MODERN TECHNOLOGY
FOR EVERYONE

WEB BASED
D-500LITE
The D-500 is a cost effective genset controller ready for BMS integration and internet monitoring

**FEATURES**

- Diesel and gas genset support
- 400Hz operation support
- 400 event logs, full snapshot
- All parameters front panel editable
- 3 level configuration password
- 128x64 graphical LCD display
- Downloadable languages
- Waveform display of V & I
- Harmonic analysis of V & I
- 16Amp MCB & GCB outputs
- 8 configurable digital inputs
- Inputs expandable to 40
- 6 configurable digital outputs
- Outputs expandable to 38
- 3 configurable analog inputs
- Both CANBUS-J1939 & MPU
- 3 configurable service alarms
- Multiple automatic exerciser
- Weekly operation schedule
- Dual mutual standby with equal aging of gensets
- Manual “speed fine adjust” on selected ECUs
- Automatic fuel pump control
- Disable protections feature
- Excess power protection
- Reverse power protection
- Overload IDMT protection
- Load shedding, dummy load
- Multiple load management
- Current unbalance protection
- Voltage unbalance protection
- Fuel filling & fuel theft alarms
- Battery back-up real time clock
- Idle speed control
- Battery charge run enabled
- Combat mode support
- Multiple nominal conditions
- Contactor & MCB drive
- 4 quadrant genset power counters
- Mains power counters
- Fuel filling counter
- Fuel consumption counter
- Modem diagnostics display
- Configurable through USB, RS-485 and GPRS
- Free configuration program
- Allows SMS controls
- Ready for central monitoring
- Mobile genset support
- Automatic GSM geo-location
- GPS connectivity (RS232)
- Easy USB firmware upgrade
- IP65 rating with standard gasket

**COMMUNICATIONS**

- 4-band GPRS modem (optional)
- USB Device
- RS-485 (2400-57600baud)
- RS-232 (2400-57600baud)
- J1939-CANBUS
- Geo-locating through GSM
- GPS support (RS-232)
- Internet Central Monitoring
- SMS message sending
- E-mail sending
- Free PC software: Rainbow Plus
- Modbus RTU

**FUNCTIONALITIES**

- AMF unit
- ATS unit
- Remote start controller
- Manual start controller
- Engine controller
- Remote display panel
- Harmonic analysis of V & I

**MEASUREMENTS**

- Mains & genset PN/PP voltages
- Mains & genset power
- Mains & genset phase currents
- Mains & genset neutral currents
- Mains & genset, phase & total,
  kW, kVA, kVAR, pf
- Engine speed
- Battery voltage

**TOPOLOGIES**

- 3 ph 4 w, star & delta
- 3 ph 3 w, 2 CTs
- 2 ph 3 w
- 1 phase 2 wires
**Technical Specifications**

- **Alternator voltage:** 0 to 300 V-AC (Ph-N)
- **Alternator frequency:** 0-600 Hz.
- **Mains voltage:** 0 to 300 V-AC (Ph-N)
- **Mains frequency:** 0-600 Hz.
- **Topology:** 1-2-3 phases, with or without neutral.
- **DC Supply Range:** 8.0 to 36.0 V-DC.
- **V-A-cos Accuracy:** 0.5% + 1 digit
- **kW-kVA-kVAr Accuracy:** 1.0% + 1 digit
- **Current consumption:** 500 mA-DC max.
- **Current inputs:** from current transformers, ..5A.
- **Digital inputs:** input voltage 0 to 36 V-DC.
- **Analog input range:** 0-5000 ohms.
- **Mains and genset contactor outputs:** 16Amps@250V.
- **DC Outputs:** Protected mosfet semiconductor outputs, rated 1Amps@28V-DC.
- **Cranking dropouts:** survives 0V for 100ms.
- **Magnetic pickup voltage:** 0.5 to 50Vpk.
- **Magnetic pickup frequency:** 0 to 20000 Hz.
- **Charge Alternator Excitation:** 2W.
- **Display Screen:** 2.9”, 128x64 pixels.
- **USB Device:** USB 2.0 Full speed.
- **RS-485 Port:** selectable baud rate (2400-57600baud)
- **RS-232 Port:** selectable baud rate (2400-57600baud)
- **Operating temperature:** -20°C to 70°C (-4 to +158 °F)
- **Storage temperature:** -40°C to 80°C (-40 to +176°F)
- **Maximum humidity:** 95% non-condensing.
- **IP Protection:** IP65 from front panel, IP30 from the rear (with gasket).
- **Dimensions:** 200 x 148 x 46mm (WxHxD).
- **Panel Cut-out Dimensions:** 176 x 121 mm minimum.
- **Weight:** 450 g (approx.)
- **Case Material:** High Temperature, non-flammable ABS/PC.
- **Installation:** Flat surface mounting on a Type 1 enclosure. Rear retaining plastic brackets.

