



ATA

Makes Life Brighter

Generators & Switchgear Solutions

ATA, Cummins, 6BT5.9-G1 120 KVA

Engine Speed	Standby Power		Prime Power		Continuous Power	
RPM	Kw/KVA	HP	Kw/KVA	HP	kW	HP
1500	106/132.5	142	96/120	129	TBD	TBD

	STANDBY POWER		PRIME POWER	
	1800	1500	1800	1500
Governed Engine Speed.....-rpm	N/A	850 - 950	N/A	850 - 950
Engine Idle Speed.....-rpm		101		92
Gross Engine Power Output..... -kW		6		6
Piston Speed.....-m/s		12.7		12.7
Friction Horsepower.....-kW		2.0		2.0
Engine Water Flow to Engine:.....-litre/sec.		107		105
Intake Air Flow.....-litre/sec.		540		490
Exhaust Gas Temperature..... -°C		305		270
Exhaust Gas Flow.....-litre/sec.		22.5 : 1		24.5 : 1
Air to Fuel Ratio.....-air:fuel		21		19
Radiated Heat to Ambient.....-kW	61	54		
Heat Rejection to Coolant.....-kW	92	82		
Heat Rejection to Exhaust.....-kW				

Engine Performance Data @ 1500 RPM				
OUTPUT POWER			FUEL CONSUMPTION	
%	kW	HP	g/kW.h	L/h
STANDBY POWER				
100	106	142	209	26.9
PRIME POWER				
100	96	129	208	24.2
75	72	96	208	18.2
50	48	64	215	12.5
25	24	32	250	7.3

Dimensions

Type	Length (mm)	Width (mm)	Height (mm)	Fuel Tank (L)	Weight (KG)
Open	2400	775	1375	190	1200
Closed	2750	1110	1495	190	1810

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GENERAL ENGINE DATA

Approximate Engine Weight (wet).....	-kg	432
Mass Moment of Inertia of Rotating Components (No Flywheel).....	-kg·m ²	0.25
Center of Gravity from Front Face of Block.....	-mm	391
Center of Gravity above Crankshaft Centerline.....	-mm	140
Crankshaft Thrust Bearing Load Limit		
—Maximum Intermittent.....	-N	3425
—Maximum Continuous.....	-N	1112

ENGINE MOUNTING

Maximum (Static) Bending Moment at Front Support Mounting Surface.....	-N.m	435
Maximum (Static) Bending Moment at Side Pad Mounting Surface.....	-N.m	TBD
Maximum (Static) Bending Moment at Rear Face of Block.....	-N.m	1356
Moment of Inertia of Complete Engine		
— Roll Axis.....	-kg·m ²	16.5
— Pitch Axis.....	-kg·m ²	41.1
— Yaw Axis.....	-kg·m ²	35.4

EXHAUST SYSTEM

Maximum Back Pressure.....	-kPa	10
Exhaust Pipe Size Normally Acceptable.....	-mm	75
Maximum Static Supported Weight at the Turbocharger Outlet Flange.....	-N.m	13.5
Exhaust Manifold Insulation Acceptable.....	-Yes/No	No
Turbocharger Insulation Acceptable.....	-Yes/No	No

AIR INTAKE SYSTEM

Maximum Intake Air Restriction with Heavy Duty Air Cleaner		
— Dirty Element.....	-kPa	6
— Clean Element.....	-kPa	4
Minimum Dirt Holding Capacity with Heavy Duty Air Cleaner.....	-g/cfm	53
Maximum Temperature Rise from Ambient to the Inlet of the Turbocharger.....	-°C	17
Recommended intake piping size (inner diameter).....	-mm	76

LUBRICATION SYSTEM

Minimum Engine Oil Pressure for Engine Protection Devices:		
—Idle Speed.....	-kPa	207
—Governed Speed.....	-kPa	345
Maximum Oil Temperature.....	-°C	121
Oil Capacity with OP 9006 Oil Pan : High - Low.....	-litre	14.2 - 12.3
Minimum Required Lube System Capacity - Sump plus Filters.....	-litre	16.4
Angularity of Standard Oil Pan: (Values stated are for intermittent operation only):		
— Front Down.....	-°	40
— Front Up.....	-°	40
— Side to Side.....	-°	40



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FUEL SYSTEM

Type Injection System.....	BYC PB Direct Injection
Maximum Restriction at Lift Pump.....-mmHg	102
Maximum Allowable Head on Injector Return Line (Consisting of Friction Head and Static Head)-mmHg	508
Total Drain Flow (constant for all loads).....-litre/hr	30

COOLING SYSTEM

Coolant Capacity - Engine Only.....-litre	7.9
Maximum Coolant Friction Head External to Engine...-1800 rpm.....-kPa	35
.....-1500 rpm.....-kPa	28
Maximum Static Head of Coolant Above Engine Crank Centerline.....-m	14
Standard Thermostat (Modulating) Range.....-°C	82 - 95
Minimum Pressure Cap.....-kPa	69
Maximum Top Tank Temperature for Standby / Prime Power.....-°C	104 / 100

