INDIGO-CLEAN™ M4DLIC6 SERIES

Patented Continuous Environmental Disinfection System

Switchable White & Indigo Disinfection LED

PROJECT INFORMATION

Job Name _____

Fixture Type _____

Catalog Number _____

Approved by _____

PRODUCT FEATURES:

- 6" sealed, recessed downlight with regressed or flush lens trim
- Two operational modes: White Disinfection Mode & Indigo Disinfection Mode
- Indigo Mode provides concentrated disinfection for high-contamination areas
- White LED Mode provides up to 2,000 lm
- Conducted emissions controlled as per MILSTD 461G

SPECIFICATIONS

HEAT SINK: Die-cast aluminum with external radial fins for natural convection.

ROUGH-IN FRAME: 18-gauge die-formed, corrosion-resistant steel. Vertically adjustable collar accommodates ceiling thicknesses up to 2", adjustable post-installation. Universal mounting brackets accept 3/4" and 1-1/2" lathers channel, 1/2" EMT conduit and hanger bars. Quick-access junction box accessible post-installation from above and below ceiling. Includes (4) 1/2" and (2) 3/4" knock-outs to allow straight conduit runs. Listed for (8) 12AWG, 90°C conductors and feed-thru branch wiring. Provided with FMC with electrical quick-connect to Trim Section.

TRIM/HOUSING SECTION: IP-rated housing section incorporates the heat sink, LED module, optics and lower trim. Configurable with an IP64-rated Regressed or Flush lens trim that is secured to the Rough-In frame with hidden torsion springs, and an IP65 Flush lens trim secured with four (4) phillips head, captive fasteners. Anti-microbial finish standard on all exposed painted surfaces. See trim ordering information for available options.

OPTICAL: Mixing chamber design with regressed diffused tempered-glass lens produces uniform light output. Flush lens trim options include a clear impact-resistant acrylic lens. See distribution and reflector finish ordering information for available options.

ELECTRICAL: High-power white LED array and high-power 405nm indigo LED array. Available 3700K and 4300K color temperatures with maximum 3-step MacAdam variation allowance. Minimum 80 CRI standard with optional minimum 90 CRI available. 120/277VAC, 50/60Hz electrical input with serviceable high power factor electronic, constant-current drivers (0.90 PF). Minimum 85% driver efficiency. Standard 0-10V dimming with 1-100% range with dim-to-dark capabilities in White Disinfection Mode. 250 µA maximum source current. Two operational modes: White Disinfection Mode is a white LED array for ambient lighting plus simultaneous low-power 405nm indigo array for low-level continuous environmental disinfection. Indigo Disinfection Mode is a high power 405nm Indigo LED array for continuous environmental disinfection. Operational mode determined via internal low-voltage device based upon input provided by external IC100 room control system. EMC meets or exceeds MIL STD 461G conducted requirements.

PHOTOMETRICS: Photometry tested to the IESNA LM-79-08 standard by an ILAC/ISO17025 accredited laboratory. For photometric information, go to www.kenall.com.

WARRANTY: Limited five (5) year LED warranty.

LISTINGS: Luminaire is certified to UL standards by Intertek Testing Laboratory for non-IC and Wet Location installations. IP64 and IP65 rating per IEC60598. NSF2 Splash/Non-Food Zone. Optional CCEA compliance.

LED · ETL c US · NSF · IP64 · IP65 · CCEA OPTION

ORDERING INFORMATION (Ex: M4DLIC6-NF-DCFW-34I/28C-43K8-M-CS-T-RIS6IC-120-DIM1)

TRIM

Model	Trim Style	Trim Finish	Lamp Power	Lamp Color	Distribution	Reflector Finish	Flush Lens Type
M4DLIC6			**34I/28C**				

Trim Style
- **R** Regressed Lens (IP64)
- **NF** Flush Lens (Without Fasteners - IP64)
- **FF** Flush Lens (With Fasteners - IP65)

Trim Finish
- **DCFW** Die-Cast Aluminum Painted Flat White (R and NF Trim Style)
- **2FW** Cold-Rolled Steel Painted Flat White
- **5BR** Type 304 Stainless Steel with 4B Brushed Finish
- **5FW** Type 304 Stainless Steel Painted Flat White

Lamp Power
- **34I/28C** 34 Watt Indigo/28 Watt White Disinfection LED

Lamp Color
- **37K8** 3700K / 80 CRI min.
- **37K9** 3700K / 90 CRI min.
- **43K8** 4300K / 80 CRI min.
- **43K9** 4300K / 90 CRI min.

