RIB Lighting Controls

12-Pole Lighting Contactor Cabinet
With 100-Hour Backup

MODEL LCC-12
Installation and Setup Instructions

Bulletin B4539

⚠WARNING ***Risk of Fire or Electric Shock***

- Disconnect power at the circuit breaker(s) or disconnect switch(es) before installing or servicing.
- More than one circuit breaker or disconnect switch may be required to de-energize the equipment before servicing.
- For plastic enclosures, bonding between conduit connections is not automatic and must be provided as part of the installation.
- Installation and/or wiring must be in accordance with National and Local Electrical Code requirements.
- Load Voltage lead sizes #14 - #4 AWG, rated at least 105°C - USE COPPER CONDUCTORS ONLY.
- If the power disconnect point is out of sight, lock it in the OFF position and tag it to prevent unexpected application power.
- Make sure there is no wire insulation under the terminal plate on the time switch connector. Firmly tighten terminal screws.
- For outdoor locations or wet locations (rain-tight), conduit hubs that comply with requirements of the UL514B (standard for fitting conduit and outlet boxes) are to be used.
- Do NOT exceed maximum current carrying capacity.
- Dead front must be secured in place when not servicing.
- KEEP DOOR CLOSED AT ALL TIMES when not servicing.

NOTICE

- Do NOT touch circuit board components, contact can create a static discharge, which can damage these electronic components.

Description

This document explains the setup and configuration of the Functional Devices LCC-12 12-Pole Lighting Contactor Cabinet with an Indoor/Outdoor Type 3R enclosure. The LCC-12's built-in time switch automatically switches loads according to the entered weekly schedule, holiday schedule, or from a remote override. The time switch can support up to 48 fixed ON and 48 fixed OFF events (96 total), independent Astro events for each circuit, and 50 holiday events. Each fixed event can be applied to any combination of days.

The Contactor Cabinet features a built-in time switch, (3) 4-Pole contactors, Hand-Off-Auto (HOA) Switch and Status Relays, a remote input for a photocontrol, input location for a surge device, as well as an input for a standard switch to be used. The built-in time clock features an LCD and panel-mounted control buttons to set, review, and monitor the time switch functions, including setting date and time, schedule creation, enabling or disabling Daylight Saving Time (DST) and configuring DST switchover dates.

Follow these instructions to complete the installation and programming of the LCC-12, 12-Pole Lighting Contactor Cabinet.

Federal Communications Commission (FCC) Notice for LCC-12 Time Switch

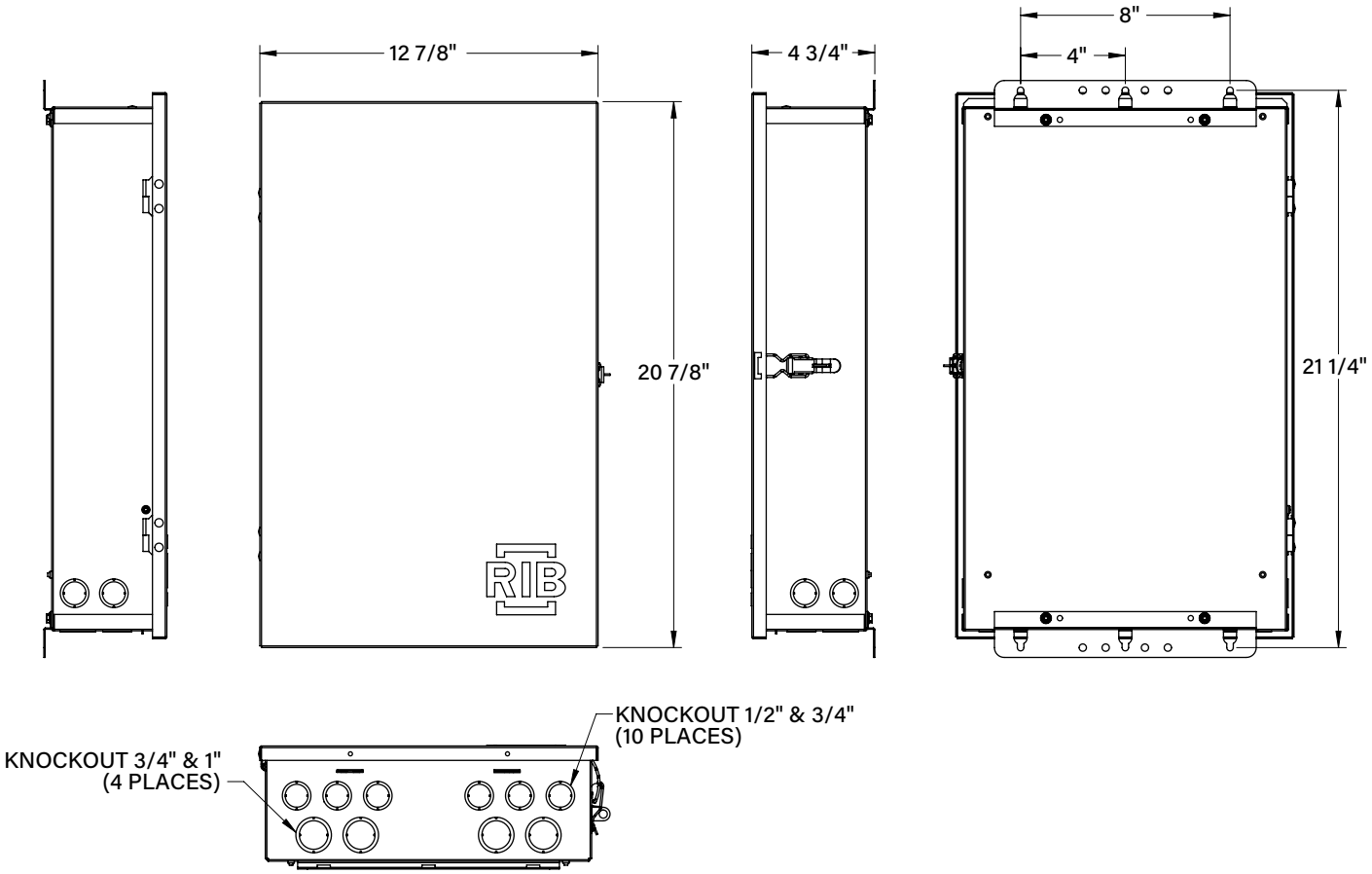
This device complies with part 15 of the FCC rules. Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and radiates radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference that requires the user to correct at his or her own expense.

