

Rod's Diesel and Generator Service Inc.

(208)317-7637

rod.rooney@gmail.com

4390 Amber Lane

Idaho Falls ID. 83406

Estimate

Date	Estimate #
10/7/2026	25249

Name / Address
Town of Alpine WY 250 River Circle PO Box 3070 Alpine WY 83128

Project

Description	Qty	Cost	Total
DQDAC, 300kW Genset, Install-US-Stat U.S. EPA, Stationary Emergency Application Duty Rating - Standby Power (ESP) Emission Certification, EPA, Tier 3, NSPS CI Stationary Emergency Listing - UL 2200 Voltage - 277/480, 3 Phase, Wye, 4 Wire Alternator - 60Hz, 12 Lead, Limited Range, 125/105C Exciter/Regulator - Permanent Magnet Generator, 3 Phase Sensor Steel Sound Attenuated Level 1 Enclosure, with Exhaust System Enclosure Color - Green, Steel Fuel Tank - Sub Base, 600 Gallon, UL142 Compliant Fuel Tank - Dual Wall Sub - Base, 24 Hour Minimum Capacity Fuel Water Separator Control Mounting - Left Facing PowerCommand 2.3 Controller Stop Switch - Emergency Circuit Breaker or Entrance Box or Terminal Box - Right Only Circuit Breaker - 600A Right Circuit Breaker on Right side, 3 - Pole, UL 600, IEC 690, 100% Circuit Breaker or Entrance Box - Bottom Entry, Right Side Engine Governor - Electronic, Isochronous Engine Starter - 24 Volt DC Motor Engine Air Cleaner - Normal Duty Battery Charging Alternator Engine Cooling - Radiator, High Ambient Air Temperature, Ship Fitted Shutdown - Low Coolant Level	1	101,040.00	101,040.00
		Subtotal	
		Sales Tax (6.0%)	
		Total	

Rod's Diesel and Generator Service Inc.

(208)317-7637

rod.rooney@gmail.com

4390 Amber Lane

Idaho Falls ID. 83406

Estimate

Date	Estimate #
10/7/2026	25249

Name / Address
Town of Alpine WY 250 River Circle PO Box 3070 Alpine WY 83128

Project

Description	Qty	Cost	Total
Engine Coolant - 50% Antifreeze, 50% Water Mixture Coolant Heater - 240V, Single Phase Engine Oil Genset Warranty - 2 Years Base OTEC D 600A / 480V 3Ph / 3P / NEMA3R Open & Delayed Transition Listing - UL 1008/CSA Certification Application - Utility to Genset Cabinet - Type 3R Poles - 3 (Solid Neutral Frequency - 60 Hz System - 3 Phase, 3 or 4 Wire Voltage - 480 Volts AC Genset Starting Battery - 24V DC PC40 Control Interface - Communications Network, MODBUS RTU Module Transfer Switch Warranty - 1 Year Comprehensive	1	10,010.00	10,010.00
Battery charger	1	359.00	359.00
Batteries	4	200.00	800.00
startup	1	2,000.00	2,000.00
Cam lock adaptors	1	500.00	500.00
		Subtotal	\$114,709.00
		Sales Tax (6.0%)	\$0.00
		Total	\$114,709.00

POWERCOMMAND® OTEC TRANSFER SWITCH

POWERCOMMAND® 40-11 CONTROL | OPEN TRANSITION | 40 A-1200 A
AUTOMATIC TRANSFER SWITCH

DESCRIPTION

The OTEC series transfer switch provides the basic features typically required for primary source and generator set monitoring, generator set starting and load transfer functions for emergency standby power applications. They are suitable for use in emergency, legally required, and optional standby circuits in commercial and light industrial applications. The OTEC transfer switch features the new PowerCommand® 40-11 control with a comprehensive feature list to suit a wide variety of ATS applications.

FEATURES

PowerCommand® 40-11 control – A fully featured microprocessor-based control with LCD digital display and tactile-feel soft-switches for easy operation and screen navigation. Control highlights include front panel PC software configuration, three phase sensing on both sources, sync check, phase rotation and imbalance sensing, and event logging. Additional optional features include load shed from standby source, Modbus RTU and TCP network communication, and configurable output contact modules. Completely network compatible with the new Cummins transfer switch remote annunciator (See Transfer Switch Remote Annunciator spec sheet AC-204 for additional details). Please see the S-6560 PowerCommand® 40-11 control specification sheet for the full description, benefits, and features.

Programmed transition – Open transition timing can be adjusted to completely disconnect the load from both sources for a programmed time period, as recommended by NEMA MG-1 for transfer of inductive loads.

Advanced transfer switch mechanism – Unique bi-directional linear actuator provides virtually frictionless constant force, straight-line transfer switch action during automatic operation.

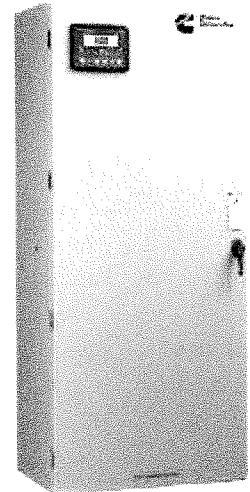
Positive interlocking – Mechanical and electrical interlocking prevent source-to-source connection through the power or control wiring.

Main contacts – Heavy-duty silver alloy contacts used with multi-leaf arc chutes are rated for motor loads or total system load transfer. They require no routine contact maintenance. Continuous load current not to exceed 100% of switch rating and tungsten loads not to exceed 30% of switch rating.

Ease of service and access – Single-plug harness connection and compatible terminal markings simplify servicing. Access space is ample. Door-mounted controls are field-programmable; no special tools are required.

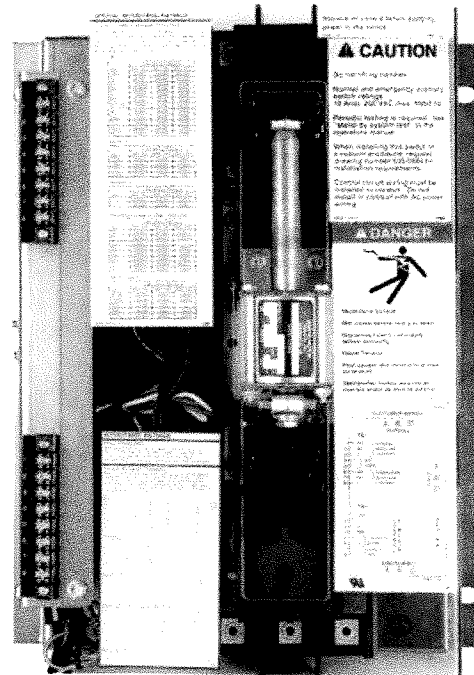
Complete product line – Cummins is a single source supplier with a wide range of equipment, accessories, and services to suit virtually any backup power application.

Warranty and service - Products are backed by a comprehensive warranty and a worldwide network of distributors with factory-trained service technicians.



TRANSFER SWITCH MECHANISM

- Transfer switch mechanism is electrically operated and mechanically held in the Source 1 and Source 2 positions. The transfer switch incorporates electrical and mechanical interlocks to prevent inadvertent interconnection of the sources.
- Independent break-before-make action is used for both 3-pole and 4-pole simultaneously switched neutral. This design allows use of sync check operation when required, or control of the operating speed of the transfer switch for proper transfer of motor and rectifier-based loads (programmed transition feature).
- True 4-pole switching allows for proper ground (earth) fault sensing and consistent, reliable operation for the life of the transfer switch. The neutral poles of the transfer switch have the same ratings as the phase poles and are operated by a common crossbar mechanism, eliminating the possibility of incorrect neutral operation at any point in the operating cycle, or due to failure of a neutral operator.
- Electrical interlocks prevent simultaneous closing signals to normal and emergency contacts and interconnection of normal and emergency sources through the control wiring.
- High pressure silver alloy contacts resist burning and pitting. Separate arcing surfaces further protect the main contacts. Contact wear is reduced by multiple leaf arc chutes that cool and quench the arcs. Barriers



separate the phases to prevent interphase flashover. A transparent protective cover allows visual inspection while inhibiting inadvertent contact with energized components.