Distribution
- **M** Medium
- **W** Wide

Reflector Finish
- **CS*** Clear Specular
- **CSS** Clear Semi-Specular
- **FW** Flat White

Flush Lens Type (n/a Regressed Trim Style)
- **T** 1/8" Clear High-Impact Acrylic

ROUGH-IN

Rough-In	Input Voltage	Driver Type	Options
RIS6IC			

Rough-In
- **RIS6IC** 6" Indigo-Clean Rough-In Frame

Input Voltage
- **120** 120V, 50/60Hz
- **277** 277V, 50/60Hz

Driver Type
- **DIM1** 0-10V Dimming to 1%

Options
- **LEL** Integral Emergency Battery Backup with Remote Test Switch
- **FS** Fuse & Holder
- **CCEA** Chicago Plenum Compliance

* Not available with Medium Distribution Type

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INDIGO-CLEAN™ DOWNLIGHT

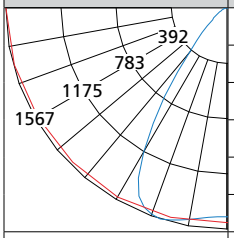
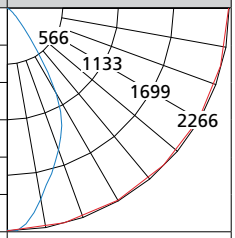
Patented Continuous Environmental Disinfection System

M4DLIC6 SERIES - Switchable White and Indigo Disinfection LED

PERFORMANCE — REGRESSED TRIM STYLE

Mode	Optic		Lamp Power	Initial Delivered Lumens, By Lamp Color				Input Power (W)	Estd. L70 LED Life (hrs)
	Distribution	Reflector Finish		37K8	37K9	43K8	43K9		
White Disinfection	M	CSS	34I/28C	1,856	1,199	1,827	1,251	33	60,000
		FW		1,935	1,247	1,900	1,301	33	60,000
	W	CS		2,330	1,501	2,288	1,567	33	60,000
		CSS		2,062	1,329	2,025	1,387	33	60,000
		FW		1,883	1,214	1,850	1,267	33	60,000
Indigo Disinfection	All			n/a				39	50,000

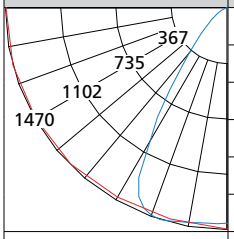
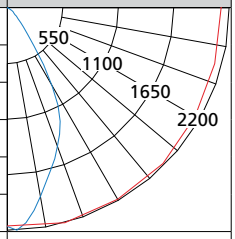
Information subject to change without notice. TM-30 Color Vector Graphic available upon request. Visit www.kenall.com for .ies files and additional information.

Wide Distribution Candela Curve	M4DLIC6-R-34I/28L-37K8-W-CSS		Distance to illuminated plane (ft)	M4DLIC6-R-34I/28L-37K8-M-CSS		Medium Distribution Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	59.1	6.3	5'	90.3	4.0	
	41.1	6.8	6'	62.7	5.0	
	30.2	8.0	7'	46.1	5.8	
	23.1	9.2	8'	35.1	6.5	
	18.3	10.4	9'	27.9	7.4	
	14.8	11.5	10'	22.6	8.3	
Spacing Criteria: 1.18	foot-candle multipliers for 37K9(0.64), 43K8(0.98), 43K9(0.67)					Spacing Criteria: 0.84
Beam Angle: 17.50	Beam diameter is where foot-candles drop to 50% of maximum					Beam Angle: 2.50

