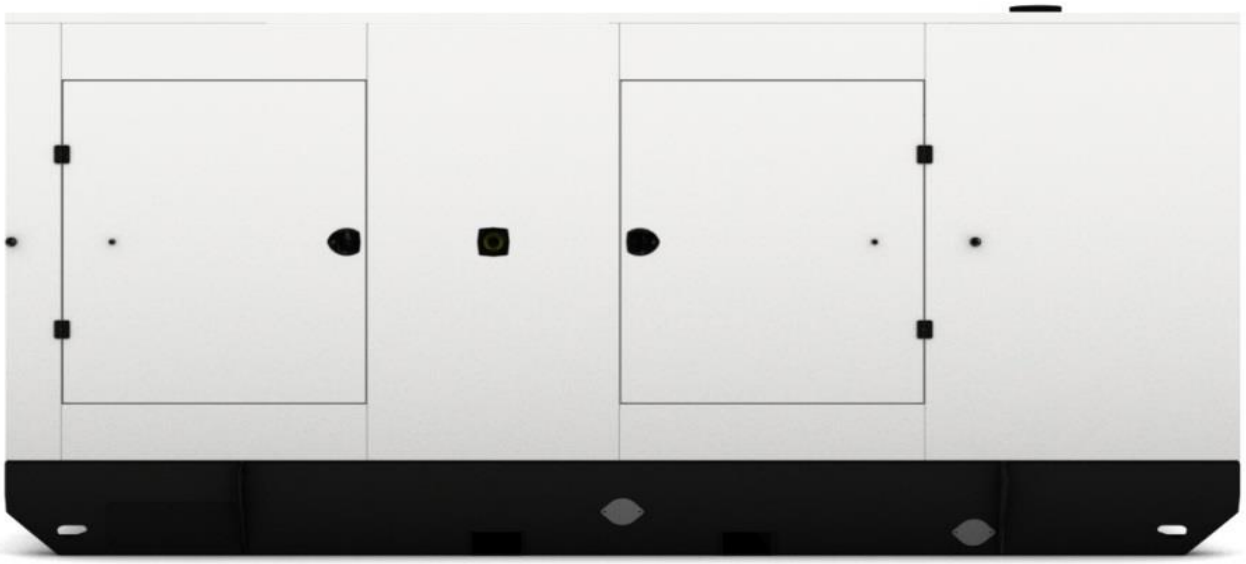
INTEGRATED POWER SOLUTIONS LTD

Empowering Your World

IPS400P Diesel Generator

UK Made	3 Phase	50Hz	Perkins Engine



This image is for illistration purposes only, the actual unit will be supplied to the ordered specification and manufacuring drawing.

This unit is designed, assembled and manufactured in the UK.

This IPS UK generator stands out for its exceptional performance, durability, and efficiency. Esteemed for its reliability, it harnesses innovative technology to deliver uninterrupted power. Its compact design ensures ease of installation, while our environmental compliance during manufacture makes it a favoured choice among eco-conscious consumers seeking to reduce their carbon footprint without sacrificing quality or power.

Please review all the notes and disclaimers on the following pages.

Generator Power Summary

Ratings based on NTP conditions. Ratings below are the available ratings at point of order. It may not be possible to switch ratings after due to alternator, engine or other configuations. A rating should therefore be selected prior to ordering.

Connection	Voltage	ESP kVA	ESP KW	PRP KVA	PRP KW
PS	190	425	340	400	320
PS	200	454	363	406	325
PS	208	455	364	407	326
PS	220	440	352	400	320
SD	220	425	340	400	320
SD	230	454	363	406	325
SD	240	455	364	407	326
SD	254	440	352	400	320
SS	380	425	340	400	320
SS	400	454	363	406	325
SS	415	455	364	407	326
SS	440	440	352	400	320

Prime Power (PRP)

This rating is the maximum power that a IPS Empower Diesel Generator can deliver continuouslyfor an unlimited number of hours per year in a variable load application. A 10% overload is permitted for 1 hour in every 12 hours of operation. The average load factor should not exceed 70% of the engines PRP power rating during any 24 hour period.

