

# Product Information Packet

January 12, 2017

Data shown is for the current revision model #. Ensure your nameplate model # matches.

<b>Model Number:</b>	<b>5KS509AAG204A</b>
<b>Catalog Number:</b>	<b>P160</b>
<b>Instruction Manual:</b>	GEI-100351
<b>Connection Diagram:</b>	GEM2034E-FIG2
<b>Outline Drawing:</b>	50DP2100G001DBT

Accessory Connection Diagrams			
<b>Bearing Thermocouple:</b>	None	<b>Heater:</b>	3027JE-1C
<b>RTD:</b>	235A3027XC	<b>Thermistor:</b>	None
<b>Thermostat:</b>	None	<b>Winding Thermocouple:</b>	None
<b>Bearing RTD:</b>	None		

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**Marks:**

<b>MODEL NUMBER:</b>	<b>5KS509AAG204A</b>	<b>Estimated Weight:</b>	2960 Lbs
<b>Outline Drawing:</b>	50DP2100G001DBT	<b>Time Rating:</b>	CONT
<b>Connection Diagram:</b>	GEM2034E-FIG2	<b>Enclosure:</b>	WPI
<b>Instruction Book:</b>	GEI-100351	<b>Encl Construction:</b>	OPEN
<b>Design Code:</b>	50ED1312E	<b>Ambient Max(°C):</b>	40
<b>Type:</b>	KS	<b>Alt Ambient Max(°C):</b>	XX
<b>Frame:</b>	509LL	<b>Insulation Class:</b>	F
<b>Phases:</b>	3	<b>NEMA Design:</b>	B
<b>Poles:</b>	4	<b>Nominal Efficiency:</b>	95.0 %
<b>Output Power:</b>	350HP 259KW	<b>Guaranteed Efficiency:</b>	94.1
<b>RPM:</b>	1785	<b>3/4 Load Efficiency:</b>	95.2
<b>Voltage:</b>	2300/4000	<b>KVA Code:</b>	G
<b>Hertz:</b>	60	<b>Max KVAR:</b>	81.0
<b>Amps - FL:</b>	79.3/45.6	<b>Power Factor:</b>	87.0
<b>Service Factor:</b>	1.15	<b>Bearing - DE:</b>	6318ZC3
<b>Alt Service Factor:</b>	XX	<b>Bearing - ODE:</b>	6315ZC3

**Enclosure is Weather Protected One**

**Stamped Nameplate Notes:**

NEMA ENCLOSURE WP-I, CSA ENCL DP  
 GE SELF DECLARED CLASS I DIV 2 MOTOR  
 MAX EXPOSED INTERNAL AND EXTERNAL SURFACE  
 TEMPERATURES UNDER USUAL SERVICE CONDITION  
 AT 1.00 S.F. DO NOT EXCEED 200 DEG C  
 VIBRATION LIMIT = 0.150 IN/SEC  
 TEMP CONTRL HTR LDS HE1-HE2 115V 200W  
 MAXIMUM SPACE HEATER SURFACE  
 TEMPERATURE 160 DEG C

**Additional Information:**

4 POLE, LL SHAFT EXTN  
 FORMED COIL  
 (2)GROUND BOLTS ON FRAME  
 TEMP CONTRL 115V HEATER LEADS TO ACC BOX  
 100 OHM WINDING RTD LEADS TO ACC BOX  
 SUGGESTED WINDING RTD SETTINGS  
 ALARM 165C TRIP 175C  
 PROVISION FOR BTDS BOTH ENDS  
 SUGGESTED BEARING RTD SETTINGS,IF PROVIDED  
 ALARM 115C TRIP 125C  
 2500 Cu. In. CBOX  
 PROVISION FOR JACK SCREWS

**Performance Characteristics**

1st Winding 1st Connection

**Design: 50ED1312E**

**Marks:**

LOAD %	125.0	115.0	100.0	75.0	50.0	25.0	0.0
% EFF	94.41	94.66	95.16	95.2	94.83	92.28	0.00
% PF	87.15	87.22	87.91	84.72	78.06	58.08	5.09
AMPS	57.23	52.47	44.97	35.03	25.45	17.57	13

**TORQ(FL)#FT** 1029.49  
**AMPS(LR)** 267.74

**TORQ(LR)%FL** 127.88  
**PF AT START** 0.24

**TORQ(BD)%FL** 215.06

This motor is capable of two cold or one hot start with a maximum connected load inertia of 2503 Lb-Ft Sq (105.38 Kg-meter Sq)at 100% voltage, where the load torque varies with the square of the speed. Acceleration time with maximum inertia and the above load type is 18 seconds. Safe stall time at 100% voltage is 60 seconds cold, 31 seconds hot. Rotor inertia is 97.95 Lb-Ft Sq (4.12 Kg-meter Sq).

