Rental Power
4BTAA3.3
series engine
40 kVA-60 kVA 50 Hz Prime

Description
This Cummins® commercial generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for Prime Power.

Cummins heavy-duty engine - Rugged 4-cycle industrial diesel delivers reliable power, low emissions and fast response to load changes.

Permanent Magnet Generator (PMG) option - Offers enhanced motor starting and fault clearing short circuit capability.

Alternator - Low reactance 2/3 pitch windings; low waveform distortion with non-linear loads, fault clearing short-circuits capability, and class H insulation.

Cooling system - Standard integral set-mounted radiator system, designed and tested for rated ambient temperatures.

Control system - The PowerCommand® electronic control is standard equipment and provides total system integration, including auto remote start/stop, alarm and status message display

Enclosures - Sound-attenuated with built in fork pockets and easy access to serviceable items including controls, cable entry and radiator.

Warranty - Backed by a comprehensive warranty and worldwide distributor network.

<table>
<thead>
<tr>
<th>Model</th>
<th>Standby rating</th>
<th>Prime rating</th>
<th>Emissions compliance</th>
<th>Controller</th>
<th>Data sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50 Hz kVA (kW)</td>
<td>50 Hz kVA (kW)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C40 D5R</td>
<td>44 (35)</td>
<td>40 (32)</td>
<td>EU IIIA</td>
<td>PCC1.1 DSE7310 COMRS16</td>
<td>EMERD-6041-EN</td>
</tr>
<tr>
<td>C60 D5R</td>
<td>63 (50)</td>
<td>60 (48)</td>
<td></td>
<td></td>
<td>EMERD-6043-EN</td>
</tr>
</tbody>
</table>
### Generator set specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governor regulation class</td>
<td>ISO 8528</td>
</tr>
<tr>
<td>Voltage regulation, no load to full load</td>
<td>± 1%</td>
</tr>
<tr>
<td>Random voltage variation</td>
<td>± 1%</td>
</tr>
<tr>
<td>Frequency regulation</td>
<td>Isochronous</td>
</tr>
<tr>
<td>Random frequency variation</td>
<td>± 1%</td>
</tr>
<tr>
<td>EMC compatibility</td>
<td>BS EN61000-6-3 / BS EN61000-6-1</td>
</tr>
</tbody>
</table>

### Engine specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>4 cycle, in-line, 4-cylinder, turbocharged, charge air-cooled</td>
</tr>
<tr>
<td>Bore</td>
<td>95 mm</td>
</tr>
<tr>
<td>Stroke</td>
<td>115 mm</td>
</tr>
<tr>
<td>Displacement</td>
<td>3.3 L</td>
</tr>
<tr>
<td>Cylinder block</td>
<td>Cast iron, 4 cylinder</td>
</tr>
<tr>
<td>Battery capacity</td>
<td>40 kVA: 44 AH, 60 kVA: 75 AH</td>
</tr>
<tr>
<td>Battery charging alternator</td>
<td>55 A</td>
</tr>
<tr>
<td>Starting voltage</td>
<td>12 V DC</td>
</tr>
<tr>
<td>Fuel system</td>
<td>Direct injection</td>
</tr>
<tr>
<td>Fuel filter</td>
<td>Spin on fuel filters (with optional water separator)</td>
</tr>
<tr>
<td>Air cleaner type</td>
<td>Dry replaceable element</td>
</tr>
<tr>
<td>Lube oil filter type(s)</td>
<td>Spin on full flow filter</td>
</tr>
<tr>
<td>Standard cooling system</td>
<td>50 °C ambient radiator</td>
</tr>
</tbody>
</table>

### Alternator specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>Brushless, single bearing, revolving field</td>
</tr>
<tr>
<td>Stator</td>
<td>2/3 pitch</td>
</tr>
<tr>
<td>Rotor</td>
<td>Single bearing, flexible disc</td>
</tr>
<tr>
<td>Insulation system</td>
<td>Class H</td>
</tr>
<tr>
<td>Standard temperature rise</td>
<td>Prime 125 °C temp rise @ 40 °C ambient&lt;br&gt;Standby 163 °C temp rise @ 27 °C ambient</td>
</tr>
<tr>
<td>Exciter type</td>
<td>Self-excited or separately excited by PMG</td>
</tr>
<tr>
<td>Phase rotation</td>
<td>A (U), B (V), C (W)</td>
</tr>
<tr>
<td>Alternator cooling</td>
<td>Direct drive centrifugal blower fan</td>
</tr>
<tr>
<td>AC waveform Total Harmonic Distortion (THDV)</td>
<td>No load &lt;1.5%. Non distorting balanced linear load &lt;5%</td>
</tr>
<tr>
<td>Telephone Influence Factor (TIF)</td>
<td>N/A</td>
</tr>
<tr>
<td>Telephone Harmonic Factor (THF)</td>
<td>&lt; 2%</td>
</tr>
</tbody>
</table>

### Available voltages

**50 Hz Line – Neutral/Line - Line**

- 240/416
- 230/400
- 220/380
Generator set options*

Engine
- Heavy duty air cleaner
- OCV crankcase breather filter system
- Low coolant level shutdown
- Oil sump pump

Enclosure
- Sound attenuated canopy
- Earthing studs on skid
- Power receptacle socket option
- Easy cleaning access to radiator
- Single point lift and forklift pockets
- Customised colour canopy option
- Facility to use dragging bar in base

Fuel tank
- Internal three way fuel valve with quick connects
- 40 kVA autonomy – 24 hours at 75% PRP
- 60 kVA autonomy – 18 hours at 75% PRP

*Note: Some options may not be available on all models - consult factory for availability.