PERFORMANCE — FLUSH TRIM STYLE

Mode	Optic			Lamp Power	Initial Delivered Lumens, By Lamp Color				Input Power (W)	Estd. L70 LED Life (hrs)
	Distribution	Reflector Finish	Lens Type		37K8	37K9	43K8	43K9		
White Disinfection	M	CSS	T	34I/28C	1,731	1,118	1,704	1,167	33	60,000
		FW			1,804	1,162	1,772	1,213	33	60,000
	W	CS			2,176	1,402	2,137	1,464	33	60,000
		CSS			1,926	1,241	1,891	1,295	33	60,000
		FW			1,759	1,133	1,727	1,183	33	60,000
Indigo Disinfection	All				n/a				39	50,000

Information subject to change without notice. TM-30 Color Vector Graphic available upon request. Visit www.kenall.com for .ies files and additional information.

Wide Distribution Candela Curve	M4DLIC6-FF-34I/28L-37K8-W-CSS-T		Distance to illuminated plane (ft)	M4DLIC6-FF-34I/28L-37K8-M-CSS-T		Medium Distribution Candela Curve
	Initial center beam foot-candles	Beam diameter (ft)		Initial center beam foot-candles	Beam diameter (ft)	
	57.2	6.0	5'	86.5	3.9	
	39.7	6.8	6'	60.1	4.8	
	29.2	7.9	7'	44.1	5.6	
	22.3	9.0	8'	33.8	6.4	
	17.6	10.3	9'	26.7	7.2	
	14.3	11.4	10'	21.6	8.1	
Spacing Criteria: 1.16	foot-candle multipliers for 37K9(0.64), 43K8(0.98), 43K9(0.67)					Spacing Criteria: 0.80
Beam Angle: 17.50	Beam diameter is where foot-candles drop to 50% of maximum					Beam Angle: 2.50

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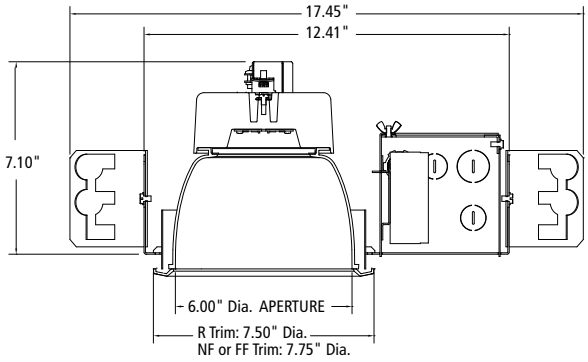
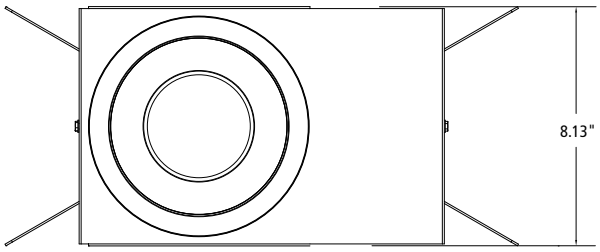
DIMENSIONAL DATA

CROSS SECTION



BOTTOM VIEW



RECOMMENDED CEILING CUT-OUT
R and NF Trims: 7.13" Dia.
FF Trims: 7.38" Dia.

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PROJECT INFORMATION

Job Name _____

Fixture Type _____

Catalog Number _____

Approved by _____

INDIGO-CLEAN™ ROOM CONTROLLER SYSTEM

IC100 SERIES

PRODUCT FEATURES:

» Room-level Disinfection Mode Control

» Infrared & Ultrasonic Occupancy Detection

SPECIFICATIONS

IC100 CONTROLLER: Centralized, zonal whole room continuous disinfection. Automatically switches Indigo-Clean luminaires between white disinfection and Indigo-Clean disinfection modes. Receives input from (3) passive-infrared (PIR) and (1) ultrasonic sensor with optional switch (by others). 0-10VDC dimming signal output to luminaires. Integral LED indicators provide system status. Dual technology controller requires input from both PIR and ultrasonic sensors.

IC100 SENSORS: Operates by low-voltage power provided by IC100 Controller. INFRARED: System includes three (3) passive infrared (PIR) occupancy detection. Lenses provide 360° coverage, 48' diameter from 8' height. Adjustable occupancy time-out delay 0-30 min. ULTRASONIC: System includes one (1) high-frequency (40kHz) occupancy detector suitable for open area detection with line-of-sight obstructions; includes sensitivity adjustment. Adjustable occupancy time-out delay 0-30 min.