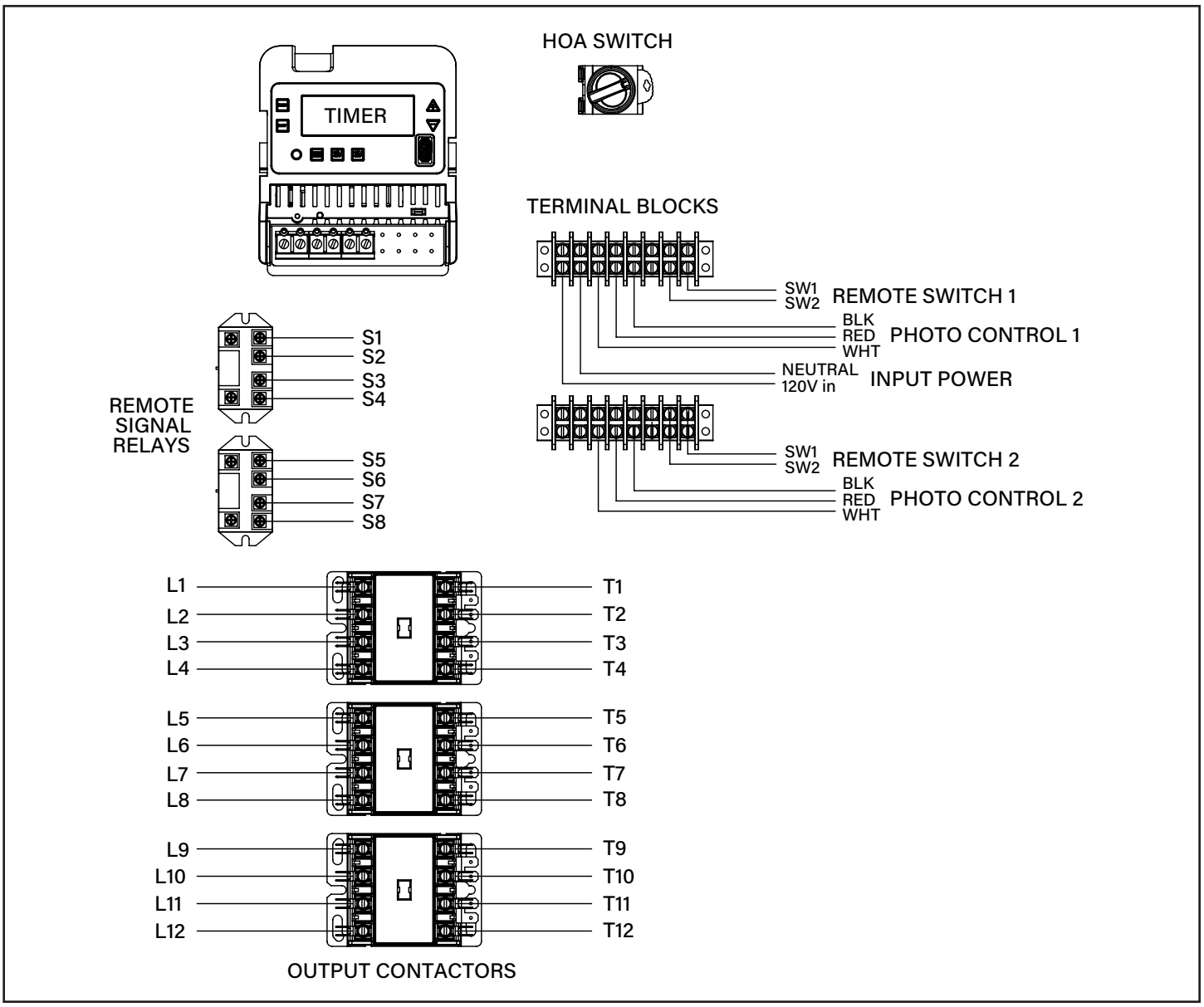
Installation

Follow these instructions to install the time switch.

1. Open the time switch enclosure door.
2. Remove dead front cover.
3. Choose and remove the selected knockout(s) from the enclosure.
   NOTE: There are a total of ten 1/2" - 3/4" and four 3/4" - 1" combination knockouts available. Please see drawings below.
4. Place the enclosure in the desired location providing space for the enclosure door to swing open fully.
5. Securely mount enclosure using provided mounting brackets.
6. Use appropriately rated fittings for the installation.
7. Strip 1/2" off the supply and load wires. Use #14 - #4 AWG copper conductors rated at least 105°C. Torque timer wiring terminals to 15.6 lbf-in.
8. Connect the wires to the proper terminals on the time switch and tighten the screws firmly (See wiring diagrams).
9. Connect ground wire to grounding terminal at the bottom of metal enclosure.
10. Return the dead front to its original position and replace the screw.
11. Close enclosure door.
12. Apply power to the time switch.

Enclosure Dimensions, Knockout locations and Wiring Diagrams





NOTE: Program Circuit 1 for direct control of Contactor 1-4, Program Circuit 2 for the optional photo control for Contactor 1-4. Program Circuit 3 for direct control of Contactor 5-12, Program Circuit 4 for the optional photo control for Contactor 5-12.

Initial Setup

The following sections provide instructions for the initial setup of the time switch.

Setting The Output Configuration

NOTE: For correct operation, the built-in time clock should be kept in the independent (IND) mode of operation.

NOTE: The output configuration setup can only be accessed at initial startup of the unit or after a "Clearing Time Switch Memory" operation. Follow this procedure to set the output configuration.

