

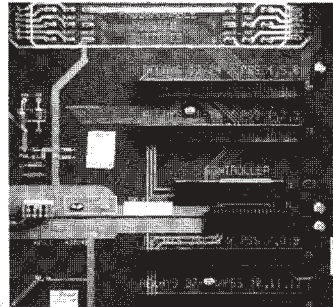
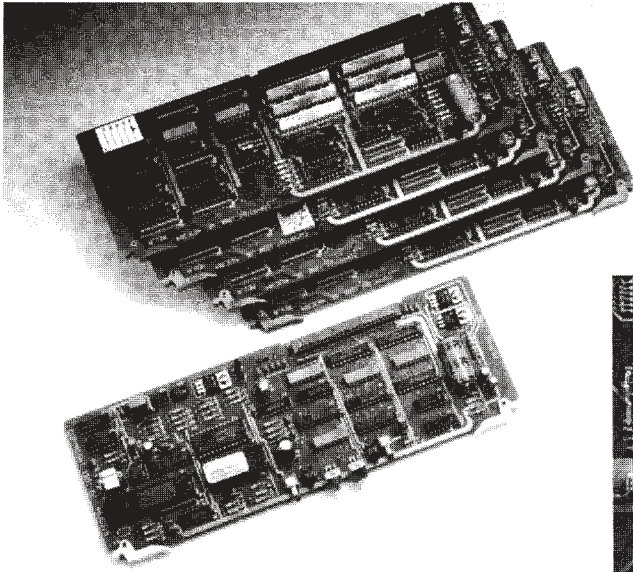


GE Total Lighting Control

Lighting Automation Panel

Learn Card

Catalog Number RLM48



The RLM48 Controller Card provides the “Learn Mode” intelligence for a Lighting Automation Panel (LAP). The 24-relay LAP accepts one Learn Card and one or two Relay Driver Cards (RRDC12); the 48-relay LAP accepts one RLM48 and up to four RRDC12s. These provide the “softwiring” and “smart control” functions for the panel.

The RLM48 provides the intelligence and communications capability. The RRDC12(s) actuate the relays ON/OFF and monitor their status. Each RRDC12 is associated with a bank of 12 relay outputs and 3 Programmable System Switch inputs.

Features

1. Plug-in modular configuration.
2. 48-relay control capability.
3. Direct relay switching. Each relay in the panel may be controlled directly with a switch or occupancy sensor.
4. Dataline communications capability.
5. Built-in softwiring and smart switch scenarios without the use of a PC or programming module.
6. 3, 6, 9 or 12 Programmable System Switch inputs (3 per RRDC12).

Before starting, read the following installation instructions. If you have questions, call GE Total Lighting Control Service at: 1-877-584-2685 (LTG-CNTL) in the USA and Canada.

Network Operation

Individual Lighting Automation Panels may be connected by a dataline to allow remote switching of the PSS groups defined within that panel. Each LAP is given a unique identification number (1-99) by simply setting its address. **(The dataline Power Supply must be wired before the dataline can communicate with the panels.)**