- Switch mechanism, including contact assemblies, is UL 1008 certified to verify suitability for applications requiring high endurance switching capability for the life of the transfer switch. Withstand and closing ratings are validated using the same set of contacts, further demonstrating the robust nature of the design.

SPECIFICATIONS

Voltage rating	Up to 600 V AC, 50 or 60 Hz.
Arc interruption	Multiple leaf arc chutes provide dependable arc interruption.
Neutral bar	A full current-rated neutral bar with lugs is standard on enclosed 3-pole transfer switches.
Auxiliary contacts	Two isolated contacts (one for each source) indicating switch position are provided for customer use. Contacts are normally open, and close to indicate connection to the source. Wired to terminal block for easy access. Rated at 10 A Continuous and 250 V AC maximum.
Operating temperature	-22 °F (-30 °C) to 140 °F (60 °C)
Storage temperature	-40 °F (-40 °C) to 140 °F (60 °C)
Humidity	Up to 95 % relative, non-condensing
Altitude	Up to 10,000 ft (3,000 m) without derating
Surge withstand ratings	Voltage surge performance and testing in compliance with the requirements of IEEE C62.41 (Category B3) and IEEE C62.45.
Total transfer time (source-to-source)	Will not exceed 6 cycles at 60 Hz with normal voltage applied to the actuator and without programmed transition enabled.
Manual operation*	Transfer switch mechanisms are equipped with means to manually transfer. All sources must be de-energized before manual operation is attempted.

*See Operator Manual for further details.

TRANSITION MODES

Open delayed transition – In this transition mode the time required for the transfer switch to transfer between sources is adjustable so that the load- generated voltages decay to a safe level before connecting to an energized source. Recommended by NEMA MG-1 to prevent nuisance tripping breakers and load damage. Adjustable 0.5 secs - 10 minutes, and default 0.5 seconds.

Open in-phase translation – Initiates open transition transfer when in-phase monitor senses both sources are in phase (voltage, phase, and frequency). Operates in a break-before-make sequence. Includes ability to enable programmed transition as a backup. The module waits indefinitely for synchronization unless the 'Return to programmed transition' function is active in which case after 2 minutes it performs a programmed delayed transfer.

UL 1008 WITHSTAND AND CLOSING RATINGS (WCR)

The transfer switches listed below must be protected by circuit breakers or fuses. Referenced drawings include detailed listings of specific breakers or fuse types that must be used with the respective transfer switches. Consult with your distributor/dealer to obtain the necessary drawings. Withstand and Closing Ratings (WCR) are stated in symmetrical RMS amperes.

BREAKER PROTECTION

Frame	Amperage rating (A)	MOLDED CASE CIRCUIT BREAKER (MCCB) PROTECTION				SPECIAL CIRCUIT BREAKER PROTECTION		
		With specific manufacturers MCCB (kA at 480V)	With specific manufacturers MCCB (kA at 600V)	Max MCCB ratings (A)	Drawing reference	With specific Current limiting breakers (kA at 600V)	Max. Current limiting breakers CLB rating (A)	Drawing reference
A	40, 70, 125 (3-pole only)	14	14	225	A050J441	200	225	A048J566
	40, 70, 125 (4-pole only)	30	30	400	A048E949	200	400	A051D533
B	150, 225, 260	30	30	400	A048E949	200	400	A051D533
C	300, 400, 600	65	65	1200	A056M829	200	1200	A048J564
D	800, 1000	65	50	1400	A056M821	200	1400	A048J562
E	1200	85	65	1600	A056M825	200	1600	A048P186

FUSE PROTECTION

Frame	Amperage rating (A)	WCR with current limiting fuses (kA)	Fuse size and type	Drawing reference
A	40, 70, 125 (3-pole only)	200	200 A, Class: J, RK1, RK5	A050J441
	40, 70, 125 (4-pole only)	200	1200 A Class L or T, or 600A class J, RK1, RK5	A048E949
B	150, 225, 260	200	1200 A Class L or T, or 600A class J, RK1, RK5	A048E949
C	300, 400, 600	200	1200 A Class L or T, or 600A class J, RK1, RK5	A056M829
D	800, 1000	200	2000 A Class L or 1200 A Class T or 600 A Class J, RK1, RK5	A056M821
E	1200	200	2000 A Class L or 1200 A Class T or 600 A Class J, RK1, RK5	A056M825

All WCR values are at 600 V

TIME BASED RATINGS: 0.05S (3-CYCLES AT 60 HZ)

Frame	Amperage rating (A)	WCR (kA at Vmax and below)	Max. MCCB rating (A)	Drawing reference
C	300, 400, 600	25 at 600 V	1200	A056M829
D	800, 1000	35 at 600 V	1400	A056M821
E	1200	42 at 600 V	1600	A056M825

TRANSFER SWITCH LUG CAPACITIES

Frame	Amperage rating (A)	Cables per phase	Certified Cable Size	Part Number
A	40, 70, 3-pole	1	#14 AWG - 2/0	0332-3084 **
			#12 AWG - 2/0	0332-3085 ***
	40, 4-pole	1	#14 AWG - 2/0	0332-3514-01
			#6 AWG - 300MCM	0332-3038
	70, 4-pole	1	#14 AWG - 2/0	0332-3084 **
			#12 AWG - 2/0	0332-3085 ***
B	125, 3-pole	1	#6 AWG - 300MCM	0332-3038
			#6 AWG - 300MCM	0332-3038
	125, 4-pole	1	#6 AWG - 300MCM	0332-3038
			#6 AWG - 300MCM	0332-3038
C	150, 225	1	#6 AWG - 300MCM	0332-3038
	260	1	#6 AWG - 400MCM	0332-3039
D	300, 400	2*	3/0 - 600MCM & #4 AWG - 250MCM	0332-2704
	600	2	250 - 500MCM	0332-2660
E	800, 1000	4	250 - 500MCM	0332-2736
			500-750MCM ^	0332-2736 ****
E	1200	4	#2 AWG - 600MCM ^^	0332-1557 ****
			1/0 - 750MCM ***	0332-3036

All lugs 90°C rated and accept copper or aluminum wire unless indicated otherwise.

Refer to the latest NFPA 70 Article 310 - Conductors for general wiring for the ampacity calculations.

* One cable for each lug range listed

** Load

*** Emergency and normal

**** See A030H735 drawing for lugs specifications

^ Compression lug adapter suitable for 500-750MCM (Optional feature N032-7)

^^ #2 AWG - 600MCM (Standard feature N045-7)

*** 1/0 - 750MCM (Optional feature N066-7)

ENCLOSURE

The transfer switch and control are wall-mounted in a key-locking enclosure. Wire bend space complies with NEC.