1. Activate power to the time switch. The display shows **IND**, the **ARROW** icon above the ENTER/NEXT button and the LOAD icons for circuit #1 and circuit #2 turn on.

   NOTE: If the display does not show IND the output configuration is already set and a "Clearing Time Switch Memory" operation must be performed.
2. Press + or - to scroll to the desired output configuration.
3. Press ENTER/NEXT to save the setting.
4. The output configuration is now completed.

Programming Overview

The steps to program the time switch include setting the current date, time, Astro zone, Astro events, fixed events, DST, and holiday events, setting the time switch's operation to AUTO mode, ENERGY SAVER mode or MANUAL mode (only MANUAL mode will appear if there are no scheduled events) and read or write an event schedule from a USB memory stick.

NOTE: If the time switch is left inactive for five minutes in a programming mode, it will return to the AUTO mode screen (**AUTO** icon turned on). If no scheduled events are programmed, the time switch will return to MANUAL mode. If the date has not yet been entered, the time switch will go to the Enter Date Mode.

Setting Date

Follow this procedure below to set the date and time in the time switch.

NOTE: If necessary, hold + or - to scroll through the digits rapidly.

1. Press MODE to scroll through the mode selections until **SET** and **DATE** icons appear at the top of the display. The month flashes.
2. Press + or - to select the current month and then press ENTER/NEXT. The day of the month flashes.
3. Press + or - to select the current day of the month, and then press ENTER/NEXT. The year flashes.
4. Press + or - to enter the current year, and press ENTER/NEXT. The month will flash again.
5. Press MODE to move to the next mode selection.

Setting Time

Follow the procedure below to set the time in the time switch.

