

## Total Energy Solutions

### P550PI-P605EI / P635EI P600PI-P660EI / P635PI-P700EI



#### OUTPUT RATINGS 50 Hz

Model	Prime		Standby		Model	Prime		Standby	
	kVA	kW	kVA	kW		kVA	kW	kVA	kW
P550PI	550	440			P660EI	660	528		
P605EI			605	484	P635PI	635	508		
P635EI			635	508	P700EI			700	560
P600PI	600	480							

#### TECHNICAL DATA

Generator Set Model:	P550PI-P605EI / P635EI	P600PI-P660EI / P635PI-P700EI
Engine Make & Model:	Perkins 2806C-E18TAG1	Perkins 2806C-E18TAG2
Alternator Model:	LL6114G / LL6114K	LL6114K / LL7024H
Base Frame Type:	Heavy Duty Fabricated Steel	Heavy Duty Fabricated Steel
Circuit Breaker Type/Rating:	3 Pole MCCB	3 Pole MCCB
Frequency:	50 Hz	50 Hz
Engine Speed:	1500	1500
Fuel Tank Capacity: Litres (Usg)	1350 (357)	1350 (356.6)
Fuel Consumption, P550PI: l/hr (Usg/hr)	106 (28)	
Fuel Consumption, P605EI: l/hr (Usg/hr)	118 (31.2)	
Fuel Consumption, P635EI: l/hr (Usg/hr)	124 (32.7)	
Fuel Consumption, P600PI: l/hr (Usg/hr)		116 (30.7)
Fuel Consumption, P660EI: l/hr (Usg/hr)		130 (34.3)
Fuel Consumption, P635PI: l/hr (Usg/hr)		125 (33)
Fuel Consumption, P700EI: l/hr (Usg/hr)		140 (37)

#### ENGINE TECHNICAL DATA

Models	50Hz	
Engine Specifications	P550PI-P605EI / P635EI	P600PI-P660EI / P635PI-P700EI
Manufacturer:	Perkins	Perkins
Model:	2806C-E18TAG1	2806C-E18TAG2
No. of Cylinders/Alignment:	6 in-line	6 in-line
Cycle:	4 Stroke	4 Stroke
Induction:	TurboCharged AA Charge Cooled	TurboCharged AA Charge Cooled
Cooling Method:	Water	Water
Governing Type:	Electronic	Electronic
Class:	ISO8528 G2	ISO8528 G2
Compression Ratio:	14.5:1	14.5:1
Displacement: L (cu. in.)	18.13 (1106.4)	18.13 (1106.4)
Bore / Stroke: mm (in)	145 (5.7) / 183 (7.2)	145 (5.7) / 183 (7.2)
Moment of Inertia: kg m <sup>2</sup> (lb/in <sup>2</sup> )	7.44 (25424)	7.44 (25424)
Engine Electrical System:		
Voltage/Ground	24/Negative	24/Negative
Battery Charger Amps	70	70
Weight: kg (lbs)		
Dry	1832 (4039)	1832 (4039)
Wet	1900 (4189)	1900 (4189)
Performance		
Engine Speed: rpm	1500	1500
Gross Engine Power: kW (hp)		
Standby:	561 (752)	607 (814)
Prime:	483 (648)	550 (738)
BMEP: kPa (psi)		
Standby:	2475 (359)	2678 (388.4)
Prime:	2131 (309.1)	2427 (352)
Regenerative Power: kW	20 (34)	20 (34)



### ENGINE TECHNICAL DATA

Models	50Hz			
Engine Specifications	P550PI-P605EI / P635EI			P600PI-P660EI / P635PI-P700EI
<b>Fuel System</b>				
Fuel Filter Type:	Replaceable Element			Replaceable Element
Recommended Fuel:	Class A2 Diesel			Class A2 Diesel
Fuel Consumption: L/hr (Usg/hr)				
	<b>110% load</b>	<b>100% load</b>	<b>75% load</b>	<b>50% load</b>
P550PI - 50 Hz	188.4 (49.8)	106.2 (28.1)	79.3 (21)	55.7 (14.7)
P605EI - 50 Hz	n/a	118 (31.2)	87 (23)	60.1 (15.9)
P635EI - 50 Hz	n/a	123.8 (32.7)	91 (24)	62.6 (16.5)
P600PI - 50 Hz	130 (34.3)	116.3 (30.7)	86 (22.7)	60.3 (15.9)
P660EI - 50 Hz	n/a	129.9 (34.3)	94.5 (25)	65 (17.2)
P635PI - 50 Hz	140.2 (37)	125 (33)	91.2 (24.1)	63.4 (16.7)
P700EI - 50 Hz	n/a	140.2 (37)	101 (26.7)	68.6 (18.1)