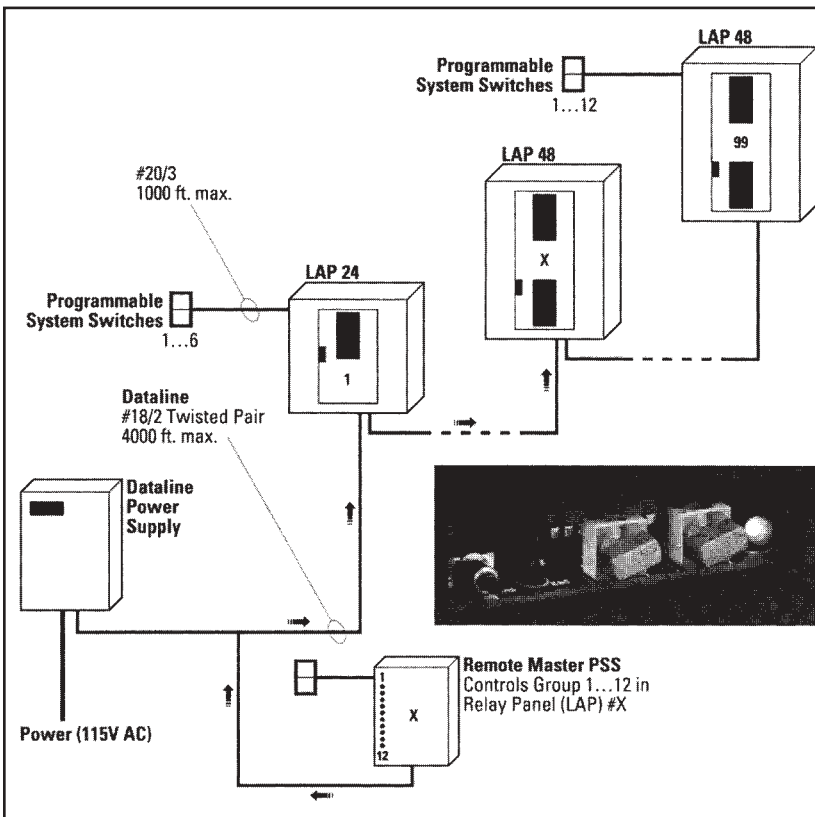
Remote Master Group Control

A separate Programmable System Switch module with the same address acts as a remote master for that panel. Whenever a PSS switch input is actuated ON or OFF, that message is transmitted on the dataline. Any

Lighting Automation Panel with the same address will respond the same as if you had actuated its corresponding PSS input. For example, if you set the address of a remote master PSS to "2" and then turn switch #1 within that unit ON, Lighting Automation Panel #2 will respond to this message on the dataline, turning its #1 group ON.

Global Control

All Lighting Automation Panels respond to PSS address "0". In the example above if the address of the remote master PSS was set to "0", then turning switch #1 ON would control switched group #1 in every Lighting Automation Panel connected to the dataline.



Installation

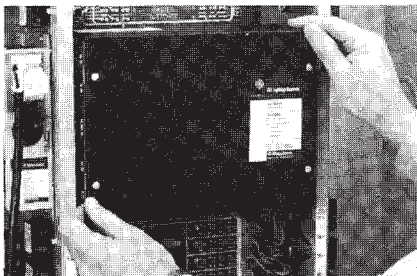
CAUTION: The low voltage power supply must be off when inserting or removing the cards. The hinged, lockable cover shown in these instructions allows access to the low voltage (Class

2) wiring compartment without exposing the line voltage area. If using a standard cover, the line voltage sections must be covered to avoid exposure to the live wiring.

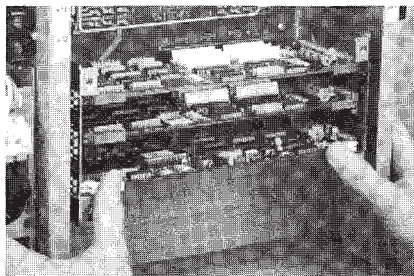
Insert Card

CAUTION: If using a dataline, make sure the RDPWR (Dataline Power Supply) is in the "Standby" mode before plugging in cards.

Remove the card cover.

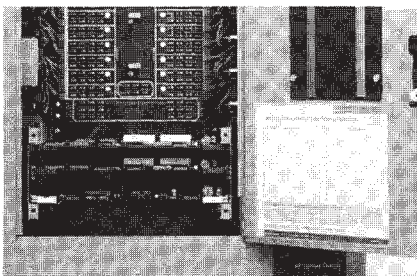


Insert the RLM48 Controller Card and associated RRDC12 Relay Driver Cards.