DIMENSIONS – TRANSFER SWITCH IN UL TYPE 1 ENCLOSURE

Frame	Amperage rating (A)	Height		Width		Depth		Weight	
		in	mm	in	mm	in	mm	lb	kg
A	40, 70, 125 3-pole	27	686	20.5	521	12	305	148	67
	40, 70, 125 4-pole	35.5	902	26	660	16	406	214	97
B	150, 225	35.5	902	26	660	16	406	214	97
	260	43.5	1105	28.5	724	16	406	238	108
C	300, 400, 600	54	1372	25.5	648	18	457	322	146
D	800, 1000	68	1727	30	762	19.5	495	448	203
E	1200	90	2286	39	991	27	698	862	391

DIMENSIONS – TRANSFER SWITCH IN UL TYPE 3R, 4, 4X, OR 12 ENCLOSURES

Frame	Amperage rating (A)	Height		Width		Depth		Weight		Cabinet Type
		in	mm	in	mm	in	mm	lb	kg	
A	40, 70, 125 3-pole	34	864	26.5	673	12.5	318	220	100	3R, 4
		46	1168	32	813	16	406	307	139	4X
		34	864	26.5	673	12.5	318	201	91	12
	40, 70, 125 4-pole	42.5	1080	30.5	775	16	406	304	138	3R, 4
		46	1168	32	813	16	406	335	152	4X
		42.5	1080	30.5	775	16	406	287	130	12
B	150, 225	42.5	1080	30.5	775	16	406	304	138	3R, 4
		46	1168	32	813	16	406	335	152	4X
		42.5	1080	30.5	775	16	406	287	130	12
	260	46	1168	32	813	16	406	322	146	3R, 4
		46	1168	32	813	16	406	335	152	4X
		46	1168	32	813	16	406	304	138	12
C	300, 400, 600	59	1499	27.5	699	16.5	419	415	188	3R, 4
		73.5	1867	32.5	826	19.5	495	520	236	4X
		59	1499	27.5	699	16.5	419	397	180	12
		73.5	1867	32.5	826	19.5	495	588	267	3R, 4
D	800, 1000	73.5	1867	32.5	826	19.5	495	588	267	4X
		73.5	1867	32.5	826	19.5	495	556	252	12
		90	2286	39	991	27	698	891	404	3R, 4
E	1200	90	2286	39	991	27	698	891	404	4X
		90	2286	39	991	27	698	873	396	12

ENCLOSURE ACCESS FOR CABLE INSTALLATION AND MAINTENANCE

All frames allow for top, side, and bottom cable entry. NEC Requires Minimum 36" Front Access. Additional front clearance is needed to remove the mechanism. Refer to the outline drawing.

OTEC DRAWING PART NUMBERS

Frame	Amperage rating (A)	Outline Drawing		
		Type 1, 3R, 12, 4, 4X (3 Pole)	Type 1, 3R, 12, 4, 4X (4 Pole)	Open Construction
A	40, 70, 125	A074K565	A074K632	
B	150, 225	A074K575	A074K587	
	260	A074K613	A074K634	A074K681
C	300, 400, 600	A074K635	A074K645	
D	800, 1000	A074K646	A074K658	
E	1200		A074K659	A074K695

WIRING DIAGRAM PART NUMBERS

Frame	Amperage rating (A)	Utility to Genset (120 – 480 V)	Utility to Genset (600 V)	Wiring Diagram		
				Interconnection	Utility to Genset, Open Construction (120 – 480 V)	Utility to Genset, Open Construction (600 V)
A	40, 70, 125 (3-pole)	A074P733				
	40, 70, 125 (4-pole)					
B	150, 225		A074P730	A065H780	A074P731	A074P732
	260					
C	300, 400, 600	A074P729				
D	800, 1000					
E	1200					

SUBMITTAL DETAIL

Model

- 40, 70, 125 A, (3- and 4-pole)
- 150, 225, 260 A
- 300, 400, 600 A
- 800, 1000 A
- 1200 A

Poles

- A028 Poles – 3 (solid neutral)
- A029 Poles – 4 (switched neutral)

Application

- A035 Utility-to-genset

Frequency

- A044 60 Hz
- A045 50 Hz

Phase

- A041 single phase, 2-wire or 3-wire
- A042 three phase, 3-wire or 4-wire

Voltage ratings

- R020 120V
- R038 190V
- R021 208V
- R022 220V
- R023 240V
- R024 380V
- R025 416V
- R035 440 V
- R026 480 V
- R027 600 V

Enclosure

- B001 Type 1: Indoor use, provides some protection against dirt (similar to IEC type IP30)
- B002 Type 3R: Intended for outdoor use, provides some protection from dirt, rain, and snow (similar to IEC type IP34)
- B003 Type 4: Indoor or outdoor use, provides some protection from wind-blown dust and water spray (similar to IEC type IP65)
- B004 open construction: no enclosure - includes automatic transfer switch and controls.
- B010 Type 12: Indoor use, some protection from dust (similar to IEC type IP61).
- B025 Type 4X: Stainless steel, indoor or outdoor use, provides some protection from corrosion (similar to IEC Type IP65).

Standards

- A046 UL 1008/CSA certification
- A080 IBC seismic certification

Control voltage

- M033 12V, Genset starting voltage.
- M034 24V, Genset starting voltage.

Control options

- M032 Elevator signal relay
- M081 MODBUS RS485 Communication module
- M079 integral control power supply provides DC voltage to control from source power.
- M086 Ethernet communication module
- L216 1X auxiliary relay I/O module
- L217 2X auxiliary relay I/O module

Auxiliary relays

- Relays are UL Listed, and factory installed. All relays provide (2) normally closed isolated contacts rated 10A @ 600 VAC. Relay terminals accept (1) 18 gauge to (2) 12-gauge wires per terminal.
- L101 24 VDC coil - installed, not wired (for customer use).
- L102 24 VDC coil - emergency position – relay energized when switch is in source 2 (emergency) position.
- L103 24 VDC coil - normal position - relay energized when switch is in source 1 (normal) position.
- L201 12 VDC coil installed, not wired (for customer use)
- L202 12 VDC coil - emergency position – relay energized when switch is in source 2 (emergency) position.
- L203 12 VDC coil - normal position - relay energized when switch is in source 1 (normal) position.

Optional Cable Lugs

- N032 Lug adapters, compression, ½ stab (1200A only)
- N045 Cable lugs, mechanical, 600 MCM, 4 per pole (1200A only)
- N066 Cable lugs, mechanical, 750 MCM, 4 per pole (1200A only)

Miscellaneous

- C027 Cover - guard
- M003 Terminal block - 30 points (not wired)

Optional features

- M080 Anti-condensation heater for outdoor enclosures
- L214 Load shed from standby source
- M085 Load power monitoring

Accessories

- PDAC-170 Accessories specification sheet
- A065L320 Control panel cover guard

Request for quotation (RFQ)

- Z555 Nonconfigurable spec [ETO]

Warranty

- G004 2-years, comprehensive
- G007 5-years, comprehensive
- G014 3-years, comprehensive
- G015 10-years, comprehensive

Shipping

- A051 Packing - export box (800 – 1000 A)

CODES AND STANDARDS



All switches are UL 1008 Listed with UL 50E Type Rated cabinets and UL Listed CU-AL terminals.

NEC®

Suitable for use in emergency, legally required and Standby and Critical Operations Power Systems (COPS) applications per NEC 700, 701, 702 and 708.



All switches comply with NEMA ICS 10.

ISO®

All switches are designed and manufactured in facilities certified to ISO 9001.



All switches are certified to CSA C22.2 No. 178.1 switching of electrical energy in emergency or other systems, up to 600 VAC and 4 kA.

IBC®

All switches are certified to IBC 2018.



All switches comply with IEEE 446 Recommended Practice for Emergency and Standby Power Systems.

EMC

Display controllers meet the following Electromagnetic Compatibility (EMC) standards:

- EN 61000-6-2 Generic Immunity Standard for the Industrial Environment.
- EN 61000-6-4 Generic Emission Standard for the Industrial Environment.



