



### Overview

The **RCL-Light/Blind Series** are microprocessor-based configurable controllers designed to offer an optimal solution for lighting and sunblind management within open plan offices and buildings. These controllers use the LonTalk® communication protocol and are LONMARK certified.

The series contains eight models: 4 and 8 channel lighting controllers for dimming or switching, and 4 and 8 channel sunblind controllers for 24 VDC and 230 VAC sunblind motors. All versions have 4 RJ9 connector inputs for accessories, which include multi-sensors for light level and occupancy detection, and a wireless receiver for wireless sensors and switches.

All controller models also work with the Allure™ RS-Smart-Sense, which is a customizable room sensor with color TFT touch screen and graphical menus. These sensors are used for indoor temperature measurement, setpoint adjustment, fan speed selection, and occupancy state override, as well as lighting and sunblind management to provide a cross-functional integrated local user interface.

Each controller can be easily configured using LNS®-based plug-in or the EC-Net<sup>AX</sup>™ wizard, powered by the Niagara<sup>AX</sup> Framework®. In either case the configuration is simplified, making the setup of lighting and sunblind applications an easy, intuitive experience.

### Applications

Meets the requirements of the following applications:

- On/OFF Lighting
- Dimmable Lighting
- 24 VDC Sunblinds
- 230 VAC Sunblinds

Improves energy efficiency when combined with:

- Motion detectors to automatically adjust a zone's occupancy mode from standby to occupied when presence is detected.
- Remote controls to control both lighting and sunblinds, and a room's HVAC occupancy / standby mode setting.
- Lux level sensor to fit the necessary light power to the actual luminosity in the room.

### Features & Benefits

- Easily configurable using LNS-based plug-ins or EC-Net<sup>AX</sup>-based wizards, allowing you to work with your preferred network management platform
- LONMARK certified, guaranteeing interoperability with other manufacturers' LONMARK-approved controllers
- Latest LONWORKS® 2.0 technology provides significantly faster operating speeds and additional functionality
- Embedded Demand Response Technology eases integration in Smart Grid systems, enabling real-time power management to cut energy bills and extend equipments lifetime
- A comprehensive range of compatible accessories including motion sensing, light level measurement and EnOcean wireless receiver to combine efficient automated control with ease of use for the end user
- Controllers include HVAC data transmission to facilitate multi-discipline control from a single room device
- Quick-link connectors for faster on-site installation (except RCL-Blind-xLV)
- Easy settings replication from one office to another to expedite large BMS integrations
- Fail-safe mode to ensure the occupants' security under all conditions
- Compatible with the RFR Wireless Receiver, letting you create wire-free installations and use various wireless battery-less sensors and switches
- Sunblind closure management according to sunlight and occupancy status reduces HVAC systems consumption
- Can be operated as a stand-alone unit or as part of a networked system for increased intelligence
- Separate control of window side and corridor side luminaires ensures consistent light throughout the enlightened room
- Up to 8 independent groups for customised scenes in multi-task working areas
- Compatible with the WMS-PB-8DI Interface, allowing the direct connection of pushbuttons and switches to suit any configuration needs
- Field upgradable to benefit from latest upgrades without having to access the product

## RCL-Light/Blind Series



Model	RCL-Light-4	RCL-Light-8	RCL-Light-4D	RCL-Light-8D	RCL-Blind-4	RCL-Blind-8	RCL-Blind-4LV	RCL-Blind-8LV
Bidirectional RJ9 Inputs	4	4	4	4	4	4	4	4
ON/OFF Light Outputs	4	8						
Dimmable Light Outputs			4	8				
230 VAC Sunblind Outputs					4	8		
24 VDC Sunblind Outputs							4	8
Room Controller LONMARK Objects	4	4	4	4	4	4	4	4
Open-to-Wireless™ <sup>1</sup>	■	■	■	■	■	■	■	■

1. All controllers are Open-to-Wireless ready. Available when a RFR Series receiver or a MS2-R multi-sensor is connected to the controller. Only one wireless receiver per controller. The receiver uses the first bidirectional RJ9 input from the controller.