NOTE: If necessary, hold + or - to scroll through the digits rapidly.

1. Press MODE to advance to the Set Clock mode selection if this selection is not already active. The **SET** and **TIME** icons appear on the display and a flashing 12:00 AM appears (if clock has not been set).
2. Press + or - to select the current time. ***NOTE:*** Seconds can be set to 00 by pressing ENTER/NEXT.
3. Press MODE to save the time and move to the Enable Daylight Saving Time mode selection.

   NOTE: If the time switch programming data is to be read from a USB memory stick, refer to the "Read Time Switch Program Data..." section in these instructions.

Enable/Disable Daylight Saving Time and Setting Daylight Saving Time Rule

Configure the time switch to automatically adjust for Daylight Saving Time (DST). If DST does not apply to your region, disable the option as directed in this procedure. Follow this procedure to enable/disable the Daylight Saving Time feature, and if applicable, set the DST rule.

1. Press MODE to advance to the Set DST mode selection if this selection is not already active. The **SET** and **DST** icons appear on the display.
2. Press + to display ON (enable DST) or press – to display OFF (disable DST) and then press ENTER/NEXT to save.

If DST is	**Then**
Enabled	Go to step 3.
Disabled	Press MODE to save and exit. The procedure is complete.

3. Press + or - to scroll to the desired DST rules for your area.

   NOTE: The DST rules are US2007 (US rules), MX1986 (Mexico rules), and CUSTOM (user-defined start/end dates).

If you select	**Then**
US2007 or MX1986	Go to step 8. ***NOTE:*** To view the start and end dates for a DST rule, press ENTER/NEXT to scroll through the dates and then press MODE.
Custom	Press ENTER/NEXT. The screen displays a flashing **MAR** and **2ND**. Go to step 4.

4. Press + or - to select a starting month for customized DST and press ENTER/NEXT.
5. Press + or - to select a starting week (1ST, 2ND, 3RD, 4TH, or LST) and press ENTER/NEXT.

   NOTE: DST changes at 2:00 A.M. on Sunday of the user-configured starting and ending weeks. Select LST for the fifth Sunday of a month.
6. Press + or - to select an ending month and press ENTER/NEXT.
7. Press + or - to select an ending week and press ENTER/NEXT.
8. Press MODE to save the DST rules and move to the next mode selection.

Setting Astro Zone and Time Zone

The astronomic feature of this time switch provides a sunset ON event and a sunup OFF event for each circuit (see "Setting Astronomical ON/OFF Events"). These ON and OFF events automatically adjust to the actual change in sunset and sunup times in the geographical location (Astro zone) that is set in the following procedure.

Follow this procedure to set the Astro Zone for the time switch.

1. The ASTRO ZONE icon appears at the top of the display. The display shows **AL C** and a flashing **US**.
   (If this mode selection is not already active, press MODE to advance to the Set ASTRO ZONE mode selection.)
   NOTE: If a custom location of the time switch had been previously set by adjusting either the latitude or longitude setting, the display will show the current latitude setting. Simultaneously press + and – to delete the custom time switch location and return to the previously set geographical location setting (state and section of state).
2. Press + or - to select the country (USA, Canada, or Mexico) and press ENTER/NEXT.

If you selected	**Then**
USA or Canada	Press + or - to select the desired state or province and press ENTER/ NEXT. Go to step 3.
Mexico	Go to step 3.

3. Press + or - to select the applicable geographical section within the selected state or province and press ENTER/NEXT (possible geographical locations are listed in the following table). Not all sections will be available for every state.

N	S	E	W	C	NE	NW	SE	SW
North	South	East	West	Center	Northeast	Northwest	Southeast	Southwest

Example: If time switch is located in Chicago then the geographical location within the state of Illinois would be NE.

NOTE: In most cases, the section choice provides an accurate location for your time switch. If a location requires greater accuracy adjust the latitude and longitude in the time switch. If this is a requirement, follow the applicable steps to set a custom latitude and longitude.

4. The LAT (latitude) entry screen appears showing the value of the selected geographical location.

If	**Then**
LAT accuracy does not require adjustment (**TYPICAL**)	Press ENTER/NEXT twice to scroll past the latitude and longitude screens to the TZCENT screen. Go to step 6.
Greater LAT accuracy is warranted	Press + or - to select the latitude and press ENTER/NEXT. Go to step 5.

5. The LN (longitude) entry screen appears showing the value of the selected geographical location.

If	**Then**
LN accuracy does not require adjustment (**TYPICAL**)	Press ENTER/NEXT to skip the longitude screen. Go to step 6.
Greater LN accuracy is warranted	Press + or - to select the latitude and press ENTER/NEXT. Go to step 6.