**Open Circuit A-C:** 1.09

**Short Circuit D-C:** 0.024

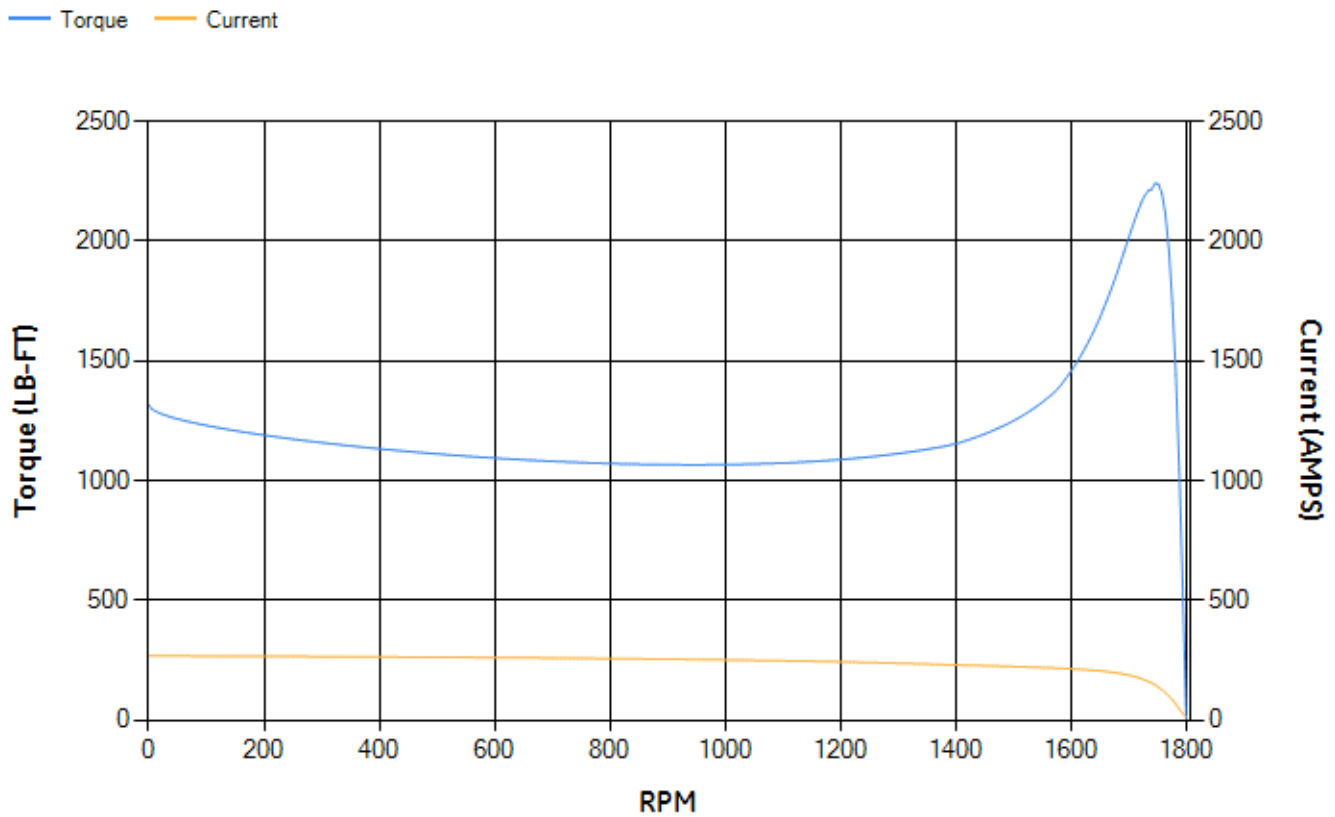
**Short Circuit A-C:** 0.049

**X/R Ratio:** 9.167

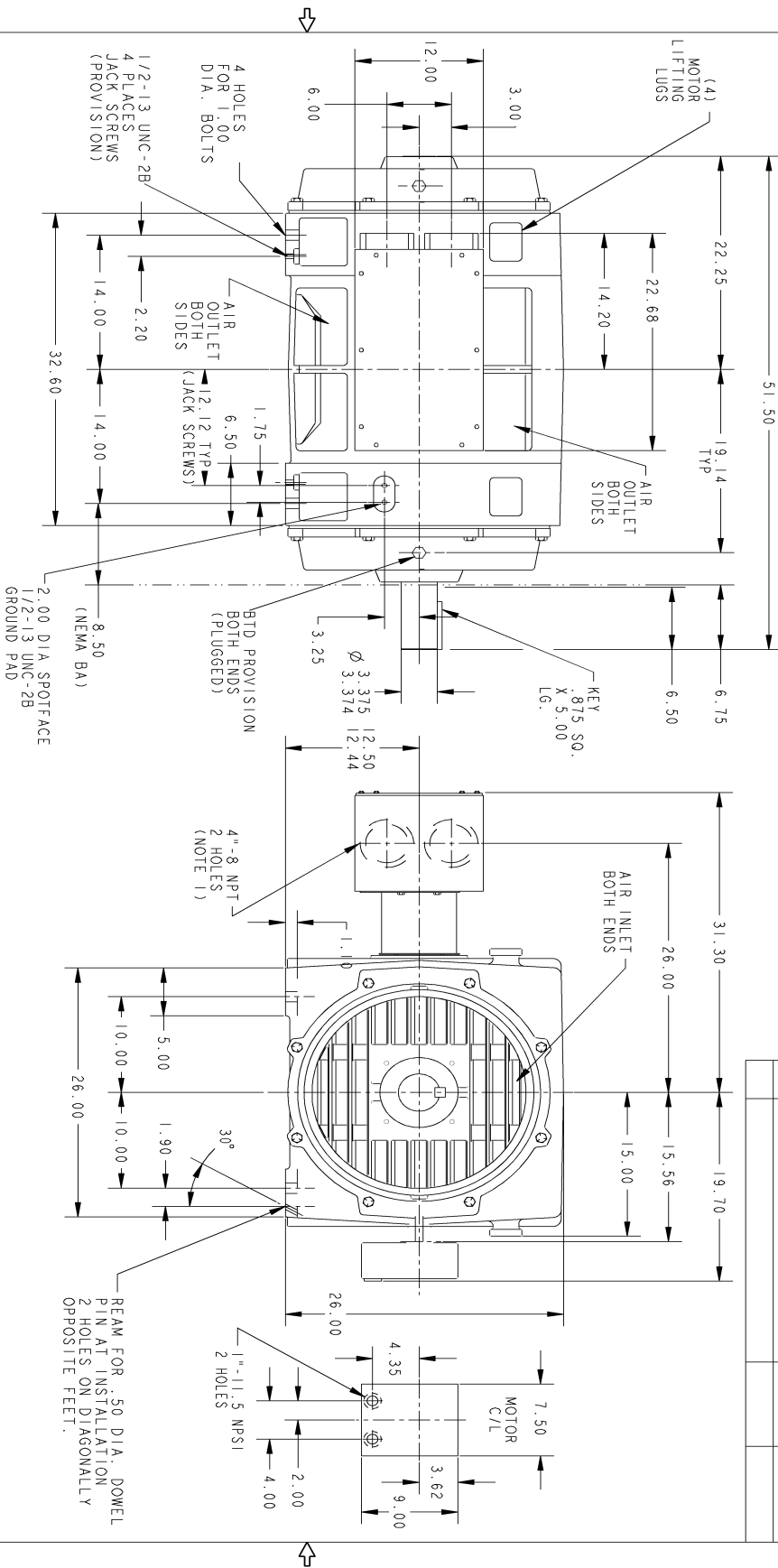
**Stator Slots:** 72

**Rotor Slots:** 56

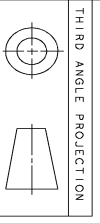
**Speed Torque Current Curve (First Connection, First Speed)**



Marks:



- NOTES:
1. CONDUIT BOX MAY BE TURNED SO THAT ENTRANCE CAN BE MADE UPWARDS, DOWNWARDS, OR FROM EITHER SIDE. WHEN DOWNWARDS, ENTRANCE IS BELOW THE FEET.
  2. F1 ASSEMBLY AS SHOWN, F2 ASSEMBLY WILL HAVE CONDUIT BOX ON OPPOSITE SIDE



