LMS
LIGHTING MANAGEMENT SYSTEMS ®

A product of Tulsa Gas Technologies

Installation and Operation of

QT100A

Lighting Quarantine Timer for use with LMS P91 & LMS 120 Series Lighting Controllers

TGT
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Programming the Tork Relay

(* you must proceed thru the programming process without delay. If no entries are made within 30 seconds, the unit will automatically go back to run mode and you will have to start all over)

Setting the time

Time should already be set, if so skip this section

1: On keypad press the 🕐 button. This will display the time. If Ch1; ⊙ is displayed under the time, press again until it disappears.

2. Using the "**h**" and "**m**" buttons, set correct time. AM/PM is displayed as: AM=P.M and PM=PM. Once time is set press 🕐 again to put it in run mode (Ch1; and ⊙ displayed under time)

Setting Date

Date should be set, if so skip this section

1. On keypad press the 🕐 button like you were setting the clock (Ch1; and ⊙ disappear under time)

2. Press the "**+1h**" button, "**AU**" will display. This mode is not used in North America.

3. Press the "**+1h**" button again, "**cHA**" will display, then press the "**Prog**." button.

4. The default year will display. Press the "**m**" button to increase the year. Then press the "**Prog**." button to store it. [*Note: If you pass the year, you will need to press the reset* ("**Res**") *button and start the complete programming process over.]*

5. Next you set the current date. To set month press the "**m**" button, to set day press "**h**" button. Display will be in "**MM DD**" format (July 4 is displayed 0704). Press "**Prog**" to store.

6. Daylight savings time date is displayed next. Since the current year was set in the previous step you only have to program the start and end dates for current year:

| Year	Begin date	End date
2004	0404	1031
2005	0403	1030
2006	0402	1029
2007	0401	1028
2008	0406	1026

Use the "**m**" button to set month and "**h**" button for the date.
Press "**Prog**" to store.

7. After begin date is set it should automatically display the end date. If not follow same process in step 6.

8. "**cHP**" will display then press the 🕒 button to return to run mode.

Setting Schedule:

Schedules should be set, if so skip this section.

1. In run mode press "**Prog**" button, "**- - : - -**" will display.

2. Next press the "**Day**" button this display is shown:

```
 1  2  3  4  5  6  7
 ▬  ▬  ▬  ▬  ▬  ▬  ▬

P.M.   12:00

Ch1;  ⌒
```
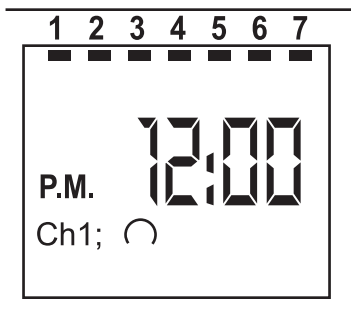
   Press the day in which you want schedule to run with Monday being
   day 1 and Sunday being day 7.

3. To set start time use "**h**" and "**m**" button to set hour and minute.

4. Press the 👉1 button to set to be on or off

> Ch1; ◉ = on
> Ch1; ⌒ = off

5. Press the "**Prog**" to store "**- - : - -**" will display again.

6. To set end program press "**day**" button again while the "**- - : - -**" is shown.
   The display in step 2 is shown again. Follow steps 2-5, but set
   Ch1; ◉ / Ch1; ⌒ opposite of what was programmed to end.
   Press "**Prog**" to store.

7. Repeat steps 2-6 for as many programs as you need (only 20 programs
   can be stored) Press the 🕒 button to return and execute schedules.

To Delete/Edit Schedules

In the run mode:

1. Press "**Prog**" button until schedule is displayed.

2. To edit follow the same steps used to set program. Once you edit press "Prog" and display will show next program or "**- - : - -**" if that is all the schedules in the program. Press 🕐 to execute.

3. To delete press "**Prog**" button until schedule is displayed. Press the "**Clear**" button and "**- - : - -**" is displayed.

4. Press "**Prog**" again and "**Fr xx**" is displayed. This shows how many more programs can be stored. (**Fr 20** means it's empty)

5. Press 🕐 to exit.

To Completely Clear Schedules

1. In run mode continuously press "**Prog**" button until "**Fr xx**" is displayed.

2. Press "**Clear**" button until "**CL**" is displayed.

3. Press and hold "**Clear**" button until "**Fr 20**" is displayed. All schedules are now cleared.

4. Press 🕐 to exit.

To Use Time of Day Timer On LMS P91

1. Program the timer for set times.
2. Move "**set-run**" switch to "**set**."
3. Put "**Manual On-Normal**" switch to "**Normal**."
4. Connect a wire from contact 1 on timer to black wire on 120VAC terminal board 1 LMS P91.
5. Connect a wire from contact 2 on timer to white wire on 120VAC terminal board 1 LMS P91.

On All LMS P91 series 50VA-500VA without Aux relays

1. Intercept the white wire on stage 1 and terminate it to contact 4 on the timer.
2. Run a wire from contact 5 on timer back to the terminal that the original white wire came from.

On All LMS P91 500VA with Aux Relays

1. Remove the neutral jumper between the LMS auxiliary relay #2 terminal #13 to the auxiliary relay 1A terminal #13.
2. Install a wire from LMS terminal #13 on auxiliary relay #2 to the QT100A terminal #4 then install a wire from the QT100A terminal #3 to the auxiliary Relay #1A terminal #13.

   What the QT100A is doing is controlling the neutral to the relays on stage 1A and stage 1B to only energize during the times allowed by the timer. It is doing this by switching the neutral to the coil of the auxiliary relays on stage 1A and stage 1B .