All switches comply with NFPA 70, 99 and 110 (Level 1).

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

Our energy working for you.™

©2023 Cummins Inc.

S-6556 OTEC Spec Sheet NSE - PD00000752 - Rev. 03/26

All rights reserved. Cummins is a registered trademark of Cummins Inc. PowerCommand, AmpSentry, InPower and "Our energy working for you." are trademarks of Cummins Inc. Other company, product, or service names may be trademarks or service marks of others. Specifications are subject to change without notice.



POWERCOMMAND® 40-11

TRANSFER SWITCH CONTROL

OTEC TRANSFER SWITCHES

DESCRIPTION

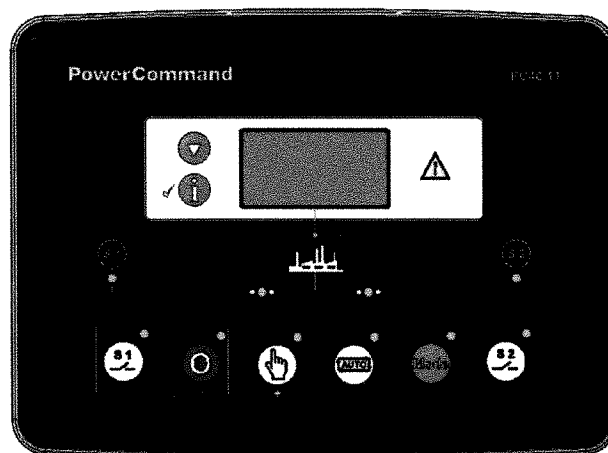
The PowerCommand® 40-11 Transfer Switch Control is a sophisticated microprocessor-based control with the basic features you need for primary source and generator set monitoring, generator set starting and load transfer functions for emergency standby power applications.

The control human machine interface (HMI) includes a LCD display with tactile-feel soft-switches for easy operation and screen navigation. All data on the control can be viewed by scrolling through screens with a display scroll button. The control displays the current active fault, fault occurrences and time ordered history of the 10 previous faults with respect to Real Time Clock Stamp and Engine Running Time.

FEATURES

Digital display – The PowerCommand® 40-11 offers a clear back-lit LCD 4-line text display, showing system status, contextual icons and warnings. The display is also equipped with 5 red and 4 green LEDs indicating operational status.

Modbus network communication – Modbus network communications capable. Optional Modbus RTU RS485 connection (1 serial port) and TCP Ethernet communication module (1 RJ45 port).



Remote Annunciator – Completely network compatible with the new Cummins transfer switch remote annunciator (See Transfer Switch Remote Annunciator spec sheet AC-204 for additional details).

Diagnostics and reporting – Detailed event logging with enhanced fault codes, alert lists, power event history, and source statistics enhances diagnostic capability during service events and provides the ability to meet any reporting requirements.

PC & Front Panel Configurations – The modules can be easily configured using the PC software. Selected front panel editing is also available.

Ease of service and access – Built-in plug-and-play control with minimized point-to-point connections and compatible terminal markings simplify servicing.



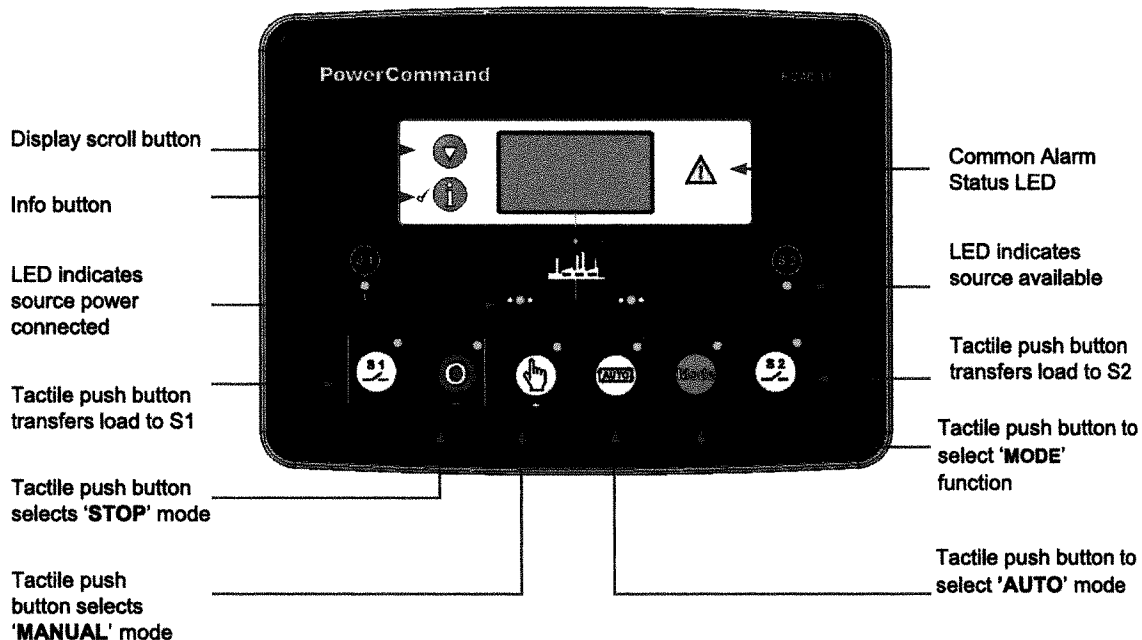
Complete product line – Cummins is a single source supplier with full scope of power system solutions, integration, and service capability, from paralleling to system level controls, switchgear, and remote connectivity.

Warranty and service – Products are backed by a comprehensive warranty and a worldwide network of distributors with factory-trained service technicians.



Isometric (ISO) projection: front views

HUMAN MACHINE INTERFACE (HMI) CAPABILITIES



CONTROL FUNCTIONS

TRANSFER INHIBIT

When transfer inhibit external input is active, the control does not automatically transfer the transfer switch to a standby source even when the preferred source fails.

RETRANSFER INHIBIT

When retransfer inhibit external input is active, the control does not automatically retransfer the transfer switch to a preferred source even when the preferred source returns.

REAL TIME CLOCK

This feature is used by the control for fault and event time stamping and as a reference for exerciser schedules and exception schedules.

TEST – REMOTE

Test feature allows the user to automatically test the standby source and the transfer switch. The test command can be issued from the remote source.

The test has following types available:

- Remote Start On Load
- Remote Start Off Load

ELEVATOR SIGNAL

This optional feature allows an elevator connected to the system to come to a complete stop before the switch transfers.

EXERCISER SCHEDULER

The Scheduler allows the user to configure pre-set automatic starting and stopping of the Generator (when in Auto mode).

BANK 1 / BANK 2

Each Bank of the Exercise Scheduler is used to give up to 8 scheduled runs per bank, 16 in total. This run schedule is configurable to repeat every 7 days (weekly) or every 28 days (monthly). Do Not Transfer, Off Load and On Load. Each scheduler bank configured differently either to weekly or monthly based exercises.

SOURCE AVAILABILITY

This feature monitors the frequency and voltage sensors on the preferred and standby sources to determine and declare the availability status of the two sources, irrespective of which source is connected to the load. It declares the states as event codes. Preferred/Standby Available - active inactive.

VOLTAGE SENSING

3-phase sensing on Source 1 and Source 2 (up to 600 Vac with no need for additional PTs). Plant battery voltage monitoring.