CONTROLLER HOUSING: Seam-welded 18-gauge CRS. White TGIC polyester powder coat finish with five-step pre-treatment. Housings provided with multiple 1/2" and 3/4" conduit knockouts. Controller housing includes clear polycarbonate window for viewing of system status indicators. Silicone gasketing. Pin-tumbler style keyed lock. All locks are keyed alike, two keys included.

INSTALLATION: Controller housing suitable for mounting to wall or ceiling surfaces with four-point mounting. All signal cabling shall be wired Class I with 18AWG, 600V TFFN wire. IC100 ultrasonic and PIR sensors suitable for mounting to ceiling junction box.

Controller

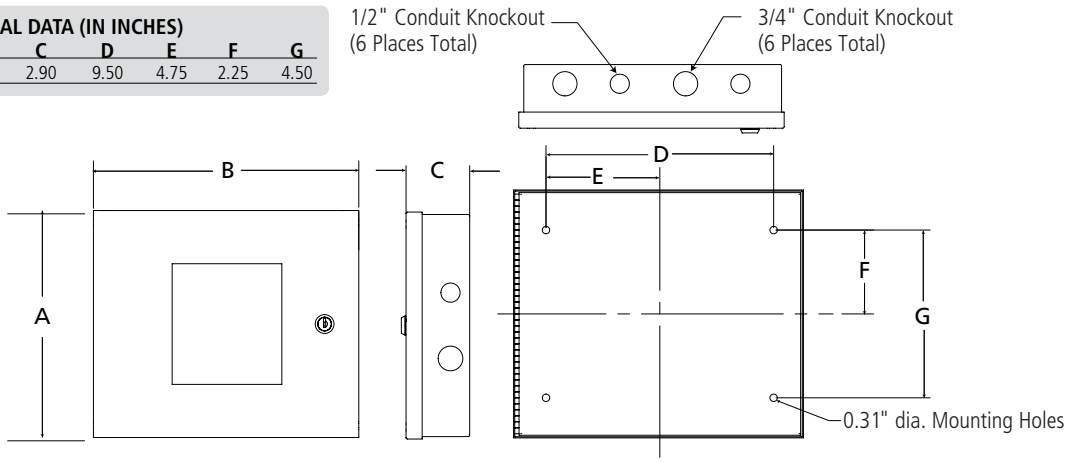
Ultrasonic Sensor
One (1) included

PIR Sensor
Three (3) included

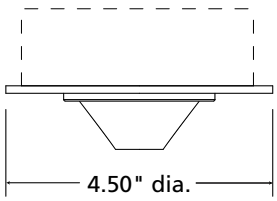
CONTROLLER HOUSING

DIMENSIONAL DATA (IN INCHES)

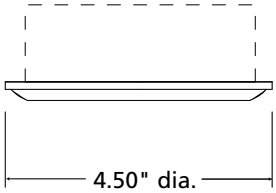
A	B	C	D	E	F	G
6.85	14.10	2.90	9.50	4.75	2.25	4.50