Press the 🕒 button on timer to make sure it is in run mode.
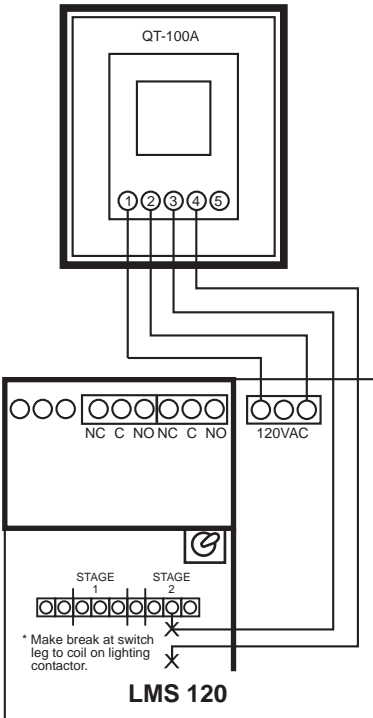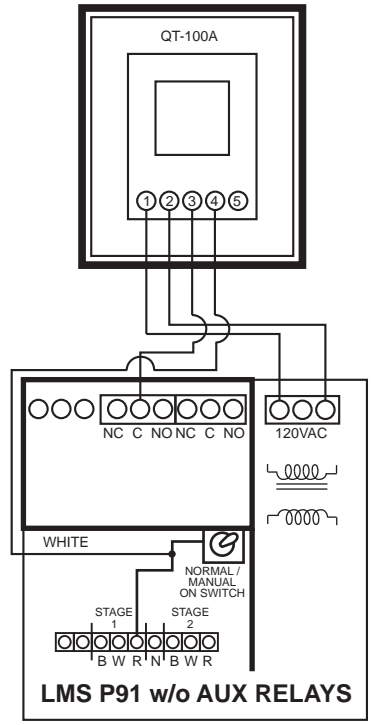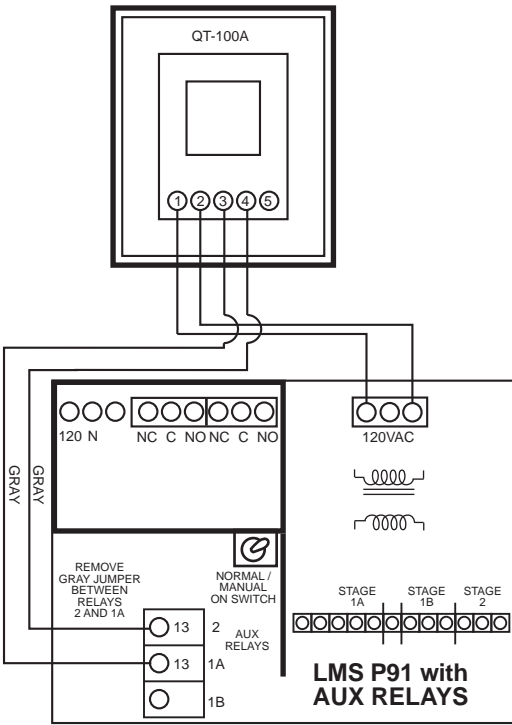
CURRENT SETTINGS FOR QT 100A:

Time: Set for current Eastern Standard time.

Year: 2004

Date: May 15

Schedules: Start time 9:45 a.m.
                    End time 6:15 p.m.

Daylight Savings: Start: April 4, 2004
                            End: October 31, 2004

QT-100A

① ② ③ ④ ⑤

120 N   NC C NO NC C NO   120VAC

GRAY
GRAY

REMOVE
GRAY JUMPER
BETWEEN
RELAYS
2 AND 1A

NORMAL /
MANUAL
ON SWITCH

○ 13   2
AUX
RELAYS
○ 13   1A

○   1B

STAGE
1A   STAGE
1B   STAGE
2

**LMS P91 with
AUX RELAYS**

QT-100A

① ② ③ ④ ⑤

NC C NO NC C NO   120VAC

WHITE

NORMAL /
MANUAL
ON SWITCH

STAGE
1   STAGE
2
B W R N B W R

**LMS P91 w/o AUX RELAYS**

QT-100A

① ② ③ ④ ⑤

NC C NO NC C NO   120VAC

STAGE
1   STAGE
2

* Make break at switch
leg to coil on lighting
contactor.

LMS 120

To Edit From Preset Values

*   *Once you start programming, 30 seconds are allowed between entries Otherwise the timer automatically returns to run mode.*

1. Push the 🕐 button on timer to show clock display. Display should show current time and be in run mode. (Ch1; ⌒ 🕐 displayed under time.)

2. Press "**Prog.**" button. First preset factory program will be displayed (**P.M 9:45** Ch1; (•)) to edit this use the "**h**" and "**m**" buttons. Set program to **PM 6:45**. (Note: no dot between the PM) Use the 👆 1 button to set on (•) (note: (•) = on, ⌒ = off). Press "Prog" button when done editing.

3. The next display is the second factory set program (**PM 6:45** Ch1; ⌒) follow same procedure in step 2 to edit. Set to **P.M 9:45**, and set to be off (⌒). Press "**Prog**" button.

4. Display should look like "**- - : - -**". Press "**Prog**" again and "**Fr 18**" will display. Press 🕐 to execute and return to run mode. (Note: if another program appears after the first two have been set, press "Clear" button to clear this program out. If by mistake you have cleared out all schedules in program, refer back to the setting schedules part of this manual

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FULL YEAR WARRANTY
ON ALL PARTS

For use on specific equipment and lighting to manufacturer's design. Warranty does not cover damage from misuse, neglect or damage from power surges and transient spikes. Warranty does not cover unauthorized modifications to original design.