6. The TZCENT screen appears. Press + or - to scroll to the desired time zone and press MODE to save the settings.
   (See table for a description of the available time zones)

If	**Then**
TZHAI	Hawaiian time zone
TZALS	Alaskan time zone
TZPACI	Pacific time zone
TZMntN	Mountain time zone
TZCENT	Central time zone
TZEAST	Eastern time zone
TZAtLN	Atlantic time zone
TZNFLD	Newfoundland time zone

Setting Sunup and Sunset Offset Times from Astronomic Sunup and Sunset Times

Normally, the time switch's sunup and sunset times match the actual occurrence of sunup and sunset (astronomic sunup and sunset times). In some cases it is desirable to change the time switch's sunrise and sunset times so circuits turn on or off either before or after an actual sunup or sunset. For example, a user can set the lights in a parking lot to turn on 30 minutes before the normal sunset time by changing the time switch's sunset time to 30 minutes (a 30-minute offset) before the normal sunset time.

Follow this procedure to adjust sunup and sunset times or press MODE to skip this procedure.

1. Press MODE to advance to the Offset mode selection if this selection is not already active. The **SET** and **SUNUP** icons appear at the top of the display. The default sunup time for circuit #1 is displayed as indicated by the **LOAD** icon above the circuit #1 button.
2. Press + or - to adjust the time for sunup and press ENTER/NEXT. OFFSET briefly appears on the display, and then the offset time (in minutes) is displayed.

   NOTE: Offsets can be set to a maximum of 2 hours (120 minutes) before or after a sunup or sunset time. A minus sign (-) appears before the digit to indicate minutes before a sunup or sunset time.
3. If needed, press + or - to adjust the offset time value and press ENTER/NEXT to save the value.
4. The updated sunup time is displayed.
5. If desired, press the ON/OFF button to adjust the offset time for the next circuit to program. The **LOAD** icon for this circuit will be displayed.
6. Repeat steps 2 through 5 for each circuit.
7. When all circuits are set, press MODE to save settings. The time switch displays **SET** and **SUNSET** icons at the top of the display. The default sunset time for circuit #1 is displayed as indicated by the **LOAD** icon above the circuit #1 button.
8. Repeat steps 2 through 5 as necessary to adjust sunset times.
9. When all the sunset times are configured, press MODE to save.

Programming Events

Users can configure Astro events, fixed-timed events, or a combination of Astro and fixed-timed events.

Perform the applicable instructions below.

- To set Astro events (sunset and sunup) only, perform the procedure; Setting Astronomic On/Off Events
- To set fixed-timed events only, perform the procedure; Setting Fixed Timed Events
- To set a combination of Astro and fixed events, perform both procedures; Setting Astronomic Events and Setting Fixed Events
-

Setting Astronomic On/Off Events

NOTE: Load 1 is the coil side of the contactor 1-4, Load 2 is only timing for optional Photo Control override for contactor 1-4, Load 3 is the coil side of contactors 5-8 and 9-12, and Load 4 is only timing for optional Photo Control override for contactors 5-8 and 9-12.

Access the Astro Events screen to configure Astronomic ON/OFF events for each individual circuit. For each circuit one Astronomic ON event (at sunset) and/or one Astronomic OFF event (at sunup) can be enabled for selected days of the week. Follow this procedure to set Astro ON/ OFF Events (if no astronomic events need to be set press MODE to move to the next mode selection).

1. Press MODE to advance until **SET ASTRO ON/OFF EVENTS SUNSET** icons appear on the display (if this selection is not already active). The display also shows the **ON@** icon and the **LOAD** icon above the circuit #1 button.
2. If an event is not set the time display will show - - - -.
3. Press DAY. The screen displays SUNSET and the days of the week.

If the desired days for this event are	**Then**
MON-SUN	Press ENTER/NEXT to save. Go to step 7.
MON-FRI	Press DAY once and then press ENTER/NEXT to save. Go to step 7.
SAT-SUN	Press DAY twice and then press ENTER/NEXT to save. Go to step 7.
SET EACH DAY INDIVIDUALLY On the display, the day of the week being set is flashing.	Press DAY three times and the MON icon should flash. Go to step 4.

4. Press – to eliminate this event or press + to keep this event for the selected day.
5. Press DAY to move to the next day of the week and repeat step 4.
6. When all the days are set, press ENTER/NEXT to save.
7. The display changes to SET ASTRO ON/OFF EVENTS SUNUP, the OFF@ icon.
8. If an event is not set the display will show - - - - .
9. Press DAY. The screen displays SUNUP and the days of the week.

