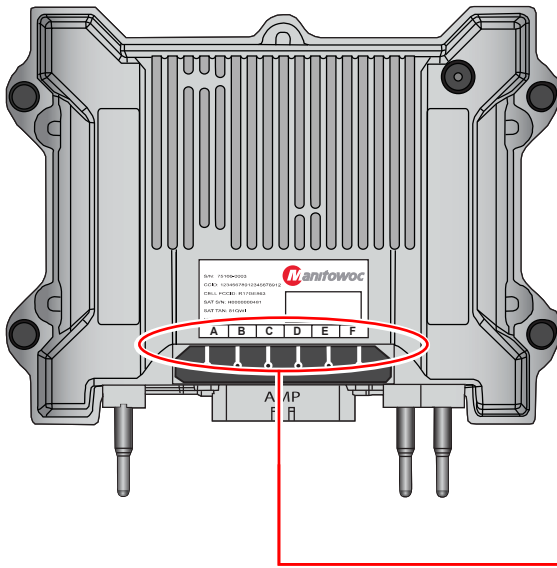# CraneST★R Quick Reference Guide
TCU Diagnostic LEDs

NOTES:

(1) These voltages do not apply to Potain equipment.

(2) IF IGNITION (pin 34 on TCU connector) is disconnected, the unit starts this process.

(3) This includes activity on RS232 or RS232-2.

(4) This indicates that the TCU is waiting and is not sending or receiving any data.

(5) This indicates that the TCU is sending a report, waiting for a report confirmation, or waiting for a command. The system waits up to 3 minutes for a command after sending a report. *Waiting for a command is only triggered by a cellular (GPRS) command.*

(6) The TCU is receiving a configuration file or firmware. *Currently, the TCU can only receive a configuration file or firmware via a cellular (GPRS) connection.*

(7) If IGNITION is disconnected, this LED will change to OFF.

(8) LED A (and all other LEDs) turn off when the TCU is in Sleep Mode. The TCU goes into Sleep Mode 2 to 15 minutes after the ignition is turned off (IGNITION = 0 VDC). If the ignition stays off, the TCU will wake up every hour and try to send a GPS message and LED A will FAST FLASH. Once the GPS message is sent or 5 - 20 minutes elapse, the TCU reenters Sleep Mode. After about two weeks, if the ignition has still not been turned on, the TCU will turn itself off and no more GPS messages will be sent.

Diagnostic LEDs:	A	B	C	D	E	F
Function:	Power (1)	GPS	GPRS (cellular packet service)	Satellite	CAN-bus or RS232 (3)	OTAP
ON:	• 12 - 24 VDC from BATTERY and • 12 - 24 VDC from IGNITION	3D GPS fix	Connected	No message queued and satellite in view	——	Normal (4)
OFF:	• 0 VDC from BATTERY or • Unit in Sleep Mode (8)	——	——	No message queued and no satellite in view	(7)	Error
SLOW FLASH: (One flash every 3 seconds)	Unit going into Sleep mode (2)	GPS error	No connection	Message queued and no satellite in view	CAN connection exists, but not receiving traffic	Sending data (5)
FAST FLASH: (One flash every second)	• 12 - 24 VDC from BATTERY and • 0 VDC from IGNITION	No GPS fix	——	Message queued and satellite in view	• Receiving data on CAN RX or • Receiving data on RS232 RX	Receiving data (6)

Manitowoc CraneSTAR MT-30SQ

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