

What Does Douglas Make?



We manufacture lighting control products:

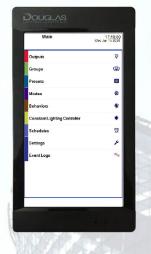
Wall Stations ("switches")



Sensors



Controllers





Support Provided at Various Stages

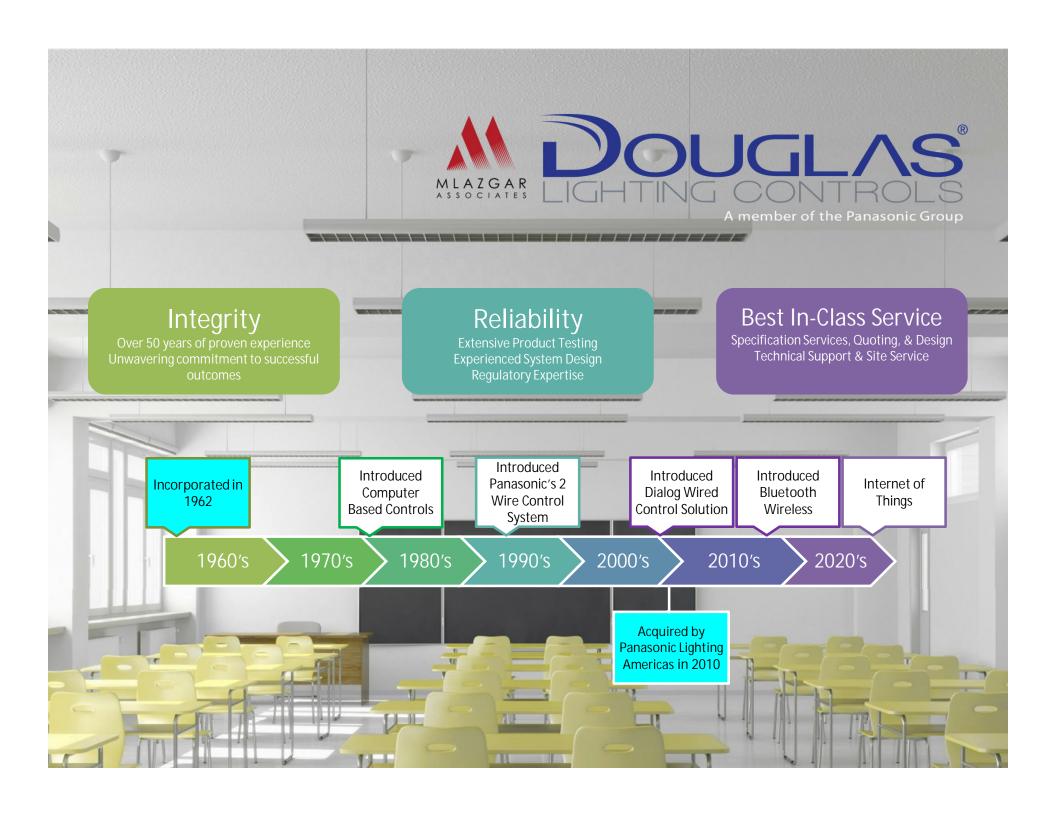


member of the Panasonic Group

We provide:

- Pre-Specification Design Assistance
 - Typical wiring diagrams
 - Sequence of Operations for Energy Code Compliance
 - Stamped Drawings showing component locations
 - Written master specifications
- Quotations
 - Based on our own design
 - Based on your design

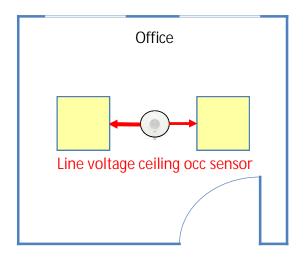
- System design
 - Complete submittal packages
 - Panel schedules
 - Wiring diagrams
 - Riser diagrams
- System programming at factory
- Components are programmed and labeled for the rooms they are meant for
- Start-up/Commissioning
- Post Installation support



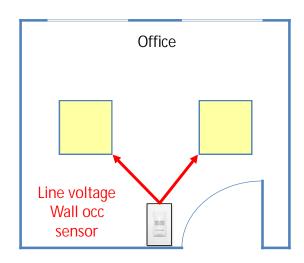
Standalone (Diversa) Applications



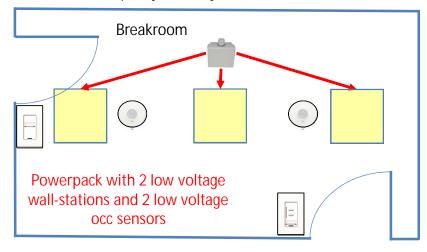
Simple Occupancy



Simple Occupancy/Vacancy



Occupancy/Vacancy with manual control

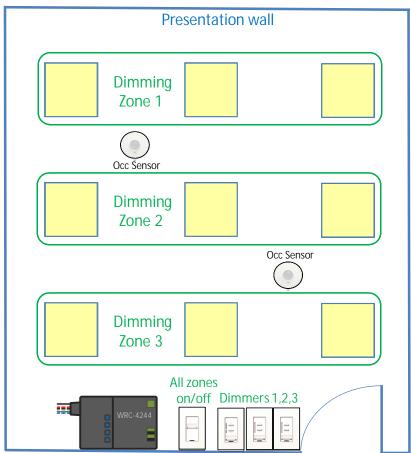


- Not Networkable
- No scheduling
- No facility-wide control
- Ideal for 1 or 2 zones

Room Controller Applications



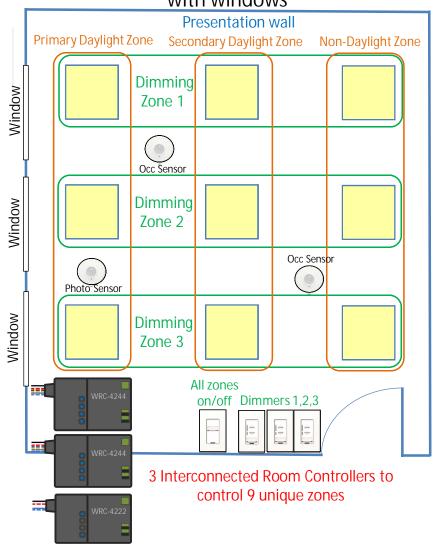
Conference Room



Room Controller with 3 dimming zones

- Occupancy/Vacancy/Daylight Harvesting
- **Manual User Control**
- CAN BE EASILY NETWORKED IF NEEDED!

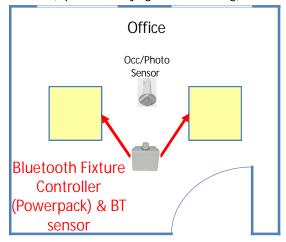
Conference Room or Classroom with windows



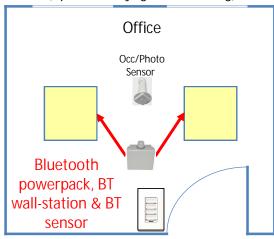
Bluetooth Controls Applications



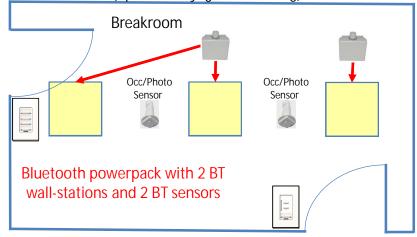
Simple Occupancy (optional daylight harvesting)



Simple Occupancy/Vacancy (optional daylight harvesting)



Occupancy/Vacancy with manual control (optional daylight harvesting)

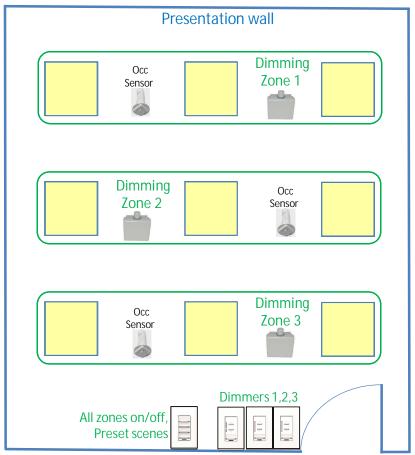


- Occupancy/Vacancy/Daylight Harvesting
- Manual User Control
- CAN BE EASILY NETWORKED IF NEEDED!

Bluetooth Controls Applications (cont'd)

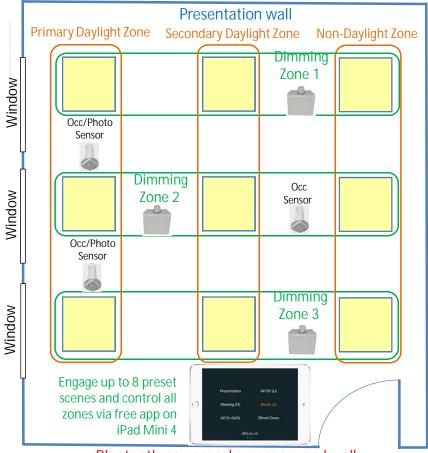


Conference Room



Bluetooth powerpacks, sensors and wallstations forming a room control solution

Conference Room or Classroom with windows



Bluetooth powerpacks, sensors and wallstations forming a room control solution

- Occupancy/Vacancy/Daylight Harvesting
- Manual User Control
- CAN BE EASILY NETWORKED IF NEEDED!

Non-Networked Facility



Legend

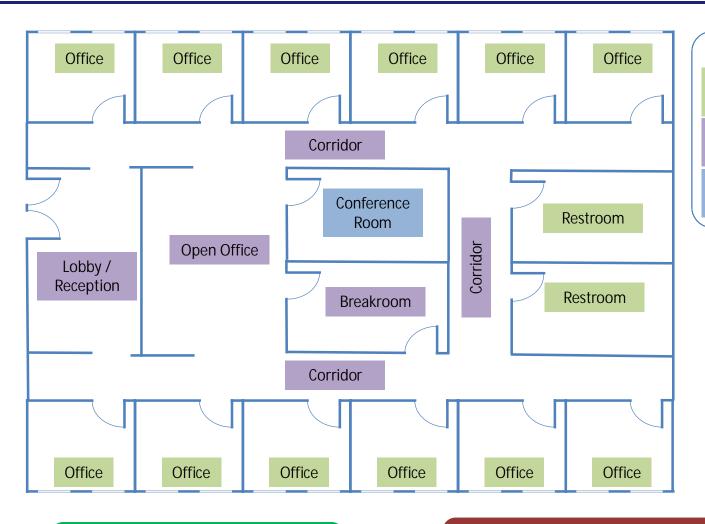
Diversa Standalone

Room

Controller

Bluetooth

Wireless



- Occupancy/Vacancy
- Daylight Harvesting
- Manual User Control

- No scheduling
- No facility-wide control

Fully Networked Facility



Legend

Diversa Standalone

Room

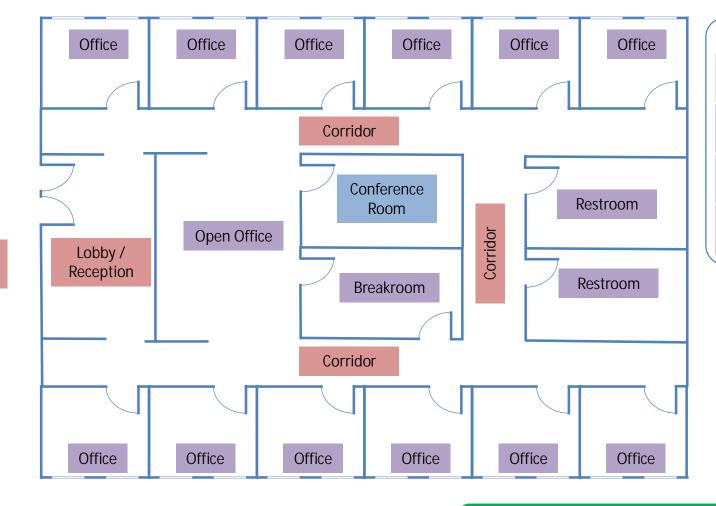
Controller

Bluetooth

Wireless

Custom

Relay Panel



- Occupancy/Vacancy
- Daylight Harvesting
- Manual User Control

- Scheduling
- Central Control of Entire Facility
- Remote monitoring

Exterior

Lighting

Partially Networked Facility (Hybrid)



