



Electronics Corp.

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Altamonte Springs, FL 32714
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April 10, 2014

Liability Statement

Subject: Timer model number EL00230

Functions of the EL00230 timer:

LOAD 1 OUTPUT:

- The **LOAD 1 OUTPUT** section of the MTMR is activated when either the **TIMER 1 (+) ACTIVATE** input is connected to +12V or the **TIMER 1 (-) ACTIVATE** input is connected to Ground
- While the **TIMER 1 (+) ACTIVATE** input is active, then the **TIMER 1 (-) ACTIVATE** and the **TIMER 1 CANCEL** inputs will be disabled.
- While the **TIMER 1 (-) ACTIVATE** input is active, then the **TIMER 1 (+) ACTIVATE** and the **TIMER 1 CANCEL** inputs will be disabled.
- When the input that was activated to energize the **LOAD 1 OUTPUT** is deactivated, a fixed time down period of 5 or 10 minutes (as specified by the client) is initiated.
- The **LOAD 1 OUTPUT** will be de-energized when either a) the 5 or 10 minute time down period is completed or b) the **TIMER 1 CANCEL** input is momentarily activated (connected to Ground) at any time during the timing sequence.

LOAD 2 OUTPUT:

- The **LOAD 2 OUTPUT** section of the MTMR can be activated from either the **TIMER 2 ACTIVATE** or the **LOAD 2 ACTIVATE** inputs.
 - Activation of **LOAD 2 OUTPUT** using the **LOAD 2 ACTIVATE** input:

- Connecting the **LOAD 2 ACTIVATE** input to either +12V or Ground (as programmed by customer) will energize **LOAD 2 OUTPUT**. Disconnecting the **LOAD 2 ACTIVATE** input from +12V or Ground will de-energize **LOAD 2 OUTPUT**
 - Activation of the **LOAD 2 ACTIVATE** input will disable the **TIMER 2 ACTIVATE** input preventing it from altering the status of the **LOAD 2 OUTPUT**.
 - Activation of **LOAD 2 OUTPUT** using the **TIMER 2 ACTIVATE** input:
 - Momentarily activating the **TIMER 2 ACTIVATE** input by connecting it to either +12V or Ground (as programmed by customer) will energize **LOAD 2 OUTPUT** and simultaneously start the time down period selected by the customer (5, 15, 30 or 60 minutes).
 - If the **TIMER 2 ACTIVATE** input is momentarily activated again during the countdown period, a new time down sequence will be initiated.
 - The **LOAD 2 OUTPUT** will become de-energized at the end of the time down period or by momentarily activating for a minimum of 1 second the **TIMER 2 ACTIVATE** input.
 - If while the **LOAD 2 OUTPUT** is in its time down period the **LOAD 2 ACTIVATE** input is activated, the **LOAD 2 OUTPUT** will stay energized and cancel the time down period in progress. The **LOAD 2 OUTPUT** will be de-energized as soon as the **LOAD 2 ACTIVATE** input is deactivated.

FAIL-SAFE OPERATION:

The **LOAD 1 MANUAL ACTIVATE** switch, mounted on the controller cover, will permit the independent energization of the **LOAD 1 OUTPUT** even if the MTMR fails to operate.

INDICATING LIGHTS:

Two indicating lights are mounted on the cover of the device. They will provide the following status information for each output:

- Light “ON” continuously: Indicates that the MTMR entered a fail-safe mode and is not operational or that the **LOAD 1 MANUAL ACTIVATE** switch was actuated.
- Light blinking with single flashes: Indicates that the input signal is activated.

- Light blinking with double flashes: Indicates that the timing sequence is in progress.

NOTE:

Activation of the *LOAD 1 MANUAL ACTIVATE* switch will also turn on the *OUTPUT 1 STATUS* light.

Interaction with other ambulance components:

At present, this timer is used to energize and deenergize all the electrical loads located patient area of the ambulance.

Possible safety risks:

Failure of the automatic operation of the timer may disconnect the power supply to the electrical loads in the patient area.

Recovery from timer failure:

In the event the timer malfunctions, the built in "Load 1 manual activate switch" can be pressed to override the timer and continue providing power to the electrical loads in the patient area.

