CLS-C6/CLS-C6M/CLSI-C6/CLSI-C6M
iLux® Integrated Lighting System
Installation Guide

Description

The iLux units are complete integrated wall-mounted lighting systems that can function as stand-alone devices or be part of a total Crestron® solution. The domestic units, CLS-C6 and CLS-C6M, and international units, CLSI-C6, and CLSI-C6M, are functionally identical except that the CLS-C6M and CLSI-C6M include a built-in motion sensor. The CLS-C6 and CLS-C6M operate at 120 Vac; CLSI-C6 and CLSI-C6M operate at 230 Vac. For simplicity within this guide, the term "CLS-C6" is used except where noted.

CLS-C6 Specifications

SPECIFICATION	DETAILS
Power Requirements	
Domestic	Line Power, 120 Vac, 60 Hz
International	Line Power, 230 Vac, 50/60 Hz
Domestic Load Ratings[1]	
Max load per channel	800 W/VA (6.6 A @ 120 Vac), expandable via CLS-EXP expansion modules (sold separately)
Min load per channel	15 W/VA (0.125 A @ 120 Vac)
Max load per unit	1,920 W/VA (16 A @ 120 Vac)
International Load Ratings[1]	
Max load per channel	800 W/VA
Min load per channel	(3.5 A @ 230 Vac), expandable via CLS-EXP expansion modules (sold separately)
Max load per unit	25 W/VA (0.108 A @ 230 Vac) 2,200 W/VA (10 A @ 220 Vac) 2,300 W/VA (10 A @ 230 Vac) 2,400 W/VA (10 A @ 240 Vac)
Load Types	LED[2], Incandescent, Magnetic Low-voltage, Neon/Cold Cathode, 2-Wire Dimmable Fluorescent, and Non-Dim Lighting; Electronic Low-voltage, 3- and 4-Wire Fluorescent, High-Inrush Switching, and 277 V via CLS-EXP series expansion modules (sold separately)
Cresnet® Power for Local Devices	10 W maximum External power supply sold separately
Environmental Temperature Humidity	 32° to 104 °F (0° to 40 °C) 10% to 90% RH (noncondensing)
Enclosure	Mounts in a 4-gang electrical box, 3-1/2 in (89 mm) deep minimum

1. If a unit is fed from an arc fault circuit interrupter, the maximum total load is 1,000 W/VA to avoid nuisance tripping.
2. For a list of compatible ballasts, visit www.crestron.com/lightingcompatibility.

Additional Resources

Visit the product page on the Crestron website (www.crestron.com) for additional information and the latest firmware updates. Use a QR reader application on your mobile device to scan the QR image.

Important Notes

WARNING: To avoid fire, shock, or death, turn off power at circuit breaker or fuse and test that power is off before wiring!

WARNING: New installations should be checked for short circuits prior to installing a CLS-C6. With the power off, close the circuit and then restore power. If the lights do not work, or a breaker trips, check and correct the wiring or fixture (if necessary). Install the dimmer only when the short is no longer present. The warranty is void if the dimmer is installed and operated with a shorted load.

CAUTION: TO REDUCE THE RISK OF OVERHEATING AND POSSIBLE DAMAGE TO OTHER EQUIPMENT, DO NOT INSTALL TO CONTROL A RECEPTACLE, A MOTOR-OPERATED APPLIANCE OR A TRANSFORMER-SUPPLIED APPLIANCE.

ATTENTION: GRADATEURS COMMANDANT UN BALLAST-AFIN DE RÉDUIRE LE RISQUE DE SURCHAUFFE ET LA POSSIBILITÉ D'ENDOMMAGEMENT À D'AUTRES MATÉRIELS, NE PAS INSTALLER POUR COMMANDER UNE PRISE, UN APPAREIL OPÉRÉ DE MOTEUR OU UN APPAREIL ALIMENTÉ PAR UN TRANSFORMATEUR.