Legend

Diversa Standalone

Room

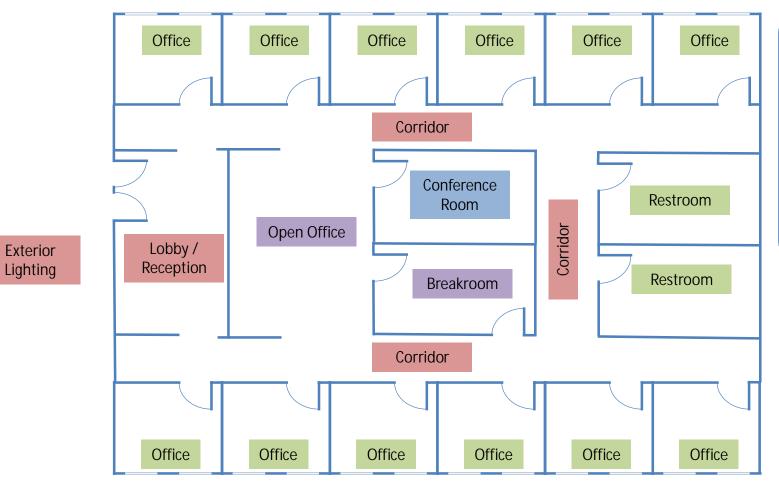
Controller

Bluetooth

Wireless

Custom

Relay Panel



- Scheduling
- Central Control of Common Areas
- Remote monitoring

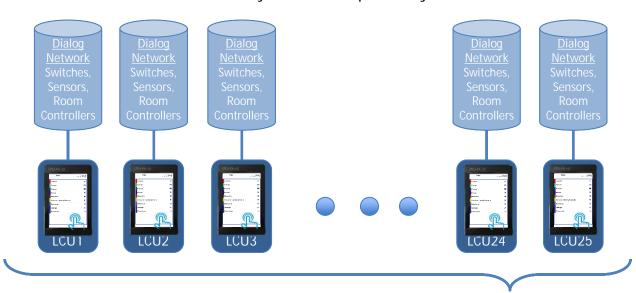
- Daylight Harvesting
- Manual User Control

Multiple Facilities, Campuses, Stadiums & Arenas



Up to ~6400 addressable Relays and **Dimmers**

Large systems require multiple LCUs connected through the Global Web Server for system wide operability.



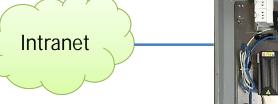
Cat 6 (TCP/IP)

User Computer

IE9 Browser Supporting:

- Iconics Client App
- Global Web Server

iPad Air: **Iconics Client App**

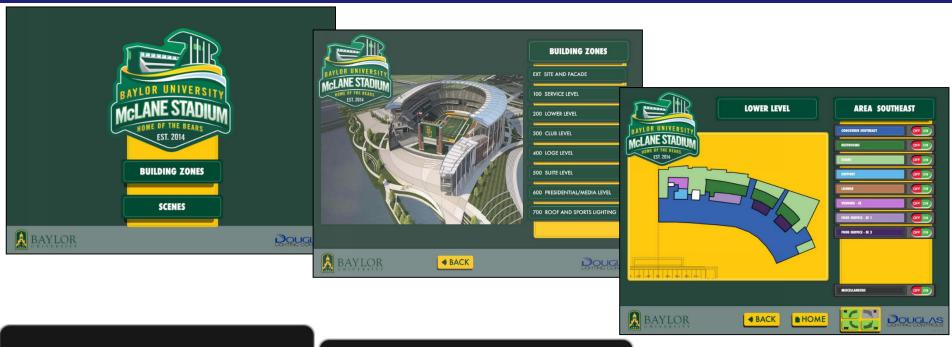


PWE3 (20'x27'x4.25')

Global Web Server (GWS-Graphics)

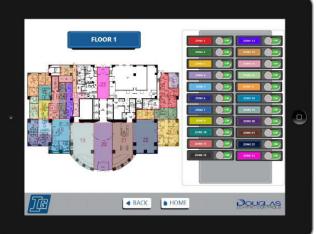
Graphical User Interface on Global Web Server









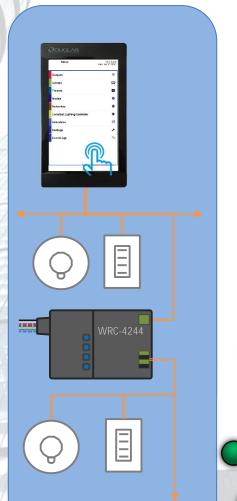


What Makes Douglas Different? \Lambda



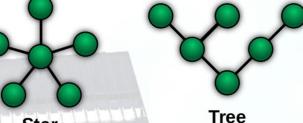
The DALOG Dataline

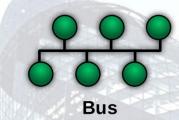
100's or even 1000's of connections to switches and sensor made simple!



- Power & data on 2 18AWG wires
- No shield or twist requirements
- No connectors
- No CAT5 or CAT6 cables
- Non-Polarized
- Free-Topology







What Makes Douglas Different? 💉



DOUGLAS LIGHTING CONTROLS

Our Relay for Panels and LitePak2







- Built-in Override & Status
- Self-Cleaning Contacts
- Rated for 20A Lighting 30A General Use
- High Inrush Duty for Ballasts/Drivers/LED
- Tested for a minimum of 60,000 operations FULLY LOADED

Testing Parameters
Full-rated 20A load
2000A Inrush
Cycling @ 20 times per minute

Product Overview



Networkable Control Solutions

Dialog® Centralized Control Dialog® Room Controller Distributed Control Bluetooth® Wireless Solutions



Enhanced
Features for
Networked
Systems







LitePak2 Centralized Control (non-networked)

Diversa® Stand-Alone Control Solutions











Product Overview



Networkable Control Solutions

Dialog® Centralized Control



Dialog® Room
Controller
Distributed Control



Bluetooth® Wireless Solutions



Enhanced
Features for
Networked
Systems

LitePak2 Centralized Control (non-networked)







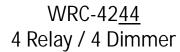




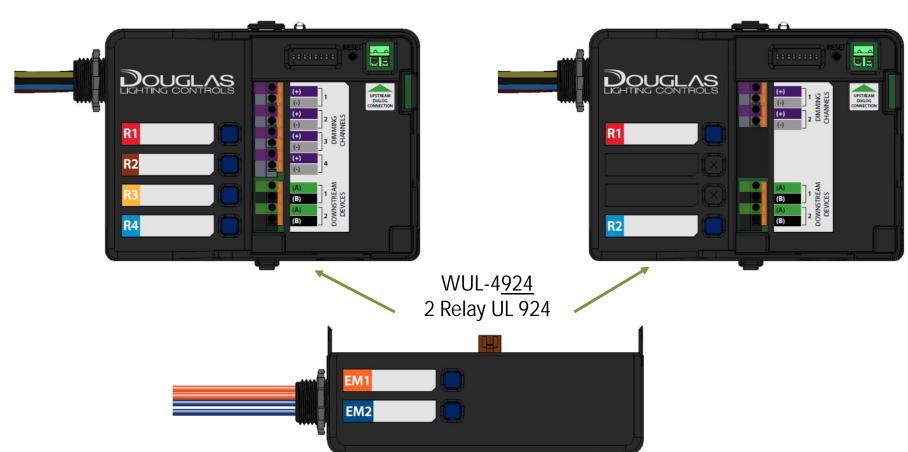




Part Numbers



WRC-42<u>22</u> 2 Relay / 2 Dimmer



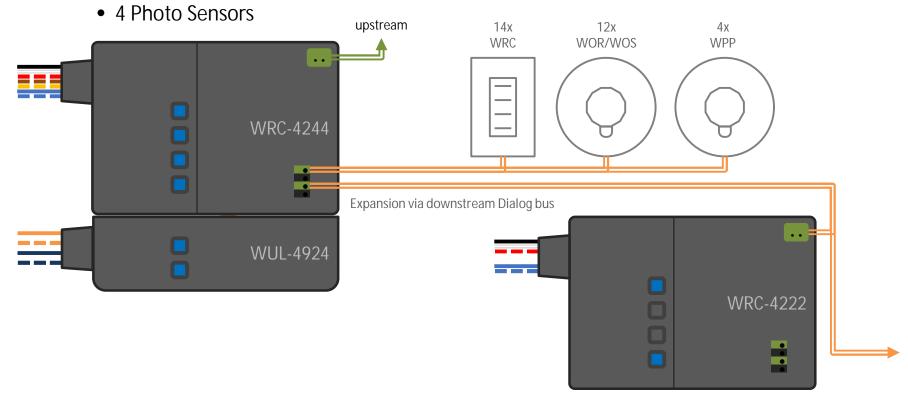


Eliminate complex wiring with a controller in each room!