ELECTRICAL SYSTEM

Cranking Motor (Heavy Duty, Positive Engagement).....-volt	12V	24V
Battery Charging System, Negative Ground.....-ampere	63	40
Maximum Allowable Resistance of Cranking Circuit.....-ohm	0.00075	0.002
Minimum Recommended Battery Capacity		
• Cold Soak @ 10 °F (-12 °C) and Above.....-0°F CCA	800	400

EMISSIONS

Gaseous Emissions per GB 20891-2007, at 1500rpm :

—Weight-Specific NOx.....	g/kW.h	9.2
—Weight-Specific HC.....	g/kW.h	1.3
—Weight-Specific CO.....	g/kW.h	5.0
—Weight-Specific Particulates.....	g/kW.h	0.54



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ALTERNATOR SPECIFICATIONS

TAL 044 - Three-phase 70 to 200 kVA- 50 Hz / 88 to 250 kVA- 60 Hz

Insulation class	H	Excitation system 6-wire	SHUNT AREP+ / PMG
Winding pitch	2/3 (wind.6S - 6-wire / wind.6 - 12-wire)	AVR type	R120 R180
Number of wires	6 (12 option)	Excitation system 12-wire (option)	SHUNT AREP+ / PMG
Protection	IP 23	AVR type	R120 R180
Altitude	≤ 1000 m	Voltage regulation (*)	± 1 % ± 0.5 %
Overspeed	2250 R.P.M.	Total Harmonic Distortion THD (**) in no-load < 2 %	
Air flow 50 Hz	0.29 m³/s	Total Harmonic Distortion THD (**) in linear load < 5 %	
Air flow 60 Hz	0.34 m³/s	Waveform: NEMA = TIF (**)	< 50
AREP+/PMG Short-circuit current = 2.7 In : 5 second		Waveform: I.E.C. = FHT (**)	< 2%

Control Panel

DSE4510

Auto Start Control Module

The DSE4510 is a compact Auto Start Control Module that has been developed to provide an outstanding range of features within a compact enclosure.

OVERALL SIZE

140 mm x 113 mm x 43 mm (5.5" x 4.4" x 1.5")

PANEL CUTOUT SIZE

118 mm x 92 mm (4.6" x 3.6")

MAXIMUM PANEL THICKNESS

8.0 mm (0.3")

WEIGHT

0.26kg

PRODUCT VARIANTS

4510-03 - 4510 Auto Start Control Module (Ct, Rtc)

4510-04 - 4510 Auto Start Control Module (Ct, Rtc, Htr)



Optional configurations:

Engine accessories:

- Heavy-duty air filter
- Coolant heater
- Lubricant oil heater
- Fuel and Water Separator
- Lube oil rotary pump

Alternator And Accessories:

- Leroy somer/stamford
- Anti condensation heater
- PMG + AVR ◇ Double bearing
- alternator High voltage _____kV
- RTDs for Bearing and winding

Cooling System:

- 55 degree Radiator
- Remote Radiator

Control System:

- AMF
- Parallel
- Practical type in low temperature environment
- Control Screen Heater
- Remote Annunciators
- Other (ComP, DEIF)

Circuit Breaker:

- 3/4 poles
- Fixed/handcart type
- Electric mechanism

Automatic Transfer Switch (ATS):

- ATS cabinet
- Contractor type ATS
- Motorized changeover type ATS

Start Battery:

- Nickel-cadmium battery
- Maintenance-free battery
- Battery charger and selector switch
- Charging current meter

External Fuel Tank:

- Single /double wall fuel tank (500-5000 L)
- Fuel Transfer pump

Exhaust Muffler:

- Residential grade
- Critical grade
- Hospital grade

Available for voltages :

- 400/230V, 480/277V, 380/220V, 440/254V, 416/240V, 220/127V, 208/120V

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Prime Rating:

Unlimited hours usage, with an average load factor of 80% over each 24 hours period. 10% overload is available for 1 hour in every 12 hours operation. 0 overload is permitted on standby power.

Standby Rating:

Limited to 500 hours annual usage, with an average load factor of 80% of the published standby power rating over each 24 hours period. Up to 300 hours of annual usage may be run continuously. No over-load is permitted on standby power.

Engine:

Cummins, including air filters, fuel filters, oil filter, starting motor and charging alternator etc.

Warranty policy:

ATA products have a warranty for 12 months or 1000 hours whichever occurs first against any manufacturing defects

Wearing parts (filters), incorrect man-made operation, maintenance failures are excluded from the warranty policy

Radiator:

50°C, fan protective shroud

Fuel Tank:

Capacity of fuel tank is for 8– 10 hours running
Built in fuel tank up to 800 kVA

Circuit Breaker:

3 pole LS MCCB

Alternator Type:

brushless AC alternator

Control system alarms:

Over and Under Speed
Low and High Battery Volt. Start and Stop Failure Over Current Under / Over Generator Voltage
Low Oil Pressure
Emergency stop High engine temperature



STAMFORD
power generation

DSE



LEROY SOMER

Manufacturer reserves the right to make changes in model, technical specifications, color, equipment and accessories without prior notice. All photos are representative and may not reflect exact mode.

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