

GENERATOR DATA**DECEMBER 14, 2020****(AT400240)-ENGINE (BAA126422A)-CEM**For Help Desk Phone Numbers [Click here](#)**Selected Model**

Engine: C18 **Generator Frame:** LC7034J **Genset Rating (kW):** 600.0 **Line Voltage:** 480
Fuel: Diesel **Generator Arrangement:** 4183887 **Genset Rating (kVA):** 750.0 **Phase Voltage:** 277
Frequency: 60 **Excitation Type:** Permanent Magnet **Pwr. Factor:** 0.8 **Rated Current:** 902.1
Duty: STANDBY **Connection:** SERIES STAR **Application:** EPG **Status:** Current

Version: 41205 /40001 /41431 /8680

Spec Information

Generator Specification			Generator Efficiency		
Frame: LC7034J	Type: LC	No. of Bearings: 1	Per Unit Load	kW	Efficiency %
Winding Type: RANDOM WOUND		Flywheel: 14.0	0.25	150.0	91.7
Connection: SERIES STAR		Housing: 1	0.5	300.0	94.0
Phases: 3		No. of Leads: 12	0.75	450.0	94.4
Poles: 4		Wires per Lead: 2	1.0	600.0	94.1
Sync Speed: 1800		Generator Pitch: 0.6667			

Reactances	Per Unit	Ohms
SUBTRANSIENT - DIRECT AXIS X'_d	0.1234	0.0379
SUBTRANSIENT - QUADRATURE AXIS X''_q	0.1419	0.0436
TRANSIENT - SATURATED X'_d	0.1546	0.0475
SYNCHRONOUS - DIRECT AXIS X_d	3.1563	0.9696
SYNCHRONOUS - QUADRATURE AXIS X_q	1.8945	0.5820
NEGATIVE SEQUENCE X_2	0.1328	0.0408
ZERO SEQUENCE X_0	0.0091	0.0028

Time Constants	Seconds
OPEN CIRCUIT TRANSIENT - DIRECT AXIS T'_{d0}	2.0390
SHORT CIRCUIT TRANSIENT - DIRECT AXIS T'_d	0.1000
OPEN CIRCUIT SUBTRANSIENT - DIRECT AXIS T''_{d0}	0.0130
SHORT CIRCUIT SUBTRANSIENT - DIRECT AXIS T''_d	0.0100
OPEN CIRCUIT SUBTRANSIENT - QUADRATURE AXIS T''_{q0}	0.1330
SHORT CIRCUIT SUBTRANSIENT - QUADRATURE AXIS T''_q	0.0100
EXCITER TIME CONSTANT T_c	0.0300
ARMATURE SHORT CIRCUIT T_a	0.0150

Short Circuit Ratio: 0.38

Stator Resistance = 0.0089 Ohms

Field Resistance = 0.357 Ohms

Voltage Regulation		Generator Excitation		
Voltage level adjustment: +/-	5.0%		No Load	Full Load, (rated) pf
Voltage regulation, steady state: +/-	0.5%			Series Parallel
Voltage regulation with 3% speed change: +/-	0.5%	Excitation voltage:	9.96 Volts	45.08 Volts Volts
Waveform deviation line - line, no load: less than	2.0%	Excitation current	0.83 Amps	3.09 Amps Amps
Telephone influence factor: less than	50			

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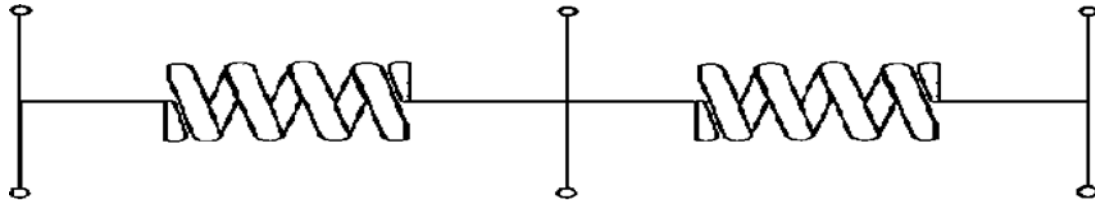
Generator Mechanical Information**Center of Gravity**

Dimension X	-643.0 mm	-25.3 IN.
Dimension Y	0.0 mm	0.0 IN.
Dimension Z	0.0 mm	0.0 IN.

- "X" is measured from driven end of generator and parallel to rotor. Towards engine fan is positive. See General Information for details
- "Y" is measured vertically from rotor center line. Up is positive.
- "Z" is measured to left and right of rotor center line. To the right is positive.