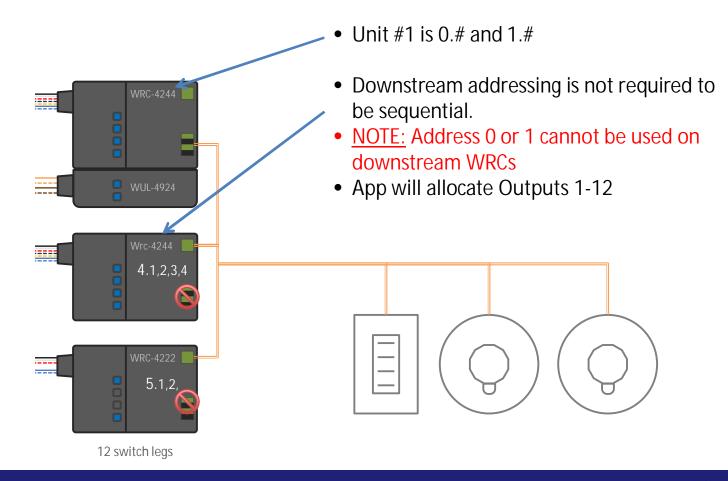


- Connect Room Controllers together to form LARGER Room Controllers with more than 4 zones of control Up to 12 switch legs (or zones) are supported per Room Controller group!
- Two 18AWG wires provide power and digital communication to switches, sensors and expansion units
- Each Room Controller or Room Controller group supports up to:
 - 14 Switch Stations
 - 12 Occupancy Sensors





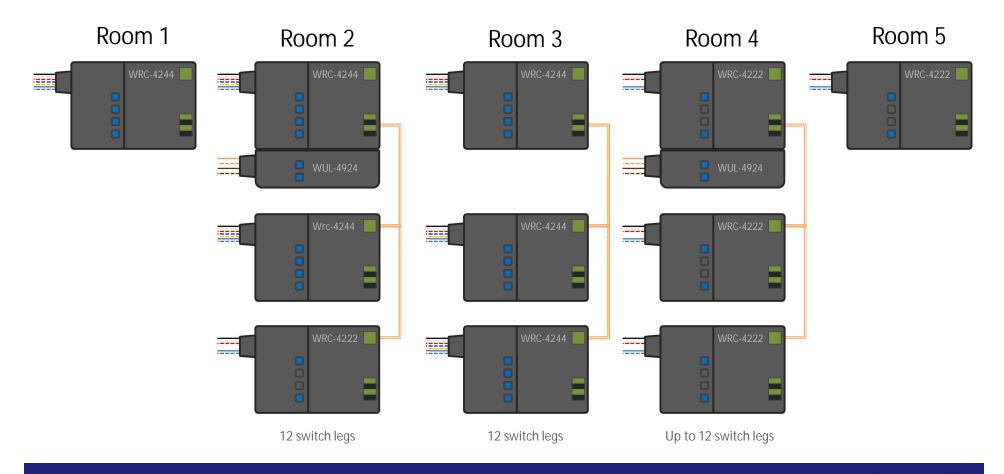
- Without a WLC-4150 the Room Controllers can have a combination of up to 12 switch legs
- WRC-42xx devices are connected on the main units DOWNSTREAM.
- Secondary units do not use the DOWNSTREAM connection
- Local INDIVIDUAL addresses will follow DIP switches



WRC-4xxx Possible Standalone Configurations



- 12 switch legs are supported per WRC Room Controller group
- The following 5 columns each indicate a room with a valid room controller group with the 3 in the middle essentially forming larger Room Controllers:



WRC-4xxx Possible Networked Configurations

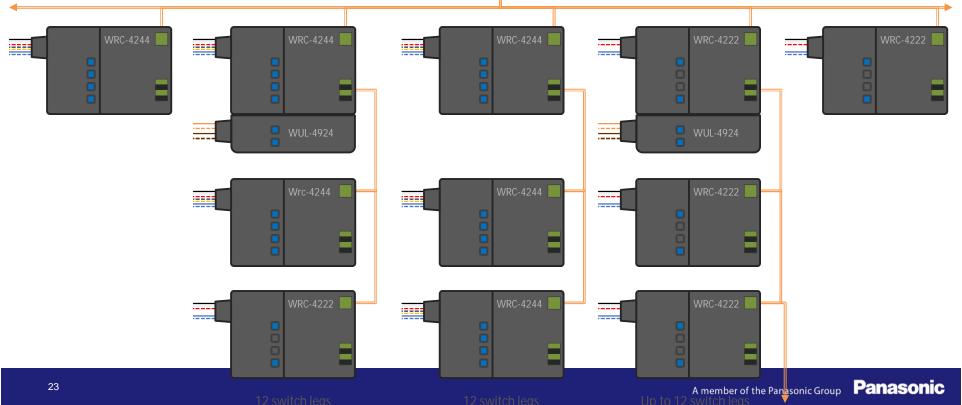




As part of a centralized system with a WLC-4150 Lighting Control Unit (LCU), WRC Room Controllers can be wired individually to the LCU or as daisy-chained room controller groups (each WRC group has maximum 12 switch legs)

Use this approach when Scheduling and/or global control is needed



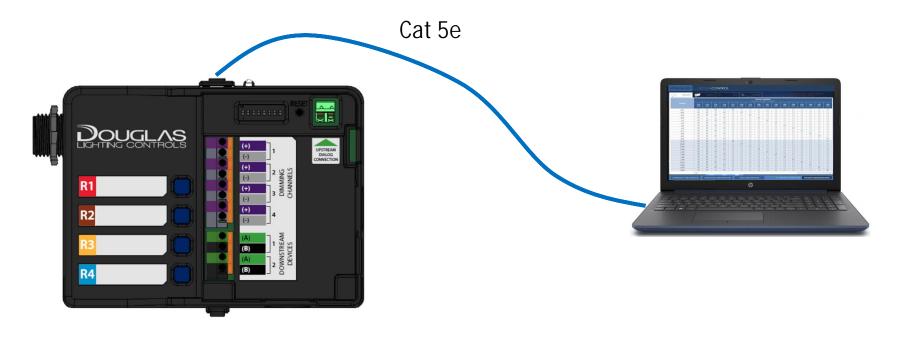


WRC-4xxx Room Controller Configuration



Reconfigure a Room Controller on Your PC!

- Desktop Application available from Tech Support
- Connect to the Primary room Controller in a daisy-chained group



WRC-4xxx Configure Relay/Dimmer Groups





Create your own groups of relays and dimming channels!

Then assign a switch, dimming station, or an occupancy sensor to control that group!

DOU	GLAS SONTRO	S D	RCC	ONFIC	Э v1.0.9								
رگِي (GROUPS	βŶ	PRE:	SETS -	;¢ ₀	CLC							
2	105	106	107	108	109	110	111	112	113	114	115	116	117
R1	~			~		~		~				$\overline{\mathbf{Z}}$	
R2		~	~	~			~	~			~	\checkmark	
R3				~	~	~	~	~					~
R4		~	~	~	~	~	~	~					
R5	~			~		~		~		~			
R6	\checkmark	\checkmark	~	\checkmark			\checkmark	~	\checkmark		\checkmark	\checkmark	~
R7											\checkmark	\checkmark	~
R8											\checkmark		~
R9											~	~	~
R10											\checkmark	~	~
R11													
R12													
D1								$\overline{}$					
D2													
D3					$\overline{\mathbf{v}}$			~					
D4			~		~								
D5													
D6													
D7													
D8													
D9													
D10													
D11													
D12													

WRC-4xxx Configure Preset Scenes



Create preset scenes with some relays off and some on. Assign dimming levels to those that are on!

Then assign a switch or an occupancy sensor to activate that preset scene!

DRCCONFIG v1.0.9													
رَصُّ	GR	OUPS	βŶ	PRES	ETS -)	\$\tilde{\sigma} \)	CLC						
		Ф 400	Ф 401	Ф 402	① 403	① 404	⊕ 405	Ф 406	⊕ 407	Ф 408	Ф 409	⊕ 410	Ф 411
Φ	R1	×								×			
Ф	R2		×							×		×	×
Φ	R3			×					×	×	×		
0	R4	×	×	×	×	×	×	×	×	×	×	×	×
0	R5									×			
0	R6									×		×	×
Φ	R7	×	×	×	×	×	\times	×	×	×	×	×	×
Φ	R8	×	×	×	×	×	×	×	×	×	×	×	×
Φ	R9	×	×	×	×	×	×	×	×	×	×	×	×
Φ	R10	×	×	×	×	×	×	×	×	×	\times	×	×
Φ	R11	×	×	×	×	×	include	×	×	×	×	×	×
Φ	R12	×	×	×	×	×		×	×	×	×	×	×
Φ	D1	100	80	80	100	100	-×	80	×	×	×	80	100
Ф	D2	×	80	80	100	100		80	×	×	×	×	×
Φ	D3	70	×	80	×	100		×	×	×	×	80	100
Ф	D4	60	×	80	×	70		×	×	×	×	×	×
Φ	D5	50	×	×	70	×			Tap	click on	×	×	×
Φ	D6	40	×	×	×	×		×		nming valu		×	×
Ф	D7	30	×	×	×	×		×	obj	open slider ect	×	×	×
Ф	D8	20	×	×	×	×	0	×			×	×	×
Ф	D9	10	×	×	×	×	55%	×	×	×	×	×	×
O	D10	0	×	×	×	×	X	×	×	×	×	×	×

WRC-4xxx Configure Daylight Harvesting



Configure daylight harvesting settings to meet code and end user requirements!

Dougl	TROLS	DRC	CONFIG	v1.0.9									
Ŧ			RESETS -	ÇÇ CI	_C								
CLC CONFIGURATION	ON:	Enable Custom	Configuration										
		SENSOR (COMMISSIONING ADDRESS)											
CLC SETTINGS			PH1 11)		PH2 12)	LF	PH3 609)	LPH4 (510)					
Lux Target		4	52	5	01	5	51	601					
CLC Minimum Dim	%	10	0%	20	0%	3	0%	40%					
CLC Relay Cut-off					\supset		0						
Relay Cut-off Delay	Relay Cut-off Delay (min)		1		n/a		5	7					
CLC	No CLC	LPH1	LPH1	LPH2	LPH2	LPH3	LPH3	LPH4	LPH4	4			
DIMMING TARGET		Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary				
		100%	60%	100%	60%	100%	60%	100%	60%				
DIMMER 1		•			•					-			
DIMMER 2	•		•						•	-			
DIMMER 3		•	•	•		•	•		•				
DIMMER 4			•		•				•	-			
DIMMER 5	•	0	•	•	•				0	4			
DIMMER 6	•	•	•	•	•		•		•				
RELAY CUTOFF	TARGETS	LP	H1	LP	H2	LF	PH3	Ц	PH4				
	RELAY 1		<u> </u>				✓		✓				
RELAY 2	RELAY 2						✓		✓				
	RELAY 4						✓		<u> </u>				
	RELAY 5						~	<u> </u>					
	RELAY 6 RELAY 7						✓	✓					
RELAY 8							▼		✓	~			



The DIALOG System

- Room Controller takes the place of multiple powerpacks
- Less devices means what?
 - Less terminations
 - Less wire
 - Faster completion times



2-1/8" Nominal Depth, 4" Nominal Width, 4"