## Wireless Receivers



To reduce the cost of installation, and minimize the impact on existing partition walls, these wireless receivers enable the controllers to communicate with a line of wireless battery-less room sensors, remote controls and switches

### RFR Series and RFR-ENOCEAN receivers



Line of radio and EnOcean receivers

## Required External Connectors

Model	Supplier	Type	Connector Reference	Number	Use	Provided
RCL-Light-4	Wieland	Female connector GST18I3S B1 SW	92.031.3258.1 or 92.931.3053.1 (with strain relief)	1	Power supply	-
	Wieland	Male connector GST18I3S S1 SW	92.032.3358.1 or 92.932.3053.1 (with strain relief)	4	Light outputs	-
RCL-Light-8	Wieland	Female connector GST18I3S B1 SW	92.031.3258.1 or 92.931.3053.1 (with strain relief)	1	Power supply	-
	Wieland	Male connector GST18I3S S1 SW	92.032.3358.1 or 92.932.3053.1 (with strain relief)	8	Light outputs	-
RCL-Light-4D	Wieland	Female connector GST18I3S B1 SW	92.031.3258.1 or 92.931.3053.1 (with strain relief)	1	Power supply	-
	Wieland	Male connector GST18I5S S1 ZR1 S PB02	92.954.3453.0 (with strain relief)	4	Light outputs	-
RCL-Light-8D	Wieland	Female connector GST18I3S B1 SW	92.031.3258.1 or 92.931.3053.1 (with strain relief)	1	Power supply	-
	Wieland	Male connector GST18I5S S1 ZR1 S PB02	92.954.3453.0 (with strain relief)	8	Light outputs	-
RCL-Blind-4	Wieland	Female connector GST18I3S B1 SW	92.031.3258.1 or 92.931.3053.1 (with strain relief)	1	Power supply	-
	Wieland	Male connector GST18I4S S1 SW	92.042.3353.1 or 92.944.3053.1 (with strain relief)	4	Sunblind outputs	-
RCL-Blind-8	Wieland	Female connector GST18I3S B1 SW	92.031.3258.1 or 92.931.3053.1 (with strain relief)	1	Power supply	-
	Wieland	Male connector GST18I4S S1 SW	92.042.3353.1 or 92.944.3053.1 (with strain relief)	8	Sunblind outputs	-
RCL-Blind-4LV	Wieland	Female connector GST18I3S B1 SW	92.031.3258.1 or 92.931.3053.1 (with strain relief)	1	Power supply	-
	Degson	4W P5.08mm Pluggable Block	2EDGK-5.08-04P-11	4	Sunblind outputs	■
RCL-Blind-8LV	Wieland	Female connector GST18I3S B1 SW	92.031.3258.1 or 92.931.3053.1 (with strain relief)	1	Power supply	-
	Degson	4W P5.08mm Pluggable Block	2EDGK-5.08-04P-11	8	Sunblind outputs	■

## Supported Platforms



### EC-Net<sup>AX</sup>

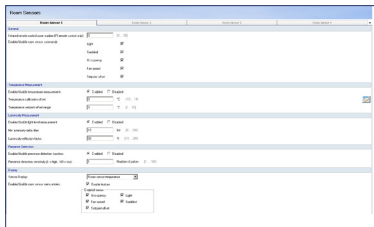
EC-Net<sup>AX</sup> is a web-enabled multi-protocol integration solution powered by the Niagara<sup>AX</sup> Framework®, establishing a fully Internet-enabled, distributed architecture for real-time access, automation and control of devices. EC-Net<sup>AX</sup>'s open framework creates a common development and management environment for integration of LonWorks®, BACnet® and other protocols. Regardless of manufacturer and protocol, the EC-Net<sup>AX</sup> system provides a unified modeling of diverse systems and data, providing one common platform for development, management and enterprise applications.



### LonWorks Network Services (LNS)

LNS® is a client-server platform that allows multiple users, running different LNS-compatible applications, to access a common source for directory, installation, management, monitoring and control services for the network system being managed. Distech Controls' Lonwatcher is an example of a LNS-based network management tool that can use Plug-Ins to configure and monitor controllers and devices in the control system.

## EC-Net<sup>AX</sup> Wizards and LNS Plug-Ins

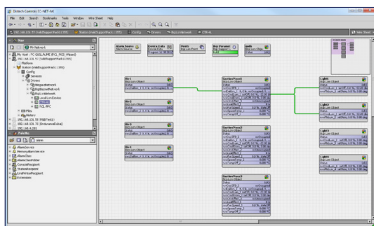


Designed for use respectively with EC-Net<sup>AX</sup> (powered by the Niagara<sup>AX</sup> Framework) or LNS-based softwares such as Distech Controls' Lonwatcher 3, the EC-Net<sup>AX</sup> Wizards and LNS plug-in can be used to easily configure a device's parameters including RJ9 accessories, lighting and/or sunblind outputs, occupancy parameters, amongst others, and to test wiring and identify the connected devices.