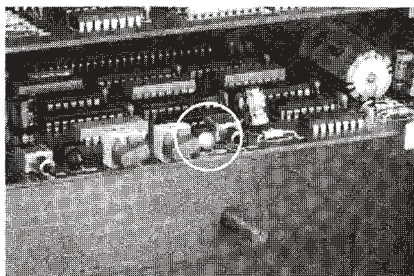


Power up and Test

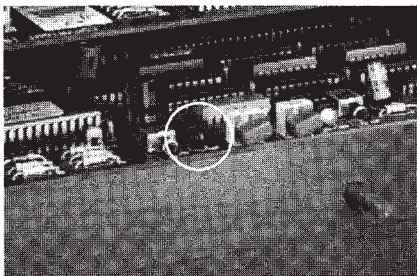
Secure the panel cover. Turn on the low voltage power supply circuit.



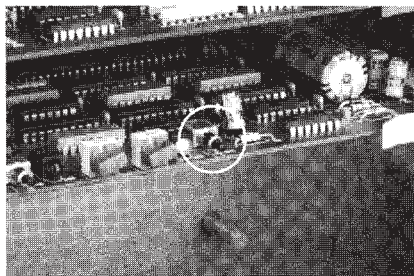
Check the RLM48 Hardware Status LED (to the right of the Panel Address setting knobs): Off = No Power; On steady = Okay; Flashing = Defective board.



Check the RLM48 Memory Status LED (to the left of the Panel Address setting knobs): Flashing = Not Programmed (okay); Off = Programmed.



Press the Test Button on the RLM48 and hold for 4 seconds. Relays will sequence ON (OFF). Repeat for OFF (ON).



“Learning” Desired Operation

“Learning” is a two-step operation:

- Step 1. Assign relays to functional groups ... “soft-wiring”
- Step 2. Select appropriate operation ... “scenario”

The enclosed Application Sheets provide examples of functional relay groups and three appropriate scenarios for office, store and daylighting applications. The Panel Documentation form provides a simple means for recording your choices.

**Step 1:
“Softwiring”
Relays to PSS
Inputs**

A. Select Relays in Group

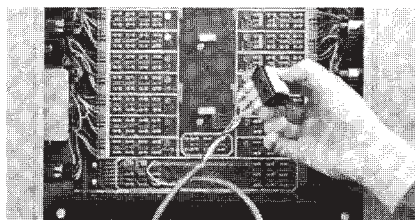
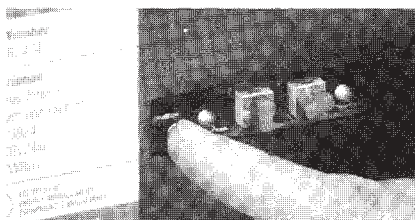
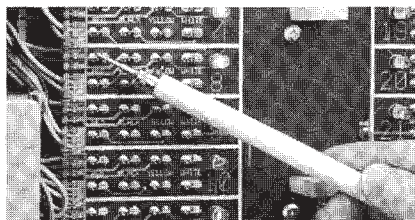
Turn ON the relays to be included in the switched group. (Photo shows relays being turned ON by using a jumper to momentarily connect the relays’ ON contacts to WHITE.) The LEDs provide a visual indication of the relays’ state.

B. Press the “LEARN” Button

The LEARN LED will begin to flash slowly, indicating the RLM48 card is now in the “Learn Mode”. (A rapidly flashing LED indicates that there are no group definitions in the RLM48.)

C. Turn ON the Master Switch

Any device with isolated contacts can be connected to a Programmable System Switch (PSS) input: Maintained or Momentary Switches, Timeclocks, Security or BAS Systems. When in the “Learn Mode”, turning the control device ON “softwires” it to those relays which are ON.



**Step 2:
Select
Operating
Scenarios for
PSS Switches**

...ON/OFF

If you “softwire” a PSS input to a group of relays as shown above, that switch will sequence each relay in the group ON/OFF when actuated. You may think of it as a “softwired contactor”. Unlike a contactor, however, each individual relay may still be controlled independently with a switch or occupancy sensor. This allows you to turn OFF a group and still have an individual override his or her particular load.