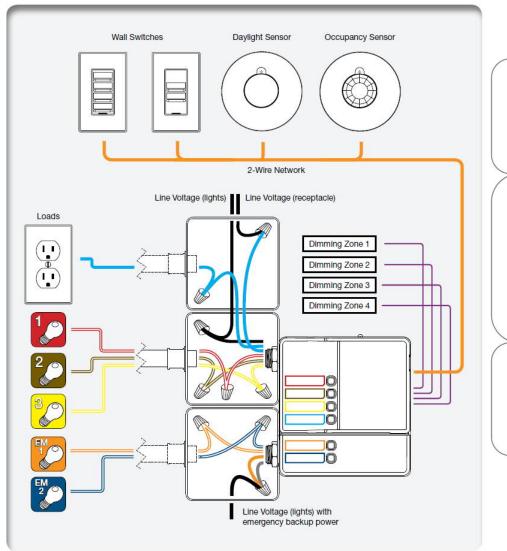


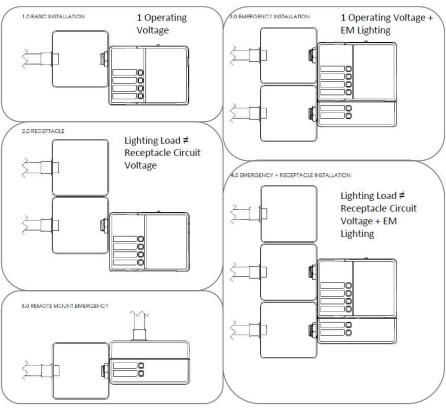
4 in. Octagon Box, 2-1/8 in. Deep with 1/2 in. KO's

Room Controller Installation



BASIC + RECEPTACLE + EMERGENCY







Back to Product Overview

Product Overview



Networkable Control Solutions



Dialog® Room Controller Distributed Control



Bluetooth® Wireless Solutions



Enhanced
Features for
Networked
Systems

LitePak2 Centralized Control (non-networked)









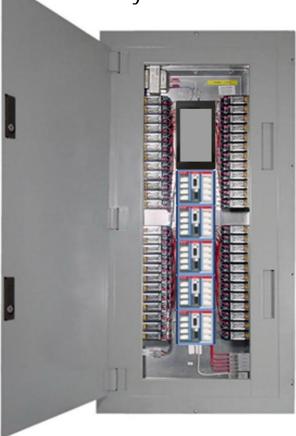




The DIALOG System



Relay Panel



Handheld Commissioning Tool



Panel Components



Contact Input

0-10V Dimming Controller



Peripheral Components







Wall Stations





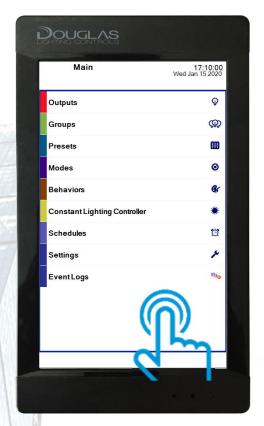














member of the Panasonic Group

- Main Lighting Control Unit
- Expandable up to 6300 Relays & Dimming control points
- Touchscreen Programming
- Remote Web-Browser Programming
- Advanced Lighting Controls
 - Time Schedules
 - Astronomical
 - Constant Light Controllers
 - Lighting Specific Modes
 - Trigger & Behaviour Logic
- Integration
 - Native BACnet IP*
 - RS-232

* BTL Listing Pending





DIALOG Lighting Control Unit

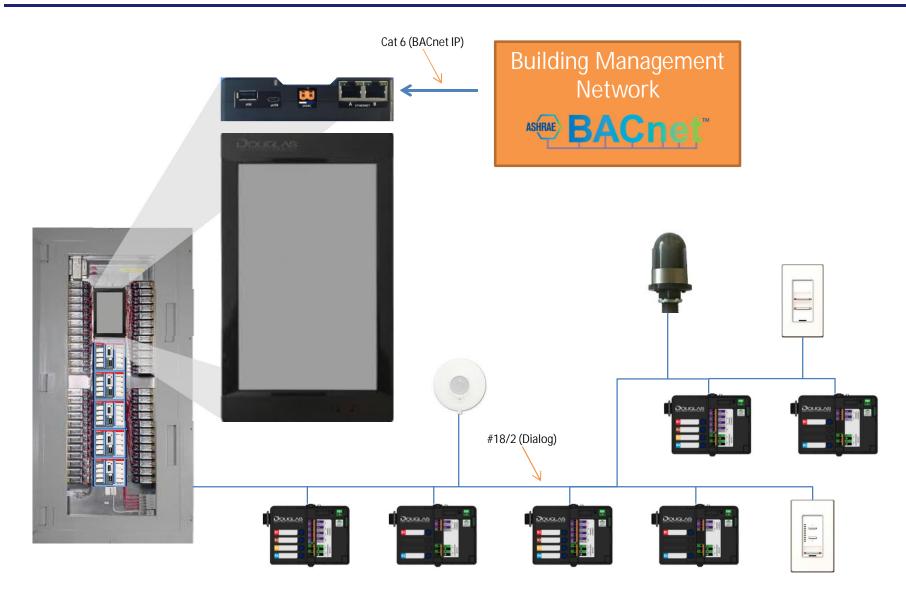
- Touchscreen interface
- On/Off and 0-10V dimming control
- Programmable groups, scenes, behaviors
- Astronomical clock
- Plug Load Control
- Data Logging
- Demand Response
- BACnet IP for BMS integration
- Web browser interface for direct PC access or remote internet access



WLC-4150

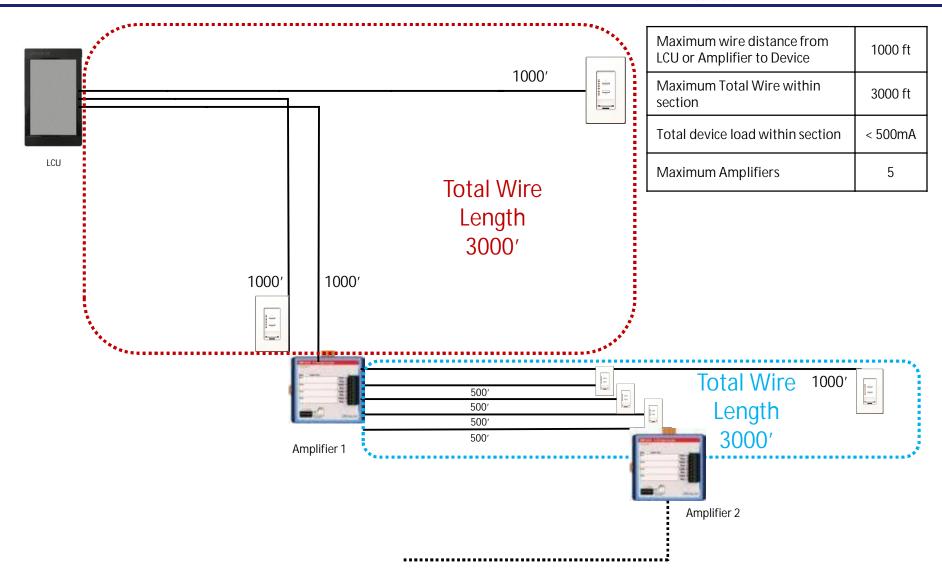






Communication Distance - Wired







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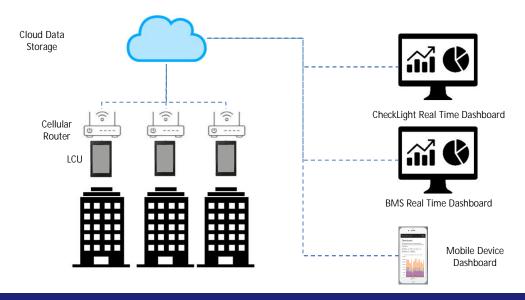




CheckLight: Overview

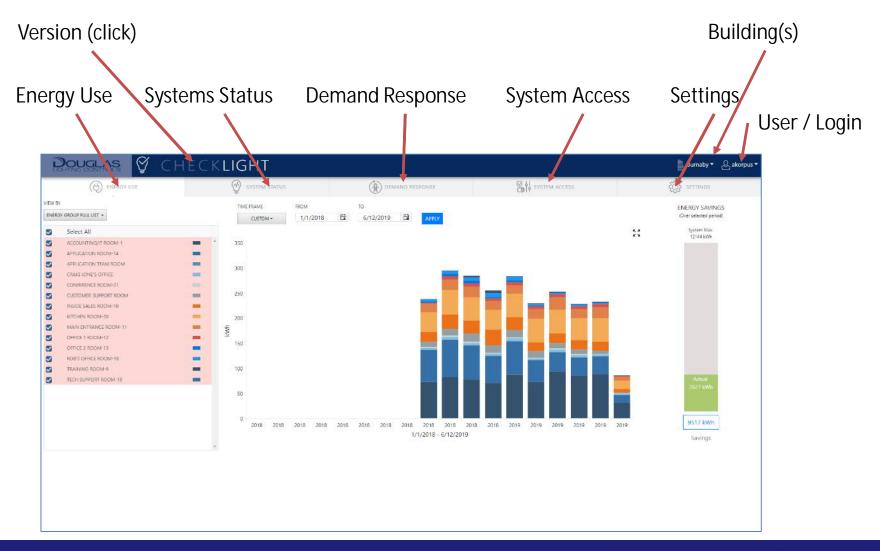


- CheckLight is the Douglas cloud-based lighting management system
 - Built on the Ultra Secure Microsoft Azure cloud platform
- Energy management helps realize additional energy reduction
 - Access to real-time and historical electrical usage
 - Share information to BMS for aggregation of electrical usage
- Remote configuration of your lighting control solution via browser on PC, tablet or mobile device (access to LCU's)
- CheckLight will also be our platform for
 - Positioning via Bluetooth
 - Asset-tracking via Bluetooth
 - Many other advanced features!



