



DISTECH

CONTROLS™

LonWorks HVAC and
Lighting Controllers

Distech Controls offers an extensive line of feature-rich and cost effective controllers for building automation. Based on the LONWORKS® protocol, our devices are designed for true peer-to-peer communication; can be used together or with other LONWORKS products and multi-vendor systems, as well as with any open, interoperable system, such as EC-Net^{AX} powered by the Niagara^{AX} Framework®.

Our reliable and quality controllers include:

- Programmable Controllers
- Configurable Controllers
- Smart Sensors
- Communicating Thermostats
- Remote I/O Modules
- Special Application Configurable Controllers
- Lighting Control

Distech Controls also offers a complete line of peripherals.

Programmable Controllers

The Distech Controls LONMARK® certified programmable controllers are microprocessor based multi-purpose devices. These programmable controllers provide the versatility and efficiency needed to custom control any type of application, including HVAC, lighting, refrigeration and power measurement, and can be easily and quickly programmed with our EC-Program LNS® based plug-ins, with our EC-gfxProgram Graphical Programming Interface or with our wizards for EC-Net^{AX}.

Depending on the model selected, features of our programmable controllers include:

- Up to 16 universal inputs and up to 12 universal and digital outputs
- High precision controls with 16 bit A/D converter on inputs and 10 bit D/A converter on outputs
- Software configurable inputs, jumper-less selection: resistance, 0-10 VDC, 4-20mA, digital and pulse
- Software configurable outputs: digital, 0-12 VDC, PWM, 0-10 VDC, 4-20mA and floating
- 62 network variables of which 34 are of changeable type and length
- Ability to view/modify all internal points via network variables
- Support for up to 14 wireless inputs from our wireless, battery-less devices on wireless enabled models
- Support of EC-Smart-Sensor models 100, 200 and FC
- Compatible with wide range of peripheral equipment and sensors
- LON communication jack for easy network access
- Fire retardant plastic enclosure with separable back plate and identified terminal block

Programmable Controllers for Terminal Unit Applications

ECP-VAV and ECP-VVT



Custom programming of single duct VAV or VVT in internal or external zone applications.

- 4 universal inputs
- 6 outputs: 4 digital (Triac - internally or externally powered) and 2 universal
- 1 on-board pressure transducer
- Integrated brushless, constant speed actuator with position feedback
- Smart-Sensor/LCD compatible
- Optional wireless receiver for communication with wireless, battery-less devices available on all models

Additional models include ECP-VVT controllers with no integrated air-flow sensor and ECP-VAVN controllers with no built-in actuator.

ECP-VAVS



Custom programming of single duct VAV applications, for control of cooling only VAV boxes and cooling with reheat VAV boxes.

- Control of floating valves, two-stage duct heaters or other two-position equipment
- 2 universal inputs
- 2 digital (Triac) outputs - internally or externally powered
- 1 LED output
- Built-in brushless, constant speed damper actuator with integrated position feedback
- Smart-Sensor/LCD compatible
- Optional wireless receiver for communication with wireless, battery-less device

EC-67



Custom programming of applications such as roof top units, fan coils, pumps, ventilator units and other terminal units.

- 6 universal inputs
- 5 Triac outputs (PWM or digital)
- 2 universal outputs (0-10 V, PWM or digital 0-12 V)
- Scheduler objects with 7 weekday templates and 4 holiday templates per scheduler
- Programmable using EC-Program LNS plug-in and EC-Net wizard only

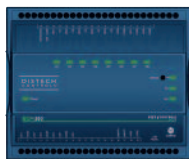
ECP-103



Control of terminal units such as VAV, fan coil, unit ventilator and heat pumps as well as chilled ceiling and other custom applications.

- 4 universal inputs
- 4 digital (Triac - internally or externally powered)
- 2 universal outputs
- Smart-Sensor/LCD compatible
- Optional wireless receiver for communication with wireless, battery-less devices

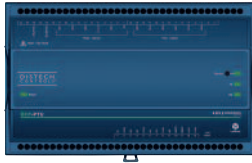
ECP-203



Custom programming of applications such as roof top units, fan coils, heat pumps, ventilator units and other terminal units.

