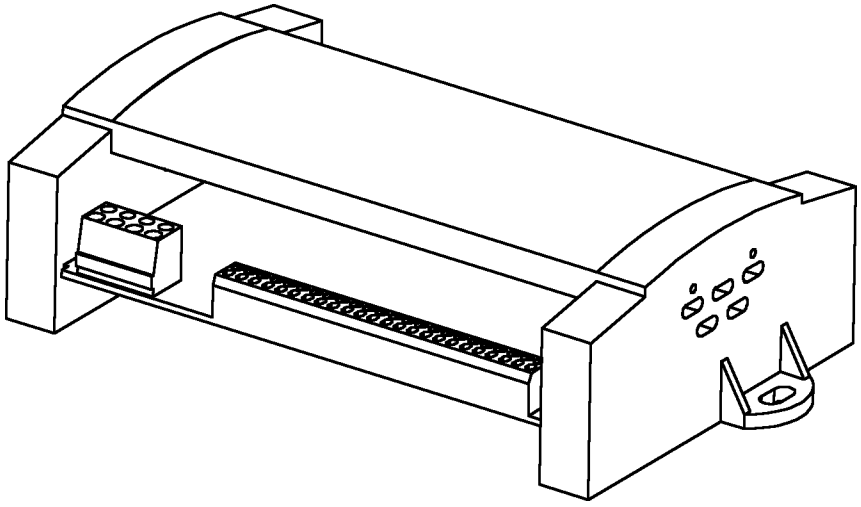
A Series® Lighting Control Panelboards

Remote Switch Expansion Module
Catalog No. ASRGLCDSK



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Application

This installation guide applies to the Lighting Controller expansion module (cat. no. ASRGLCDSK), as illustrated on the cover.

Introduction

The A Series® Lighting Controller accepts 16 switch inputs from the standard module, shown in Figure 1.

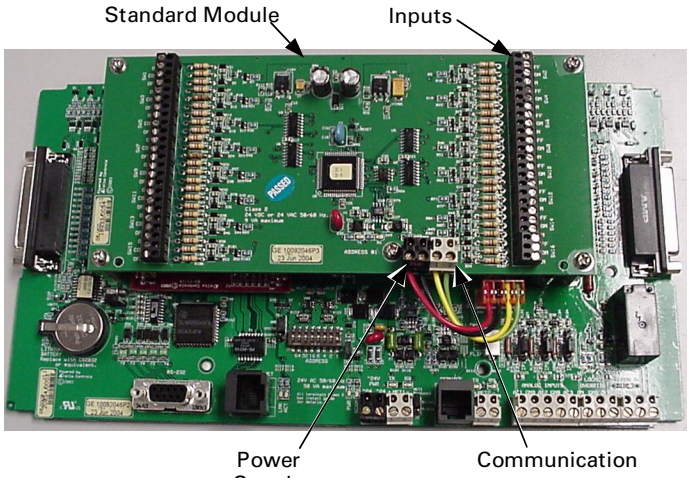


Figure 1. A Series lighting controller with standard input module.

The standard module is mounted on the controller and draws power from it. Additionally, the lighting controller can also accept remote switch inputs from the remote input expansion module, which has 16 switch inputs. These modules are referred to as standard and remote in this guide.

The remote module needs a separate 24 Vac/dc supply to power it. NET2 on the controller board is connected to the communication port of the remote module.

These modules use the LINKnet communications protocol. Up to 12 LINKnet devices can be connected to one controller. These modules handle inputs exclusively. There are three pins per input labeled ON, COM, and OFF. These modules are designed to convert three analog input values to the digital values 0, 2048, and 4096.

Three-Wire Connection

The three-wire connection states are shown in Figure 3.

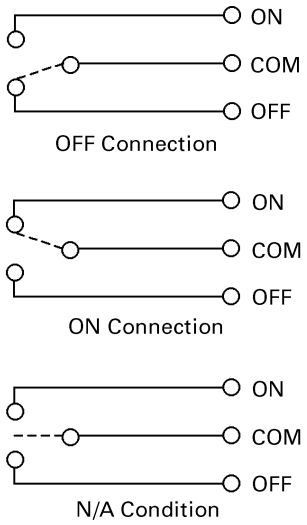


Figure 2. Three-wire input connections.

Operation

The input voltage is converted to the corresponding digital value listed in Table 1. If a connection is made between all three of the input pins (shorting ON, COM, and OFF) the controller goes to OFF state.

Input, V	Output
0	0
2.5	2048
5.0	4096

Table 1. Analog-to-digital conversion of voltages.