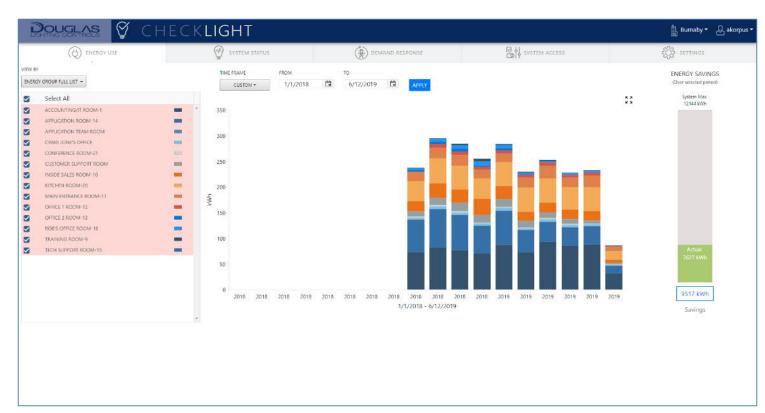
CheckLight: Overview





CheckLight: Energy Monitoring





Real Time

- Individual Load
- Selected Areas
- Entire Facility
- Multiple Facilities

Historical Data

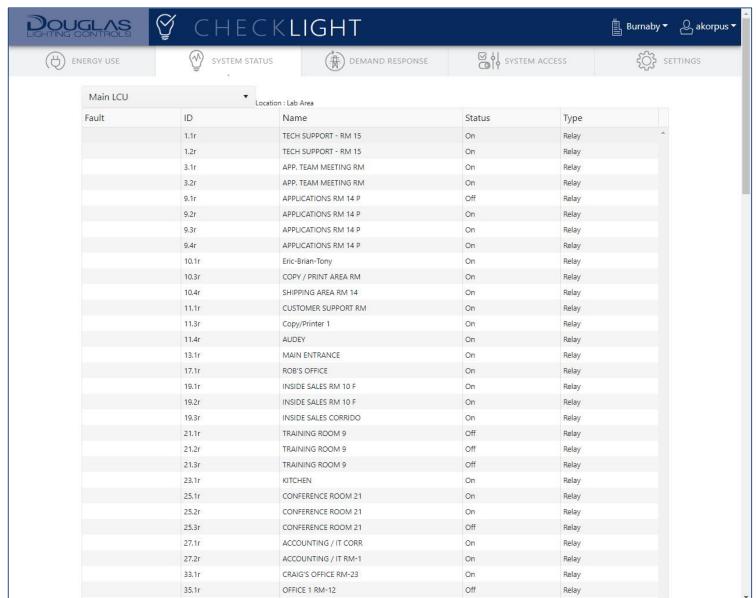
- Day
- Week
- Month
- Year
- All Time
- Custom

Data shared with other BMS via RESTful API's

CheckLight: System Status

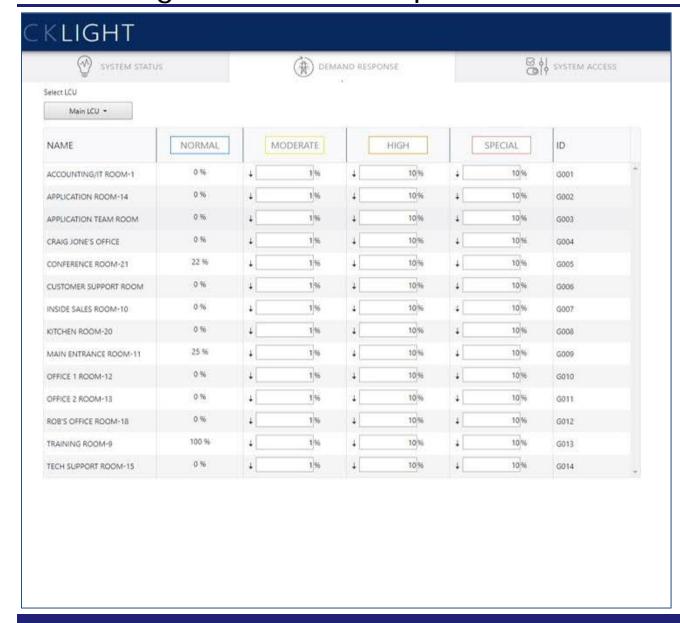


- **Faults**
- Relay/Dimmer ID
- Status
 - ON/OFF/Dim %
- Type
 - Relay/Dimmer



CheckLight: Demand Response



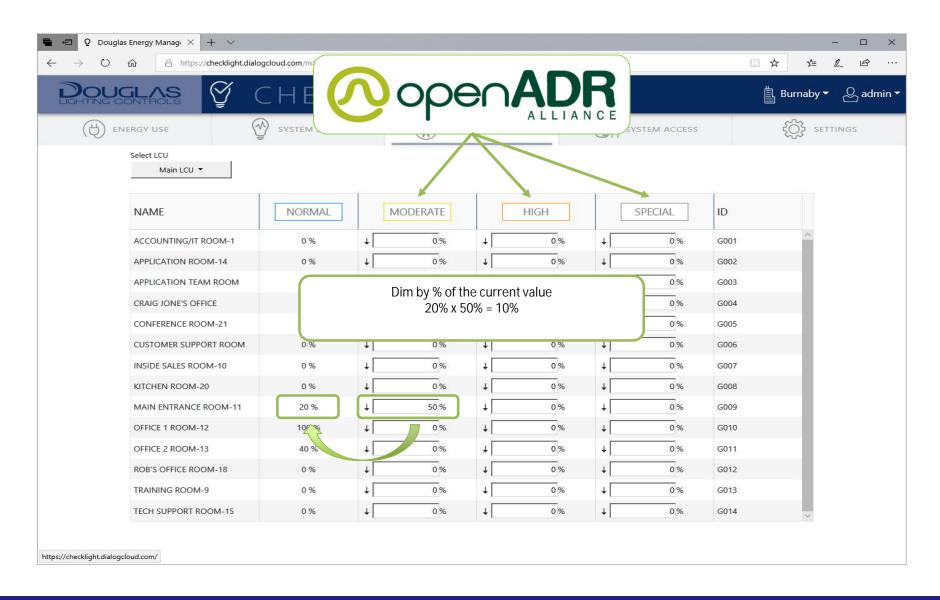


Three Adjustable Levels

- Moderate, High, Custom
- Open ADR ready to received commands and execute parameters

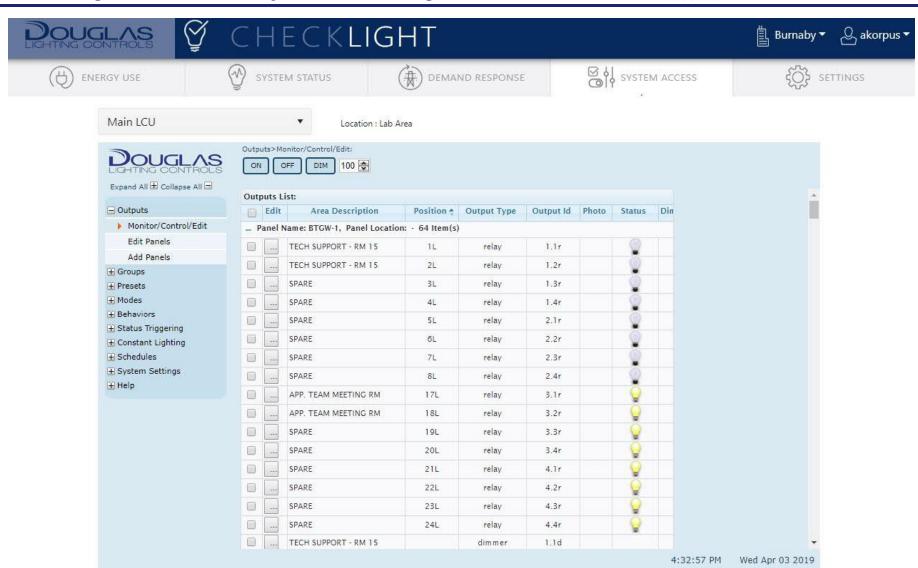
CheckLight: Demand Response





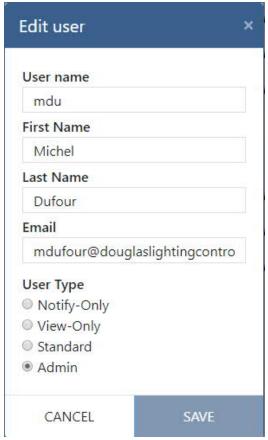
CheckLight: Remote System Configuration

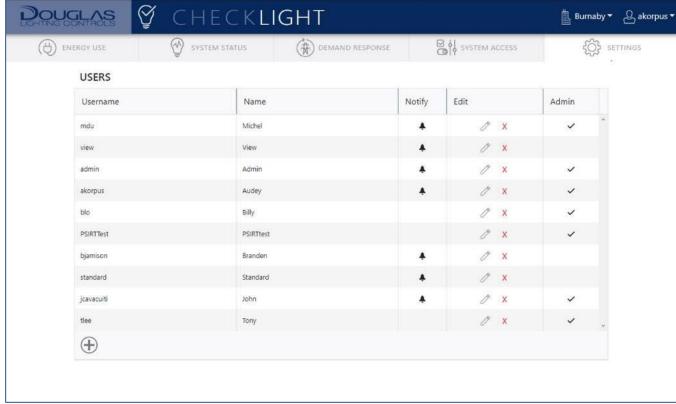




CheckLight: Settings



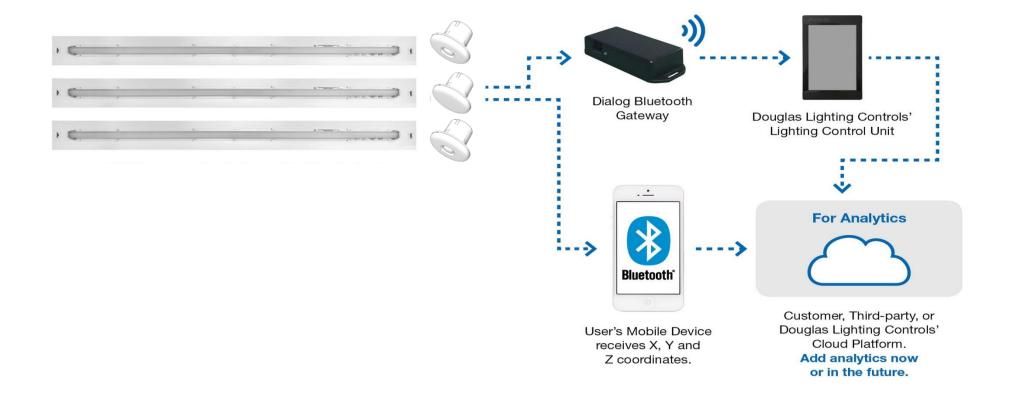




CheckLight: Indoor Positioning Analytics



Indoor Position System – How Does it Work?



CheckLight: Security



CheckLight is a cloud-based platform that uses security provided by Microsoft Azure, which employs all the latest and highest security standards.

Data security follows the AES (Advanced Encryption Standard) 128-bit encryption for wireless data transmission and TLS encryption for TCP/IP. Along with the use of a 2048-bit certificate and SHA-256 cipher, it enables the highest standards of Corporate Data Security requirements.

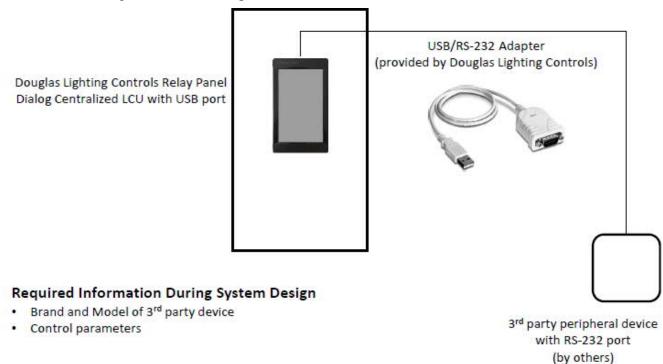
The CradlePoint Router can filter out unwanted IP and ensure that only allowed devices and allowed users combinations can remote control the lighting connected to the CradlePoint and LCUs.

The cloud database is also secured by Microsoft with IP firewall to only allow the CheckLight Cloud server to access to it.