...ON/“Flick Warn”

In some applications, when you turn OFF a group of lighting relays, you risk putting an occupant in the dark. A better method is to warn the occupant first by blinking the lights, and then allowing him or her to enter a protected override. To change the operating scenario from ON/OFF to ON/“Flick Warn” simply:

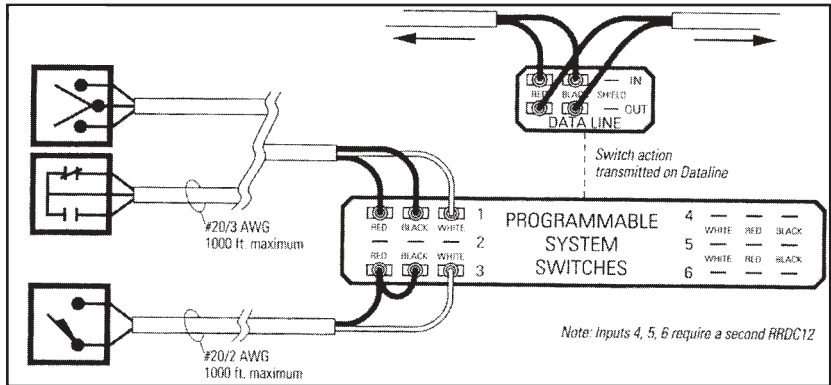
1. Turn ON the group
2. Press the LEARN Button
3. Turn the Master Switch OFF

The PSS input has now been programmed to blink the lights five minutes before turning them OFF. If the occupant hits his or her switch ON, the OFF is aborted.

Wire Programmable System Switch Inputs

NOTE: Each Programmable System Switch input will accept any of the switch types shown. These inputs may be programmed to control any group of relays within the panel. In a networked system, they may also control relays within other panels connected to the dataline.

Program and Test Operation



Step 1: "Softwiring" Relays to Special Function Switch Inputs A & B

The Special Function Switch Inputs are used for Cleaning Switches and Photocells. These are "soft-wired" to a group of relays using the same three steps outlined to the left for PSS inputs.



Step 2: Select Operating Scenarios for Special Function Switches

...Cleaning

Following the "softwiring" sequence for PSS inputs will program an A or B input as a CLEANING switch. A cleaning switch will control the selected relays ON (OFF), only of the cleaning switch turned them ON in the first place. This prevents the cleaning crew from inadvertently turning OFF an area that is ON for an occupant.

Note: When you first program a cleaning switch, it may appear not to operate; the reason is that the relays in your group are in an OVERRIDE ON condition. Turn them OFF and the Cleaning Switch will operate.

...Photocell

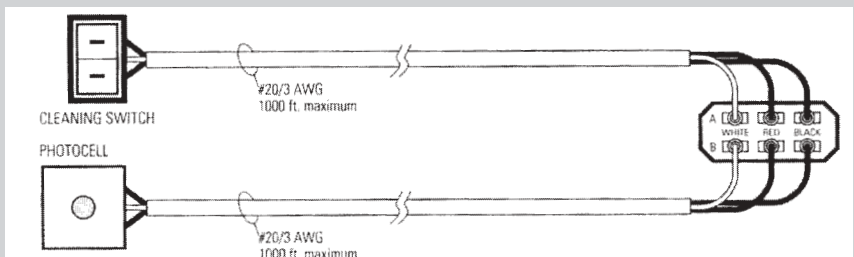
To change from a CLEANING scenario to PHOTOCELL, simply:

1. Turn ON the group
2. Press the LEARN Button
3. Turn the Photocell Switch OFF

The relays in the group will now follow the photocell whenever they are turned ON by a direct override or by a PSS action. If the area is OFF (unoccupied), the photocell will not turn it ON.

