



GE Electric Vehicle Systems

INSTRUCTIONS

TRUCK MANAGEMENT MODULE

OEM DEFINED STATUS CODES AND
OPERATOR WARNING CODES

GENERAL

The Truck Management Module (TMM1) (IC3645TMM1A) is a multi-function accessory card or an auxiliary function of the EV100 Pump SCR control used with the EV-100/200 LXLXT series Traction SCR controls. The TMM1 card provides the OEM the ability to provide status codes or operator warning codes that will be displayed on the dash display whenever a normally open switch or sensor wire provides a negative signal to the TMM1A accessory card.

Typically the TMM1A can be used to display overtemperature of motors, hydraulic systems or any other device or system that can activate a thermostat type switch that closes at the desired temperature. Status codes 90 and 93 not only display the status code to the dash display but when activated can be programmed with the Handset to reduce the speed of the truck from 96 to 0% percent on time. The TMM1A can also be used to monitor and display motor brush wear warnings when the motor brushes require replacement.

OPERATION

The TMM1A card utilizes up to 9 input points and 3 output points. The 3 output points connect to the "Y" plug on the EV100 SCR logic card. Due to the low level signal value of this output, shielded wire should always be used to insure proper operation. The input to the TMM1A card is either switch or sensor wire closure to battery negative. The table below outlines the status code displayed for each input point when that point is closed to battery negative.

TMM1A Card Terminal	Pump Control Terminal	Status Code
TB1	PA3	90 *
TB3	PA6	91
TB4	PB6	92
TB5	PA1	93 *
TB6	PA2	93 *
TB8	PA4	94
TB10	PA5	94
TB11	PB1	95
TB12	PB2	95

* Input points TB1, TB5 and TB6 also have the ability to activate a speed limit which is adjustable by using the Handset.

The instructions for adjustment of the speed limit function of status codes 90 and 93 are described in detail in the instructions for the Handset. The speed limit function will be enabled when the input switch supplies a negative signal to either TB1, TB5 or TB6.

IMPORTANT NOTE: The microprocessor only checks for a TMM1A status codes 93,94 and 95 when a neutral signal is present (i.e. open start switch or open F/R switch), the status code is displayed and the speed limit enabled when the control is returned to the run mode. Do not use status code 93 speed limit for applications requiring immediate speed limit on switch closure.

Figure 1 outlines the typical wiring for the TMM1A with all switch closure inputs.

The TMM1A can also be used as a Brush Wear Indicator (BWI). The Brush Wear Indicator is designed to detect a worn-out brush and display a fault code on the dash display to warn maintenance personnel that the motor brushes need to be replaced before they wear to the point of causing destructive damage to the motor commutator surface. The BWI is compatible with any sensor that short circuits to the motor armature to signal limits of brush wear. Figure 2 outlines the typical connection to the brush wear sensors.

Note: Motor armature must be in the negative side of the battery circuit.

INSTALLATION

WARNING: Before any adjustments, servicing or act requiring physical contact with working components, jack wheels off the floor, disconnect the battery and discharge the capacitor in the traction and (and pump) SCR controls.

The TMM1A card should be mounted to a flat surface (in any plane) in an area protected from water, oil and battery acid . Mounting dimensions are shown in Figure 3. Two .187 (4.75mm) holes are provided for mounting.

