

# PowerCo Systems International Ltd.

UK MANUFACTURED GENERATORS

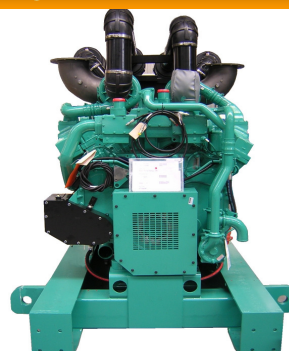
POWERCO MODEL:

## PCS82C – PCS91C

CUMMINS TECHNICAL DATA SHEET

Cost Effective Power:

- Compact size and low noise level
- Lower fuel consumption and oil use
- 250hrs service intervals
- 2 year warranty (hours limitation applies)



PowerCo	Cummins	380-415 50hz		480v 60hz	
Generating Set Model	Engine Model	KVA	KW	KVA	KW
PCS82C (PRIME)	QSB5G3	82	65.6	90	72
PCS82C (STANDBY)	QSB5G3	90	72	100	80
PCS91C (PRIME)	QSB5G4	91	72.8	103	82.4
PCS91C (STANDBY)	QSB5G4	100	80	113	90.4

### RATING DEFINITIONS

#### Prime Power

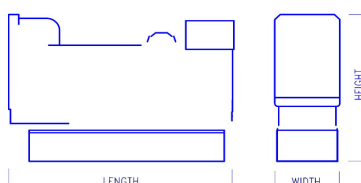
These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and these models can supply 10% overload power for 1 hour in 12 hours.

#### Standby Power

These rating are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings.

### DIMENSIONS AND WEIGHTS

Genset Models:	Net kg	Length mm	Width mm	Height mm
PCS82C	1100KG	1900	750	1500
PCS91C	1150KG	1900	750	1500



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## **CUMMINS ENGINE TECHNICAL DATA**

Generating Set Model:	PCS82C	PCS91C
Engine Manufacturer:	CUMMINS	CUMMINS
Model:	<b>QSB5G3</b>	<b>QSB5G4</b>
Number of Cylinder:	4 In line	4 In line
Displacement:	4500cc	4500cc
Cycle	4 stroke	4 stroke
Cooling System	Water cooled	Water cooled
Combustion System	Indirect Inj.	Indirect Inj.
Bore/Stroke: (mm)	107 X 124	107 X 124
Aspiration:	<b>TURBO CHARGED</b>	<b>TURBO CHARGED</b>
Direction of rotation	Anti-clockwise	Anti-clockwise
Lub. Oil Capacity ltrs:	11	11
Coolant capacity ltrs:	8.5	8.5
Electrical equipment	12vDC	12vDC
Compression Ratio:	17.3:1	17.3:1
<b>50 hz</b>		<b>50 hz</b>
Engine Speed:	<b>1500rpm</b>	<b>1500rpm</b>
Maximum Continuous Power at Flywheel: kw	81	89
Maximum Standby Power at Flywheel: kw	94	103
Fuel Cons: L/hr		
100%	22	24
75%	18	18
50%	12	12
25%	6	7
<b>60hz</b>		<b>60hz</b>
Engine Speed:	<b>1800rpm</b>	<b>1800rpm</b>
Maximum Continuous Power at Flywheel: kw	94	104
Maximum Standby Power at Flywheel: kw	108	119
Fuel Cons: L/hr		
100%	26	27
75%	21	23
50%	15	15
25%	8	8

**NOTE:** All engine performance data based on our maximum continuous rating at the standard reference conditions specified. Fuel consumption data at full load with a diesel fuel with a specific gravity of 0.85 conforming to BS2869:1988, Class A2

In line with our policy of continuous product development, we reserve the right to change specifications without notice.

### **ALTERNATOR MODELS**

Mecc Alte (UK)	ECP34 1S/4	ECP34 2S/4
Newage Stamford	UC224G	UCI274C
Leroy somer	LSA43.2 L8	LSA44.2 VS45

**STANDARD OPTION:**

12/24volt axial starter motor  
 12/24v Heavy duty batteries  
 Engine driven charging alternator  
 Engine starting motor  
 Set mounted heavy duty tropical radiator and pusher fan  
 Fuel oil filter  
 Lub oil filter  
 Air intake filter  
 Energised to run solenoid  
 Low oil pressure switch  
 High engine temperature switch  
 Industrial silencer with flexible section  
 Mechanical/electrical governor or ECM(check with sales)  
 8hr base fuel tank upto 800kva  
 Open Skid base above 800kva  
 Captive AVMs  
 One set operation manuals  
 One set engine and alternator maintenance books  
 One set electrical schematic drawings  
 TESTING All units are fully tested in our works prior to despatch and each unit is issued with a Test Certificate.  
 WARRANTY All PowerCo equipment carries a full 12 month warranty in accordance with our conditions of sale. 24monthys warranties are available FOC for standby units running at limited hours (please checkwith sales for full details.

**AVAILABLE OPTIONS:**

55DBA-85DBA weatherproof acoustic canopies and containers  
 Residential silencers  
 Critical silencers  
 Full EEC trailers  
 Non EEC trailers  
 Free Standing fuel tanks  
 Bunded fuel tanks  
 Automatic fuel make-up system  
 Fuel level warnings  
 Unlimited other options are available.