- User-friendly interface to easily and efficiently configure the controller's parameters
- Powerful import/export functionalities to duplicate a controller's settings for reuse
- Download configuration to multiple devices for large BMS integration

## Configuration Softwares

### EC-Net<sup>AX</sup>

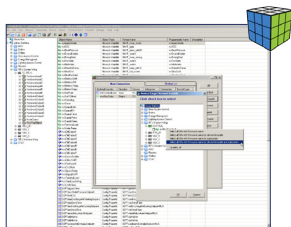


EC-Net<sup>AX</sup> is a suite of Niagara<sup>AX</sup>-based products designed to integrate diverse smart devices into a unified, Internet-enabled, web-based system. EC-Net<sup>AX</sup> solutions integrate LonWorks®, BACnet®, oBIX, Internet and web services protocols in a software platform that can be used in embedded controllers or server applications.

EC-Net<sup>AX</sup> includes integrated network management tools to support the design, configuration, installation, and maintenance of interoperable networks.

- Connects to almost any embedded device, regardless of manufacturer or communication protocol, as a result the common environment created by Niagara<sup>AX</sup>'s open Java-based Framework.
- Includes a comprehensive, graphical toolset that enables users to build rich applications in a drag-and-drop environment. By wiring components together, developers build control strategies, alarming and scheduling applications as well as browser-based displays and reports.
- Reduces development time by merging automation, IT and Internet technologies in a single solution. With an EC-BOS<sup>AX</sup>, advanced web-services applications, such as TCP/IP, HTTP, XML, SOAP, and oBIX, can be implemented so that you can read data, send commands, and respond to alarms in real-time from anywhere using any standard web browser.
- Integrates geographically dispersed, multi-vendor devices into an interoperable application to save time and money.

### Lonwatcher 3



The Lonwatcher 3 network management tool is an innovative software for fast set-up and cost efficient implementation of the Distech Controls' LonWorks products, as well as other multivendor open and interoperable LonWorks networks, and their interaction. This intuitive yet sophisticated tool provides network integrators with advanced features and all the resources necessary to install, operate and maintain LonWorks networks. Based on LNS TURBO Edition network operating system, Lonwatcher 3 is a performance-driven, highspeed application, allowing a fast response time from the application and increasing user productivity.

- Build, commission and maintain multi-vendor, open and interoperable LonWorks networks.
- Manage multiple LonWorks networks simultaneously.
- Batch operations to copy/paste multiple networks, subsystems and devices reducing time for commissioning, replacing and loading devices.
- Compatible with other LNS® databases created with any LNS network management tool.
- Supports LNS standard plug-in applications, allowing for easy integration of Distech Controls devices as well as other manufacturers' devices.
- Create device status reports to get information such as devices in override, in alarm, etc.
- Fully supports i.LON® Internet Servers.
- Create dynamic network variables.
- User Manager, to prevent unauthorized system access, and to manage user rights.
- Support of any LNS or IP network interfaces.

## Complementary Products

### RCL-Light-x Connector Kit



Wieland connectors kit for a RCL-Light-8 controller or two RCL-Light-4 controllers. Includes 2 power supply connectors and 8 light output connectors.

### RCL-Light-xD Connector Kit



Wieland connectors kit for a RCL-Light-8D dimming lighting controller or two RCL-Light-4D controllers. Includes 2 power supply connectors and 8 light output connectors.

### RCL-Blind-x Connector Kit



Wieland connectors kit for a RCL-Blind-8 sunblind controller or two RCL-Blind-4 sunblind controllers. Includes 2 power supply connectors and 8 sunblind output connectors.

