1. Background:

The E-MAAX USI (User System Interface) provides both a graphical and tabular display of the performance parameters of the E-MAAX PRO regulator. The USI also allows the user to adjust set-points for the charging stage profile. Supplied as a utility program to be installed on a PC, the program has read-write capabilities as well as system display. The USI also functions as a remote technical support interface, allowing E-MAAX personnel to observe / modify system operating conditions in real-time.

2. Installation:

The USI.exe program can be installed in any directory / folder (Desktop). The program requires the *E-MAAX Com Module* as a hardware interface between the regulator and the PC.
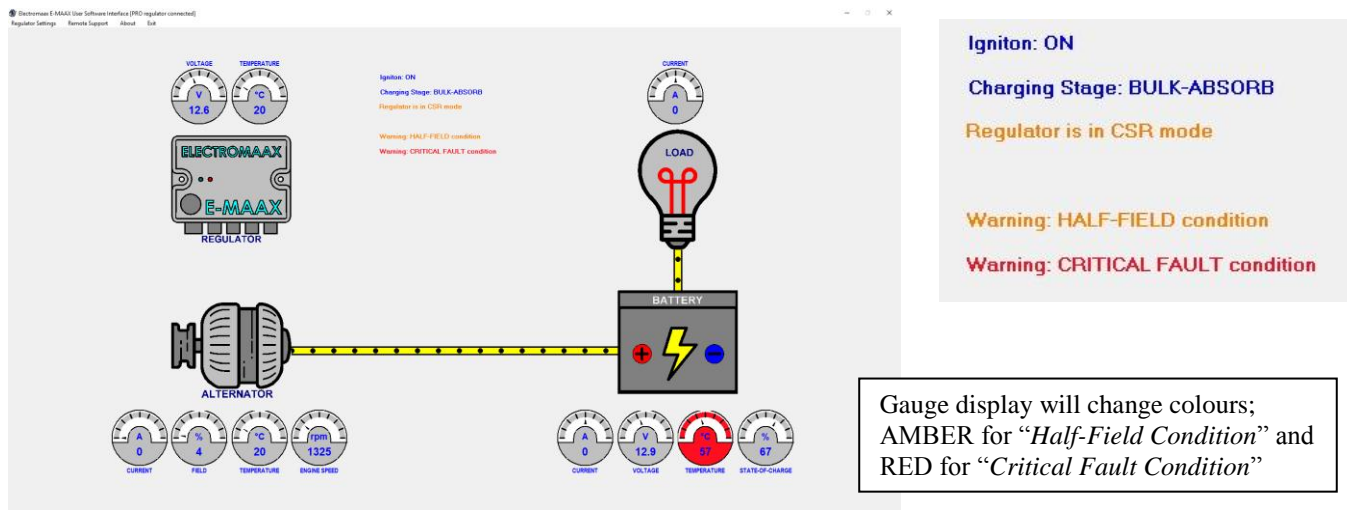
3. Operation:

1. Connect the USB cable from the Com Module to the PC
2. Launch (double click) USI.exe, the main graphical display will show the connected sensor dials and values.
3. The following parameters are displayed in the graphical screen;
   - System Voltage
   - Regulator Temperature (temperatures can be displayed in either F or C scales)
   - Battery Temperature (F or C)
   - Alternator Temperature (f or C)
   - Field Output %
   - Charging Stage
   - Ignition Status
   - Field Reduction Switch Status
   - Critical Fault Status
   - Setting Fault Status
   - Battery Current
   - Alternator Current
   - Battery Voltage
   - Engine RPM
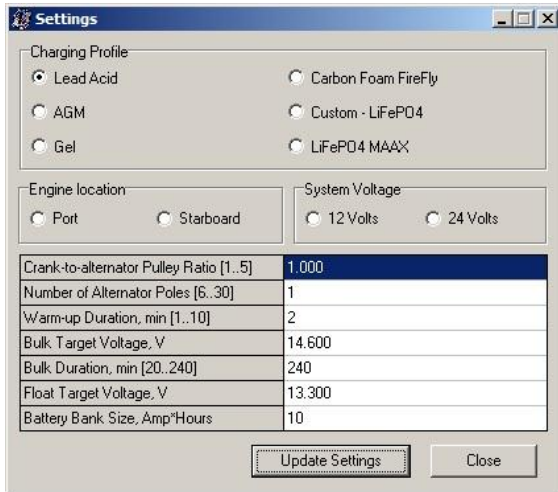   - Battery State of Charge (SOC)
   -

4. Functionality:

Graphical:

The following screen shot shows the graphical layout of the charging system. Gauges at each component icon indicate the respective parameter values. The yellow connecting path indicates current flow rate and direction. The center area of the display provides a text summary of primary conditions and any faults.

Gauge display will change colours; AMBER for "*Half-Field Condition*" and RED for "*Critical Fault Condition*"

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Tabular:

The tabular format can be called via selecting "Settings /Regulator Settings" from the menu bar. The screen allows the user to read / write changes (within confined limits) to the regulator. The regulator right LED displays "red" when writing to the regulator and "blue" when the PC is reading settings from the regulator.
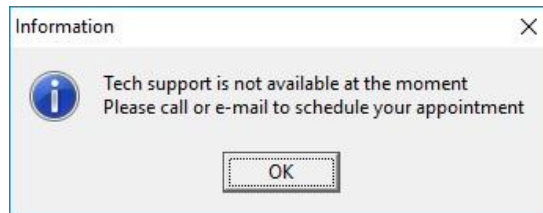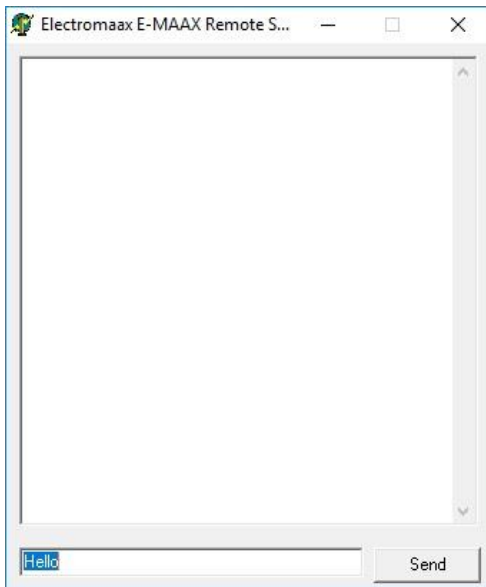

The tachometer output is dependent upon the correct crankshaft pulley to alternator pulley ratio being defined, as well as, the number of alternator poles.

Pulley diameters are measured and the value entered into the field is the crankshaft pulley divided by the alternator pulley.
i.e. Crankshaft = 100 mm OD
Alternator = 44.6 mm OD
Ratio= 100 / 44.6 = 2.24

All ElectroMaax alternators are 12 poles; consult with your manufacturer to confirm number of poles of your model.

Remote Support:

Internet based remote technical support can be provided via the USI interface; allowing ElectroMaax personnel to observe real-time operating conditions. Remote support can provide setting changes directly to the regulator. A technical support session must be scheduled via e-mail or phone. In the event technical support is unavailable a "not available" window will appear.

5. Summary:

The USI interface provides both a comprehensive parameter display and a convenient, valuable tool to support the user in optimizing the E-MAAX PRO regulator and the charging system.

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