FIGURE 1 - TMM1 CONNECTIONS

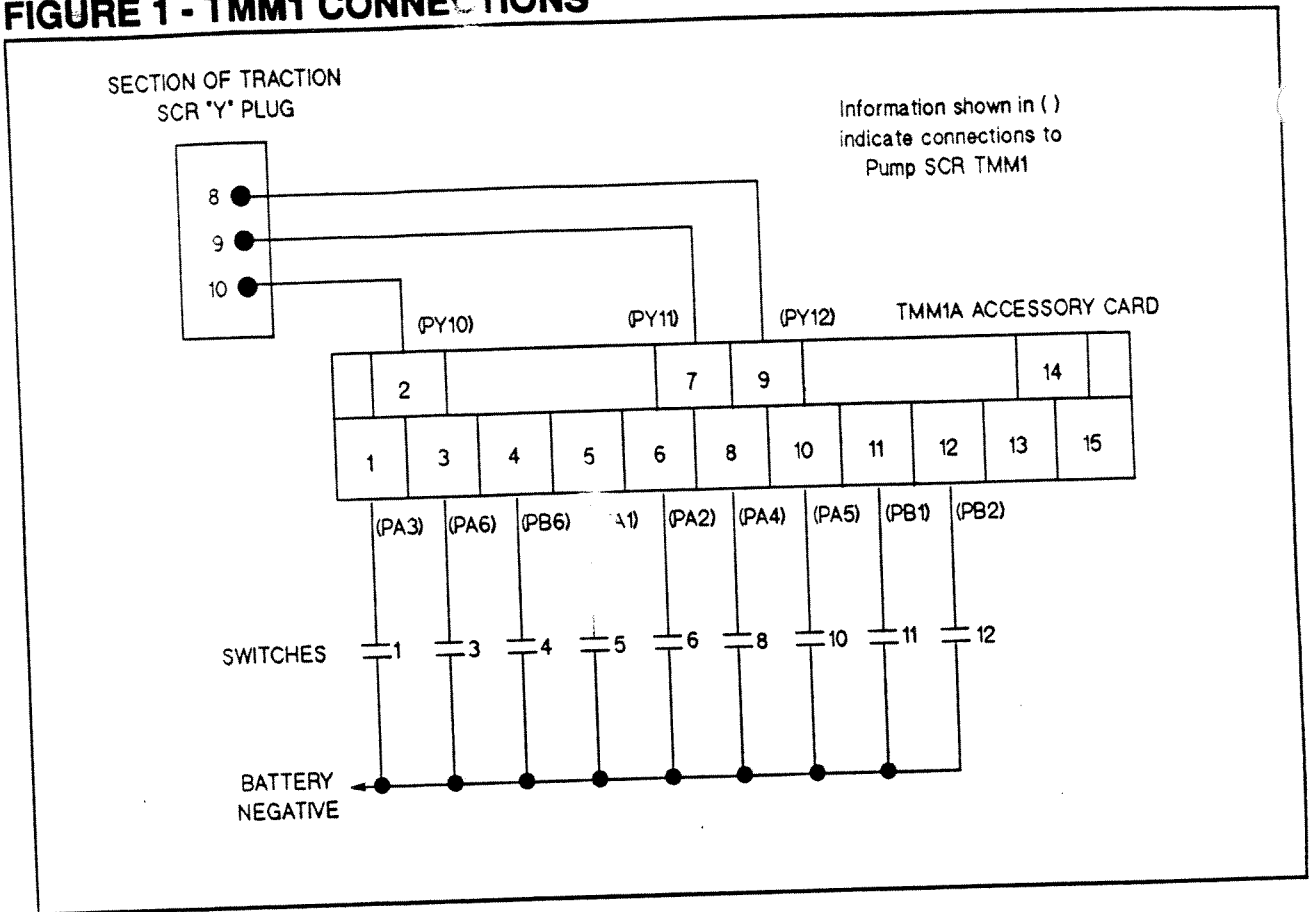


FIGURE 2 - BRUSH WEAR SENSOR CONNECTIONS

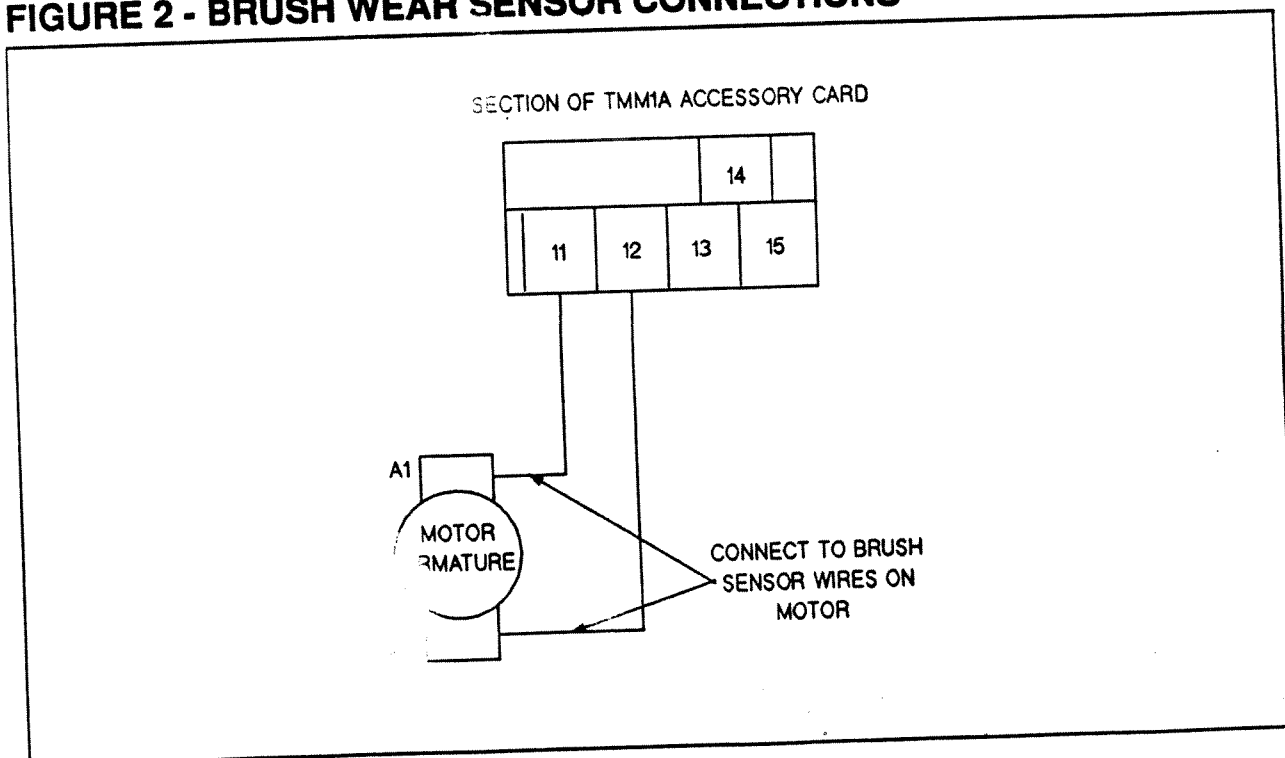


FIGURE 3 - CARD BOX OUTLINE