ALPHANUMERIC DISPLAY

- S2 Voltage L1-N
- S2 Voltage L-L
- S2 Frequency
- S1 Voltage L1-N
- S1 Voltage L-L
- S1 Frequency
- Battery voltage
- Current alarms with icons
- Event log
- Scheduler
- About

LOAD SHED

This feature allows the user to shed/disconnect the electrical load from a standby source. This feature is typically used to reduce non-emergency load demand on the generator when the generator is in an overload condition.

LOAD POWER MONITORING

This feature allows the monitoring of the following parameters on the load side of the transfer switch using the display, or remotely via the optional communication modules:

- Amps: L1 - L2 - L3
- Watts: L1 - L2 - L3 - Total
- VA: L1 - L2 - L3 - Total
- Var: L1 - L2 - L3 - Total
- Power Factor: L1 - L2 - L3 – Average

RELAY EXPANSION MODULE DSE2157

This feature allows the user to provide additional output to the control system, up to 16 user configurable dry contact sets - 8 NO, 8 Form-C.

TIME DELAYS

The following adjustable time delays are built into the transfer switch control. External modules to accomplish these delays are not required.

- **Start Delay** (Also known as Time Delay Engine Start, TDES adjustable from 0 to 10 hours)
- **Warming** (Also known as Time Delay Normal to Emergency, TDNE adjustable from 0 to 1 hour)
- **Elevator Delay** (Also known as Time Delay Elevator, TDEL adjustable from 0 to 5 minutes)
- **Non-sync Transfer Time** (Also known as Time Delay Programmed Transition, TDPT adjustable from 0.5 s to 10 minutes)
- **Return Delay** (Also known as Time Delay Emergency to Normal, TDEN adjustable from 0 to 5 hours)
- **Cooling** (Also known as Time Delay Engine Cool-down, TDEC adjustable from 0 to 1 hour)

LED INDICATOR LIGHTS

- Auto mode (RED)
- Source 1 available (GREEN)
- Source 2 available (GREEN)
- Source 1 connected to load (GREEN)
- Source 2 connected to load (GREEN)
- Common Alarm indicator (RED)
- Select Operating mode (RED)
- Stop mode (RED)
- Manual Mode (RED)

EVENTS LOG

The control displays information on up to 10 events displayed in chronological order, beginning with the most recent event, about either source. The event information

includes the following:

- Failure modes
- Warning
- Tests and exercises
- User-driven inputs (e.g., override, transfer inhibit)

SUPPORTED APPLICATIONS**APPLICATION TYPES**

- Utility - Generator Set

COMMUNICATIONS

The PowerCommand® 40-11 Transfer Switch Control features an optional network communication module.

Features include:

- Optional Modbus® RTU RS485 communication module (1 isolated serial port) TCP Ethernet communication module (1 RJ45 port)
- USB port for service tool interface

PROTECTION**PHASE ROTATION AND VOLTAGE IMBALANCE SENSING**

- Source 1 and Source 2

UNDER-VOLTAGE SENSING

- 3-phase normal, 3-phase emergency, Accuracy: ± 2 % of full-scale phase to phase
- Phase to neutral voltage range 50Vac to 414Vac.
- Phase to phase voltage range 86Vac to 717Vac.

OVERVOLTAGE SENSING

- 3-phase normal, 3-phase emergency, Accuracy: ± 2 % of full-scale phase to phase
- Phase to neutral voltage range 52Vac to 416Vac.
- Phase to phase voltage range 90Vac to 720Vac.

OVER/UNDER FREQUENCY SENSING

- Normal and emergency
- Accuracy: ± 0.2 Hz
- Frequency range 3.5 – 75 Hz

SYNC CHECK

- For in-phase transfer

CONTROL OPERATING VOLTAGE

- Range: 8-35 Vdc.

ENVIRONMENT

Operating Temperature Range	Control operates over an ambient temperature range: -30 °C to 70 °C.
Storage Temperature Range	The control operates after being exposed to Storage Temperatures in the range of -40 °C to 85°C.
Ingress Protection	The front panel is to be IP65.
Sun Protection	Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water exposure and Immersion in accordance with UL 746C.

CODES AND STANDARDS



The PC40-11 control is a UL Recognized Component Marked for United States and Canada.



Capable of being used on systems compliant with NFPA 70, 99 and 110 (Level 1).



The PC40-11 control fulfills the requirements of UKCA standard product directives.



Control and display as installed in a transfer switch enclosure comply with NEMA 4X and IP65 at the transfer switch level - if the transfer switch enclosure is also NEMA 4X & IP65 compliant.



The control is RoHS compliant.



Capable of being used on systems suitable for use in emergency, legally required and Standby and Critical Operations Power Systems (COPS) applications per NEC 700, 701, 702 and 708.



Fulfills the requirements of relevant European product directives.



The unit is designed to comply with European directive 72/23/EEC by complying with harmonized European safety standard BS EN 60950.



All switches are certified to CSA C22.2 No. 178.1 switching of electrical energy in emergency or other systems, up to 600 VAC and 4 kA.



The control is IEEE C37.90.2 certified. Capable of being used on IEEE 446 compliant systems; Recommended Practice for Emergency and Standby Power Systems.



The control is tested to meet the following CE Electromagnetic Compatibility (EMC) standards for EN 61000 series (electromagnetic compatibility):

- EN 61000-6-2 Generic Immunity Standard
- EN 61000-6-4 Generic Emissions

For more information, please contact your local Cummins distributor or visit cummins.com Our energy working for you™

All rights reserved. Cummins is a registered trademark of Cummins Inc. PowerCommand, AmpSentry, InPower and "Our energy working for you." are trademarks of Cummins Inc. Other company, product, or service names may be trademarks or service marks of others. Specifications are subject to change without notice.

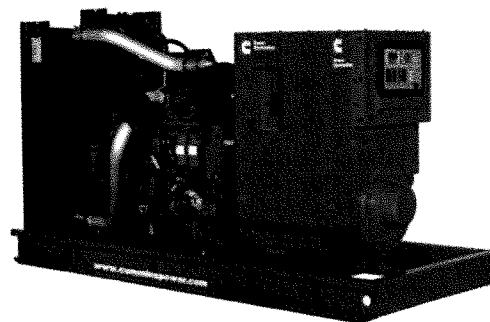
Cummins Inc.
Box 3005
Columbus, IN 47202-3005 U.S.A.
1-800-CUMMINS™ (1-800-286-6467) cummins.com
S-6560-EN PD00000756 - Produced in U.S.A. Rev.
11/25 © 2023 Cummins Inc.





Diesel Generator Set QSL9-G7 Series Engine

250 kW - 300 kW Standby



Description

Cummins® commercial generator sets are fully integrated power generation systems providing optimum performance, reliability and versatility for stationary Standby and Prime Power applications.

Features

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

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Control system - The PowerCommand® 2.3 electronic control is standard equipment and provides total generator set system integration including automatic remote starting/stopping, precise frequency and voltage regulation, alarm and status message display, output metering, auto-shutdown at fault detection and NFPA 110 Level 1 compliance. The PowerCommand® 3.3 control is also available as an option.

Cooling system - Standard cooling package provides reliable running at the rated power level.

Enclosures - Optional weather protective and sound attenuated enclosures are available.

Fuel tanks - Dual wall sub-base fuel tanks are also available.

NFPA - The genset accepts full rated load in a single step in accordance with NFPA 110 for Level 1 systems.