NOTE: Observe the following points.

- Codes: Install in accordance with all local and national electrical codes.
- Installation: A licensed electrician must install the CLS-C6.
- Wiring: Use copper wire only. For supply connections, use wire rated for at least 75 °C. The CLS-C6 requires a neutral wire connection for operation.
- Lamp Type: For use with permanently installed LED, incandescent, magnetic low voltage, neon/cold cathode, 2-wire dimmable fluorescent, and non-dim lighting only. Electronic low voltage, 3- and 4-wire fluorescent, high inrush switching, and 277 V via CLS EXP Series expansion modules (sold separately).
- Temperature: Use where temperatures are from 32° to104 °F (0° to 40 °C).
- Electrical Boxes: The CLS-C6 mounts in standard 4-gang electrical boxes. For installation, Crestron recommends using 3-1/2 in (89 mm) deep electrical boxes.
- Spacing: If mounting one device above another, leave at least 4-1/2 in (115 mm) vertical space between them.

Installation

The following tools and hardware are required for installation.

- A 4-gang electrical box (not supplied), 3-1/2 in (89 mm) deep, minimum
- Phillips torque screwdriver (not supplied)
- Four 7/8 in (~22 mm) pan head Phillips screws (supplied)

If the planned configuration includes connection to shade controllers, keypads, or a Crestron control system, the following items are also required:

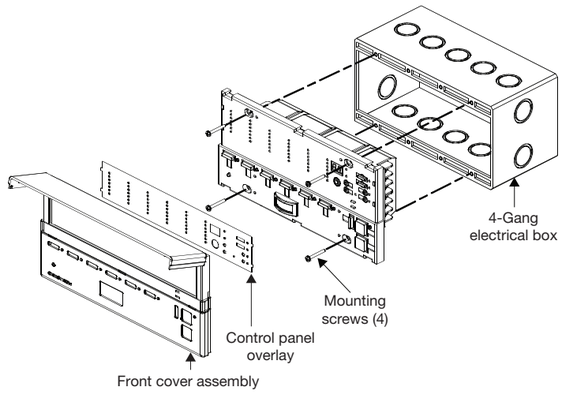
- Cresnet® network cable(s) (not supplied)
- Terminal block connector(s) (two supplied)

NOTE: For detailed configuration options, refer to the CLS(I)-C6/C6M and CLS(I)-C6RF/C6MRF Reference Guide (Doc. 6347) at www.crestron.com/manuals.

Check that any required Cresnet wiring has been installed and verified. Then, use the following procedure to install the iLux unit (CLS-C6M is shown in the illustrations).

1. Feed the wires (power line from the distribution panel, load wires, plus any required Cresnet cables) through the holes in the electrical box.
2. Hold the rear of the CLS-C6M unit and remove the front panel and cover assembly by carefully pulling out and up from the bottom edge.