**Conformity**

- **EU Directives Conformity**
  - 2006/95/EC (low voltage)
  - 2004/108/EC (electro-magnetic compatibility)
- **Norms of reference:**
  - EN 61010 (safety requirements)
  - EN 61326 (EMC requirements)
- **UL & CSA Compatibility:**
  - UL 6200, Controls for Stationary Engine Driven Assemblies (Certificate # - 20140725-E314374)
  - CAN/CSA C22.2 No. 14-13 – Industrial Control Equipment
WAVEFORM DISPLAY & HARMONIC ANALYSIS

Waveform Display  Graphical Harmonics  Digital Harmonics Display

RAINBOW PLUS PROGRAM

Scada  Harmonic analysis & Waveform

RAINBOW SCADA CENTRAL MONITORING

Fleet Display on Map, online monitoring  Smartphone Support

Real time monitoring

Summary

<table>
<thead>
<tr>
<th>Mains L1: 224.0 V</th>
<th>Genset L1: 228.6 V</th>
<th>Battery Voltage: 13.8D Vdc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains L2: 228.0 V</td>
<td>Genset L2: 224.0 V</td>
<td>Engine RPM: 1500 RPM</td>
</tr>
<tr>
<td>Mains L3: 226.1 V</td>
<td>Genset L3: 228.0 V</td>
<td>Oil Pressure: N/A Bar</td>
</tr>
<tr>
<td>Mains L4: 228.0 V</td>
<td>Genset L4: 228.0 V</td>
<td>Coolant Temp: N/A</td>
</tr>
<tr>
<td>Mains L5: L5: 228.0 V</td>
<td>Genset L5: 228.0 V</td>
<td>Fuel Level: 31.1%</td>
</tr>
<tr>
<td>Mains L6: L6: 228.0 V</td>
<td>Genset L6: 228.0 V</td>
<td>Engine Run Hours: 1024.27 Hrs</td>
</tr>
<tr>
<td>Mains L7: L7: 228.0 V</td>
<td>Genset L7: 228.0 V</td>
<td>Total kWh: 323111.1 kWh</td>
</tr>
<tr>
<td>Mains L8: L8: 228.0 V</td>
<td>Genset L8: 228.0 V</td>
<td>Total kVAh (Eng): 61 kVAh</td>
</tr>
<tr>
<td>Mains L9: L9: 228.0 V</td>
<td>Genset L9: 228.0 V</td>
<td>Total Diesel (Eng): 854645.5 kVAh</td>
</tr>
<tr>
<td>Mains P Total: 0.0 kW</td>
<td>Genset P Total: 124.2 kW</td>
<td>Hour to Sprv: 9512003.35 Hrs</td>
</tr>
<tr>
<td>Mains Q Total: 0.0 kVAR</td>
<td>Genset Q Total: 8.9 kVAR</td>
<td>Days to Sprv: 2689677.95 Day</td>
</tr>
<tr>
<td>Mains F1 Factor: 1.000</td>
<td>Genset F1 Factor: 0.997</td>
<td></td>
</tr>
</tbody>
</table>