PIR SENSOR



ULTRASONIC SENSOR



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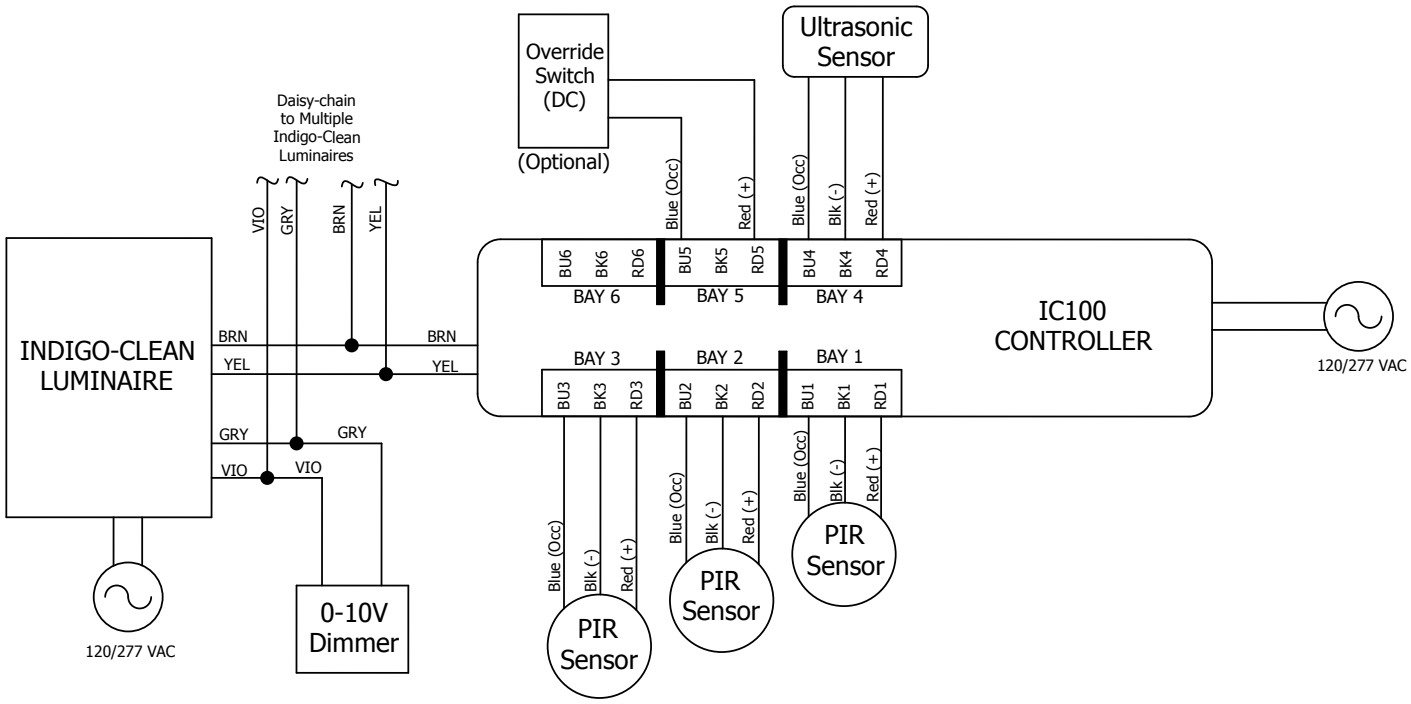
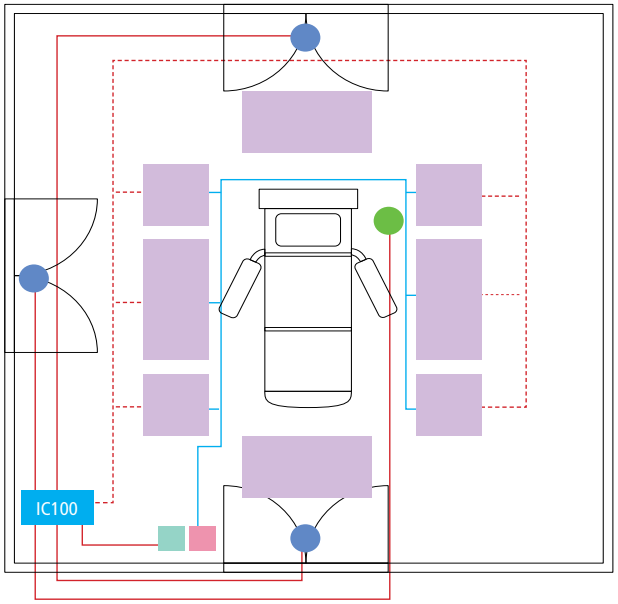
INDIGO-CLEAN™ ROOM CONTROLLER SYSTEM

IC100 SERIES
WIRING DIAGRAM



TYPICAL LUMINAIRE/IC100 CONTROLS ROOM LAYOUT



- Indigo-Clean Fixtures
- Ultrasonic Sensor
- Passive Infrared Sensor
- External 0-10V Dimmer
- White Disinfection Mode Override Switch (DC) <OPTIONAL>

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