Shade Control & AV Integration via RS232



- WRS-232 requires WLC-4150-C Lighting Control Unit (LCU)
- Shade Support
 - Currently we support: Mechoshade, Somfy
 - Framework is available to add control of additional shades tell us early in a project if shade integration is needed!
- Up to 8 RS-232 Channels per WLC-4150
- Douglas AV command set is available for AV system MFG's)
 - Crestron and Cyviz have integrated so far





What the RS-232 Can Do

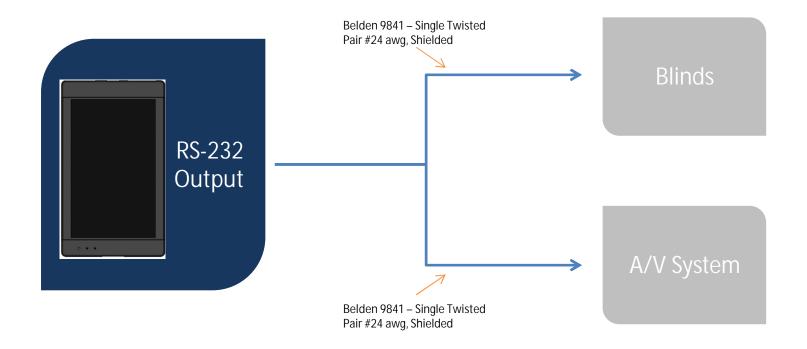
3rd-Party system can control Doulgas Dialog system

- Relay Controls & Status
- **Dimmer Control & Status**
- **Group Control & Status**
- **Preset Control & Status**

Dialog can control a 3rd-Party system

- Send commands based on Dialog element status's
- Custom output commands based on 3rd-party system needs

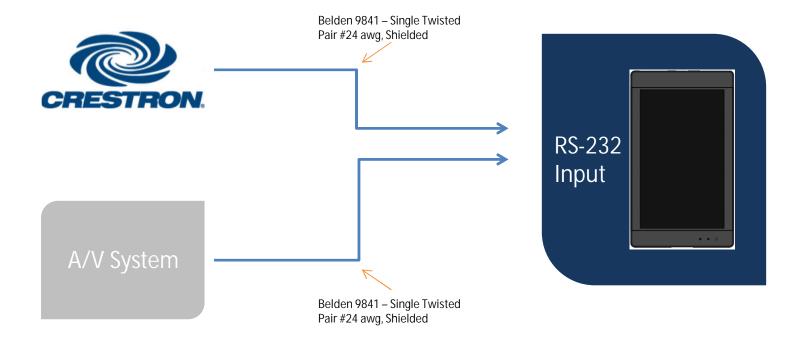




Third-Party system can control and monitor status of Dialog Relays, Dimmers, Groups, Presets Dialog can control a Third-Party system

- Send commands based on Dialog element status's
- Custom output commands based on 3rd-party system needs



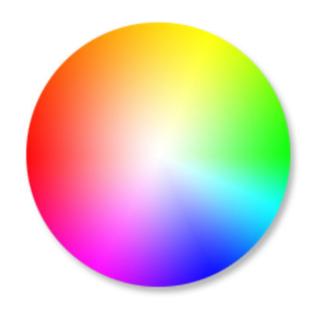




DMX Color Tuning

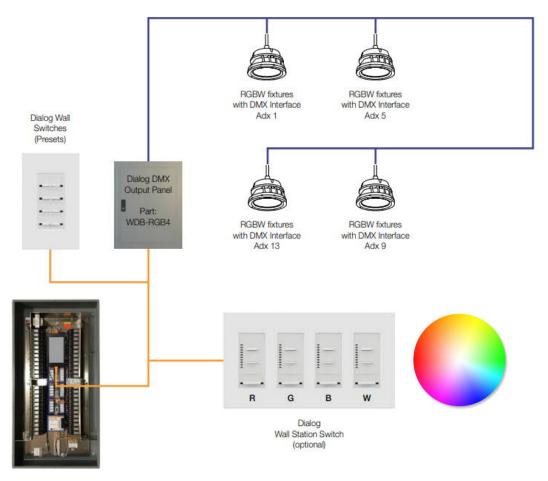
Applications

- Wall Wash
- Display Lighting
- Reception Areas



^{*}Slow moving, non-theatrical





https://www.douglaslightingcontrols.com/resources/cutsheets/dialog/WDB-RGB4_Dialog%20Color%20Tuning%20of%20DMX%20Fixtures_cs.pdf



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Product Overview

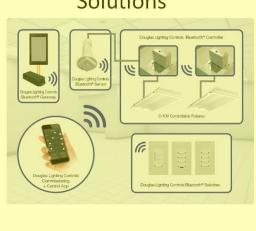


Networkable Control Solutions

Dialog® Centralized Control Dialog® Room Controller Distributed Control



Bluetooth® Wireless
Solutions



Enhanced
Features for
Networked
Systems

LitePak2 Centralized Control (non-networked)







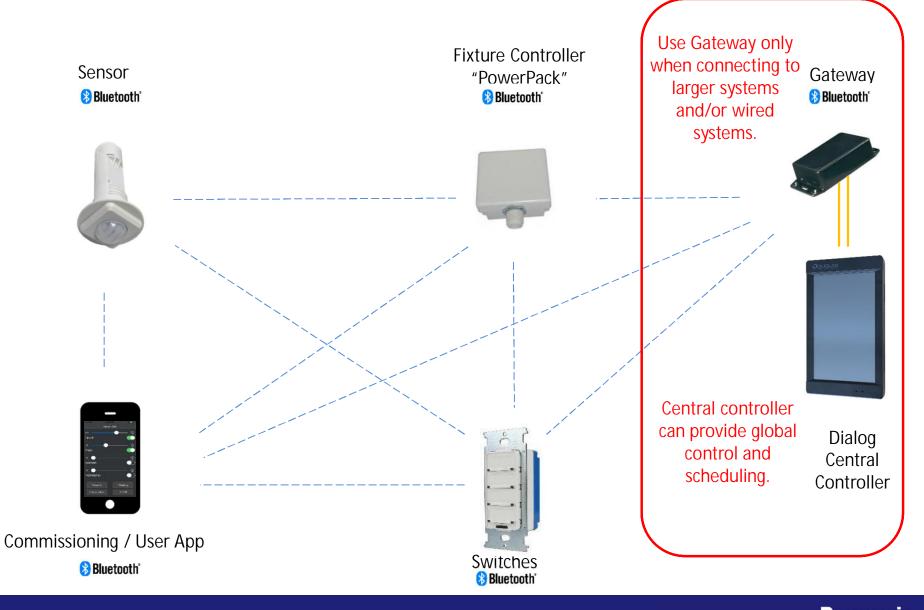






Bluetooth® Devices





BT Zone/Fixture Controller (PowerPack)



Bluetooth Powerpack



Converts fixtures into wirelessly controlled luminaires

- Upgrade existing or add to new fixtures
- Meet Energy Code requirements
- Reduce Energy Consumption
- Eliminates the need for control wires between fixtures
- Makes design and installation easier

1:1 or 1:Many fixture control

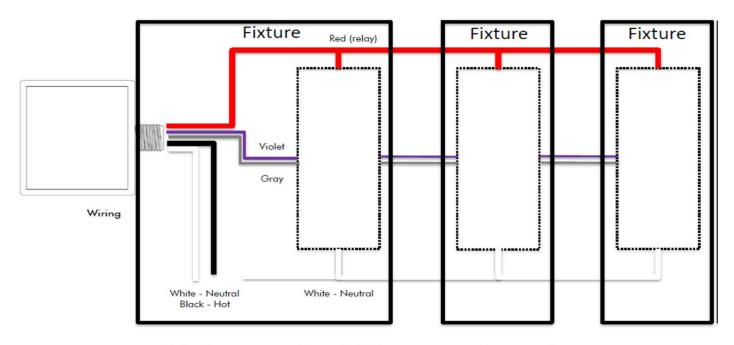
• Limit of fixtures on one controller > dependant on total lighting load, voltage and total 0-10V current

Functionality

- Powered by Fixture
- 20A relay for ON/OFF control
- 0-10V dimming (Daylight Harvesting when Douglas Lighting Controls Bluetooth Sensor added)
- Deck level commissioning using iOS smartphone App
- Communicates with other Douglas Lighting Controls Bluetooth enabled system devices (occupancy sensors, gateways, and wall station switches)
- Easily installed using the ½" chase nipple and the included flying leads
 - o Red Load Control
 - White Neutral
 - o Black Hot
 - o Grey & Violet 0-10V dimming



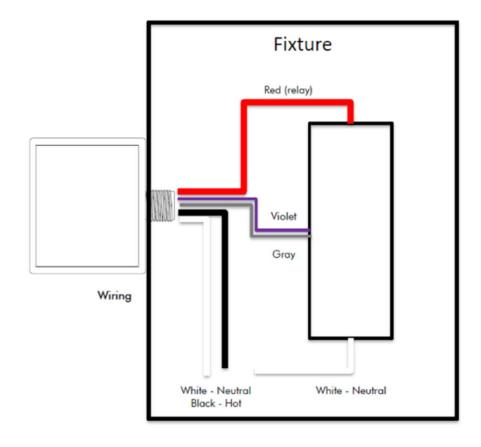
Installation



Maximum number of Fixtures can not exceed Sinking Current (100mA) based on dimming control and relay load limits.



Installation

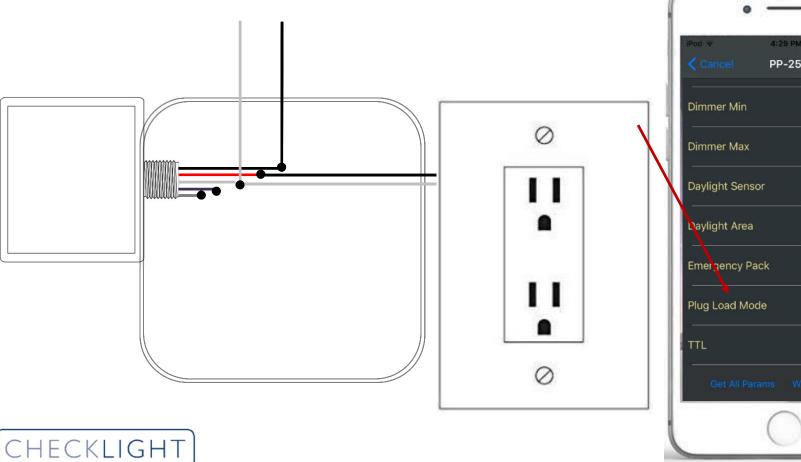


Bluetooth® Zone/Fixture Controller



When Plug Load Mode is enabled, OCCUPANCY detection from BT-WOR-A will message the load controller to provide power to power outlet (and in VACANCY Mode, Occupancy of space will provide power to the power outlet without the need to manually press wall station switch).