Reason for the recall

A power glitch (a momentary loss of the 12VDC signal) during the vehicle's starting action of the ignition switch (OEM equipment) causes the timer to energize the "Load 1 output" and immediately initiate the time down sequence. After the designated 5 minute interval, "Load 1 output" will momentarily power off for 1 second and then power back on as designed for normal operation.

Timers with defective Load 1 outputs: (Part number EL00230)

Recalled parts population was determined by establishing the time frame when parts susceptible to this glitch were delivered. A review of our records indicated that a total of 276 timers were delivered between February 10th, 2014 - April 2nd, 2014

Problem description:

A power glitch (a momentary loss of the 12VDC signal) during the vehicle's starting action of the ignition switch (OEM equipment) causes the timer to energize the "Load 1 output" and

immediately initiate the time down sequence. After the designated 5 minute interval, "Load 1 output" will momentarily power off for 1 second and then power back on as designed for normal operation. A change in the timer's input hardware made it susceptible to the momentary loss of the ignition switch 12VDC signal.

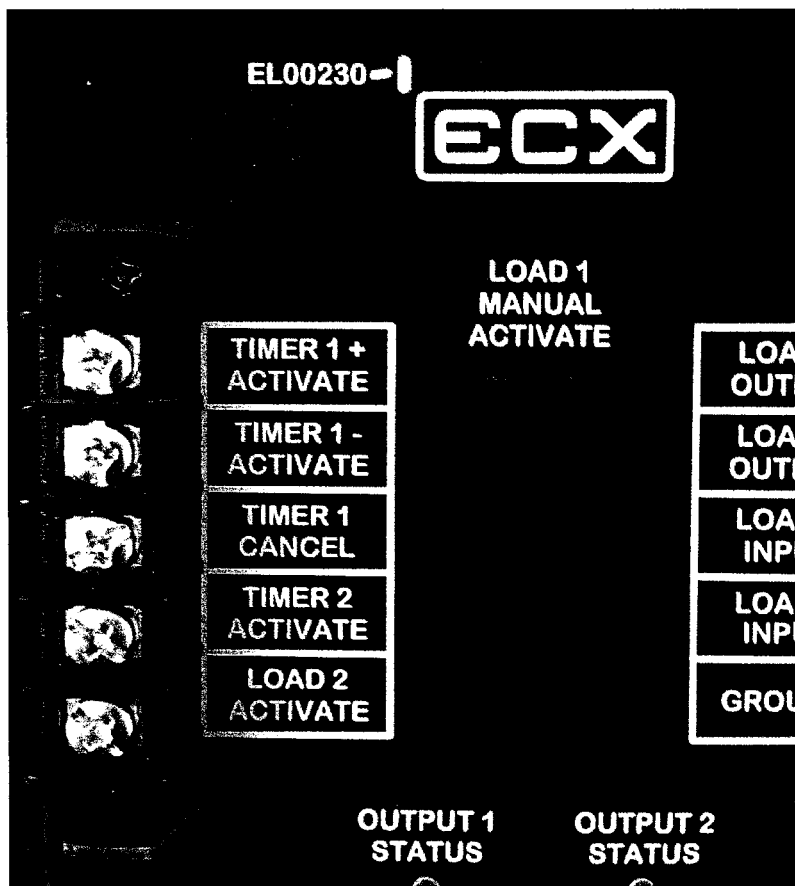
Corrective action:

A software revision has been implemented to enable the timer to ignore any ignition switch glitches and only enter the time down sequence when the ignition switch is turned off.