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

Model	Standby rating		Prime rating		Continuous rating		Data sheets	
	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz kW (kVA)	50 Hz kW (kVA)	60 Hz	50 Hz
DQDAA	250 (313)		225 (281)				D-3442	
DQDAB	275 (344)		250 (313)				D-3443	
DQDAC	300 (375)		270 (338)				D-3444	

Generator Set Specifications

Governor regulation class	ISO 8528 Part 1 Class G3
Voltage regulation, no load to full load	± 0.5%
Random voltage variation	± 0.5%
Frequency regulation	Isochronous
Random frequency variation	± 0.5%
Radio frequency emissions compliance	IEC 801.2 through IEC 801.5; MIL-STD-461C, Part 9

Engine Specifications

Bore	114.0 mm (4.49 in)
Stroke	145 mm (5.69 in)
Displacement	8.9 L (543 in³)
Configuration	Cast iron, in-line 6 cylinder
Battery capacity	750 amps minimum at ambient temperature of -18 °C (-0.4 °F) and above
Battery charging alternator	70 amps
Starting voltage	24 volt, negative ground
Fuel system	Direct injection: number 2 diesel fuel, fuel filter, automatic electric fuel shutoff
Fuel filter	Dual element with water separator
Air cleaner type	Normal duty
Lube oil filter type(s)	Single spin-on, combination full flow and bypass filters
Standard cooling system	High ambient radiator

Alternator Specifications

Design	Brushless, 4 pole, drip proof revolving field
Stator	2/3 pitch
Rotor	Single bearing, flexible discs
Insulation system	Class H
Standard temperature rise	125 °C Standby, 105 °C Prime
Exciter type	Permanent Magnet Generator (PMG)
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower
AC waveform Total Harmonic Distortion (THDV)	< 5% no load to full linear load, < 3% for any single harmonic
Telephone Influence Factor (TIF)	< 50 per NEMA MG1-22.43
Telephone Harmonic Factor (THF)	< 3

Available Voltages

60 Hz 3-phase			50 Hz 3-phase	
Reconnectable		Non-Reconnectable	Reconnectable	Non-Reconnectable
• 110/90	• 120/208	• 277/480		
• 139/240	• 120/240	• 347/600		
• 240/416	• 254/440			

Note: Consult factory for other voltages.

Generator Set Options and Accessories

Engine

- 120/240 V 1500 W coolant heater
- 120/240 V 150 W lube oil heater
- Heavy duty air cleaner
- Engine oil temperature

Control panel

- 120/240 V 100 W control anti-condensation heater
- Exhaust pyrometer
- Ground fault indication
- Remote fault signal package
- Run relay package
- Paralleling configuration

Alternator

- 105 °C rise
- 125 °C rise
- 120/240 V 100 W anti-condensation heater
- PMG excitation
- Single phase

Exhaust system

- Genset mounted muffler
- Heavy duty exhaust elbow
- Slip on exhaust connection
- NPT exhaust connection

Fuel system

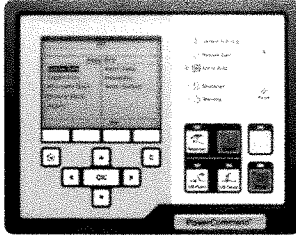
- 1022 L (270 gal) sub-base tank
- 1136 L (300 gal) sub-base tank
- 1514 L (400 gal) sub-base tank
- 1893 L (500 gal) sub-base tank
- 2271 L (600 gal) sub-base tank
- 2498 L (660 gal) sub-base tank
- 2725 L (720 gal) sub-base tank
- 5565 L (1470 gal) sub-base tank

Generator set

- AC entrance box
- Battery
- Battery charger
- Export box packaging
- UL 2200 Listed
- Main line circuit breaker
- PowerCommand network
- Communications Module (NCM)
- Remote annunciator panel
- Spring isolators
- Enclosure: aluminum, steel, weather protective or sound attenuated
- 2 year Standby power warranty
- 2 year Prime power warranty
- 5 year Basic power warranty
- 10 year major components warranty

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

Control system 2.3



The PowerCommand 2.3 control system - An integrated generator set control system providing voltage regulation, engine protection, generator protection, operator interface and isochronous governing (optional).

Control – Provides battery monitoring and testing features and smart-starting control system.

InPower™ – PC-based service tool available for detailed diagnostics.

PCCNet RS485 – Network interface (standard) to devices such as remote annunciator for NFPA 110 applications.

Control boards – Potted for environmental protection.

Ambient operation – Suitable for operation in ambient temperatures from -40 °C to +70 °C and altitudes to 13,000 feet (5000 meters). Prototype tested - UL, CSA and CE compliant.

AC protection

- AmpSentry protective relay
- Over current warning and shutdown
- Over and under voltage shutdown
- Over and under frequency shutdown
- Over excitation (loss of sensing) fault
- Field overload
- Overload warning
- Reverse kW shutdown
- Reverse Var shutdown
- Short circuit protection

Engine protection

- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- High, low and weak battery voltage warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Redundant start disconnect
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown
- Fuel-in-rupture-basin warning or shutdown

Operator/display panel

- Manual off switch
- 128 x 128 Alpha-numeric display with push button access for viewing engine and alternator data and providing setup, controls and adjustments (English or international symbols)
- LED lamps indicating genset running, not in auto, common warning, common shutdown, manual run mode and remote start
- Suitable for operation in ambient temperatures from -20 °C to +70 °C

Alternator data

- Line-to-Neutral AC volts
- Line-to-Line AC volts
- 3-phase AC current
- Frequency
- kVA, kW, power factor

Engine data

- DC voltage
- Lube oil pressure
- Coolant temperature

Control functions

- Time delay start and cool down
- Glow plug control (some models)
- Cycle cranking
- PCCNet interface
- (4) Configurable inputs
- (4) Configurable outputs
- Remote emergency stop
- Battle short mode
- Load shed
- Real time clock with exerciser
- Derate

Digital governing (optional)

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 3-phase Line-to-Line sensing
- Configurable torque matching
- Fault current regulation under single or three phase fault conditions

Other data

- Genset model data
- Start attempts, starts, running hours
- Fault history
- RS485 Modbus® interface
- Data logging and fault simulation (requires InPower service tool)
- Total kilowatt hours
- Load profile

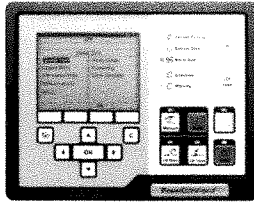
Options

- Auxiliary output relays (2)
- 120/240 V, 100 W anti-condensation heater
- Remote annunciator with (3) configurable inputs and (4) configurable outputs
- PMG alternator excitation
- PowerCommand for Windows® remote monitoring software (direct connect)
- AC output analogue meters
- PowerCommand 2.3 and 3.3 control with AmpSentry protection

For further detail on PC 2.3 see document S-1569.

For further detail on PC 3.3 see document S-1570.

PowerCommand 3.3 Control System



An integrated microprocessor based generator set control system providing voltage regulation, engine protection, alternator protection, operator interface and isochronous governing. Refer to document S-1570 for more detailed information on the control.

AmpSentry – Includes integral AmpSentry protection, which provides a full range of alternator protection functions that are matched to the alternator provided.

Power management – Control function provides battery monitoring and testing features and smart starting control system.

Advanced control methodology – Three phase sensing, full wave rectified voltage regulation, with a PWM output for stable operation with all load types.

Communications interface – Control comes standard with PCCNet and Modbus® interface.

Regulation compliant – Prototype tested: UL, CSA and CE compliant.

Service - InPower™ PC-based service tool available for detailed diagnostics, setup, data logging and fault simulation.

Easily upgradeable – PowerCommand controls are designed with common control interfaces.

Reliable design – The control system is designed for reliable operation in harsh environment.

