

# LDS Technologies Ltd.

UK MANUFACTURED GENERATORS

LDS TECHNOLOGIES MODEL:  
**LDS350P - LDS400P**

## PERKINS 2200 SERIES TECHNICAL DATA SHEET

Cost Effective Power:

- Economic power-electronic fuel injection
- Reliable power-high compression ratios
- Clean efficient power-exceptional power to weight ratio
- Global distributor network



| LDS Technologies     | Perkins       | 380-415 50hz |     | 480v 60hz |     |
|----------------------|---------------|--------------|-----|-----------|-----|
| Generating Set Model | Engine Model  | KVA          | KW  | KVA       | KW  |
| LDS350P (PRIME)      | 2206A-E13TAG2 | 350          | 280 | 400       | 320 |
| LDS350P (STANDBY)    | 2206A-E13TAG2 | 370          | 296 | 438       | 350 |
| LDS400P (PRIME)      | 2206A-E13TAG3 | 400          | 320 | 400       | 320 |
| LDS400P (STANDBY)    | 2206A-E13TAG3 | 437          | 350 | 438       | 350 |

## RATING DEFINITIONS

### Prime Power

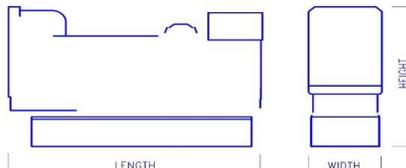
These ratings are applicable for supplying continuous electrical power (at variable load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and these models can supply 10% overload power for 1 hour in 12 hours.

### Standby Power

These ratings 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 |
|----------------|--------|-----------|----------|-----------|
| LDS350P        | 3600   | 3100      | 1130     | 2150      |
| LDS400P        | 3700   | 3100      | 1130     | 2150      |



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## PERKINS ENGINE TECHNICAL DATA

|  |                   |                   |
|--|-------------------|-------------------|
| Generating Set Model:                    | LDS350P           | LDS400P           |
| Engine Manufacturer:                     | PERKINS           | PERKINS           |
| Model:                                   | 2206A-E13TAG2     | 2206A-E13TAG3     |
| Number of Cylinder:                      | 6 In line         | 6 In line         |
| Displacement:                            | 12.5 Litre        | 12.5 Litre        |
| Cycle                                    | 4 stroke          | 4 stroke          |
| Cooling System                           | Water cooled      | Water cooled      |
| Combustion System                        | Direct Injection  | Direct Injection  |
| Bore/Stroke: (mm)                        | 130 x 157         | 130 x 157         |
| Aspiration:                              | Turbo charged A2A | Turbo charged A2A |
| Direction of rotation                    | Anti-clockwise    | Anti-clockwise    |
| Lub. Oil Capacity ltrs:                  | 40                | 40                |
| Coolant capacity ltrs:                   | 51.4              | 51.4              |
| Electrical equipment                     | 24vDC             | 24vDC             |
| Compression Ratio:                       | 16.3:1            | 16.3:1            |
| <b>50hz</b>                              |                   |                   |
| Engine Speed:                            | <b>1500rpm</b>    | <b>1500rpm</b>    |
| Maximum Continuous Power at Flywheel: kw | 305               | 349               |
| Maximum Standby Power at Flywheel: kw    | 349               | 392               |
| Fuel Cons: L/hr                          |                   |                   |
| 110%                                     | 80                | 90                |
| 100%                                     | 77                | 89                |
| 75%                                      | 71                | 81                |
| 50%                                      | 54                | 62                |
| <b>60hz</b>                              |                   |                   |
| Engine Speed:                            | <b>1800rpm</b>    | <b>1800rpm</b>    |
| Maximum Continuous Power at Flywheel: kw | 349               | 349               |
| Maximum Standby Power at Flywheel: kw    | 381               | 381               |
| Fuel Cons: L/hr                          |                   |                   |
| 110%                                     | 87                | 87                |
| 100%                                     | 88                | 88                |
| 75%                                      | 81                | 81                |
| 50%                                      | 62                | 62                |

**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)  | ECO38-3LN  | ECO40-1S  |
| Newage Stamford | HCI444E    | HCI444F   |
| Leroy Somer     | LSA47.2VS2 | LSA47.2S4 |

**STANDARD SUPPLY:**

12/24 volt axial starter motor  
 12/24 volt heavy duty batteries  
 Engine driven charging alternator  
 Engine starting motor  
 Set mounted heavy duty tropical radiator and pusher fan  
 Fuel oil filter  
 Lube 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 up to 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 depatch

**WARRANTY** All PowerCo equipment carries a full 12 month warranty in accordance with our conditions of sale. 24 month warranties are available FOC for standby units running at limited hours (please check with 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  
 Bundled fuel tanks  
 Automatic fuel make-up system  
 Fuel level warnings  
 CE certification  
 Unlimited other options are available (contact sales for details)

**ALTERNATOR:**

We use Cummins Generator Technology (Newage Stamford), Leroy Somer of France and also Mecc Alte of the UK.  
 Brushless revolving field  
 4 pole  
 Class H temperature rise 125/40  
 Class H Insulation  
 Automatic voltage regulator  
 Single bearing  
 0.5% - 1% voltage 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:**

Deep Sea Electronics model **7120** microprocessor engine controller provides metering and alarm facilities via the LCD display as follows:  
 Emergency stop push button  
 Generator volts line/line  
 Generator volts line/neutral  
 Generator amps 3 phase  
 Generator frequency Hz  
 Mains volts line/line  
 Mains volts line/neutral  
 Mains frequency Hz  
 Engine speed  
 Engine oil pressure  
 Engine coolant temperature  
 Engine battery/volts  
 Engine hours run

Event log

Additional engine parameter metering via CAN (engine permitting)

**PROTECTIONS:**

Generator over-volts - shutdown  
 Generator under-volts - shutdown  
 Mains out of limits  
 Mains under volts  
 Mains over volts  
 Mains under frequency  
 Mains over frequency  
 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 programming port - standard printer cable connection

**TIMERS:**

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

**CONTROL SYSTEM UPGRADES:**

**7220** gives the following extras:  
 (Standard supply above 650kVA)  
 Generator power factor  
 Generator phase sequence  
 Generator kVA  
 Generator kVA/hr  
 Generator kVAr  
 Generator kVAr/hr  
 Generator kW  
 Generator kW/hr  
 Load shedding control  
 Dummy load control  
 Dual mutual  
 Remote SCADA monitoring (wired)

**7320** gives the following extras:-  
 (Standard supply above 1000kVA)  
 SMS messaging (modem required)  
 SMS start/stop (modem required)  
 Ethernet comms (additional module required)  
 I/O expansion  
 RS232 & RS484 comms

**8610** auto-synchronising unit gives you the following upgrades:-  
 Synchroscope display  
 Bus volts line/line  
 Bus volts line/neutral  
 Bus frequency Hz  
 Bus phase sequence  
 Full automatic synchronising  
 Automatic load sharing  
 Automatic load level demand (switches units on and off line depending on load levels)  
 Modbus RTU/TCF