If the desired days for this event are	**Then**
MON-SUN	Press ENTER/NEXT to save. Go to step 13.
MON-FRI	Press DAY once and then press ENTER/NEXT to save. Go to step 13.
SAT-SUN	Press DAY twice and then press ENTER/NEXT to save. Go to step 13.
SET EACH DAY INDIVIDUALLY On the display, the day of the week being set is flashing.	Press DAY three times and the MON icon will flash. Go to step 10.

10. Press – to eliminate this event or press + to keep this event for the selected day.
11. Press DAY to move to the next day of the week repeat and step 10.
12. When all the days are set, press ENTER/NEXT to save.
13. The display shows the **SET ASTRO ON/OFF EVENTS SUNSET** icons. The display also shows the **ON@** icon and the **LOAD** icon above the next circuit button.

If	**Then**
You want to configure an Astro event for another circuit	Return to step 2.
All the required Astro events are set	Press MODE to save and exit. The procedure is complete.

Setting Fixed Timed Events

NOTE: Circuit 1 controls the coil side of the contactor, Circuit 2 controls the optional photocontrol or timed override input. Circuit 3 controls the coil side of the contactors for circuits 5-12. Circuit 4 controls the optional photocontrol for loads 5-12.

Access the Fixed ON/OFF screen to set fixed switching times. Odd-numbered events are for ON switching and even-numbered events are for OFF switching. These events can be enabled for selected days of the week. Follow these steps to set fixed time events (if no fixed events need to be set press MODE to move to the next mode selection):

1. Press MODE to advance until **SET FIXED ON/OFF EVENTS** and **ON@** icons appear on the display (if this selection is not already active. The Event Number and **LOAD** icon for each circuit are also displayed. Press ENTER/NEXT if this fixed-on event is not needed, go to step 9.
2. If an event is not set the time display will show - - - -.
3. Press DAY. The screen displays 12:00 am and the days of the week.
4. Press + or - to set the time for the fixed event to occur.
5. Initially both circuits are included with this event. Press ON/OFF buttons to remove each circuit not affected by this event. If the **LOAD** icon for the circuit is displayed then this circuit will respond to this event.

If the desired days for this event are	**Then**
MON-SUN	Press ENTER/NEXT to save. Go to step 9.
MON-FRI	Press DAY once and then press ENTER/NEXT to save. Go to step 9.
SAT-SUN	Press DAY twice and then press ENTER/NEXT to save. Go to step 9.
SET EACH DAY INDIVIDUALLY On the display, the day of the week being set is flashing.	Press DAY three times and the MON icon will flash. Go to step 6.

6. Press – to eliminate this event or press + to keep this event for the selected day.
7. Press DAY to move to the next day of the week repeat step 6.
8. When all the days are set, press ENTER/NEXT to save.
9. The Event Number increments and the **SET FIXED ON/OFF EVENTS** and **OFF@** icons are displayed. Press ENTER/NEXT if this fixed-off event is not needed, go to step 17.
10. If an event is not set the time display will show - - - -.
11. Press DAY. The screen displays 12:00 am and the days of the week.
12. Press + or - to set the time for the fixed event to occur.
13. Initially both circuits are included with this event. Press ON/OFF buttons to remove each circuit not affected by this event. If the LOAD icon for the circuit is displayed then this circuit will respond to this event.

If the desired days for this event are	**Then**
MON-SUN	Press ENTER/NEXT to save. Go to step 17.
MON-FRI	Press DAY once and then press ENTER/NEXT to save. Go to step 17.
SAT-SUN	Press DAY twice and then press ENTER/NEXT to save. Go to step 17.
SET EACH DAY INDIVIDUALLY On the display, the day of the week being set is flashing.	Press DAY three times and the MON icon should flash. Go to step 14.

14. Press – to eliminate this event or press + to keep this event for the selected day.
15. Press DAY to move to the next day of the week and repeat step 14.
16. When all the days are set, press ENTER/NEXT to save.
17. The Event Number increments and the **SET FIXED ON/OFF EVENTS** and **ON@** icons are displayed. Press ENTER/NEXT if this fixed-off event is not needed.

If	**Then**
Another fixed event needs to be set	Return to step 2.
All the events are set	Press MODE to save and exit. The procedure is complete.

Setting Holidays

There are 50 Holiday blocks that can be programmed along with a single schedule for each block. For each block there will be a start date and an end date. Within each block one scheduled "on" event and one "off" event can be programmed. Holidays are recognized by an H on the display. During the dates chosen, the relays will remain in the "OFF" state and HOLIdy will show on the display. **NOTE:** During holiday blocks only programmed holiday events will trigger relay operations.

