



# MODEL: TD500



## Ratings Range — 60 Hertz Operation

Standby: kW 470-500  
 kVA 588-625  
 Prime: kW 423-450  
 kVA 528-563

### FEATURES

- Single source responsibility for the generator set and accessories.
- Prototype and production tested to insure one step load acceptance per NFPA 110.
- Two year limited warranty on generator sets and accessories. Extended warranties also available.
- Unit conforms to CSA, NEMA, EGSA, ANSI and other standards.
- Heavy duty 4 cycle industrial engine for reliability and fuel efficiency.
- Brushless rotating field generator with class H insulation.
- Heavy duty steel base with integral vibration isolators.
- Cooling system designed for ambient temperatures up to 50°C (122°F)
- EPA Tier 3 Certified Engine.
- Tier 3 EPA-Certified for Stationary Emergency Applications.

### GEN SET RATINGS

Genset Model Number	Alternator	Voltage L-N / L-L	Phase	Hertz	130° Rise Standby Rating		105° Rise Prime Rating	
					kW / kVA	Amps	kW / kVA	Amps
TD500	572RSL4029	277/480	3	60	500/625	752	450/563	677
		139/240	3	60	500/625	1504	450/563	1354
		254/440	3	60	500/625	820	450/563	739
		127/220	3	60	500/625	1640	450/563	1478
		240/416	3	60	500/625	867	450/563	781
		120/208	3	60	500/625	1735	450/563	1563
		120/240	3	60	500/625	1504	450/563	1354
		219/380	3	60	470/588	893	423/528	802
		120/240	1	60	308/308	1283	277/277	1154

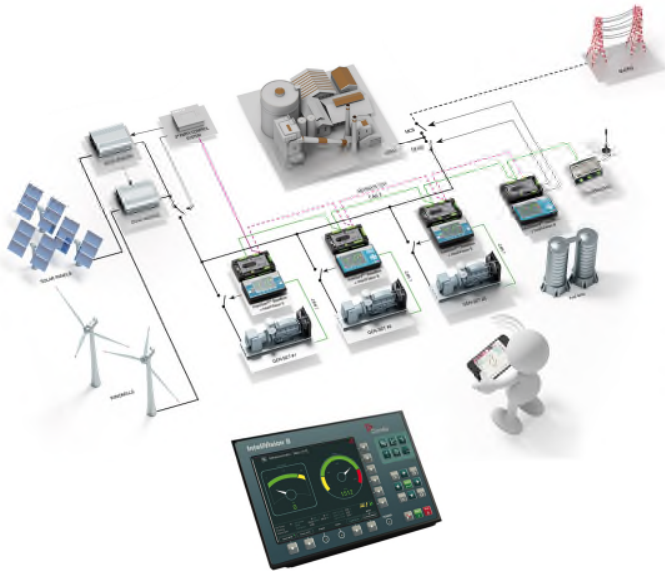
RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor.  
 STANDBY RATINGS: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271.  
 PRIME POWER RATINGS: Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS5514, AS2789, and DIN 6271. For limited running time and base load ratings consult the factory. The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.  
 GENERAL GUIDELINES FOR DERATION: Altitude: Derate 0.5% per 100m (328 ft.) elevation above 1000m (3279 ft.) Temperature: Derate 1.0% per 10°C (18°F) temperature above 40°C (104°F).