- 6 universal inputs
- 5 digital (Triac) outputs
- 3 universal outputs
- Scheduler objects with 7 weekday templates and 4 holiday templates per scheduler
- Smart-Sensor/LCD compatible
- Optional wireless receiver for communication with wireless, battery-less device

ECP-PTU



Offers versatile, custom programming applications requiring line voltage relays such as fan coil unit, unit ventilator, heat pump unit and lighting applications.

- High voltage power supply ranging from 85 to 265 VAC
- 6 universal inputs
- 4 high voltage relay outputs (up to 277 VAC): 3 for fan speed and 1 for electric heating
- 4 Triac outputs (up to 265 VAC - PWM or digital)
- Scheduler objects with 7 weekday templates and 4 holiday templates per scheduler
- Smart-Sensor/LCD compatible
- Optional wireless receiver for communication with wireless, battery-less devices

Programmable Controllers for Central Plant and Air Handling Applications

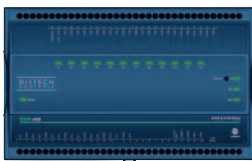
ECP-300



Control of equipment such as small and medium air handling units, chillers, boilers, pumps and cooling towers.

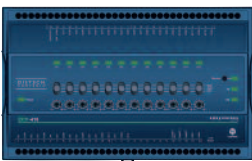
- 10 universal inputs
- 8 universal outputs
- Scheduler objects with 7 weekday templates and 4 holiday templates per scheduler
- Real-time clock object for accurate timekeeping for controller applications and configuration of daylight savings time.
- Smart-Sensor/LCD compatible
- Optional wireless receiver for communication with wireless, battery-less device

ECP-400 and ECP-410

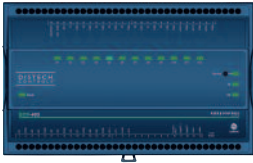


Control of equipment such as medium and large air handling units, chillers, boilers, pumps and cooling towers.

- 12 universal inputs
- 12 universal outputs
- On-board 15 VDC (100 mA) to power 4 to 20 mA sensors
- ECP-410 with HOA switch with rotary potentiometer and software feedback on switch status
- Scheduler objects with 7 weekday templates and 4 holiday templates per scheduler
- Real-time clock object for accurate timekeeping for controller applications and configuration of daylight savings time.
- Smart-Sensor/LCD compatible
- Optional wireless receiver for communication with wireless, battery-less device



ECP-403 and ECP-413



Control of equipment such as roof top units, medium and large air handling units, chillers, boilers, pumps and cooling towers.

- 12 universal inputs
- 8 digital triac outputs
- 4 universal outputs
- On-board 15 VDC (100 mA) to power 4 to 20 mA sensors
- ECP-413 with HOA switch with rotary potentiometer and software feedback on switch status
- Scheduler objects with 7 weekday templates and 4 holiday templates per scheduler
- Real-time clock object for accurate timekeeping for controller applications and configuration of daylight savings time.
- Smart-Sensor/LCD compatible
- Optional wireless receiver for communication with wireless, battery-less device

ECP-500 and ECP-510



Control of equipment such as large air handling units, chillers, boilers, pumps and cooling towers.

- 16 universal inputs
- 12 universal outputs
- On-board 15 VDC (100 mA) to power 4 to 20 mA sensors
- ECP-510 with HOA switch with rotary potentiometer and software feedback on switch status
- Scheduler objects with 7 weekday templates and 4 holiday templates per scheduler
- Real-time clock object for accurate timekeeping for controller applications and configuration of daylight savings time.
- Smart-Sensor/LCD compatible

Configurable Controllers

The Distech Controls LONMARK certified configurable controllers are a full-featured solution for terminal unit applications. Our EC-Configure LNS based plug-ins and EC-Net^{AX} wizards allow for easy configuration and further enhance flexibility in applications, facilitating configuration of control sequences and communication schemes.