Generator WT = 1550 kg * Rotor WT = 579 kg * Stator WT = 971 kg
 3,417 LB 1,276 LB 2,141 LB

Rotor Balance = 0.0508 mm deflection PTP
 Overspeed Capacity = 125% of synchronous speed

Generator Torsional Data

**J1 = Coupling
and Fan**

**J2 = Rotor
TOTAL J = J1 + J2 + J3**

**J3 = Exciter
End**

**K1 = Shaft Stiffness between
J1 + J2 (Diameter 1)**

**K2 = Shaft Stiffness between
J2 + J3 (Diameter 2)**

J1	K1	Min Shaft Dia 1	J2	K2	Min Shaft Dia 2	J3
7.6 LB IN. s ²	75.2 MLB IN./rad	5.7 IN.	70.1 LB IN. s ²	73.3 MLB IN./rad	5.5 IN.	3.3 LB IN. s ²
0.86 N m s ²	8.5 MN m/rad	145.0 mm	7.92 N m s ²	8.28 MN m/rad	140.0 mm	0.37 N m s ²
Total J						
81.0 LB IN. s ²						
9.15 N m s ²						

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Generator Cooling Requirements - Temperature - Insulation Data		
Cooling Requirements:	Temperature Data: (Ambient 40 °C)	
Heat Dissipated: 37.6 kW	Stator Rise:	105.0 °C
Air Flow: 72.0 m ³ /min	Rotor Rise:	105.0 °C
Insulation Class: H		
Insulation Reg. as shipped: 100.0 MΩ minimum at 40 °C		
Thermal Limits of Generator		
Frequency:	60 Hz	
Line to Line Voltage:	480 Volts	
B BR 80/40	704.0 kVA	
F BR -105/40	800.0 kVA	
H BR - 125/40	880.0 kVA	
F PR - 130/40	880.0 kVA	
H PR - 150/40	933.0 kVA	
H PR27 - 163/27	968.0 kVA	

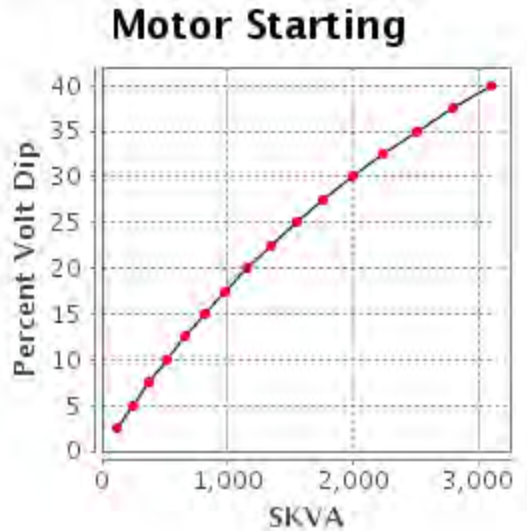
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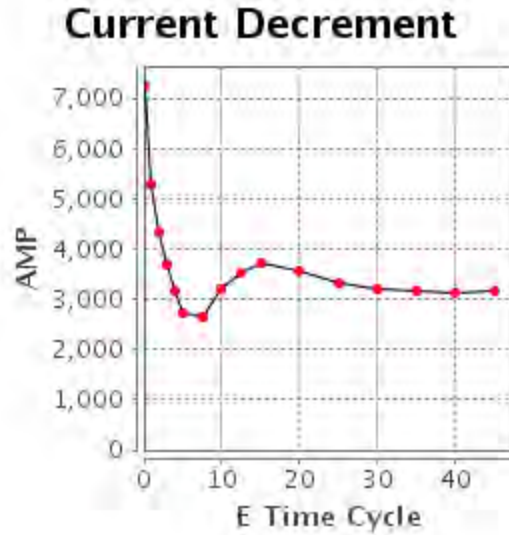
Starting Capability & Current Decrement Motor Starting Capability (0.6 pf)

SKVA	Percent Volt Dip
119	2.5
245	5.0
377	7.5
517	10.0
664	12.5
821	15.0
987	17.5
1,163	20.0
1,350	22.5
1,550	25.0
1,764	27.5
1,993	30.0
2,239	32.5
2,504	35.0
2,791	37.5
3,101	40.0

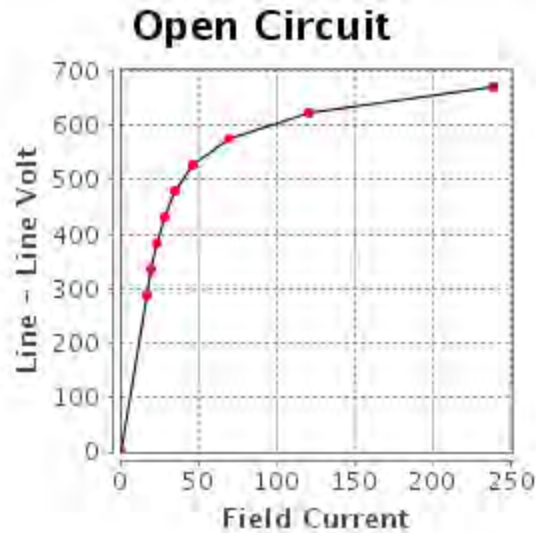


Current Decrement Data

E Time Cycle	AMP
0.0	7,275
1.0	5,267
2.0	4,327
3.0	3,680
4.0	3,161
5.0	2,726
7.5	2,636
10.0	3,186
12.5	3,516
15.0	3,701
20.0	3,575
25.0	3,320
30.0	3,190
35.0	3,146
40.0	3,140
45.0	3,147