Based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, class A2

### ENGINE TECHNICAL DATA

Models	50Hz			
Engine Specifications	P550PI-P605EI / P635EI			P600PI-P660EI / P635PI-P700EI
<b>Air System</b>				
Air Filter Type:	Replaceable Element			Replaceable Element
Combustion Air Flow: m <sup>3</sup> /min (cfm)				
Standby:	38.1 (13.45) / 39 (1377)			42.8 (1511) / 43 (1519)
Prime:	34.3 (1211) / 33 (1165)			41.8 (1476) / 42 (1483)
Max. Combustion Air Intake Restriction: kPa (in H <sub>2</sub> O)	6.25 (25.1)			6.25 (25.1)
Radiator Cooling Airflow: m <sup>3</sup> /min (cfm)	660 (23308)			660 (23308)
External Restriction to Cooling Airflow: Pa (in Wg)	125 (0.50)			125 (0.50)
<b>Cooling System</b>				
Capacity: L (US Gal)	61 (16.1)			61 (16.1)
Water Pump Type:	Centrifugal			Centrifugal
Heat Rejected to Water & Lube Oil: kW (Btu/min)				
Standby:	tba			tba
Prime:	tba			tba
Heat Radiation to Room: kW (Btu/min)				
Standby:	tba			tba
Prime:	tba			tba
Radiator Fan Load: kW (hp)	8 (10.7)			8 (10.7)
<b>Lubrication System</b>				
Oil Filter Type:	Eco, Full Flow			Eco, Full Flow
Total Oil Capacity: L (qts)	55.3 (14.6)			55.3 (14.6)
Oil pan: L (qts)	53.5 (14.1)			53.5 (14.1)
Oil Type:	API CG4 15W-40			API CG4 15W-40
Cooling Method:	Water			Water
<b>Exhaust System</b>				
Silencer Type:	Level I			Level I
Silencer Model & Qty:	SD200/I			SD200/I
Pressure Drop Across Silencer System: kPa (in Hg)	1.00 (0.30) / 0.15 (0.0)			0.25 (0.10) / 0.25 (0.10)
Silencer Noise Reduction Level: dB	11			11
Max. Allowable Back Pressure: kPa (in Hg)	6.75 (2.00)			6.75 (2.00)
Exhaust Gas Flow: m <sup>3</sup> /min (cfm)				
Standby:	92 (3249) / 109 (3849)			109 (3849) / 123 (4344)
Prime:	92 (3249) / 109 (3849)			109 (3849) / 123 (4344)
Exhaust Gas Temperature: °C (°F)				
Standby:	525 (977) / 550 (1022)			541 (1006) / 563 (1045)
Prime:	525 (977) / 550 (1022)			541 (1006) / 563 (1045)

### ALTERNATOR PERFORMANCE DATA

Data Item	P550PI-P605EI 50 Hz			P635EI 50 Hz			P600PI-P660EI 50 Hz			P635PI-P700EI 50 Hz		
	415/240	400/230	380/220	415/240	400/230	380/220	415/240	400/230	380/220	415/240	400/230	380/220
	Motor Starting Capability* kVA	1311	1227	1117	1525	1427	1301	1301	1427	1525	1694	1580
Short Circuit Capacity** %	300	300	300	300	300	300	300	300	300	300	300	300
Reactances: Per Unit												
X <sub>d</sub>	3.34	3.60	3.99	3.19	3.44	3.81	3.6	3.25	3.02	3.07	3.36	3.66
X' <sub>d</sub>	0.17	0.18	0.20	0.16	0.17	0.19	0.18	0.16	0.15	0.16	0.17	0.19
X'' <sub>d</sub>	0.120	0.129	0.143	0.112	0.120	0.133	0.13	0.12	0.11	0.13	0.14	0.15

Reactances shown are applicable to prime ratings

\* Based on 30% voltage dip. Improved motor starting capability is available with optional Permanent Magnet generator or AREP excitation

\*\* With optional Permanent Magnet generator or AREP excitation.