**ALTERNATOR:**

We use Cummins Generator technology (Newage Stamford), Leroy Somer of France and also MeccAlte of the UK(from Feb. 2011)  
 Brushless revolving field  
 4 pole  
 Class H Temperature rise 125/40  
 Class H Insulation  
 Automatic voltage regulator  
 Single bearing  
 0.5% Voltage regulation (Leroy)  
 1.0% Voltage regulation 200kva and above (MeccAlte)  
 1.5% Voltage regulation 0-180kva and above (MeccAlte)  
 0.5% Frequency regulation  
 TIF 50/NEMA MGI-22-43  
 THF >3%  
 RFI to BS800  
 50HZ Voltage range- 380/220 – 415/240v  
 60HZ Voltage range- 220/127 – 480/277v

**SET MOUNTED DIGITAL CONTROL SYSTEM:**

PowerCo model 7120 microprocessor engine control module provides metering and alarm facilities via the LCD display as follows:  
 Emergency stop pushbutton  
 Generator volts line/line  
 Generator volts line/neutral  
 Generator amps 3 phase  
 Generator frequency Hz  
 Mains Monitoring and Sensing  
 Engine speed  
 Engine oil pressure  
 Engine coolant temperature  
 Engine battery/volts  
 Engine hours run

**PROTECTIONS:**

Generator over-volts – shutdown  
 Generator under-volts – shutdown  
 Over speed – shutdown  
 Under speed – shutdown  
 Over frequency Hz – shutdown  
 Under frequency Hz – shutdown  
 High current – alarm  
 Battery charge fail – alarm  
 Emergency stop  
 Low oil pressure – shutdown  
 High engine temperature – shutdown  
 Fail to start – alarm  
 High battery volts – alarm  
 Low battery volts – alarm  
 Fail to come to rest – alarm  
 Loss of speed sensing signal – alarm  
 LED indication indicates – alarm  
 (amber) or shutdown (red flashing)  
 USB PROGRAMME PORT – standard printer cable connection

**TIMERS:**

Start delay  
 Stop delay  
 Crank/crank rest timer  
 Engagement attempt and manual crank limit  
 Safety on delay timer  
 Warm up timer  
 Cooling timer  
 Energise to stop timer

**CONTROL SYSTEM UPGRADES:**

7210 auto-start unit gives the following extra's:-  
 Generator KVA  
 Generator KW  
 Generator COS

7510 auto-synchronising unit gives you the following upgrades:-  
 Generator kVA L1, L2, L3, Total  
 Generator kW L1, L2, L3, Total  
 Generator Pf L1, L2, L3, Average  
 Generator kVAr L1, L2, L3, Total  
 Generator kWh  
 Generator kVAh  
 Generator kVArh  
 Generator Phase Sequence  
 Full automatic synchronising  
 Automatic load sharing  
 Automatic load level demand (switches units on and off line depending on load levels)

### **Automatic transfer panel (ATS) 25 – 1000A Contactors**

IP55 wall or freestanding sheet steel cubicle with hinged front access door and base entry gland plate. Finished in grey epoxy polyester powder-coat.

AC1 Rating at 40oC

Fitted with;

- 1 x Pair of 4 pole mechanically and electrically interlocked contactors.
- x Set of load links and terminals upto 125A.
- 1 x Set of copper bar load links above 125A.
- 1 x 3 ph + N mains detector.
- 1 x Mains available indicator.
- 1 x Mains on load indicator.
- 1 x Generator available indicator.
- 1 x Generator on load indicator.
- 1 x Set of control and monitoring MCB's.
- 1 x Earth stud.
- 1 x Set of interconnecting terminals.
- 1 x Hazard warning label
- 1 x Rating label.

Dimensions 4 pole ;

25A – 125A	H600mm x W400mm x D200mm
200A – 450A	H800mm x W600mm x D300mm
550A – 1000A	H1200mm x W800mm x D400mm

### **Automatic transfer panel (ATS) 800 – 6300A Circuit Breaker**

Floor-standing cubicle with hinged front access door and removable side and rear covers for ease of installation. Top and base entry aluminium gland plate.

Control compartment IP2X and segregated from load switching. Secondary screening over switchgear. Finished in grey polyester powder-coat RAL7035.

Fitted with;

- 1 x Pair of motorised mechanically and electrically interlocked fixed pattern circuit breakers (Non Auto).
  - 800 - 1600A MCCB (MCS)
  - 800 – 6300A ACB
- 1 x Set of load connection terminals.
  - Generator / Mains / Load.
- 1 x Mains available indicator.
- 1 x Mains on load indicator.
- 1 x Generator available indicator.
- 1 x Generator on load indicator.
- 1 x Set of control and monitoring MCB's.
- 1 x Earth bar.
- 1 x Set of interconnecting terminals.
- 1 x Hazard warning labels
- 1 x Rating label.

Dimensions;

MCCB;

800 - 1600A H1800mm x W600mm x D800mm

ACB;

800A – 1600A H1800mm x W 600mm x D800mm

2000A H2000mm x W 800mm x D800mm

2500A – 3200A H2000mm x W1000mm x D800mm

4000A H2000mm x W2000mm x D800mm

5000A – 6300A H2000mm x W2400mm x D800mm

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