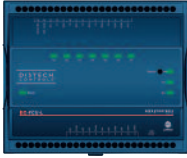
The configurable controllers feature:

- Wide flexibility in control applications minimizing the need for custom programming
- Analog outputs and fuse protected power supply
- Spare I/O points can be shared over the network
- Application settings and control sequences stored in a non-volatile Flash memory
- LON communication jack for easy network access
- LNS based EC-Monitor plug-ins for generating a real-time monitoring graphical interface.
- Fire retardant plastic enclosure with separable back plate and identified terminal block
- Wall or din rail mount
- Compatible with wide range of sensors, actuators and wireless, battery-less sensors and modules

Space Comfort Controllers

Our space comfort controllers feature 6 universal inputs, 5 digital triac outputs and 2 universal outputs (0-10V, PWM or digital 0-12V)

EC-FCU-L



Fan coil unit controller with up to 3 stages of heating or cooling

- Controls applications including mechanical stages, modulating valves, floating outputs
- Designed for fan coil applications including cooling, heating or cooling and heating, such as two-pipe coil shared cooling and heating and four-pipe coil cooling and heating

EC-RTU-L



Roof top unit controller including units equipped with economizer

- Duct static pressure control
- Controls up to 4 stages of cooling or heating
- Humidity control
- Demand averaging on up to 128 VAVs

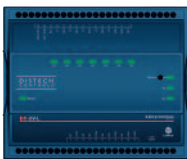
EC-HPU-L



Heat pump unit controller

- Controls heat pump applications (air or water heat exchange) such as dual mode heat pumps, modulating valves, water to refrigerant heat pumps
- Controls up to 4 stages of cooling or heating
- Includes dehumidification cycle

EC-UV-L



Unit ventilator controller

- Controls applications such as two-pipe coil shared cooling and heating and four-pipe coil cooling and heating, electric, water or direct expansion coils
- Controls up to 4 stages of cooling (heat pump mode available) or heating
- Humidity control

VAV Control

ECC-VAV/ECC-VVT



For control of single duct VAV and VVT applications; a combination of up to 6 equipments: baseboards, duct heaters, multi-stage cooling/heating, valves (on-off, analog, floating), fans, sensors and actuator

- 4 universal inputs
- 6 outputs of which 4 digital triac and 2 analog
- 6 network outputs
- 1 on board pressure transducer (VAV models) – drift free
- Integrated brushless, constant speed actuator with position feedback
- Demand control ventilation supported – CO2
- Optional wireless receiver for communication with wireless, battery-less device
- Additional models include ECC-VTT controllers with no integrated air flow sensor and ECC-VAVN controllers with no built-in actuator

ECC-VAVS

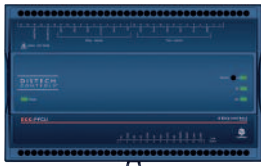


For single duct VAV or VVT applications, for control of cooling only VAV boxes and cooling with reheat VAV boxes.

- Control of floating valves, two-stage duct heaters or other two-position equipment
- 2 universal inputs
- 2 digital (Triac) outputs - internally or externally powered
- 1 LED output
- Built-in brushless, constant speed damper actuator with integrated position feedback
- Optional wireless receiver for communication with wireless, battery-less device
- Additional models include ECC-VVTS controllers with no integrated air flow sensor

Powered Fan Coil Unit Control

ECC-PFCU and ECC-PFCUA



Controls the space temperature for equipment with up to 4 stages of cooling or heating and up to 3 fan speeds.

- Valve applications can be digital, floating or modulating
- Offers complete humidity control including dehumidification cycle
- Power supply ranging from 85 to 265 Volts
- 6 universal inputs, supporting digital, voltage (0-10V), sensor (PT100, 1K, 10K) and current from 4-20mA with external resistor
- 4 high voltage relay outputs, 3 for fan speed and 1 for electric heating
- 4 triac outputs, 24 to 230 Volts, supporting on-off, PWM and floating
- ECC-PFCUA features 2 additional analog outputs and a 24 VAC supply output
- Optional wireless receiver for communication with wireless, battery-less device

EC-Smart-Sensors

The Distech Controls EC-Smart-Sensors are communicating LCD sensors, which provide precision local temperature sensing and a variety of functions. The EC-Smart-Sensors offer levels of user permissions, ranging from user/read-only mode for occupants to password protected configuration menus. They can be used either for permanent installation or as a hand held tool.

Our Allure line of EC-Smart-Sensors offers a unique and contemporary design.