### Allure RS-Smart-Sense



Digital room sensor device with a touch-sensitive LCD color screen for HVAC, lighting, sunblinds and occupancy control

### Smart-Sense Room Control



iPhone® application for remote HVAC, lighting, sunblinds and occupancy control

### EC-Remote Series



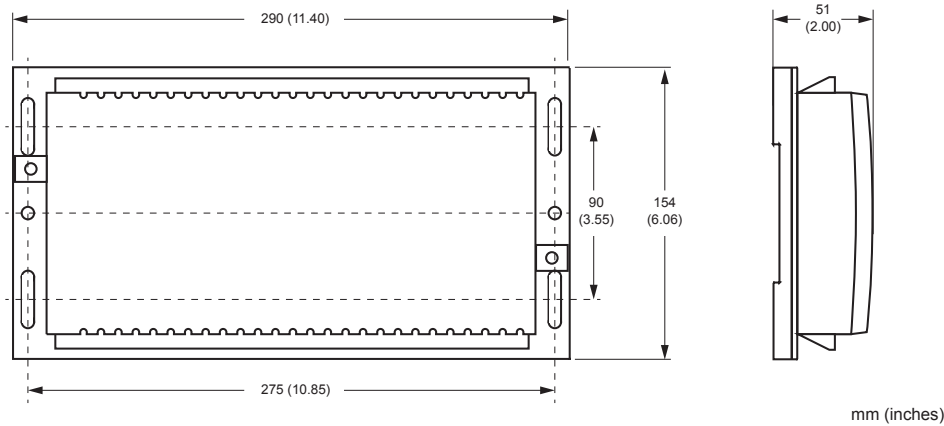
Line of multi-discipline infrared, radio and EnOcean remote controls for lighting, sunblind and HVAC management.

### MS2 Series



Line of infrared and radio multi-sensors for wireless reception, temperature sensing, light level measurement and motion detection.

## Dimensions



## Specifications

### Power

Voltage	
All models	230 VAC; $\pm 15\%$ ; 50/60 Hz
RCL-Blind-xLV	100-240 VAC; $\pm 10\%$ ; 50/60 Hz
Protection	
All models	16.0 A external circuit breaker type C
RCL-Blind-xLV	4.0 A external circuit breaker type C
Typical Consumption	
RCL-Light-4	1.85 W plus all external loads <sup>1</sup>
RCL-Light-8	1.85 W plus all external loads <sup>1</sup>
RCL-Light-4D	1.41 W plus all external loads <sup>1</sup>
RCL-Light-8D	1.45 W plus all external loads <sup>1</sup>
RCL-Blind-4	1.42 W plus all external loads <sup>1</sup>
RCL-Blind-8	1.48 W plus all external loads <sup>1</sup>
RCL-Blind-4LV	1.50 W plus all external loads <sup>1</sup>
RCL-Blind-8LV	1.90 W plus all external loads <sup>1</sup>
Maximum Consumption	
RCL-Light-4	4.50 W plus all external loads <sup>1</sup>
RCL-Light-8	7.25 W plus all external loads <sup>1</sup>
RCL-Light-4D	4.13 W plus all external loads <sup>1</sup>
RCL-Light-8D	7.50 W plus all external loads <sup>1</sup>
RCL-Blind-4	4.00 W plus all external loads <sup>1</sup>
RCL-Blind-8	7.12 W plus all external loads <sup>1</sup>
RCL-Blind-4LV	69.0 W
RCL-Blind-8LV	79.6 W

### Interoperability

Communication	LonTalk protocol
Channel	TP/FT-10; 78 Kbps
LONMARK Interoperability Guidelines	Version 3.4
Device Class	
RCL-Light-x	Lighting Controller
RCL-Blind-x	Generic Controller
LONMARK Functional Profile	
- Node Objects	Node Object #0000
- Lamp Objects	Lamp Actuator #3040
- Sensor Object	Occupancy Sensor #1060
- Sunblind Objects	Sunblind Actuator #6110
Connection	2 wires: LON1 / LON2
Hardware	
Processor	ATmega (Atmel AVR), 8 bit
CPU Speed	16 MHz
Memory	32 kB Non-volatile Flash (Applications) 2 kB RAM 1 kB EEPROM
Status Indicator	Green LEDs: Service PIN, Power Status & LAN Tx & Rx

### Environmental

Operating Temperature	+5°C to +45°C; 41°F to 113°F
Storage Temperature	-20°C to 70°C; -4°F to 158°F
Relative Humidity	+20 to 90% Non-condensing
Altitude	< 2000 m