Momentary Inputs

The following rules apply to momentary inputs:

- All-state changing pulses must be sustained for 100 milliseconds or more.
- A multistate (MI) object must be used to determine the input states.
- When the MI object transitions to ON from OFF or N/A condition, the corresponding BV object toggles. MI 101 corresponding to BV 101, MI102 corresponding to BV102, and so on.

Maintained Inputs

A multistate (MI) object can capture maintained input states. The multistate input (MI) object requires a multistate input configuration (MIC) object to define which input values determine a state change.

Two-Wire Connection

The two-wire connections states are shown in Figure 3.

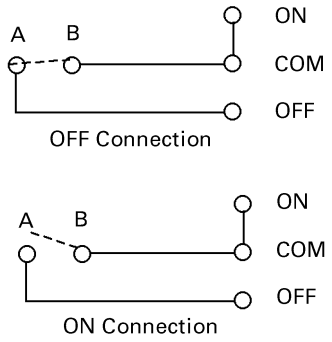


Figure 3. Two-wire input connections.

Operation

A two-wire connection requires a jumper between ON and COM, which results in a default value of ON. If the switch (AB) is open the state is ON and if it is closed the state is OFF.

Momentary Inputs

The following rules apply to momentary inputs:

- All state-changing pulses must be sustained for 100 milliseconds or more.
- A multistate (MI) object must be used to determine which of the two states the input is in.
- This input configuration can generate two valid and distinct states using digital values 0 and 4096, representing 0 V and 5 V. A transition from OFF to ON state of the MI object toggles the corresponding BV object. For example, changing the MI115 object from OFF to ON toggles the BV115 object.

Maintained Inputs

A multistate object (MI) can be used to capture the ON and OFF states.

Viewing and Editing Switch Status

The handheld LCD Programmer, cat. no. GLCHPK, can be used to view and manually edit switch status. See DEH41088, LCD Programmer Quick Start Guide, for a description of the operation and menu sequence.

The available switches are listed in Table 2.

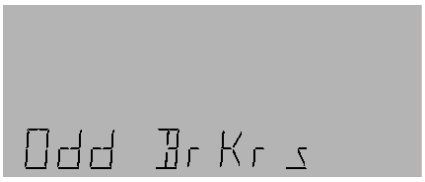
Object Name	Object Type	LINKnet Device Address	Expansion Module	Comment
LTG SW 101–116	MI101–MI116	1	Standard	Default address
LTG SW 201–216	MI201–MI216	2	Remote	Settable by dip switch
LTG SW 301–316	MI301–MI316	3	Remote	Settable by dip switch
LTG SW 401–416	MI401–MI416	4	Remote	Settable by dip switch
LTG SW 501–502	MI501–MI502	5	Remote	Settable by dip switch

Table 2. Switch object types and addresses.

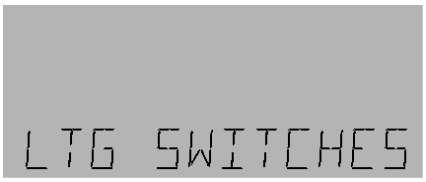
Checking Switch Status

To check switch status, first log on to the LCD programmer, then use the up and down arrow keys to scroll to the I/O menu:

Press the OK key to display the following menu:



Press the down arrow key twice to reach the lighting switches menu:

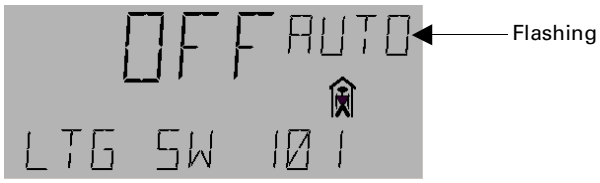


Press OK to display the following menu:

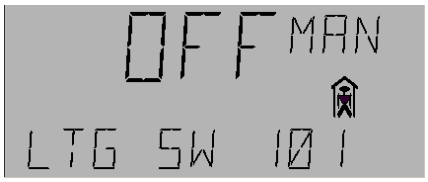
The human figure indicates that the switch is not commissioned. It does not matter whether the switch is commissioned or not.

This display indicates that lighting switch 101 is off. Press the up and down arrow keys to view the status of all other available switches, as listed in Table 2.

To put the switch in manual mode, press the OK key. The word AUTO in the display will begin to flash.



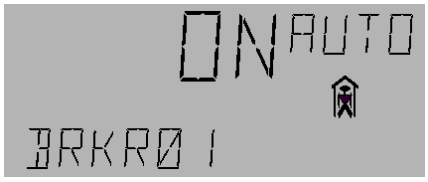
Press the A/M key to change the display to the following:



The arrow keys can be used to change the switch to the ON, OFF, or N/A conditions.

