15VA	-Current	4-20mA with 249 Ω external resistor (wired in parallel), Accuracy $\pm 0.5\%$
Environmental		-Digital	Dry contact
Operating Temperature	0°C to 70°C; 32°F to 158°F	-Resistor:	
Storage Temperature	-20°C to 70°C; -4°F to 158°F	<i>Thermistor</i>	Type 2, 3 10K Ω Accuracy: $\pm 0.5^\circ\text{C}$; $\pm 0.9^\circ\text{F}$ Range: -40°C to 125°C; -40°F to 257°F Resolution: 0.1°C; 0.18°F
Relative Humidity	0 to 90% Non-condensing	<i>Potentiometer</i>	Translation table configurable on several points, Accuracy $\pm 0.5\%$
General		Input Resolution	12-bit analog / digital converter
Standard	LONMARK Functional Profile: Heat Pump with Temperature Control #8051	Outputs	
Processor	Neuron [®] 3150 [®] ; 8 bits; 10MHZ	Quantity	7
Memory	Non-volatile Flash 64K (APB application & configuration properties)	5 Digital	- Triac 1.0A @ 24VAC - External power supply
Communication	LonTalk Protocol	2 Universal	- 0-10VDC (linear), digital 0-12VDC (on/off) or PWM - PWM output: adjustable period from 2 seconds to 15 minutes - 60mA max. @ 12VDC (60°C; 140°F) - Maximum load 200 Ω - Auto-reset fuse: - 60mA @ 60°C; 140°F - 100mA @ 20°C; 68°F
Transceiver	FT-X1	Agency Approvals	
Channel	TP/FT-10; 78Kbps	UL Listed	UL916 Energy management equipment (CDN & US)
Status Indicator	Green LED: power status & LON TX Orange LED: service & LON RX	Material ¹	UL94-5VA
Communication Jack	LON audio jack mono 1/8" (3.5mm)	UL Listed	UL916 Energy management equipment
Enclosure			
Material	ABS PA-765A		
Color	Blue casing & grey connectors		
Dimension w/ Screws	5.7x4.7x2.0" (144.8x119.4x50.8mm)		
Shipping Weight	0.77lbs (0.35kg)		
Installation	Direct din-rail mounting or wall mounting		
Electromagnetic compatibility			
CE -Emission	(CDN & US)		
-Immunity	Material ¹ 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		
CE -Emission	(CDN & US)		

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