# Application and Engineering Data

<b>Basic Technical Data</b>		<b>Lubrication System</b>	
<b>Manufacturer</b>	Perkins	<b>Lubricating oil capacity total system</b>	15.9 gal (60 L)
<b>Model</b>	2506D-E15TAG3	<b>Maximum sump capacity</b>	14.0 gal (53 L)
<b>Number of cylinders</b>	6	<b>Minimum sump capacity</b>	11.9 gal (45 L)
<b>Cylinder arrangement</b>	Vertical in-line	<b>Maximum engine operating angles (front up, front down, right side or left side)</b>	7°
<b>Cycle</b>	Four stroke	<b>Lubricating Oil Pressure</b>	
<b>Induction system</b>	Turbocharged, air to air charge cooled	<b>Oil Temperature (continuous operation)</b>	237 °F (114 °C)
<b>Compression ratio</b>	16:1	<b>Oil Temperature (maximum intermittent operation)</b>	
<b>Bore</b>	5.37 in. (137 mm)	<b>Electrical System</b>	
<b>Stroke</b>	6.73 in. (171 mm)	<b>Type</b>	24 volt negative earth
<b>Cubic capacity</b>	815.2 cu in. (15.2 L)	<b>Alternator type</b>	22SI
<b>Direction of rotation</b>	Counter clockwise (from flywheel)	<b>Alternator Voltage</b>	24V
<b>Firing order</b>	1,5,3,6,2,4	<b>Alternator Output</b>	70A
<b>Governor type</b>	Electronic, Isochronous 0.25%	<b>Starter motor type</b>	42MT
<b>Gross engine power</b>	762 hp (568 kWb)	<b>Starter motor voltage</b>	24V
<b>Electropak net engine power</b>		<b>Starter motor power</b>	10 hp (7.5 kW)
<b>Brake mean effective pressure</b>	366 psi (2524 kPa)	<b>Minimum cranking speed</b>	100 rev/min
<b>Engine coolant flow (against 5 psi (35 kPa) restriction)</b>	1.64 gal/sec (6.2 L/sec)	<b>Induction System</b>	
<b>Cooling fan air flow (29 psi (200 kPa) external restriction)</b>	N/A	<b>Maximum air intake restriction</b>	
<b>Combustion air flow (at rated speed)</b>	1483 cfm (42.0 m³/min)	<b>Clean filter</b>	0.54 psi (3.7 kPa)
<b>Exhaust gas flow (max)</b>	3955 cfm (112 m³/min)	<b>Dirty filter</b>	0.90 psi (6.2 kPa)
<b>Exhaust gas mass flow (max)</b>		<b>Air filter type</b>	Paper element
<b>Exhaust gas temperature in manifold (max)</b>	1022 °F (550 °C)	<b>Duct allowance with 50% glycol</b>	
<b>Boost pressure ratio</b>			
<b>Overall thermal efficiency (net)</b>	41.2%		
<b>Cooling System</b>		<b>Fuel System</b>	
<b>Coolant</b>		<b>Type of injection</b>	MEUI
<b>Total System Capacity</b>	13.6 gal (51.4 L)	<b>Fuel injection pump</b>	MEUI
<b>With radiator</b>	N/A	<b>Fuel atomizer</b>	
<b>Without radiator</b>	N/A	<b>Fuel Lift Pump</b>	
<b>Coolant Pump Drive</b>	Gear	<b>Max flow through customer filter</b>	120.7 gal/hr (457 L/hr)
<b>Coolant pump drive ratio</b>	N/A	<b>Maximum suction head</b>	3 m
<b>Maximum top tank temperature</b>	225° F (107° C)	<b>Fuel Consumption</b>	
<b>Temperature rise across engine (rating dependent)</b>	50° F (10 °C)	<b>110% Load</b>	34.9 gal/hr (132.0 L/hr)
<b>Thermostat operation range</b>	190-208° F (88-98 °C)	<b>100% Load</b>	32.0 gal/hr (121.0 L/hr)
<b>Recommended coolant:</b>	50% ethylene glycol with a corrosion inhibitor (BS 658 : 1992 or MOD AL39) and 50% clean fresh water.	<b>75% Load</b>	25.4 gal/hr (96.0 L/hr)
<b>Exhaust System</b>		<b>50% Load</b>	20.3 gal/hr (77.0 L/hr)
<b>Maximum back pressure</b>	0.99 psi (6.8 kPa)		
<b>Exhaust outlet size</b>	5.9 in (150 mm)		