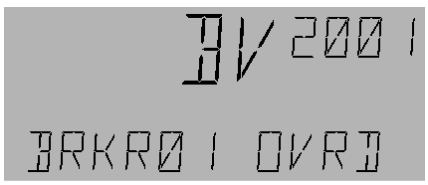
Controlling Objects with a Switch – Case 1

To set a switch to control a particular object, first use the arrow keys to the I/O menu, then press OK to display the odd breakers menu, as illustrated in the previous example. If an odd-numbered breaker is desired, press OK; otherwise use the down arrow to display the even breakers menu and then press OK. A screen similar to the following appears:

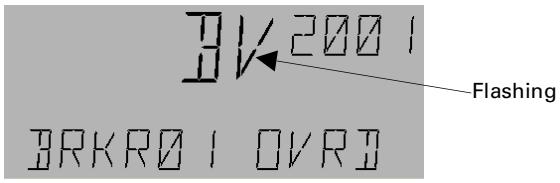


Press OK to start AUTO flashing, then press Fn, then press OK two more times. This displays the Override screen:

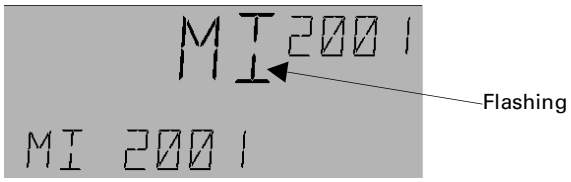
Press OK for the following display:



Press the OK key; BV will start flashing:

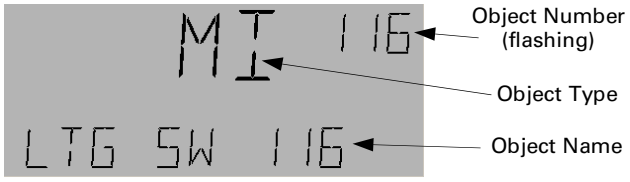


Press the down arrow key to display the following:



Press OK and 2001 will begin flashing.

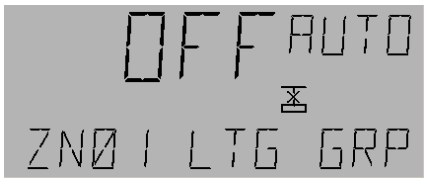
To select the object for the switch to control, enter the appropriate number with the numeric keypad, then press OK. For instance, to link MI switch 116 (lighting switch 116 in Table 2), enter 1 - 1 - 6 - OK. The following display appears:



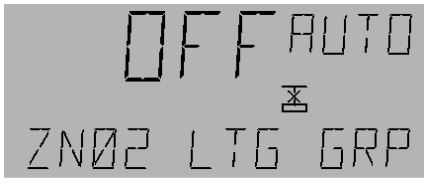
Controlling Objects with a Switch – Case 2

Use the arrow keys to scroll to the lighting group menu:

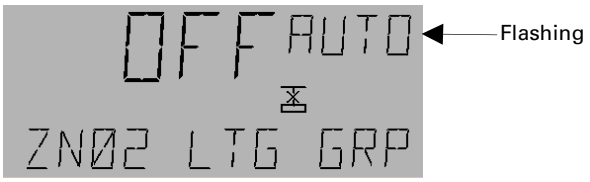
Press OK for the following display:



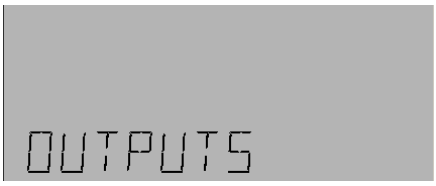
Press OK for lighting group 1 or press the arrow keys to scroll to a different group. For example to access lighting group 2, press the down arrow to get to the display



The cross symbol indicates that the group is in fault mode, which we will ignore for this discussion. Press OK and the word AUTO begins flashing:



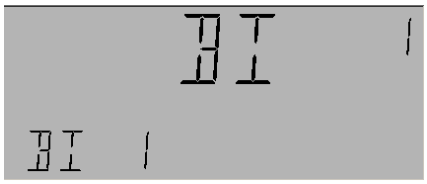
Press the Fn key to display the outputs screen:



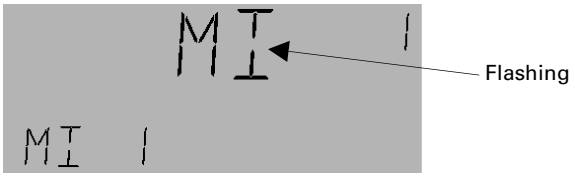
Press OK for the breaker 1 output display:

Press the down arrow key to see that nothing is attached to this BO:

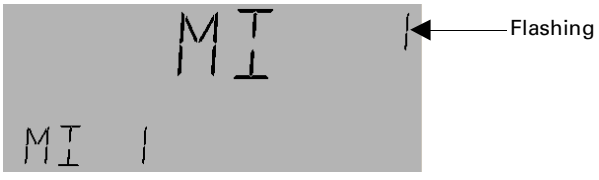
Press OK; the following display may appear:



Press the up and down arrow keys until the MI object appears:



Press OK again; the 1 will start flashing:



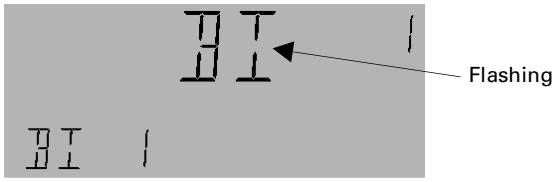
Use the numeric keys to change the switch number to any of those in Table 2. Press OK when the desired number appears; this switch is now attached to BO1 and can be used to control it.

Controlling Objects with a Switch – Case 3

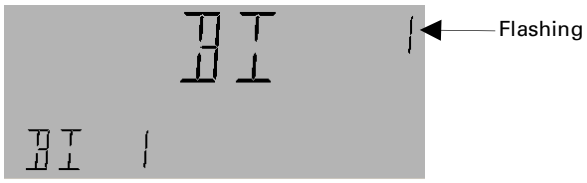
Go to the Schedule submenu of the Lighting Group menu by pressing the down arrow key from the Outputs submenu (see Case 2).:

Press OK; the following screen may appear:

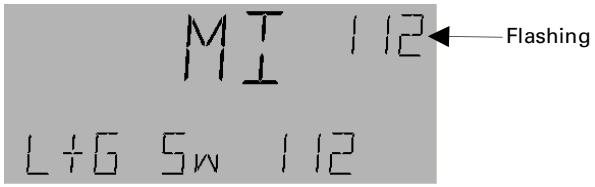
Press OK again for the following display:



Press OK again and the flashing will change as follows:



Use the numeric keys to change MI to any number given in Table 2. For instance, if 112 is entered, the display appears as

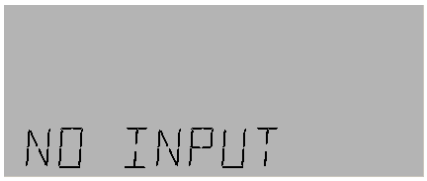


Press OK to connect MI 112 to the group.

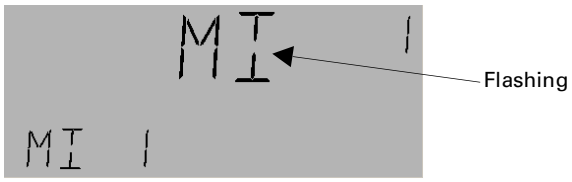
Controlling Objects with a Switch – Case 4

From the Schedule submenu, press the down arrow twice to reach the Photocell submenu:

Press OK; the following screen may appear:



Press OK, then the up arrow key twice to reach the following display:



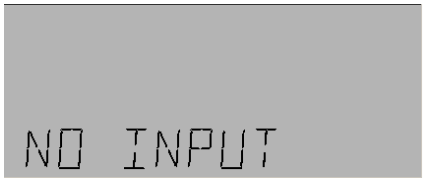
Press OK to change the flashing characters as follows:

Use numeric keys to change the number from 1 to any desired number, as listed in Table 2. Press OK, to link the MI switch to the group through the photocell input.

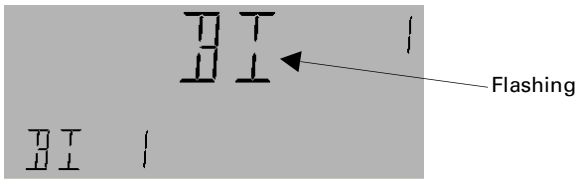
Controlling Objects with a Switch – Case 5

From the photocell submenu, as in Case 4, press the down arrow key to reach the Override submenu:

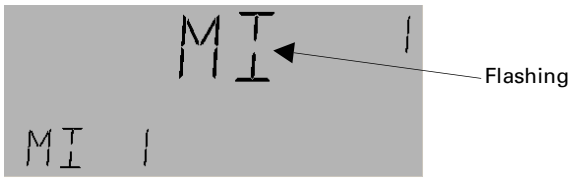
Press OK; the following screen may appear:



Press OK to display the following screen:



Use the arrow keys to change the BI display to MI:



Press OK to change the flashing characters as follows:

Use numeric keys to change MI to any value listed in Table 2. Press OK to link the MI switch to the Group object by override input.

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