CLS-C6M Installation

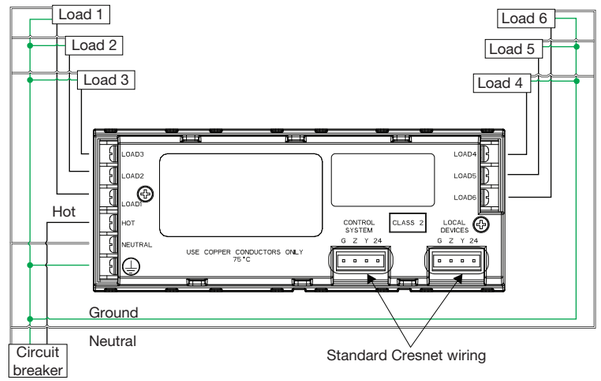


3. Remove the control panel overlay from the CLS-C6, which is held in place by small tabs and lifts off, to reveal the upper mounting screw holes.
4. Refer to the diagram for connection of the ac wiring. All wires to be be inserted in the screw terminals should be stripped 7/16 in (~11 mm), and screws should be tightened to between 8 and 10 in.-lbs. (0.90 to 1.13 Nm). The maximum wire size is 12 AWG (3 mm²).
5. Connect each load wire to the corresponding LOAD terminals on the CLS-C6, connect the power line hot wire from the circuit breaker to the HOT terminal on the CLS-C6, connect all neutral wires to the NEUTRAL terminal on the unit, and connect all ground wires to the (ground) terminal on the unit.
6. If Cresnet cabling is part of the installation, attach the supplied terminal block connector(s) to the Cresnet cable(s) and plug into the appropriate port(s) on the CLS-C6. Make certain that there is a minimum 1/4 in (~6 mm) separation between the Class 2 Cresnet wiring and the Class 1 ac wiring.

NOTE: Use a 15 or 20 A circuit breaker depending on installation requirements. Refer to specifications for load rating details.

NOTE: CLS-EXP expansion modules can be used in place of any or all loads shown above. Refer to expansion module documentation for wiring details.

CLS-C6M Wiring



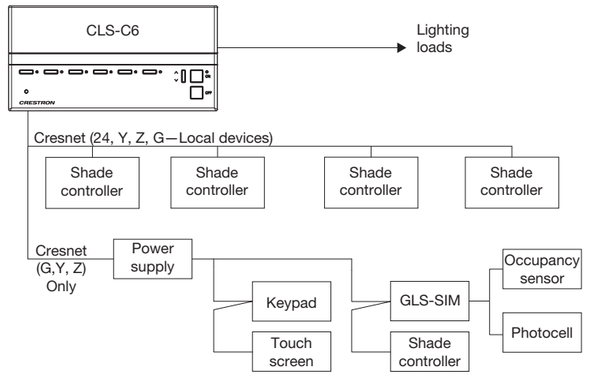
7. Carefully tuck all wires into the electrical box and fasten the CLS-C6 to the electrical box using the four 7/8 in (~22 mm) Phillips screws supplied.
8. Reattach the control panel overlay to the front panel by inserting the four tabs into the slots on the CLS-C6, and install the hinged front cover assembly by lining it up at the top and pressing the bottom edge until it snaps into position.

Adding External Power Supplies

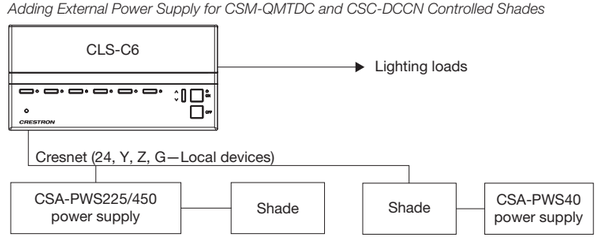
Additional power supplies are required to support more than four keypads or shade controllers on the LOCAL DEVICES network. Also, each C2N-SDC-DC, CSM-QMTDC, and CSC-DCCN shade controller requires its own additional power supply. The diagram below illustrates a scenario where an external power supply is required to add a shade controller and other devices to a network that already contains four shade controllers. The actual number of external power supplies required depends on the system configuration. The following illustrations show a variety of installation configurations.

NOTE: Always use Crestron certified wire.