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**ALTERNATOR TECHNICAL DATA**

	P550PI-P605EI	P635EI	P600PI-P660EI	P635PI-P700EI
<b>Physical Data</b>				
Manufacturer:	Leroy Somer	Leroy Somer	Leroy Somer	Leroy Somer
Model:	LL6114G	LL6114K	LL6114K	LL7024H
No. of Bearings:	Single	Single	Single	Single
Insulation Class:	H	H	H	H
Winding Pitch (Code):	2/3 (No. 6S)	2/3 (No. 6S)	2/3 (No. 6S)	2/3 (No. 6S)
Wires:	6	6	6	6
Ingress Protection Rating:	IP23	IP23	IP23	IP23
Excitation System:	Shunt	Shunt	AREP	AREP
AVR Model:	R448	R448	R448	R448
<b>Operating Data</b>				
Overspeed: RPM	2250	2250	2250	2250
Voltage Regulation (steady state)	±0.5%	±0.5%	±0.5%	±0.5%
Wave Form NEMA=TIF	<50	<50	<50	<50
Wave Form IEC=THF	<2%	<2%	<2%	<2%
Total Harmonic Content LL/LN	<2%	<2%	<2%	<4%
Radio Interference	Suppression is in line with BS EN61000-6	Suppression is in line with BS EN61000-6	Suppression is in line with BS EN61000-6	Suppression is in line with BS EN61000-6
Radiant Heat: kW (Btu/min) - 50 Hz:	30.3 (1723)	29.6 (1683)	31.3 (1780)	37 (2104)

**TECHNICAL DATA - 3 PHASE RATINGS AND PERFORMANCE AT 50 Hz, 1500 RPM**

Voltage	P550PI		P605EI		P635EI		P600PI		P660EI		P635PI		P700EI	
	Prime		Standby		Standby		Prime		Standby		Prime		Standby	
	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW	kVA	kW
415/240	550	440	605	484	635	508	600	480	660	528	635	508	700	560
400/230	550	440	605	484	635	508	600	480	660	528	635	508	700	560
380/220	550	440	605	484	635	508	600	480	660	528	635	508	700	560

**DIMENSIONS AND WEIGHTS**

P550PI-P605EI					P635EI						P600PI-P660EI						P635PI-P700EI					
L	W	H	N	W	L	W	H	N	W	F	L	W	H	N	W	F	L	W	H	N	W	F
Mm	Mm	Mm	Kg	Kg	Mm	Mm	Mm	Kg	Kg	Kg	Mm	Mm	Mm	Kg	Kg	Kg	Mm	Mm	Mm	Kg	Kg	Kg
(in)	(in)	(in)	(lbs)	(lbs)	(in)	(in)	(in)	(lbs)	(lbs)	(lbs)	(in)	(in)	(in)	(lbs)	(lbs)	(lbs)	(in)	(in)	(in)	(lbs)	(lbs)	(lbs)
4111	1536	2098	4664	4734	4111	1536	2098	4727	4797	5942	4111	1536	2098	4727	4797	5942	4111	1536	2098	4800	4870	6015
(162)	(60.5)	(83)	(10284)	(10438)	(162)	(60.5)	(83)	(10423)	(10577)	(13102)	(162)	(60.5)	(83)	(10423)	(10577)	(13102)	(162)	(60.5)	(83)	(10582)	(10736)	(13261)
<b>L - Length</b>					<b>W - Width</b>			<b>H - Height</b>			<b>N - Net</b>			<b>W - Wet</b>			<b>F - Fuel</b>					

Net = With Lube Oil    Wet = Net + Coolant    Fuel = Fuel + Net + Coolant

**Definitions**

**Standby Rating**

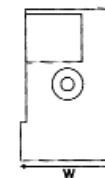
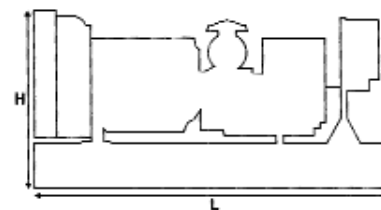
These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on this model is peak continuous rated (as defined in ISO8528-3).

**Prime Rating**

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 this model can supply 10% overload power for 1 hour in 12 hours.

**Standard Reference Conditions**

Note: Standard reference conditions 27°C (80°F) Air Inlet Temp, 152.4m (500ft) A.S.L. 60% relative humidity. All engine performance data based on the above mentioned maximum continuous ratings. Fuel consumption data at full load with diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, Class A2.



**General Data**

**Documents**

A full set of operation and maintenance manuals, circuit wiring diagrams, and commissioning/fault finding instruction leaflets.

**Generating Set Standards**

The equipment meets the following standards: BS5000, ISO 8528, ISO 3406, IEC 60034, VDE 0530, NEMA MG-1.22. Generating sets manufactured under ISO9001 quality standards.

**Warranty**

All equipment is guaranteed for a period of 12 months from date of commissioning or 18 months from shipping, whichever occurs first. Extended warranty terms are available.