Standby Power (ESP)

This rating is the maximum power that a IPS Empower Diesel Generator can deliver in the eventof a power outage for up to 500 hours per year. The average load factor should not exceed 70% ofthe engines ESP rating. No overload is available.

Connection Key

SS	Series Star	PS	Parallel Star	SD	Series Delta
PD	Parallel Delta	DD	Double Delta		

Engine Overview

The following data is taken from the engine manufacturers datasheets. If critical, please use the latest datasheet from the manufacturers website, or confirm with sales prior to order.

Manufacturer	Perkins
Engine Model	2206A-E13TAG3
Aspiration	Turbocharged
Combustion System	Direct Injection
Cycle	4 Stroke
Governor	Electronic
No. of Cylinders	6
Cylinder Arrangement	In Line
Displacement	12.5L
Bore	130mm
Stroke	157mm
Compression Ratio	16.3:1
Cooling Type	Liquid Cooled
Coolant Capacity	51.4L
Oil Capacity	40.0L
Max Exhaust Temperature	630 ºC
Emission Standards EU	None
Emission Standards US	

Fuel Consumption Litres/Hour

The following data is at NTP Condidtions.

50% Load	42.00
75% Load	62.00
100% Load	81.00
110% Load	90.00

Alternator Overview

The following data is taken from the alternator manufacturers datasheets. If critical, please use the latest datasheet from the manufacturers website, or confirm with sales prior to order.

Manufacturer	Stamford	Model	S4L1D-F41
Type	Brushless	Phases	3
Bearings	1	Poles	4
Leads	12	AVR Model	AS440
Voltage Regulation	1%	Insulation Class	H
Excitation	Self Excited	Winding Number	311
Harmonic Content	<5.00%	Short Circuit Capacity	>300%

Reactances	Xd	2.54	X'd	0.17	X"d	0.13

Alternator Ratings

Connection	Voltage	ESP kVA	ESP Efficiency %	PRP KVA	PRP Efficiency %
PS	190	425.0	92.8	400.0	93.3
PS	200	465.0	92.6	415.0	93.2
PS	208	455.0	92.9	415.0	93.4
PS	220	440.0	93.4	400.0	93.8
SD	220	425.0	92.8	400.0	93.1
SD	230	465.0	92.6	415.0	93.2
SD	240	455.0	92.9	415.0	93.4
SD	254	440.0	93.4	400.0	93.8
SS	380	425.0	92.8	400.0	93.1
SS	400	465.0	92.6	415.0	93.2
SS	415	455.0	92.9	415.0	93.4
SS	440	440.0	93.4	400.0	93.8

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Standard Specification

The following is a functional overview. Additional items are available as an option and certain specifications and individual models may have the below changed based on the specifications of interconnected items, options and/or changes to third party manufacturers specifications.

Item	UK/EU	EXPORT
Battery Charger*	S	S
Dry Battery	O	O
Wet Battery	S	S
Tropical Radiator	S	S
Temperate Radiator	O	O
First Fill (Oil and Coolant)**	O	O
Single Skin Basetank	S	S
Bunded Base Tank	S	O
Low Fuel Level	O	O
Engine Coolant Heater	S	O
Low Coolant Level		
CE Marking	S	O
Electronic Governor	S	S
Oil Sump Drain	S	O
Oil Sump Pump	O	O
AC Connection Box	C	O
Anti-Condensation Heater	O	O
3 Pole Circuit Breaker		
4 Pole Circuit Breaker	O	O
Automatic Transfer Switch	O	O

Options Key

Optional	O	Standard	S	Not Available	N

*IPS UK Open Generator Specifications Do Not Include A Charger as Standard.

**IPS UK Open Generator Specifications Do Not Include First Fill, Optionally At Additional Cost.

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Weights And Dimensions

The following is offered as a guide, to some of the available configurations. For critical dimensions a full drawing should be obtained prior to placement of an order.