## Generator Controller Options



- Dashboard Style LCD Panel
  - NFPA 110
  - SAE J1939 ECU Communications
  - Load Share Synch Features
  - Metering, Data Trending, Alarms
  - Engine Status Indicators
  - Fuel Consumption
  - CanBus, ModBus
  - Ethernet Communications
  - Remote Contacts Form C, RS 232/485
- 
- Internet Bridge Module
  - Internet Connection & Web Browser
  - Remote Access & Control
  - IntelliMonitor Network Management
  - SNMP, PC SCADA
  - Site Overview & Statistic Settling
  - Automatic Downloads, Report Writer
  - Receive Emails or IM Text
  - CAT 5e, RS232/485, RJ 45
  - Ethernet or Dial Up Connection
  - Fleet Scalability

## Alternator Specifications

<b>Manufacturer</b>	Marathon	<ul style="list-style-type: none"> <li>• NEMA MG1, IEEE, AND ANSI standards compliance for temperature and motor starting.</li> <li>• Sustained short-circuit current of the rated current for up to 10 seconds.</li> <li>• Sustained short-circuit current enabling downstream circuit breakers to trip without collapsing the alternator field.</li> <li>• Self-ventilated and dripproof construction.</li> <li>• Superior voltage waveform from a two-thirds pitch stator and skewed rotor.</li> <li>• Linkboards</li> <li>• Optimized Electrical Design</li> <li>• Enhanced Ventilation</li> <li>• Fully Guarded</li> <li>• Heavy Duty Bearings</li> </ul>
<b>Type</b>	Ext. Voltage Regulated, Brushless	
<b>Gen Frame</b>	MAGNAMAX	
<b>Insulation</b>	NEMA	
<b>Material</b>	Class H	
<b>Temperature Rise</b>	130 °C, Standby	
<b>Hertz</b>	60	
<b>Phase</b>	3	
<b>RPM</b>	1800	
<b>Exciter</b>	Rotating	
<b># Leads</b>	12 Reconnectable or 4 Single Phase	
<b>PF</b>	0.8	
<b>Ambient</b>	40°C	
<b>Coupling Single Bearing</b>	Flexible	
<b>Amortisseur Windings</b>	Full	
<b>Cooling Air Volume</b>	250 CFM	
<b>Peak Motor Starting</b>	30% Voltage Dip, 1040 skVA	
<b>Voltage Regulation no-load and full-load</b>	3 Phase Sensing 1/2%	

## STANDARD FEATURES

- Heavy Duty Steel Base
- Vibration Isolators
- Oil Drain Valve with Extension
- Battery Rack
- Battery Cables
- High Ambient Unit Mounted Radiator
- Battery Charging Alternator
- Factory Paint
- Factory Test Prior to Shipment
- 2 Year Warranty
- Owners Manual

## AVAILABLE ACCESSORIES

### OPEN UNIT

- Narrow Skid Base
- Radiator Duct Flange
- Ship Loose Flex Exhaust
- Ship Loose Critical Silencer

### ENCLOSED UNIT

- Wide Skid Base
- Standard Enclosure With Internal Silencer
- Sound Attenuated Enclosure With Silencer
- Load Center With Lights and GFI Receptacle
- Sub-Base Fuel Tank

### CONTROLLER

InteliLite Model IL-NT-MRS19  
Ethernet Bridge  
Remote Annunciator



## MISCELLANEOUS

- Flexible Fuel Lines
- Coolant Drain Kit
- Water Jacket Heater
- Oil Pan Heater
- Generator Strip Heater
- Battery
- Battery Charger
- Pad Type Battery Heater
- Battery Heater Blanket with Thermostat
- Line Circuit Breaker

## WARRANTY

- 3 Year Warranty
- 5 Year Warranty

## APPROVALS AND LISTINGS

- UL Standard 2200

## WEIGHTS AND DIMENSIONS

OVERALL SIZE, L x W x H, in.: 156 in. x 66 in. x 79 in.  
WEIGHT: 8239 lbs.

Note: Dim and weights reflect standard open unit with no options



Note: This drawing is provided for reference only and should not be used for planning installation. Contact your local distributor for more detailed information.

## DISTRIBUTED BY:

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