PowerCommand 1.1 control system

The PowerCommand control system is a microprocessor based generator set monitoring, metering and control system designed to meet the demands of today's engine driven generator sets.

The integration of all control functions into a single control system provides enhanced reliability and performance compared to conventional generator set control systems. These control systems have been designed and tested to meet the harsh environment in which generator sets are typically applied.

Key features include:
- 128 x 64 pixels graphic LED backlight LCD
- Digital voltage regulation – Single phase full wave SCR type regulator compatible with either shunt or PMG systems.
- Digital engine speed governing (where applicable) – provides isochronous frequency regulation.
- Generator set monitoring – monitors status of all critical engine and alternator functions.
- Advanced overcurrent protection.
- Modbus® interface for interconnecting to customer equipment.
- 12 and 24 VDC battery operation.
- Full authority engine communications (where applicable) – provides communication and control with the Engine Control Module (ECM).
- Common harnessing – with higher feature Cummins control allows for easy field upgrades.
- Digital generator set metering (AC and DC).

Circuit breaker
- 4 pole main circuit breaker
- Aux contacts and trip alarm
- Shunt trip – 12 V DC

Alternator
- Exciter voltage regulator (PMG) option

Warranty
- Base warranty options – 1 year unlimited hours or 3 years 3000 hours
- Extended warranty options – contact us

Battery
- Optima Absorbed Glass Mat (AGM) maintenance-free battery
- Battery isolation switch standard
- Battery charger, coolant heater options
- Low battery voltage warning

DeepSea electronics 7310 option

The DSE7310 is an Auto Start Control Module suitable for a wide variety of single, diesel or gas generator set applications.

Key features include:
- 4-line backlit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- LED and LCD alarm indication

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- Power save mode
- 3 configurable maintenance alarms
- Configurable event log (250)
- Easy access diagnostic page
- CAN and magnetic pick-up/alt. sensing
- Fuel usage monitor and low fuel alarms
- Charge alternator failure alarm
- “Protections disabled” feature
- Power monitoring (kW h, kVAr, kVAh, kVArh)
- Backed up real time clock
- Fully configurable via DSE Configuration Suite PC software
- Configurable display languages
- User selectable RS232 and RS485 communications
- Advanced SMS messaging (additional external modem required)

**ComAp InteliLite MRS 16 option**

InteliLite MRS 16 is a new integrated controller for single engine control and manual and remote start applications, featuring full generator set monitoring and protection.

**Key features include:**
- Support of engines equipped with Electronic Control Unit – J1939 interface
- Automatic or manual start/stop of the generator set
- Push buttons for simple control, lamp test
- Graphic backlit LCD display 128 x 64 pixels
- 3 LED indicators
- Parameters adjustable via keyboard or PC
- 3 phase generator protections
- Over/under voltage
- Over/under frequency
- Current/voltage asymmetry
- Overcurrent/overload
- Generator measurements (50/60 Hz): U1-U3, I1-I3, Hz, kW, kVAr, kVAh, kWh
- Selectable protections alarm/shutdown
- Analog oil pressure, water temperature, fuel level, battery voltage, engine speed (pick-up)
- Configurable programmable inputs and outputs
- Warm up and cooling functions
- Generator C.B. control
- RS232 interface
- Modem communication support
Ratings definitions

Emergency Standby Power (ESP):
Applicable for supplying power to a varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-Time Running Power (LTP):
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

Prime Power (PRP):
Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):
Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

<table>
<thead>
<tr>
<th>Model</th>
<th>Dim ‘A’ (mm)</th>
<th>Dim ‘B’ (mm)</th>
<th>Dim ‘C’ (mm)</th>
<th>Set weight dry* (kg)</th>
<th>Set weight wet* (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C40 D5R</td>
<td>2.5</td>
<td>1.1</td>
<td>1.8</td>
<td>1634</td>
<td>1862</td>
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<tr>
<td>C60 D5R</td>
<td>2.5</td>
<td>1.1</td>
<td>1.8</td>
<td>1692</td>
<td>1920</td>
</tr>
</tbody>
</table>

* Note: Weights represent a set with standard features. See outline drawings for weights of other configurations.

Codes and standards

This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.

2000/14/EC: All enclosed products are designed to meet or exceed EU noise legislation 2000/14/EC step 2006.

ISO 8528: This generator set has been designed to comply with ISO 8528 regulation.

For more information contact your local Cummins distributor or visit power.cummins.com

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