Multi-language support

Operator panel features

Operator/display functions

- Displays paralleling breaker status
- Provides direct control of the paralleling breaker
- 320 x 240 pixels graphic LED backlight LCD
- Auto, manual, start, stop, fault reset and lamp test/panel lamp switches
- Alpha-numeric display with pushbuttons
- LED lamps indicating generator set running, remote start, not in auto, common shutdown, common warning, manual run mode, auto mode and stop

Paralleling control functions

- First Start Sensor System selects first generator set to close to bus
- Phase Lock Loop Synchronizer with voltage matching
- Sync check relay
- Isochronous kW and kVar load sharing
- Load govern control for utility paralleling
- Extended Paralleling (Base Load/Peak Shave) Mode
- Digital power transfer control, for use with a breaker pair to provide open transition, closed transition, ramping closed transition, peaking and base load functions,
- Alternator data
- Line-to-Neutral and Line-to-Line AC volts
- 3-phase AC current
- Frequency
kW, kVar, power factor kVA (three phase and total)

- Engine data
- DC voltage
- Engine speed
- Lube oil pressure and temperature
- Coolant temperature
- Comprehensive FAE data (where applicable)
- Other data
- Genset model data
- Start attempts, starts, running hours, kW hours
- Load profile (operating hours at % load in 5% increments)
- Fault history
- Data logging and fault simulation (requires InPower)

Standard control functions

Digital governing

- Integrated digital electronic isochronous governor
- Temperature dynamic governing

Digital voltage regulation

- Integrated digital electronic voltage regulator
- 3-phase, 4-wire Line-to-Line sensing
- Configurable torque matching

AmpSentry AC protection

- AmpSentry protective relay
- Over current and short circuit shutdown
- Over current warning
- Single and three phase fault regulation
- Over and under voltage shutdown
- Over and under frequency shutdown
- Overload warning with alarm contact
- Reverse power and reverse Var shutdown
- Field overload shutdown

Engine protection

- Battery voltage monitoring, protection and testing
- Overspeed shutdown
- Low oil pressure warning and shutdown
- High coolant temperature warning and shutdown
- Low coolant level warning or shutdown
- Low coolant temperature warning
- Fail to start (overcrank) shutdown
- Fail to crank shutdown
- Cranking lockout
- Sensor failure indication
- Low fuel level warning or shutdown
- Fuel-in-rupture-basin warning or shutdown
- Full authority electronic engine protection

Control functions

- Time delay start and cool down
- Real time clock for fault and event time stamping
- Exerciser clock and time of day start/stop
- Data logging
- Cycle cranking
- Load shed
- Configurable inputs and outputs (4)
- Remote emergency stop

Options

- Auxiliary output relays (2)

Ratings Definitions

Emergency Standby Power (ESP):

Applicable for supplying power to 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):

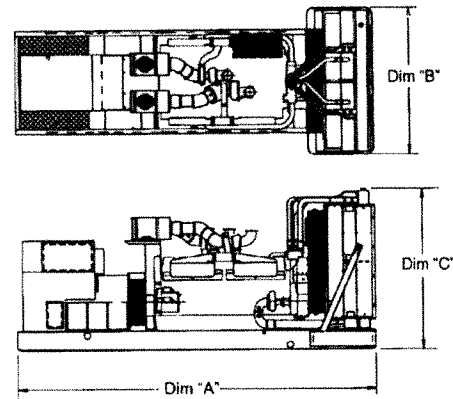
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

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.



This outline drawing is for reference only. See respective model data sheet for specific model outline drawing number.

Do not use for installation design

Dimensions and weights with standard cooling system

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Estimated set weight* dry kg (lbs)	Estimated set weight* wet kg (lbs)
DQDAA	3023 (119.0)	1270 (50.0)	1617 (64.0)	2184 (4814)	2234 (4926)
DQDAB	3023 (119.0)	1270 (50.0)	1617 (64.0)	2184 (4814)	2234 (4926)
DQDAC	3023 (119.0)	1270 (50.0)	1617 (64.0)	2319 (5113)	2370 (5225)

Dimensions and weights with optional cooling system with seismic feature codes L228-2 and/or L225-2

Model	Dim "A" mm (in.)	Dim "B" mm (in.)	Dim "C" mm (in.)	Estimated set weight* dry kg (lbs)	Estimated set weight* wet kg (lbs)
DQDAA	3023 (119.0)	1270 (50.0)	1676 (66.0)	2184 (4814)	2234 (4926)
DQDAB	3023 (119.0)	1270 (50.0)	1676 (66.0)	2184 (4814)	2234 (4926)
DQDAC	3023 (119.0)	1270 (50.0)	1676 (66.0)	2319 (5113)	2370 (5225)

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

Codes and Standards

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

	<p>This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.</p>		<p>The PowerCommand control is Listed to UL 508 - Category NITW7 for U.S. and Canadian usage.</p>
	<p>The Prototype Test Support (PTS) program verifies the performance integrity of the generator set design. Cummins products bearing the PTS symbol meet the prototype test requirements of NFPA 110 for Level 1 systems.</p>	<p>U.S. EPA</p>	<p>Engine certified to Stationary Emergency U.S. EPA New Source Performance Standards, 40 CFR 60 subpart IIII Tier 3 exhaust emission levels. U.S. applications must be applied per this EPA regulation.</p>
	<p>All low voltage models are CSA certified to product class 4215-01.</p>	<p>International Building Code</p>	<p>The generator set package is available certified for seismic application in accordance with the following International Building Code: IBC2000, IBC2003, IBC2006, IBC2009 and IBC2012.</p>

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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

Our energy working for you.™



©2022 Cummins Inc. All rights reserved. Cummins is a registered trademark of Cummins Inc. PowerCommand, AmpSentry, InPower and "Our energy working for you." are trademarks of Cummins Inc. Other company, product, or service names may be trademarks or service marks of others. Specifications are subject to change without notice. S-1585.DOCX (02/22)

Generator set data sheet



Model: DQDAC
Frequency: 60 Hz
Fuel type: Diesel
kW rating: 300 Standby
 270 Prime
Emissions level: EPA NSPS Stationary Emergency Tier 3

Exhaust emission data sheet:	EDS-1056
Exhaust emission compliance sheet:	EPA-1101
Sound performance data sheet:	MSP-1030
Cooling performance data sheet:	MCP-150
Prototype test summary data sheet:	PTS-164
Standard set-mounted radiator cooling outline:	A048R355
Optional set-mounted radiator cooling outline with seismic feature codes L228-2 (IBC) or L225-2 (OSHDP):	A041F591

Fuel consumption	Standby				Prime				Continuous
	kW (kVA)				kW (kVA)				kW (kVA)
Ratings	300 (375)				270 (338)				
Load	1/4	1/2	3/4	Full	1/4	1/2	3/4	Full	Full
US gph	6.8	12.2	17.7	23.1	6.3	11.1	15.9	20.8	
L/hr	25.8	46.3	66.8	87.3	23.6	42.0	60.3	78.7	

Engine	Standby rating	Prime rating	Continuous rating
Engine manufacturer	Cummins Inc.		
Engine model	QSL9-G7		
Configuration	Cast iron, in-line 6 cylinder		
Aspiration	Turbocharged and CAC		
Gross engine power output, kW _m (bhp)	346 (464)	312 (419)	
BMEP at set rated load, kPa (psi)	2606 (378)	2351 (341)	
Bore, mm (in.)	114.0 (4.49)		
Stroke, mm (in.)	145 (5.69)		
Rated speed, rpm	1800		
Piston speed, m/s (ft/min)	8.7 (1707.0)		
Compression ratio	16.1:1		
Lube oil capacity, L (qt)	30.0 (31.7)		
Overspeed limit, rpm	2070 ± 50		
Regenerative power, kW	35.00		