Adding External Power Supply for C2N-SDC-DC Controlled Shades



Adding External Power Supply for CSM-QMTDC and CSC-DCCN Controlled Shades

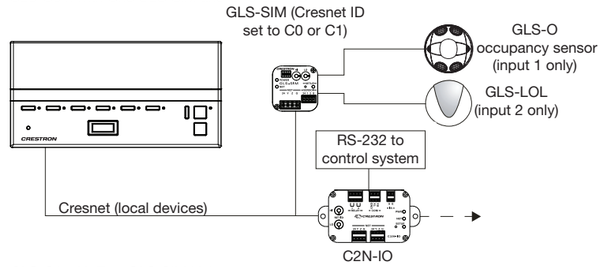


Wiring Occupancy Sensors and Photocells

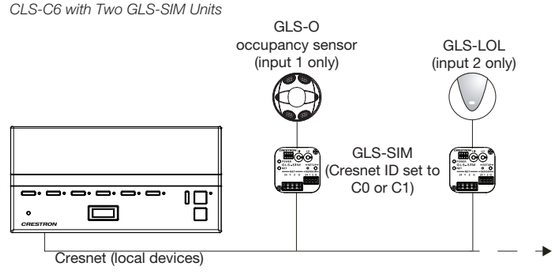
NOTE: Before using the CLS-C6, ensure the device is using the latest firmware. Check for the latest firmware for the CLS-C6 at www.crestron.com/firmware. Load the firmware onto the device using Crestron Toolbox™ software.

NOTE: Refer to the CLS(I)-C6/C6M and CLS(I)-C6RF/C6MRF iLux Integrated Lighting System Reference Guide (Doc. 6347) for details on supported devices.

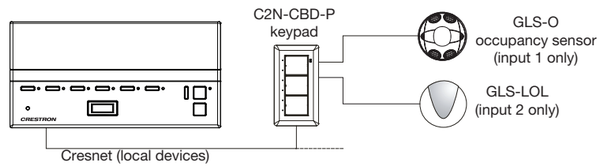
CLS-C6M with One GLS-SIM and One C2N-IO



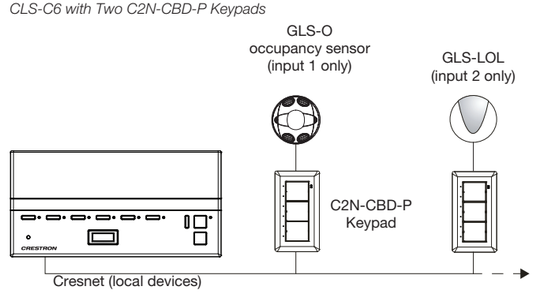
CLS-C6 with Two GLS-SIM Units



CLS-C6 with One C2N-CBD-P Keypad



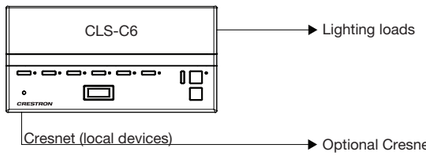
CLS-C6 with Two C2N-CBD-P Keypads



Installation Configurations

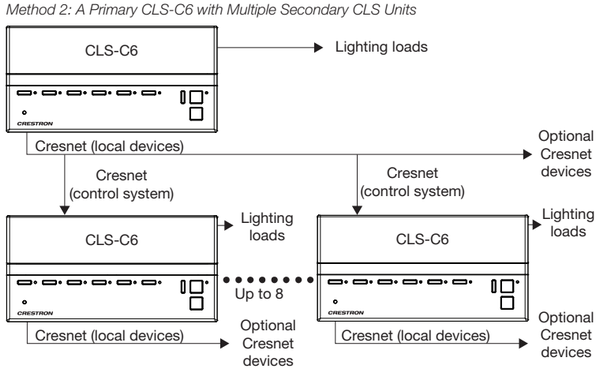
The following illustrations describe five installation configurations.

Method 1: A Stand-Alone CLS-C6 (Most Common Use)



Method 1 is the simplest way to control up to six lighting loads and six shade control groups. No control system is required.

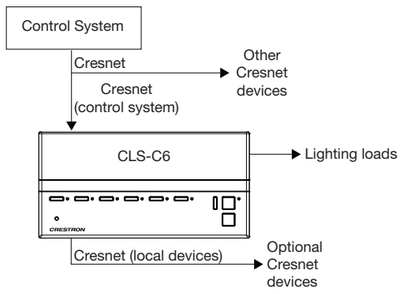
Method 2: A Primary CLS-C6 with Multiple Secondary CLS Units



Method 2 is used in a large room with more than six lighting loads and shade groups. No control system is required.

