<table>
<thead>
<tr>
<th>Murphy Powercore Model</th>
<th>TEC-10</th>
<th>MPC-10</th>
<th>MPC-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display</td>
<td>2.7 in./ 68 mm, WQVGA Monochrome HR-TFT (400 x 240)</td>
<td>2.7”WQVGA Monochrome HR-TFT 400x240</td>
<td>3.8” Monochrome LCD, Transreflective, 320 X 240 QVGA with</td>
</tr>
<tr>
<td>Keypad</td>
<td>(11) Raised silicone keypads, tactile feedback, (1) Rotary switch, power on/off, (1) Push-switch (red), engine stop</td>
<td>10 Silicone Tactile Feedback Buttons</td>
<td></td>
</tr>
<tr>
<td>LED's</td>
<td>Green (mode), Yellow (warning) and Red (shutdown)</td>
<td>(1) Red, Shutdown, (1) Amber, Warning, (1) Green, Auto Mode or Running</td>
<td>(1) Red, Shutdown, (1) Amber, Warning, (1) Green, Auto Mode</td>
</tr>
<tr>
<td>Real Time</td>
<td>with battery backup</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outputs</td>
<td>Low</td>
<td>High</td>
<td>Relay</td>
</tr>
<tr>
<td></td>
<td>(2) Low-side FET (–DC), 1A</td>
<td>(2) Low-side (+DC), 1A</td>
<td>(2) 1A Max Low-side</td>
</tr>
<tr>
<td></td>
<td>(2) High-side FET (+DC), 1A</td>
<td>(2) High-side</td>
<td>(2) 2A Max High-side</td>
</tr>
<tr>
<td></td>
<td>(2) Relay, switched +DC, 10A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Relay Form</td>
<td>(1) Relay, Form C (dry / volt-free), 10A</td>
<td>(3) Relays: 10A, SPDT, Form C (30 VDC @ 10A max.), 40A max aggregate @ 85C</td>
<td>(6) 10A Max Form C Relays</td>
</tr>
<tr>
<td>Alternator</td>
<td>(1) Dedicated Alternator Excitation, +DC, 1A</td>
<td>(1) Dedicated Alternator Excite (provides Charge Fail Fault if unable to excite alternator)</td>
<td>N/A</td>
</tr>
<tr>
<td>5V</td>
<td>N/A</td>
<td>N/A</td>
<td>(2) 200mA Max 5VDC</td>
</tr>
<tr>
<td>0-5V</td>
<td>N/A</td>
<td>N/A</td>
<td>(1) Analog 0-5V</td>
</tr>
<tr>
<td>Input</td>
<td>(5) Digital, configurable (active on High, Low, Open)</td>
<td>(5) Digital, configurable (high/low)</td>
<td>(6) Digital, Configurable as Battery or Ground</td>
</tr>
<tr>
<td></td>
<td>(3) Analog, configurable (4-20mA, 0-5V, resistive or digital ground)</td>
<td>(3) Analog, configurable (4-20mA, 0-5V, resistive)</td>
<td>(8) Analog, Configurable as Resistive, 0-5VDC, 4-20mA or Digital Ground</td>
</tr>
<tr>
<td></td>
<td>(1) Frequency, supporting: Magnetic pickup (30 Hz - 10 kHz, 2.0 VAC-120 VAC) and Engine Alternator (30 Hz - 10 kHz, 4.5 VRMS - 90 VRMS)</td>
<td>(1) Frequency, supporting Magnetic pickup (30Hz - 10kHz, 2.0VAC-120VAC) and Engine Alternator (30Hz - 10kHz, 4.5 VRMS - 90 VRMS)</td>
<td>(1) Frequency, (2Hz - 10KHz, 3.6VAC-120VAC)</td>
</tr>
<tr>
<td>Communications</td>
<td>CAN: J1939</td>
<td>RS485: Modbus RTU</td>
<td>No USB</td>
</tr>
<tr>
<td></td>
<td>(1) CAN: J1939</td>
<td>(1) RS485: Modbus RTU</td>
<td>(1) USB 2.0B. for Programming</td>
</tr>
<tr>
<td>Power</td>
<td>8-32 VDC, reverse battery polarity and load dump protected</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Current Consumption</td>
<td>Power on in stopped state; 117 mA at 12 VDC. Power on in standby mode; 52 mA at 12 VDC.</td>
<td>18W Max without 2 2A High-sides, active, 146W Max with 2 2A Highsides</td>
<td></td>
</tr>
<tr>
<td>Cranking Power</td>
<td>0 VDC up to 50 mS (also good for brownout/blackout instances)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions mm H X W X D</td>
<td>186.5 x 243.48 x 132.23</td>
<td>133.29 x 167.09 x 86.75</td>
<td>183.96 x 202.95 x 57.45</td>
</tr>
<tr>
<td>Dimensions Inches H X W X D</td>
<td>7.34 x 9.59 x 5.20</td>
<td>5.25 X 6.57 X 3.38</td>
<td>7.243 X 7.990 X 2.262</td>
</tr>
<tr>
<td>Mass</td>
<td>1.8 kg (4 lbs.)</td>
<td>0.5 kg (1lb. 1oz)</td>
<td>0.9kg (2.0 lbs)</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40°C to +85°C (-40°F to 185°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-40°C to +85°C (-40°F to 185°F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMI/RFI</td>
<td>SAE J1113</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shock</td>
<td>± 50G in 3 axes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vibration</td>
<td>Random, 7.86 Grms (5-2000Hz), 3 axes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sealing</td>
<td>IP67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case</td>
<td>Polycarbonate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mating Connector</td>
<td>(1) 21 Position, Deutsch HDP26-24-21SE</td>
<td>Deutsch Wedge Lock W12S-P012</td>
<td>Delphi, SICMA 90 Position</td>
</tr>
</tbody>
</table>