EC-Smart-Sensor-100 and EC-Smart-Sensor-200



- For use with the programmable controllers, for:
 - Monitoring of room temperature
 - Adjusting setpoint
 - Initiating occupancy override
 - Initiating HVAC override (on 200 model only)
 - Fan mode selector (on 200 model only)

EC-Smart-Sensor-VAV



- For use with the ECC-VAV, ECC-VAVS, for:
 - Monitoring of room temperature
 - Adjusting setpoint
 - Initiating setpoint override
 - Testing and balancing tool for VAV
- Can be used as a hand held air balancing tool

EC-SMART-Sensor-FC



- For use with the ECC-PFCU and programmable controllers, for:
 - Monitoring of room temperature
 - Adjusting setpoint
 - Initiating setpoint override
 - Fan speed selector
 - Select display unit: Fahrenheit, Celcius (FC-CF module)

Communicating Thermostats Series

The Distech Controls LONMARK certified line of EC-STAT communicating thermostats with integrated room sensor, offers exceptional value and versatility, as a stand alone or networkable controller. With a sleek design and an intuitive menu-driven, 2-line backlit LCD display, these products are suited for commercial, institutional and hotel applications.

All models offer:

- Accurate temperature control achieved with the product's PI time proportional control algorithm, which virtually eliminates temperature offset associated with traditional, differential-based thermostats
- Configuration using the EC-Configure LNS based plug-in, EC-Net wizard or directly from the EC-STAT keypad
- Optional built-in, 7-day scheduler
- 2 software configurable digital inputs, which can be set by the user to monitor filter status, activate a remote temporary occupancy switch, or be used as a general purpose service indicator
- 1 remote sensor input

EC-STAT-RT and EC-STAT-HP



For single-stage and multi-stage control of heating/cooling equipment such as roof top and heat pump units

- 1 remote room sensor input
- 1 remote outdoor sensor input
- Up to 2 cooling and 2 heating stage outputs (depending on model)
- 1 smart fan output
- 1 auxiliary output

The EC-STAT for rooftop applications is available with an economizer option and the EC-STAT for heat pump units offers features for reversing valve applications.

EC-STAT-FC



For fan coil applications such as 2 and 4 - pipe fan coil units, including auxiliary reheat

- 1 additional analog/digital input (software configurable)
- 1 remote room sensor input
- 1 remote changeover or supply sensor input
- 2 digital auxiliary outputs (triac)
- 1 relative humidity sensor (specific models only)
- Commercial/industrial and hotel designs available

EC-STAT- ZN



For local zoning applications, control of pressure dependent VVT actuator and local hydronic reheat valve

- 1 additional analog/digital input (software configurable)
- 1 digital auxiliary output (triac)
- 2 analog or 4 digital outputs (depending on model)
- 1 remote room sensor input
- 1 internal temperature sensor

Remote Input and Output (I/O) Modules

The LONMARK certified remote I/O modules are designed for sensor value readings, for point monitoring and can serve to extend the capability of an open control system. With configurable universal inputs and digital outputs, the remote I/O modules feature:

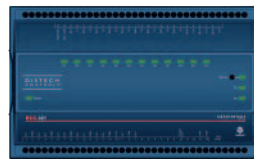
- Easy configuration with EC-Configure LNS based plug-in or EC-Net^{AX} wizard, including input and output properties and hardware input SNVT type
- Plug-in and wizard include sensor and actuator configuration
- Status indicator on each output
- Fuse protected power supply
- Transmit, receive and power LED indicators
- LON network communication jack for easy network access
- Fire retardant plastic enclosure with separable back plate and identified terminal block

ECC-301



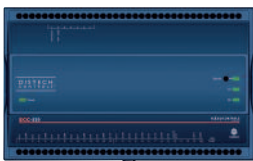
- 8 universal inputs
- 8 digital triac outputs

ECC-401



- 12 universal inputs
- 12 digital triac outputs

ECC-520



- 16 universal inputs

Special Application Configurable Controllers

The Distech Controls special application configurable controllers are unique, industry leading products, designed to be full-featured DDC products that provide ease of use and versatile applications. These products are easily configured with the EC-Configure LNS based plug-ins or Niagara^{AX} Framework EC-Net^{AX} wizards.