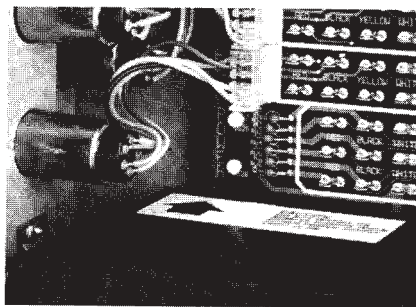
Note: If an individual overrides the shed function by turning a switch ON, the shed operation is aborted for the area.

Wire Special Function Switch Inputs A & B



Troubleshooting

CAUTION: Do not remove or install the RLM48 or its associated Relay Driver Cards when either power supply LED is on. These instructions assume the panel has a hinged cover which allows access to the low voltage compartment only. If you are using a standard cover, the line voltage sections must be covered to avoid exposure to the live wiring.

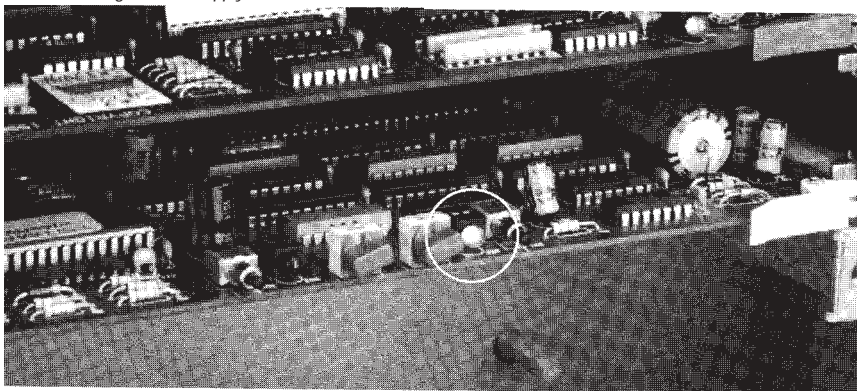


EMERGENCY SERVICE OR SUPPORT 1-877-LTG-CNTL (584-2685)

**No Relays
Respond to the
Test Switch**
(but do respond to
direct switches)

Check the RLM48 Hardware Status LED with the Low Voltage Power Supply ON. If the LED is OFF, turn the Low Voltage Power Supply OFF and reseal the

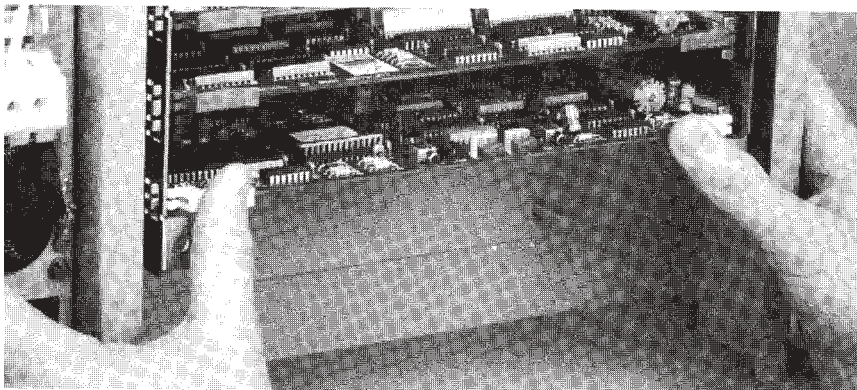
card. If the LED is flashing, the card is defective. Call the Emergency number above.



**Individual Relay
or Group of
Relays Does Not
Respond to the
Test Switch**
(but does respond to
direct switches)

Turn the Low Voltage Power Supply OFF and reseal the Relay Driver Card(s) associated with those relays. Restore power and test. If still not working,

turn the Low Voltage Power Supply OFF and replace the Relay Driver Card(s). Call the Emergency number above for replacement.



GE Total Lighting Control

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