### Enclosure

Material <sup>2</sup>	Back plate: ABS type PA-765A Front plate: Polycarbonate
Color	Black & blue casing, grey connectors
Dimensions (with screws)	290 × 154 × 50 mm (11.4 × 6.1 × 2.0")
Shipping Weight	
RCL-Light-4	990 g (2.18 lbs)
RCL-Light-8	1070 g (2.36 lbs)
RCL-Light-4D	1040 g (2.29 lbs)
RCL-Light-8D	1140 g (2.51 lbs)
RCL-Blind-4	1060 g (2.34 lbs)
RCL-Blind-8	1180 g (2.60 lbs)
RCL-Blind-4LV	1600 g (3.53 lbs)
RCL-Blind-8LV	1600 g (3.53 lbs)
IP	20

### Outputs RCL-Light-4/8

Light Outputs	230 VAC 5 A per output 16 A total aggregate Normally Opened contact Inrush current 80 A max < 20 ms
---------------	---

### Outputs RCL-Light-4D/8D

Light Outputs	230 VAC 5 A per output 16 A total aggregate Inrush current 80 A max < 20 ms Normally Opened contact
Analog Outputs	Linear (1-10VDC); Typically dimming light command - 2 mA max.

### Outputs RCL-Blind-4/8

Sunblind Outputs	230 VAC 5 A per output 16 A total aggregate Inrush current 16 A max < 20 ms Normally Opened contact
------------------	---

### Outputs RCL-Blind-4LV

Sunblind Outputs	24 VDC 600 mA per output
------------------	-----------------------------

### Outputs RCL-Blind-8LV

Sunblind Outputs	24 VDC 350 mA per output.
------------------	------------------------------

## RCL-Light/Blind Specifications

### Room Devices

Supported Room Devices	Allure RS-Smart-Sense MS2 Series RIR Series RFR Series RS Series WMS-PB-08DI
Number of devices per controller	4 x (1 Room Device + WMS-PB-08DI) <sup>3</sup>
Cable	See the room device's datasheet for wiring specifications.

### Wireless Receiver<sup>4</sup>

Communication	EnOcean wireless standard or 868 ISM
Supported wireless input types	Temperature Presence Setpoint adjustment Fan speed settings Occupancy Luminosity
Supported wireless receivers	RFR-ENOCEAN RFR (868 MHz) MS2-R
Number of wireless receivers	1
Cable	See the wireless receiver's datasheet for wiring specifications.

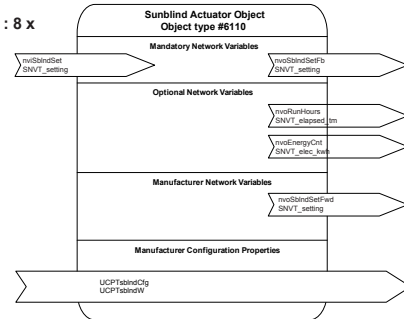
### Standards and Regulation

CE - Emission	IEC61000-6-3: 2007; Generic standards for residential, commercial and light-industrial environments
CE - Immunity	IEC61000-6-1: 2007; Generic standards for residential, commercial and light-industrial environments
CE - Electrical Safety	IEC60669: 2004; Switches for household and similar fixed electrical installations

### Communication Protocols



1. External loads must include the power consumption of any connected equipment. Refer to the concerned equipment's datasheet for related power consumption information.
2. All materials and manufacturing processes comply with the RoHS directive and are marked according to the Waste Electrical and Electronic Equipment (WEEE) directive.
3. Only one wireless receiver per controller.
4. Available when a RFR Series receiver or a MS2-R multi-sensor is connected to the controller. The receiver uses the first bidirectional RJ9 input from the controller.



### Total Quality Commitment

All Distech Controls product lines are built to meet rigorous quality standards. Distech Controls is an ISO 9001 registered company.

©, Copyright Distech Controls Inc., 2013. All rights reserved. Specifications subject to change without notice.

Distech Controls, the Distech Controls logo, Open-to-Wireless, ECO-View, Allure and EC-Net<sup>AX</sup> are trademarks of Distech Controls Inc.; LONWORKS is a registered trademark of Echelon Corporation; Niagara<sup>AX</sup> Framework is a registered trademark of Tridium, Inc.. EnOcean is a registered trademark of EnOcean GmbH. iPhone<sup>®</sup> is a trademark of Apple Inc. All other trademarks are property of their respective owners.