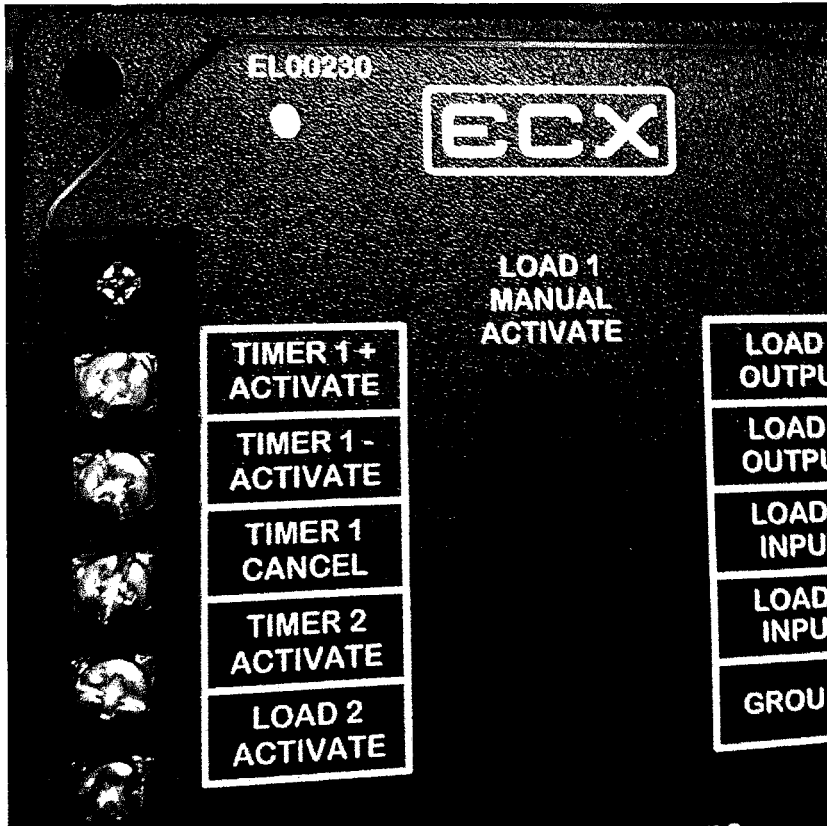
ECX Electronics will provide replacement parts through the manufacturer of your vehicle and the manufacturer will subrogate warranty claims for the customer.

New part number that reflects the software revision:

EL00230-1

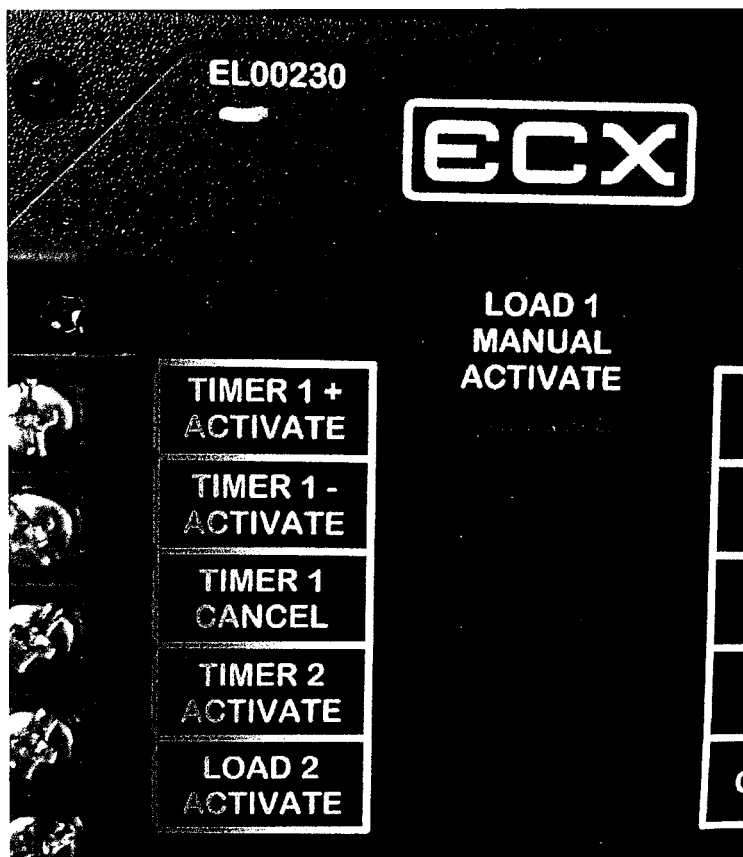


EL00230 with a silver dot under the part number



Part number that reflects original version of the timer delivered prior to February 10th, 2014 and not requiring software updates:

EL00230 with a silver dash under the part number



This statement was prepared by:

Rick Ballester

President

ECX Electronics Corp.