To program holiday blocks follow these guidelines:

1. Press MODE to advance until the **SET, DATE and ON@** icons appear on the display if this selection is not already active. A holiday Number is also displayed on the right side of the display.
2. The time display will flash - - - - and also show 1H.
3. Press the + or – buttons to choose the month that the holiday will start.
4. Press ENTER/NEXT and the day of the month, the 1, will flash.
5. Press the + or – buttons to choose the day that the holiday will start.
6. Press ENTER/NEXT and the **OFF@** icon is displayed.
7. The time display will flash - - - - and also show 1H.
8. Press the + or – buttons to choose the month that the holiday will end.
9. Press the ENTER/NEXT and the day of the month, the 1, will flash.
10. Press the + or – buttons to choose the day that the holiday will end.
11. Press ENTER/NEXT and the **SET ON@ ON/OFF EVENTS** icons are displayed. (Press ENTER/NEXT twice to skip setting an event during the holiday period in which case all circuits will remain off.)
12. The time display shows - - - - and event number 1 is also displayed on the right side of the display.
13. Press the + or – buttons to set the time for this holiday event to start.
14. Press ENTER/NEXT and the **OFF@** icon is displayed.
15. The time display shows - - - - and event number 2 is also displayed on the right side of the display.
16. Press the + or – buttons to set the time for this holiday event to end.
17. Press ENTER/NEXT and the **SET, DATE and ON@** icons appear on the display. The next holiday number is displayed on the right side of the display.

If	Then
Another holiday period needs to be set	Return to step 2.
All the events are set	Press MODE to save and exit. The procedure is complete.

Example: July 4th would have a start date of Jul 4 and an end date of Jul 5. At 12:00 AM on July 4th the circuits will be turned to the OFF state. At 12:00 AM on July 5th the circuits will reconcile and will be turned to their correct state of operation.

Setting Operating Mode

The time switch can be set to one of three operating modes: AUTO (default setting), ENERGY SAVER or MANUAL. Once operating mode is selected the time switch setup is complete.

NOTE: If no scheduled events are programmed, only MANUAL mode is available.

In AUTO mode, the time switch follows the user-programmed events and the circuits turn ON and OFF at the programmed time(s).

- To place in AUTO mode, press MODE and advance until the **AUTO** icon appears on the display.
- In AUTO mode, pressing an ON/OFF button temporarily overrides the current state of the circuit. The time switch returns to the normal schedule at the next programmed event.

In ENERGY SAVER mode the time switch operates similarly to AUTO mode with the following exceptions:

- The ON/OFF buttons manually activate circuits for only a 2-hour period.
- When a 2-hour period is active, pressing ON/OFF extends the active period by 2 hours.
- Pressing and holding (for 3 seconds) an ON/OFF button will turn OFF the associated circuit.

For ENERGY SAVER mode, press the MODE button until the **AUTO** icon on the display flashes.

In MANUAL mode the time switch does not follow any programmed events and only activates circuits when an ON/OFF button is pressed.

- For MANUAL mode, press the MODE button until the **MANUAL** icon appears on the display.

Deleting (Clearing) an Event

Astro and fixed events can be deleted from the time switch. If you need to delete an event, follow this procedure.

1. If necessary, press MODE to scroll through the different mode selections until SET ASTRO or SET FIXED ON/OFF EVENTS appear on the display.
2. Press ENTER/NEXT as necessary to scroll through the scheduled events until you see the event you want to delete.
3. Press + and – **at the same time** until the display shows --:-- --. This indicates the event is erased.
4. If necessary, press ENTER/NEXT to advance through the other configured events.
5. Press MODE to save the changes and exit.

Clearing Time Switch Memory

During a "Clear Time Switch Memory" operation, the time switch resets all programmed settings to their factory default value. The following occurs:

- After a brief period of time the time switch model number appears, followed by the USB Boot Loader version, EE Boot Loader version, the firmware revision and finally the Reset Reason Code.
- MEMCLR is displayed followed by DONE when the operation is completed.

To perform a "Clear Time Switch Memory" operation do the following:

1. Press and hold ENTER/NEXT.
2. While pressing and holding ENTER/NEXT, press and release the RESET (round) button. Do not release ENTER/NEXT.
3. Continue to press and hold ENTER/NEXT until **MEM CLEAR** then **DONE** briefly appears.
4. IND will now show on the display. Refer to the "Setting Output Configuration" section in these instructions.