Scene recall and master dimmers affect the entire room. The user can still adjust each circuit individually. For details on room combining, refer to the CLS(I)-C6/C6M and CLS(I)-C6RF/C6MRF iLux Integrated Lighting System Reference Guide (Doc. 6347).

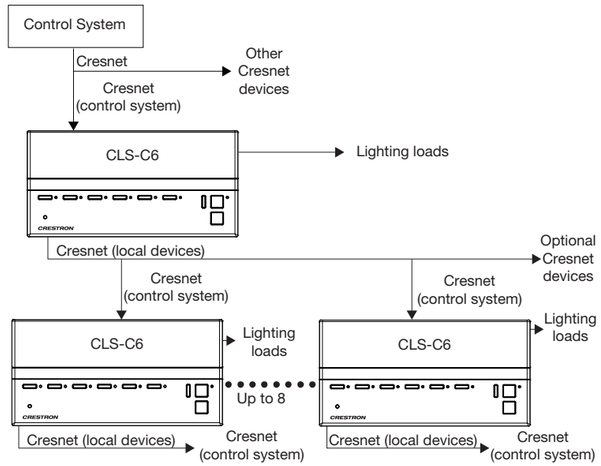
Method 3: A CLS-C6 with a Control System (Method 1 Variation)



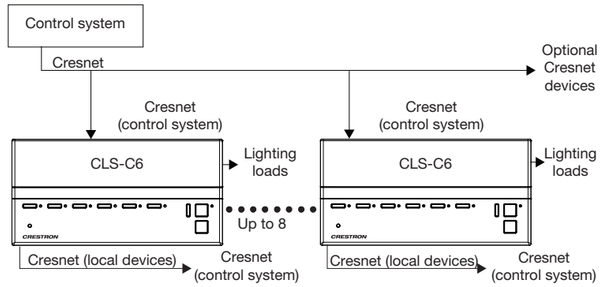
In Method 3, the control system can control and monitor operation of the lighting system and can trigger lighting scenes from touch screens, RF wireless remotes, computers, or real-time clock. Buttons on lighting system can control other functions.

The CLS-C6 still operates on its own if the control system is not running.

Method 4: A CLS-C6 in a Large Room with a 2-Series Control System (Method 3 Variation)



Method 5: A Control System with Multiple CLS-C6 Units on the Main Cresnet Network



In Method 5, the control system can monitor and control lighing in multiple independent rooms. The rooms can be combined and arranged under program control. This method includes all of the features of the other configurations.

Each individual CLS-C6 can operate on its own if the control system is not running.

Supported Devices

The following table lists devices and power requirements supported by CLS-C6 units.

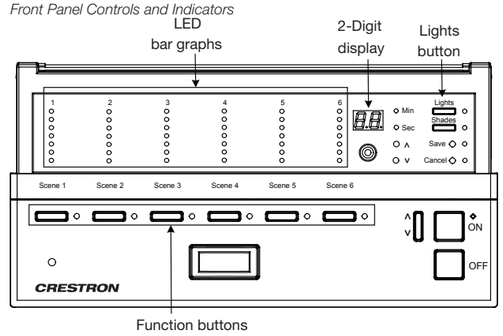
Supported Devices and Power Requirements