BT-PP20-B





Bluetooth® Integrated Sensor/Fixture Controller



- Automated Fixture Control > For Parking Garages, Warehouses....
 - Upgrade existing or add to new fixtures
 - Meet Energy Code requirements
 - Reduce energy consumption
 - No light switches
 - Outdoor Rated!
- 1:1 or 1:Many fixture control
 - Limit of fixtures on one controller > dependant on total lighting load, voltage and total 0-10V current



- Safety and energy savings
- Daylighting controls (photo sensor) > 0-10V dimming
 - Optimize lighting and maximize energy savings
- Bi-level Lighting
 - Safety and energy savings
- Fits common vapor tight fixtures by installing into ½" knock-out
 - No need for additional conduit/j-boxes/wiring to implement lighting controls
- Deck Level Configuration
 - Bluetooth enabled iOS smartphone devices (or iPod Touch)
- IP65 rated
 - Prevent water ingress in outdoor applications like parking garages

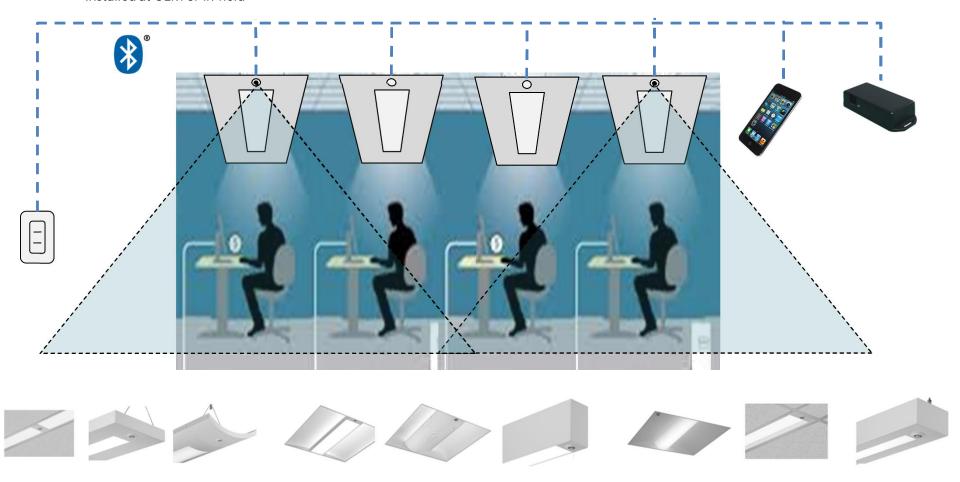




In-fixture Devices



- Move controls and sensors into the fixture
 - Eliminates control wiring between sensor and fixture
 - Fixture provides power, eliminating batteries or power connection to sensors
- Increased distribution of controls and sensing within a space
- Leveraging the location of controls and sensing to IoT solutions
- Installed at OEM or in-field





<u>Features</u>

- Dialog BT Ecosystem
- Tunable White Ready
- Occupancy & Daylight Harvesting
- **UL924**
- iBeacon enabled
- 0-10V output
- Installation in a ½" knockout (KO)

Driver Specs

- Aux 12-24VDC power
- Requires a Dim-to-OFF









Indoor Positioning Via Bluetooth Fixtures



65

Indoor Position System – How Does it Work?

BLE Hardware

- A network of Bluetooth beacon technology integrated within PLTA's lighting control devices,
- Specific lighting control devices are configured to emit a regular "beacon" that can be detected by a mobile device

Personal Device Mobile App

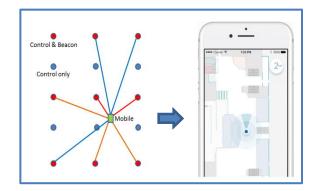
- Mobile device SDK knows the location of each beacon from the Cloud database
- SDK computes the location of the mobile device based on measured distance (RSSI) to known beacons

Cloud Application (optional)

- Cloud configuration is used to generate location maps
- Location information from mobile SW enables analytics like heatmaps
- Integrates with client's Content Management System i.e. Ads and Coupons









Indoor Positioning



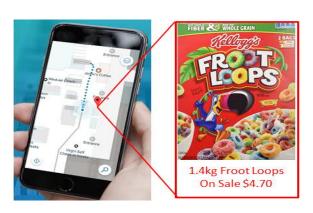
Indoor Position System - Description

"A network of devices used to locate people or objects where GPS and other satellite technologies lack precision"

Generally used in retail locations, office buildings, airports, hospitals, etc. where tracking of people or assets provide value

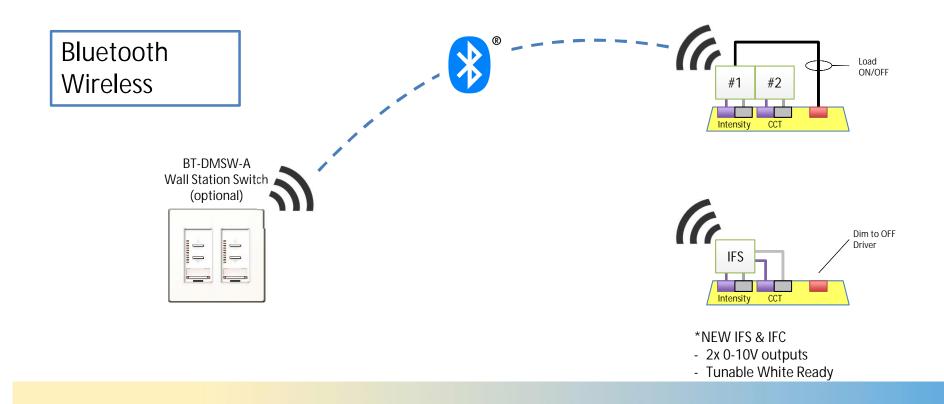
Includes a variety of services:

- Blue-dot location on a map
- Orientation
- Wayfinding or Indoor Navigation
- Point of Interest information
- Geo-Fencing
- Analytics:
 - Heat Mapping
 - Occupancy
 - Asset Usage









Conference Room App for iPad

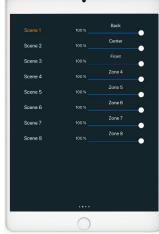












- A modern device and GUI solution for controlling lights in single space such as a conference room
- For controlling Douglas Lighting Controls Bluetooth Wireless Systems (not BT-FMS)
- iPad Specific (only found on Apple App store using iPad)
- Configure up to Eight Zones
- Configure up to Eight Preset Scenes
- Scene & Manual Control
- **Password Protected Settings**
- Dark or Light Background
- Landscape or Portrait layout
- Table Top or Wall Installation



Table Top - LuxePort

- For iPad Mini
- Black, White, or Silver
- Includes:



Wall – Surface Mount

- For iPad Mini
- Black or White
- Includes:
 - Mounting Hardware
 - PoE Splitter (power to iPad Lighting Connector from PoE or 24V power source)
 - PoE Injector (24V power supply for receptacle power)



Bluetooth® Occupancy/Daylight Sensor





Occupancy and Daylight Sensing

- Meet Energy Code requirements
- Reduce Energy Consumption

Functionality

- Powered by Douglas Lighting Controls Bluetooth Controller
- Occupancy Sensor for occupancy or vacancy control
- Daylight Sensor for Natural Daylight Harvesting
- Small form factor (1" lens diameter)
- LFD indicator within lens
- Deck level configuration using iOS Smartphone App
- Innovative tool-less mounting
- Two per Controller

Part #: BT-WOR-A

Bluetooth® Wall-Stations





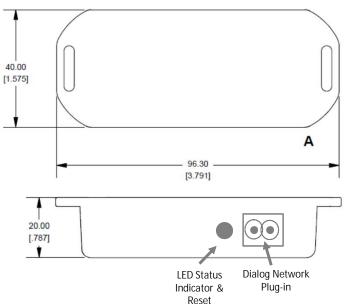
Wireless Control Switches

- To control fixtures using Douglas Lighting Controls Bluetooth Controller
- 0-10V Dimmer & 1-button Switch
- 4-button Switch
- 8-button Switch
- 120/277VAC or 120/347VAC models
- Field Setup via iOS Smartphone App

Bluetooth® Dialog Network Gateway







Sending and receiving Bluetooth commands into the Dialog (WLC-4150) network

It is easily installed onto a wall or ceiling or behind a wall or ceiling tile (not behind metal)

- Dialog 18/2 power and data network
- Converts Bluetooth commands into Dialog protocol
- 50 Wireless devices per gateway
- Dialog connector plug included
- 4 Rooms per gateway
 - A room has 2 major addresses each with 4 minor addresses





Security

128-bit encryption provided by the Bluetooth.

Bluetooth Low Energy (BLE) is a standard developed by the International Bluetooth Special Interest Group (Bluetooth SIG), not a Douglas creation overlaying on BT.

We worked with one of the largest communication chip manufacturers (Qualcomm/CSR) during development to ensure BLE security and reliability compliances.

https://en.wikipedia.org/wiki/Bluetooth_Low_Energy



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Product Overview



Networkable Control Solutions

Dialog® Centralized Control Dialog® Room Controller Distributed Control Bluetooth® Wireless Solutions



Enhanced
Features for
Networked
Systems







Control
(non-networked)