Writing Time Switch Program Data to a USB Memory Stick

The time switch has the capability to copy its programmed data (event schedules, holidays, output configuration, DST on/off setting, DST rule setting and geographical location) to a USB memory stick. Follow these steps to transfer all programming from the time switch to a USB memory stick:

1. Press MODE to advance until *wr USb* is displayed.
2. Press ENTER and *insUSb* is displayed.
3. Insert a USB memory stick into the USB port on the front face of the time switch.
4. *SCHEdL 01* is displayed. Press + or - to increment/decrement the schedule number on the display (01-99).
5. When the desired number is displayed, press ENTER and this will write the data file to the USB memory stick. The file name will be *SCHEDLxx.TXT* where xx is the schedule number selected in the previous step.
6. After the file is written *REMOVE* is shown on the display.
7. Remove the USB memory stick and the time switch will advance to the next mode selection. If all procedures are completed, press MODE repeatedly until back to the operating mode selection (AUTO, ENERGY SAVER, MANUAL).

Reading Time Switch Program Data from a USB Memory Stick

The time switch has the capability to read program data (event schedules, holidays, output configuration, DST on/off setting, DST rule setting and geographical location) from a USB memory stick. Follow these steps to transfer all programming from a USB memory stick to the time switch:

1. Press MODE to advance until *rd USb* is displayed.
2. Insert a USB memory stick containing the desired data file into the USB port on the front face of the time switch.
3. Press ENTER and *insUSb* is briefly displayed.
4. *SCHEdL.xx* is displayed where xx is the first data file number found on the USB memory stick.
5. Press + or - to scroll through the data files on the USB memory stick (if more than one file is stored on this stick).
6. When the desired number is displayed, press ENTER and the time switch will read the data file from the USB memory stick.
7. After the file is read into the time switch, *DONE* is briefly shown on the display followed by *REMOVE*.
8. Remove the USB memory stick and the time switch will advance to the next mode selection. If all procedures are completed, press MODE repeatedly until back to the operating mode selection (AUTO, ENERGY SAVER, MANUAL).

USB error codes

If a problem occurs when attempting to perform a USB read or write operation the time switch will show an error code on the display. Following is a description of the different error codes:

OPFILE Er	File could not be created on the USB memory stick (stick may be write-protected or corrupted)
wrFILE Er	Program data could not be written to the USB memory stick (stick may be full)
oPFILE ER	File could not be opened for reading from the USB memory stick
rdFILE Er	File could not be read from the USB memory stick
MSDH Er	USB device is not a memory-type device
FATFS Er	Fat file system error indicating the memory stick contains a data format that is incompatible with the time switch
DEVICE Er	USB memory stick is defective
shCrct Er	The power supply for USB port on the time switch is not functioning

Specifications

Input Voltage: 120 VAC, 60 Hz

Power Consumption: 7 W MAX

Switch Configuration: See wiring diagrams in this manual.

Switch Rating:

Model	Load Type	Rating Per Pole	Voltage
LCC-12	Resistive	32 A	240 – 600 VAC, 60 Hz
	Electronic Ballast	16 A	277 VAC, 60 Hz
	Motor	32 A FLA	240 – 600 VAC, 60 Hz
		5 HP, Single-phase; 10 HP, 3-Phase; 180 LRA	240/277 VAC, 60 Hz
		15 HP, 3-Phase; 150 LRA	480 VAC, 60 Hz
		20 HP, 3-Phase; 120 LRA	600 VAC, 60 Hz

Hand-Off-Auto (HOA) Switch: ON = Loads ON; OFF = Loads OFF; Auto = Loads controlled by clock

(2) Status Relays (DPST-NO): 1st Closed when loads 1-4 ON, 2nd Closed when loads 5-12 ON.

Status Relay Contact Ratings: 10 A General Purpose 120/277 VAC

Events: Time switch can support up to 48 fixed ON and 48 fixed OFF events along with 1 Astro on and 1 Astro off event per circuit.

Clock Backup: 100-hour Supercapacitor

Wire Size: Control Side Wire Size: #14 - #10 AWG

Contactor Side Wire Size: #14 - #4 AWG

Minimum ON or OFF time: 1 minute

Maximum ON or OFF time: Indefinite

Recharge rate is </= 1.5 Hours (less than or equal to 1.5 hours)

Enclosure: Type 3R Indoor/Outdoor Lockable Metal

Knockouts: See wiring diagram.

Functional Devices, Inc.
Sharpsville, Indiana 46068
www.functionaldevices.com

B4539 393361

158--02882