Fuel flow		
Maximum fuel flow, L/hr (US gph)	156.7 (41.4)	
Maximum fuel inlet restriction, mm Hg (in Hg)	152.4 (6.0)	
Maximum return restriction, mm Hg (in Hg)	254.0 (10.0)	

Air	Standby rating	Prime rating	Continuous rating
Combustion air, m ³ /min (scfm)	25.1 (885.8)	23.2 (820.7)	
Maximum air cleaner restriction, kPa (in H ₂ O)	6.2 (25.0)		
Alternator cooling air, m ³ /min (cfm)	59.4 (2100.0)		

Exhaust

Exhaust flow at set rated load, m ³ /min (cfm)	65.0 (2296)	60.5 (2137)	
Exhaust temperature, °C (°F)	551.8 (1025)	515.9 (961)	
Maximum back pressure, kPa (in H ₂ O)	10.2 (41.0)		

AKG standard set-mounted radiator cooling with seismic L225-2 (OSHDP)

Ambient design, °C (°F)	50 (122)		
Fan load, kW _m (HP)	26.09 (35)		
Coolant capacity (with radiator), L (US gal)	34.29 (9.06)		
Cooling system air flow, m ³ /min (scfm)	427.58 (15100)		
Total heat rejection, MJ/min (Btu/min)	10.5 (9924.0)	9.3 (8727.0)	
Maximum cooling air flow static restriction, kPa (in H ₂ O)	0.12 (0.5)		

Bearward optional set-mounted radiator cooling with seismic feature codes L228-2 (IBC) and non-seismic

Ambient design, °C (°F)	40 (104)		
Fan load, kW _m (HP)	26.6 (35.7)		
Coolant capacity (with radiator), L (US gal)	30.3 (8.0)		
Cooling system air flow, m ³ /min (scfm)	568.1 (20075.0)		
Total heat rejection, MJ/min (Btu/min)	10.5 (9924.0)	9.3 (8727.0)	
Maximum cooling air flow static restriction, kPa (in H ₂ O)	0.12 (0.5)		

Optional heat exchanger cooling	Standby rating	Prime rating	Continuous rating
Set coolant capacity, L (US gal)			
Heat rejected, jacket water circuit, MJ/min (Btu/min)			
Heat rejected, aftercooler circuit, MJ/min (Btu/min)			
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)			
Maximum raw water pressure, jacket water circuit, kPa (psi)			
Maximum raw water pressure, aftercooler circuit, kPa (psi)			
Maximum raw water pressure, fuel circuit, kPa (psi)			
Maximum raw water flow, jacket water circuit, L/min (US gal/min)			
Maximum raw water flow, aftercooler circuit, L/min (US gal/min)			
Maximum raw water flow, fuel circuit, L/min (US gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, jacket water circuit, L/min (US gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, aftercooler circuit, L/min (US gal/min)			
Minimum raw water flow at 27 °C (80 °F) inlet temp, fuel circuit, L/min (US gal/min)			
Raw water delta P at min flow, jacket water circuit, kPa (psi)			
Raw water delta P at min flow, aftercooler circuit, kPa (psi)			
Raw water delta P at min flow, fuel circuit, kPa (psi)			
Maximum jacket water outlet temp, °C (°F)			
Maximum aftercooler inlet temp, °C (°F)			
Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F)			

Optional remote radiator cooling¹

Set coolant capacity, L (US gal)			
Max flow rate at max friction head, jacket water circuit, L/min (US gal/min)			
Max flow rate at max friction head, aftercooler circuit, L/min (US gal/min)			
Heat rejected, jacket water circuit, MJ/min (Btu/min)			
Heat rejected, aftercooler circuit, MJ/min (Btu/min)			
Heat rejected, fuel circuit, MJ/min (Btu/min)			
Total heat radiated to room, MJ/min (Btu/min)			
Maximum friction head, jacket water circuit, kPa (psi)			
Maximum friction head, aftercooler circuit, kPa (psi)			
Maximum static head, jacket water circuit, m (ft)			
Maximum static head, aftercooler circuit, m (ft)			
Maximum jacket water outlet temp, °C (°F)			
Maximum aftercooler inlet temp at 25 °C (77 °F) ambient, °C (°F)			
Maximum aftercooler inlet temp, °C (°F)			
Maximum fuel flow, L/hr (US gph)			
Maximum fuel return line restriction, kPa (in Hg)			

Weights²

Unit dry weight kgs (lbs)	2319 (5113)
Unit wet weight kgs (lbs)	2370 (5225)

Notes:

¹ For non-standard remote installations contact your local Cummins representative.

² Weights represent a set with standard features. See outline drawing for weights of other configurations.

Derating factors

Standby	Engine power available up to 549 m (1800 ft) at ambient temperature up to 40 °C (104 °F). Above these elevations, derate at 7% per 400 m (1312 ft). Above 40 °C (104 °F) derate 7% per 10 deg C (18 deg F). Derates must be combined when both altitude of 549 m (1800 ft) and temperature of 40 °C (104 °F) are exceeded.
Prime	Engine power available up to 500 m (1640 ft) at ambient temperature up to 40 °C (104 °F). Above these elevations, derate at 7% per 400 m (1312 ft). Above 40 °C (104 °F), derate 5.5% per 10 °C (18 °F). Derates must be combined when both altitude of 500 m (1640 ft) and temperature of 40 °C (104 °F) are exceeded.
Continuous	

Ratings definitions

Emergency Standby Power (ESP):	Limited-Time Running Power (LTP):	Prime Power (PRP):	Base Load (Continuous) Power (COP):
Applicable for supplying power to 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.	Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.	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.	Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) is in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.

Alternator data

Three phase table ¹		80 °C	80 °C	105 °C	105 °C	105 °C	125 °C	125 °C	125 °C	125 °C	125 °C		
Feature code		B251	B302	B259	B256	B301	B258	B252	B246	B247	B300		
Alternator data sheet number		342	342	342	342	341	342	341	341	341	341		
Voltage ranges		277/480	347/600	110/190 thru 139/240 220/380 thru 277/480	120/208 thru 139/240 240/416 thru 277/480	347/600	110/190 thru 139/240 220/380 thru 277/480	120/208 thru 139/240 240/416 thru 277/480	277/480	277/480	347/600		
Surge kW		322	322	322	322	322	322	322	322	322	322		
Motor starting kVA (at 90% sustained voltage)	Shunt												
	PMG	1372	1372	1372	1372	1210	1372	1210	1210	1210	1210		
Full load current - amps at Standby rating		<u>120/208</u> 1042	<u>127/220</u> 985	<u>139/240</u> 903	<u>220/380</u> 570	<u>240/416</u> 521	<u>254/440</u> 483	<u>277/480</u> 452	<u>347/600</u> 361				

Note:

¹ Single phase power can be taken from a three phase generator set at up to 40% of the generator set nameplate kW rating at unity power factor.

Formulas for calculating full load currents:

Three phase output

$$\frac{\text{kW} \times 1000}{\text{Voltage} \times 1.73 \times 0.8}$$

Single phase output

$$\frac{\text{kW} \times \text{SinglePhaseFactor} \times 1000}{\text{Voltage}}$$

Warning: Back feed to a utility system can cause electrocution and/or property damage. Do not connect to any building's electrical system except through an approved device or after building main switch is open.

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

Our energy working for you.™

©2017 Cummins Inc. All rights reserved. Cummins is a registered trademark of Cummins Inc. PowerCommand, AmpSentry, InPower and "Our energy working for you." are trademarks of Cummins Inc. Other company, product, or service names may be trademarks or service marks of others. Specifications are subject to change without notice.
PDD-3444 (6/26)