EC-Display

The EC-Display is a perfect LCD interface for small to medium sized systems where a PC front end is not necessary or where quick access is required, such as in mechanical rooms and offices. The EC-Display allows system integrators and facility managers to manage systems without a supervising station, providing quick and convenient access to up to 250 points on the network.



- LCD display with user friendly interface
- 6 button interface
- Real-time clock
- Up to 16 independent schedules
- Yearly calendar, a one-week default schedule, 4 exception date schedules and 6 daily events
- Two levels of password protection (read-only and full access)
- Quick and easy set-up
- Wallpaper is customizable
- Surface, flush and din rail mount options available

EC-Scheduler: Scheduling Device

The EC-Scheduler is designed for the storing and the management of schedules on a LONWORKS network or any open, interoperable system, such as EC-Net^{AX} powered by the Niagara^{AX} Framework. Located as a node on the network, the EC-Scheduler provides for an easy and convenient method to establish a scheduling standard and methodology for any LONWORKS network. It is the perfect complement to any new system or any existing system composed of devices that do not support scheduling.



- 16 independent scheduler objects
- Real-time clock
- Yearly calendar, a one-week default schedule, 4 exception date schedules and 6 daily events
- Surface and din rail options available

EC-Light Lighting Control Solution

EC-Light is a complete LONWORKS lighting control system, designed to meet the requirements of any commercial or industrial application. EC-Light allows energy efficient lighting applications including general area or accent lighting as well as lighting schemes, sequences and relay group management.

EC-Light is a networkable lighting system, which interfaces with the LONWORKS network and its subsystems (such as HVAC), providing an integrated energy management system. The EC-Light devices are easily configured using an EC-Configure LNS based plug-in, with a network management tool such as Distech Controls' Lonwatcher.

EC-Light Panels

Mounted in steel enclosures ready for mounting within an electrical room, the EC-Light Panels are available in sizes 8, 16, 32 and 64 relays. The Panels come standard with input controller, low-voltage relays, output controllers, 120/277/347 Volt transformer, and movable protection plate between high and low voltage sections.



For additional functionality, an EC-Light-Scheduler or EC-Light-Display can be mounted onto the panels.

Relays can be organized into groups allowing the following parameters to be set for additional energy efficiency:

- Warning period through flickering of lights to announce system will turn off, giving time for local users to bypass the system if necessary or to leave the building.
- Maintenance/security crew bypass of lighting system for a specific amount of time.
- Hold time through switch or motion detection, allowing the user to initiate the system for a specified time period.
- Time delay override, allowing a user to override the lighting system for a specific amount of time.

EC-Light Scheduler and EC-Light Display

With all functionalities of the EC-Scheduler and EC-Display, the EC-Light Scheduler and Display also allow the configuration of scene function and number (pre-set lighting action) based on time of day or based on relative time to sunset and sunrise. The integrated astronomical clock facilitates applications such as outdoor lighting whereas the real-time clock provides for accurate timekeeping with controller applications. Both devices can be used as a stand alone device on the network or mounted within an EC-Light Panel.



EC-Light Input and Output Controller Cards

Distech Controls also offers EC-Light Input and Output controller cards, for additional options and applications in lighting control.

EC-Light Accessories

Distech Controls offers a wide array of lighting accessories, such as switches, wireless switches, plates, daylighting control sensors, occupancy sensors, photocells and relays.



Peripherals

In addition to the Distech Controls controllers, LonWorks network and EC-Net network products; we invite you to take advantage of our wide array of peripheral product offering.

Our peripheral products include:

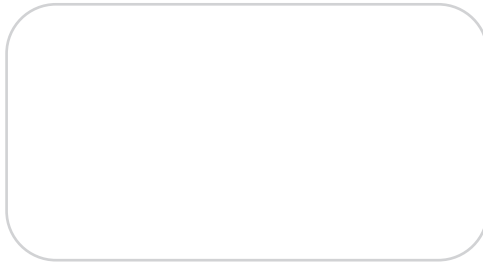
- Valves and damper actuators
- Air quality, humidity, air flow, temperature and combo sensors
- Wireless, battery-less devices and sensors
- Energy meters and current monitoring
- Relays
- Lighting products
- Network devices
- Signal and current accessories and tools

Innovative Solutions for Greener Buildings

For more information concerning Distech Controls' building automation solutions :

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