Diversa® Stand-Alone Control Solutions



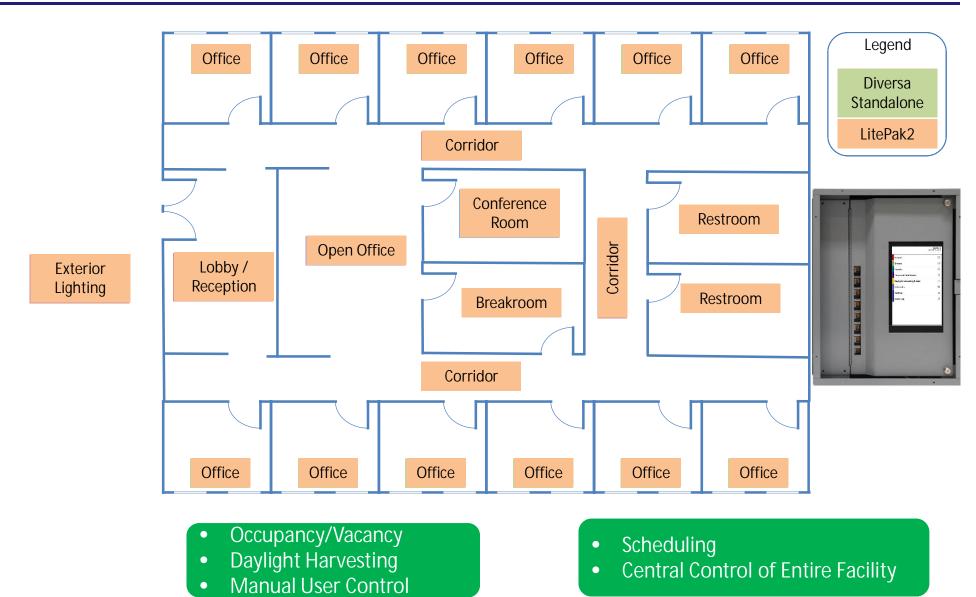






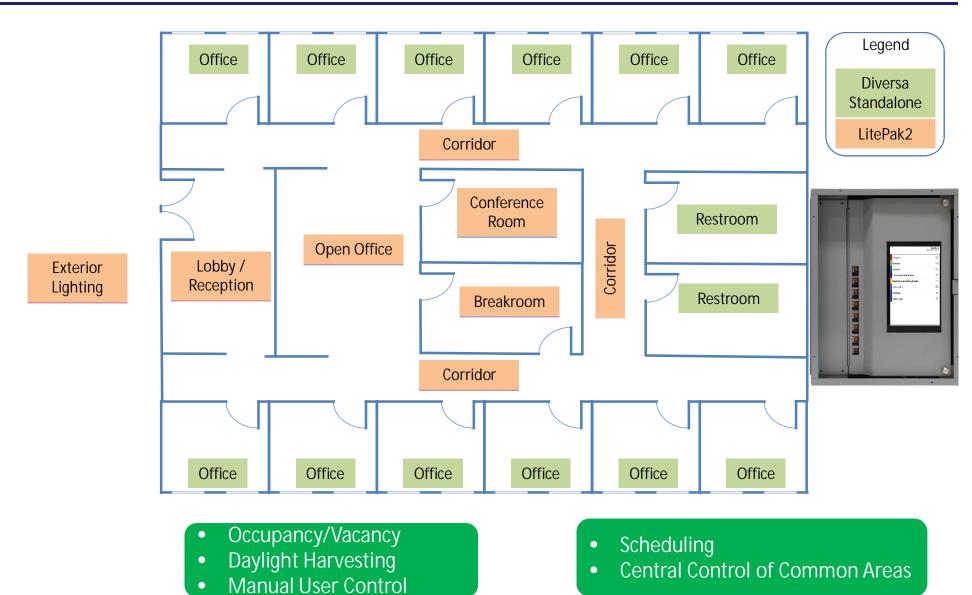
LitePak2 Control of Small Facility





LitePak2 Control of Small Facility

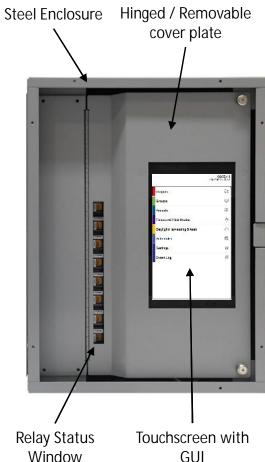




LitePak[™] 2







- 8 or 16 20A Relays
- 0-10V Dimming (optional)
- Groups and Scenes
- 365-day astronomical clock
- Schedule up to 900 events
- Easy to connect 2-wire low voltage, non-polarized power and data network
- Wall switch stations
- Occupancy sensors
- Interior and exterior daylight sensors
- Daylight harvesting

LitePak[™] 2 - Features





 Automated control of lights to save energy by having lights on when and where needed



- Standardized Digital Networked Lighting Control System
 - Dialog 2-wire Dataline Devices
 - Touch Screen Interface



- Typical Applications
 - Small to Medium Retail and Commercial Facilities
 - Gas Stations, Retails stores, Warehouses, Auto Dealerships



- Expansion Relay Panels With or Without Dimming
- Locking Surface Mount & Flush Mount Covers
 - NEMA 4 Enclosure Option

LitePak[™] 2 - Advantages





- Fully digital system (controller, sensors, and switches)
- 7" LCD User Interface with simplified User Interface
- Proven Dialog System Reliability (same technology we use in stadiums)



- Best in Class 20A HID (High In-rush Duty)
 - 30A General Use Panasonic Mechanically Latching Relays



- Simple and Cost Effective #18/2 AWG network vs. CATx
- Off-the-Shelf system (Not Custom) for Faster and Easier Purchasing, Installation, and Set-up



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Product Overview



Networkable Control Solutions

Dialog® Centralized Control

Dialog® Room Controller **Distributed Control** Bluetooth® Wireless Solutions



Enhanced Features for Networked **Systems**



LitePak2 Centralized Control (non-networked)







versa Standalone Sensors









	Recessed Ceiling Sensor (WOR)	Wall Switch Sensor (WOS)	Corner Mount Sensor (WOW)
Dual Technology	✓	✓	✓
PIR Only	✓	✓	
120/277VAC	✓	✓	
347VAC	✓	✓	
24VAC - Low Voltage	✓	✓	✓





Dual Technology Advantages

PIR with ADI-Voice

- Best combination of user convenience and energy savings
- Fewer false triggers than other Dual Technologies (ultrasonic)

Power Consumption

 ADI-Voice is a passive technology so it consumes significantly less power than ultrasonic (Active) technology

Infrared Setting Unit

 Advanced configurations through Infrared Setting Unit

Sensor Link

 Network up to 8 sensors in one area for master control

versa Corner Mount Sensors





- Dual Technology Only, Low Voltage Only
- Mounts to flat surfaces walls, sloped ceilings, ceilings
- Ball and socket design:
 - flexibility in mounting and optimizing sensor position
- 2 lens options:
 - Corner (C): 90° coverage, 8-10 ft. mounting height, 70 ft. range
 - Large Area (L): 130° coverage, 8-10 ft. mounting height, 60 ft. range
- Options:
 - 1 or 2-poles
 - 0-10v dimming (D)
 - Photo Sensor (P)
 - Auxiliary relay (R)

versa Recessed Ceiling Sensors

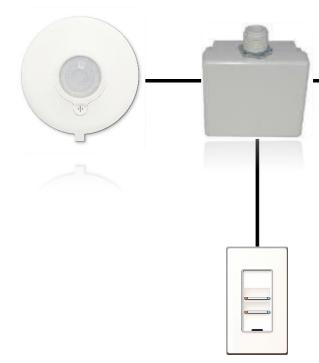




- Extremely low profile (22mm or .88")
- Lens tilts up to 30 degrees in any direction!
- 120/277Vac, 347Vac, low voltage (24Vac)
- Lens ranges:
 - Standard (S), Extended (X), High Bay (B)
- Options:
 - 1 or 2-poles
 - 0-10v dimming (D)
 - Photo Sensor (P)
 - Auxiliary relay (R)
 - Low Temp/High Humidity

versa Power Packs







- For use with Diversa low voltages sensors
- 24Vac power supply with relay
- Loads controlled with wall switch or through sensor
- 120/277Vac or 347Vac models
- 2 pole models support 2 different line voltages!
- Supports up to 8 low voltage sensors

versa Sensor Form-Factors









	Recessed Ceiling Sensor (WOR)	Wall Switch Sensor (WOS)	Corner Mount Sensor (WOW)
Dual Technology	✓	✓	✓
PIR Only	\checkmark	✓	
120/277VAC	✓	✓	
347VAC	✓	✓	
24VAC - Low Voltage	✓	✓	✓

versa Sensor Options



Function/Mode	PIR	Dual Tech
Occupancy/Vacancy	✓	✓
Natural Daylight Harvesting - P models	✓	✓
Walk-through Mode	✓	✓
Long Vacancy Mode		✓
Auto Mode	✓	✓
Restroom Mode (2-pole)	✓	
Light Level Mode (closed loop dimming) - DP models	✓	✓
LED ON/OFF	✓	✓
On-board Switches and Dial	✓	✓
Configuration through handheld remote		✓
Drive Douglas relay though diode pulse (low voltage)	✓	✓
Smart Sense	✓	✓
Manual Switch Disable	✓	✓



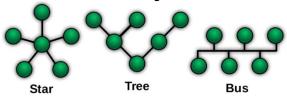
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Installation Benefits



- Dialog System is set up for no hassle installation
 - LCP panels
 - Allow for seamless future upgrades
 - Architecture for wiring to all Dialog devices simplifies installation
 - Dialog Room Controllers
 - Tools needed: phillips screw driver, wire stripper
 - Topology free connectivity to sensors and switches
 - TEE-TAP, Daisy, Star, Branch
 - Stand-alone or Networkable
 - UL924 Emergency Compliance via clip-on relay pack
 - No devices needed till finished with Inspector prewire PIPE, WIRE, BOXES only!
 - Dialog Bluetooth
 - No low voltage communication wires
 - No batteries!
 - Stand-alone or Networkable
 - UL924 Emergency switching is built-in!

Wiring can use any style of connectivity!









LitePak2



BT Wireless

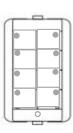


New Dialog 4000 Switches

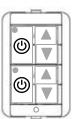


- Updated hardware design
 - This design will eventually roll into hardwired switches and Bluetooth switches
 - Eventually 3500 series dialog switches will be discontinued
- Dialog 2 -wire ecosystem
 - Use Dialog 2-wire screw terminals
- App (iOS & Android) for Bluetooth on-board for button set-up
 - Zones, Dimming Up, Dimming Down, ON, OFF, Toggle, Presets
- Modular buttons/face for easy factory colour changes: White, Grey, Ivory, Black, Red
 - Not field changeable
- Indicator to show ON/Active state no indicator when light OFF
- Standard button identifiers (for custom labels use LCD)
- Fits one-gang box
- Fits standard mud-rings -1- gang (round: most common; square is what we currently fit)
- Fits Decora switch plates
- Operates in all Dialog applications (upstream and downstream)
- Must have some App/Device access limits (Permission)
- OTA firmware update capability





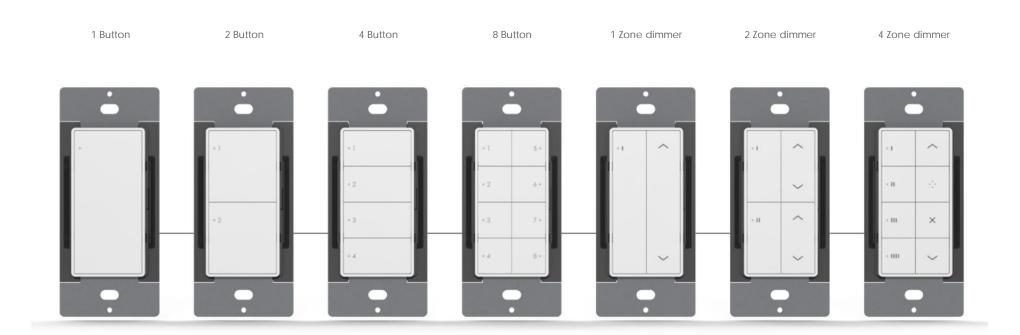






New Dialog 4000 Switches





New Dialog 4000 Switches









A member of the Panasonic Group Panasonic





Ben Koelbl

Regional Sales Manager

Mobile: (310) 989-6451

bkoelbl@douglaslightingcontrols.com

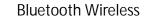
Product Manager

Office: (604) 873-2797 ext. 128 tlee@douglaslightingcontrols.com



Thank you for your time

Have you checked out our YouTube Channel?





https://www.youtube.com/playlist?list=PL2nWU6qXHseciMJjz0JYKEC5NbU-ffK2f

LitePak 2



https://www.youtube.com/playlist?list=PL2nWU6qXHsef6qh1bhnuvymOdxit25KM5