**Instantaneous 3 Phase Fault Current: 7275 Amps****Instantaneous Line - Line Fault Current: 6070 Amps****Instantaneous Line - Neutral Fault Current: 10157 Amps****Selected Model****Engine:** C18**Generator Frame:** LC7034J**Genset Rating (kW):** 600.0**Line Voltage:** 480**Fuel:** Diesel**Generator Arrangement:** 4183887**Genset Rating (kVA):** 750.0**Phase Voltage:** 277**Frequency:** 60**Excitation Type:** Permanent Magnet**Pwr. Factor:** 0.8**Rated Current:** 902.1**Duty:** STANDBY**Connection:** SERIES STAR**Application:** EPG**Status:** Current**Version:** 41205 /40001 /41431 /8680**Generator Output Characteristic Curves
Open Circuit Curve**

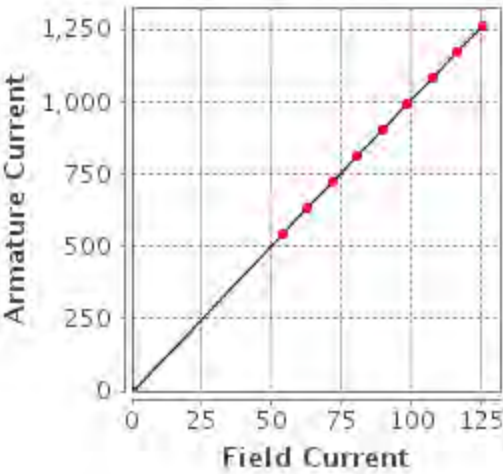
Field Current	Line - Line Volt
0.0	0
17.2	288
20.3	336
23.8	384
28.2	432
34.6	480
46.1	528
69.5	576
120.9	624
238.6	672



Short Circuit Curve

Short Circuit

Field Current	Armature Current
0.0	0
53.8	541
62.8	631
71.7	722
80.7	812
89.7	902
98.6	992
107.6	1,083
116.6	1,173
125.5	1,263



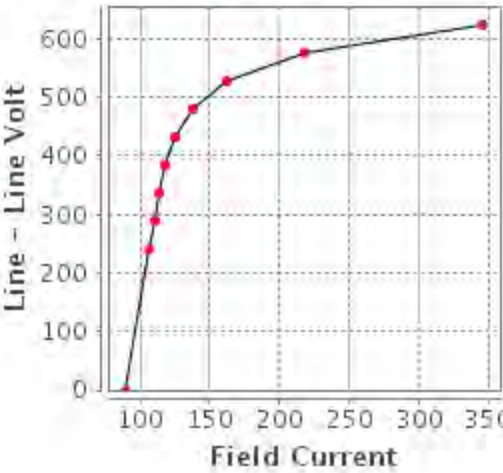
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Generator Output Characteristic Curves
Zero Power Factor Curve

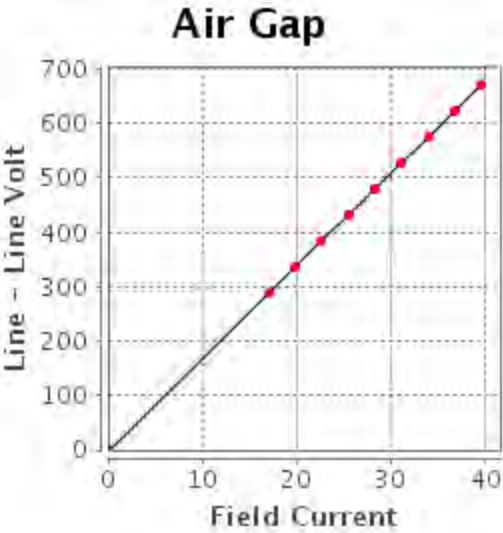
Zero Power

Field Current	Line - Line Volt
89.7	0
106.9	240
110.1	288
113.6	336
118.2	384
125.0	432
137.2	480
162.3	528
217.7	576
345.2	624



Air Gap Curve

Field Current	Line - Line Volt
0.0	0
17.0	288
19.8	336
22.6	384
25.5	432
28.3	480
31.1	528
34.0	576
36.8	624
39.6	672



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Reactive Capability Curve
Operating Chart