NAME	DESCRIPTION	CRESNET POWER FACTOR (W)		MAX QTY
C2N-DB6	6-Button Keypad	3 W		16
C2N-DB8	8-Button Keypad	3 W		16
C2N-DB12	12-Button Keypad	3 W		16
C2N-CBD/CBF (All Models)	Cameo® Keypad	0.5 W		16
C2NI-CB & INETI-CB	Cameo Keypad (International)	0.5 W		16
C2N-IO	Control Port Expansion Module	1 W		1
C2N-SDC	Shade and Drape Controller, 120 Vac	3 W		16
C2N-SDC-DC	Shade and Drape Controller, 24 Vdc	Up to 33 W		16
C2N-SSC-2	Somfy® Shade Controller	1 W		16
CNX-B2	2-Button Keypad	3 W		16
CNX-B4	4-Button Keypad	3 W		16
CNX-B6	6-Button Keypad	3 W		16
CNX-B8	8-Button Keypad	3 W		16
CNX-B12	12-Button Keypad	3 W		16
CSC-ACCN	Cresnet® Interface to Somfy® ST50 ILT2 Motor	N/A		16
CSC-DCCN	Cresnet® Interface to Crestron® CSM-QMT30 Shades	N/A		16
CSC-DRPCN	Drapery Track Interface	N/A		16
CSM-QMTDC-256-2-CN	Digital QMT® Shade Motor for 21 in Roller Shades and Larger, 2 Nm, Cresnet® Network	36 W		16
CSM-QMTDC-163-1-CN	Digital QMT® Shade Motor for QMT3 Series, Cresnet® Network	42.5 W		16
CSM-QMTDC-250-2-CN	Digital QMT® Shade Motor for QMT5 Series, 2 Nm, Cresnet® Network	36 W		16
CSM-QMTDC-250-4-CN	Digital QMT® Shade Motor for QMT5 Series, 4 Nm, Cresnet® Network	42.5 W		16
CSM-QMTDC-DRP-3-CN	Digital QMT® Drapery Motor for CSS-DRAPERY, Cresnet® Network	42.5 W		16
GLS-SIM	Sensor Integration Module	1 W plus attached sensor wattage	Partitions	36
			Occupancy Sensing	2
			BMS Integration	4
GLS-ODT & GLS-OIR Series	Occupancy Sensors	1 W		2
TPS-4L	3.6 in Wall-Mount Touch Screen	5 W		2
TPS-6L	5.7 in Wall-Mount Touch Screen	15 W		2

Testing

The following illustration shows the front panel of the CLS-C6 and the controls used during installation.

Front Panel Controls and Indicators



Verify the basic installation and wiring connections as follows:

1. Press the **Lights** button to enable manual light control, and press the right side and the left side of each of the function buttons to increase and decrease the lighting level of those loads. Verify that the intended loads and corresponding LED bar graphs respond appropriately.
2. Press the **OFF** button to turn off all loads. The loads ramp down to off while the two-digit display counts down to off (blank). Two seconds after all lights have turned off, the unit's master air-gap relay opens, making it safe to service the lighting installations.

Troubleshooting

The following table provides corrective actions for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative. For details on setting load types and low-end limits, refer to the CLS(I)-C6/C6M and CLS(I)-C6RF/C6MRF iLux Integrated Lighting System Reference Guide (Doc. 6347).

CLS-C6 and CLS-C6M Installation Troubleshooting

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
The unit does not function.	The unit is not receiving line power.	Verify that the unit is properly connected to the power line and that the circuit breaker is closed.
The loads turn on and off but do not dim.	The loads are not connected.	Verify that the loads are operational and that they are connected to the iLux unit.
	The incorrect load type or load types are set.	Correct the load type settings.
The lights flicker at low levels.	The incorrect low-end limit is set.	Change the low-end limit setting.

These products are Listed to applicable UL® Standards and requirements by Underwriters Laboratories Inc.

Ces produits sont énumérés aux normes applicables et les exigences UL par Underwriters Laboratories Inc.

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As of the date of manufacture, these devices have been tested and found to comply with specifications for CE marking.

CE

Federal Communications Commission (FCC) Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Industry Canada (IC) Compliance Statement

CAN ICES-3(B)/NMB-3(B)

Crestron Electronics, Inc.
15 Volvo Drive Rockleigh, NJ 07647
Tel: 888.CRESTRON
Fax: 201.767.7576
www.crestron.com

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