Diesel Generator 53WP0440A00, Common Styles and Dimensions

Frame Style	Market	Style	Fuel Tank (L)	Length X Width X Height (mm)	Weight (KG)
2900EX	UK/EU	Canopied	500	4108 x 1508 x 2384	4114.1
2900XX	Export	Canopied	650	4108 x 1508 x 2384	4114.1
9007GA	Export	Open	730	3000 x 1000 x TBC	3166.1

Standards and Controls

Our high quality geenrators are generally built to the following standards and classes. The below list is not exhaustive, or univeral. Standards depend on the specification ordered. Many of these standards from ISO are replicated in individule member countries standards, which have unique country specifc standard numbers.

Standard Name	Description	Code
ISO8528-1:2018	Generating set: Application, ratings and performance	C
ISO8528-2:2018	Generating set: Engines	C
ISO8528-3:2020	Generating set: Alternating current generators	C
ISO8528-4:2005	Generating set: Controlgear and switchgear	O
ISO8528-5:2022	Generating set: Generating sets	C
ISO8528-8:2016	Generating set: Requirements and tests	C
ISO8528-9:2022	Generating set: Measurement of airborne noise	C
ISO8528-10:2022	Generating set: Measurement of airborne noise	C
ISO8528-5:2016	Generating set: Safety	O
IEC60034	Rotaing Electrical Machines	C
ISO3046	Internal Combustion Engines	R
ISO9001:2015	Quality Management System	C
ISO9001:2015	Quality Management System	C

Our generators can be made to meet or exceed the critera set out in these and many other standards, depending on your requirements. Please discuss these requirements with your local dealer or account manager. Verification of the standards can be performed during witnessed testing programs in our testing facility. Witnessed testing is available at additional cost, from your account manager.

C	Generally Complies	O	Optionally complies	R	Refer to Item Manufacturers Current Datasheet

Generator Noise Data

All our generator sets in our acoustic canopies meet the noise levels required by law. The EU directive 2005/88/EC which has been intergrated into British law, after brexit sets the noise limits for diesel generators. Noise measurements are as per ISO8528-10:2022. When we sell generators without an acoustic housing they will not meet this limit and the customer is responsible, where applicable for complying with all local noise regulations.

The actual values for the diesel generator as as follows, when housed in a standard acoustic enclosure. Additional silencing options are available on request.

Frame Style	Market	Noise Level @ 1m	Noise Level @ 7m	Noise Level @ 15m
2900EX	UK/EU	85	76	74
2900XX	Export	85	76	74

1. **A.3.2 Generating Set Electrical Power During Noise Measurement** ISO8528-10:2022
   The generating set shall operate at a steady power output oat 75% of its rated power in kilowatts as per ISO8528-1:2018. Typically the full load noise level will be 1dBA higher at 100% PRP load and 2dBA higher at ESP rating.

2. **Grade of Measurement** ISO8528-10:2022
   The measurements are performed under ISO8528-10:2022 Grade 2. The measurement surface is parallelepiped as per the standard.

3. **Conditions Of Measurement** ISO3744:2024
   As per this ISO Standard measurements are conducted with free field conditions over a fully reflective plain. An enviroment that is highly reflective will increase the measured DBA by between 2-6dBA.

4. **Variablity of Measurements** ISO3744:2024
   The measurements are performed and create uncertainty as per ISO8528-10:2022 Grade 2. Considering enviromental conditions, metering at Class 2, surfaces and test conditions the test is considered to be accurate to ±2.3dBA against the ISO3744:2024 conditions.

5. **Correction for Distance** ISO3744:2024
   All measurements are taken at 1m. Sound levels at 7m and 15m are adjusted for distance as per ISO3744:2024 using the inverse square law. 7m is -16.9DB and 15m is -23.5DB.

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Important Notes and Disclaimers

This data sheet is offered as a guide to our products. our products key components (the engine and alternator) are provided by other third party manufacturers. While we try to maintain and update these specifications as we become aware of any changes, specifications from these manufacturers can change. In all cases should any of the elements be critical to your project, application or use case, you should confirm these prior to placement of order and we can ensure that the product meets your requirements.

The other components in the products we supply are updated regually in line with our policy of continious improvement. These improvements may be for performance, availbility or cost reasons.

All of our products are covered by our standard warranty (which included components that are covered by the respective third party manufacturer), as well as subject to sale under our standard terms and conditions of supply, copys of which are available from our website and/or on request.

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