SIZE DRAWING NO. B

**50DP2100G001DBT**

REV 0

SHEET 1

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

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**OUTLINE**

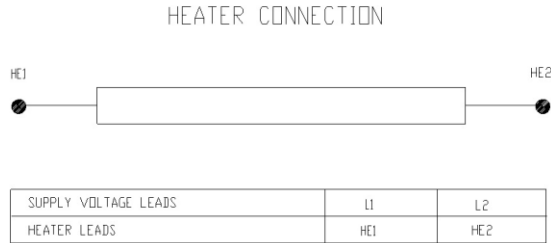
SIGNATURES	DATE	TITLE	SCALE: .10
MANCH	09/29/16	509 DP/MPI LL 2500 CUINCB/B JACK SCREWS PROV	REF.: 50DP2100G001BPA
MANCH	09/29/16	ACC C/B BRG RIDS PROV. ZI GROUND PADS	REF.: 50DP2100G001BPA
MANCH	09/29/16	50DP2100G001DBT	REF.: 50DP2100G001BPA

Marks:

**Connection Diagram**  
**GEM2034E-FIG2**



**Heater Connection**  
**3027JE-1C**

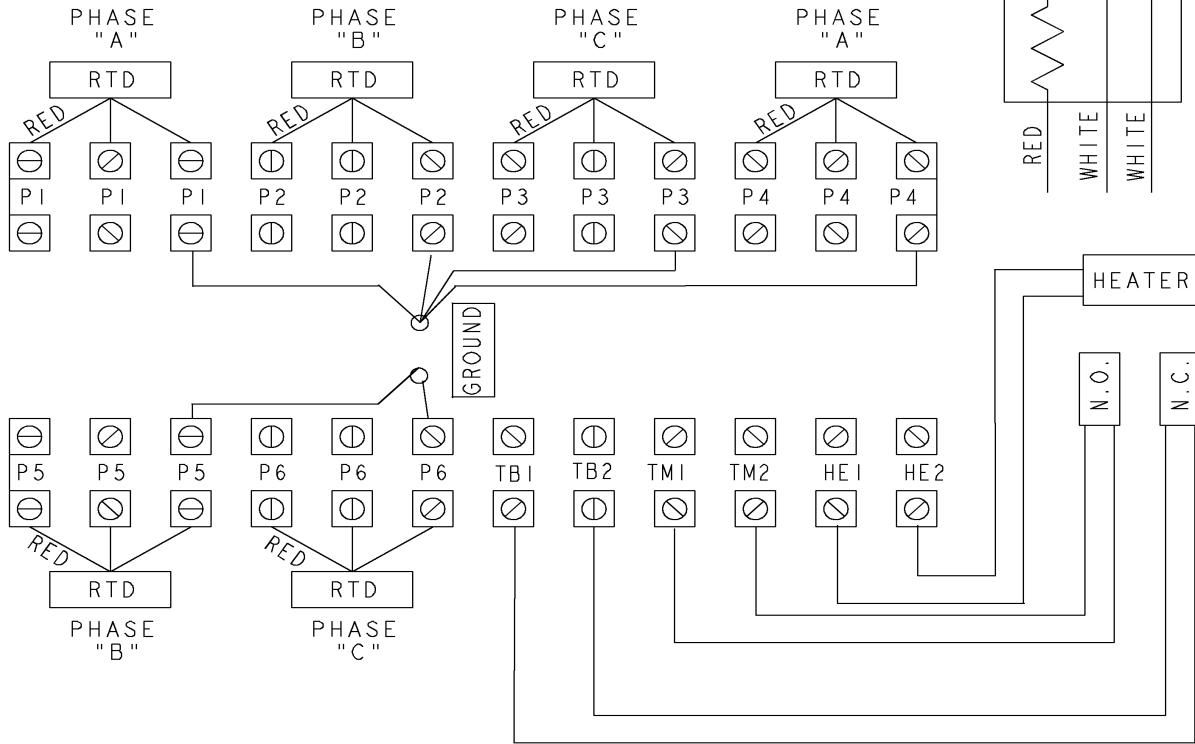
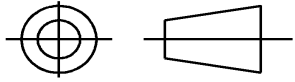


SHEET 0  
REV 0  
235A3027XC  
A  
SIZE DRAWING NO.

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

THIRD ANGLE PROJECTION



- NOTE 1: TERMINAL LABELS ARE PROVIDED FOR ACCESSORIES THAT MAY OR MAY NOT BE INCLUDED WITH THE MOTOR.
- NOTE 2: SPARE RTDS (P7 & P8) FURNISHED IN CASE OF FAILURE IN OTHER RTDS (P1-P6). PHASE LOCATION WILL DEPEND UPON NUMBER OF POLES WINDING CONFIGURATION.
- NOTE 3: IT IS RECOMMENDED THAT RTDS BE GROUNDED AT EITHER THE MACHINE OR CONNECTED TO A GROUNDED CONTROL CIRCUIT. FOR PROPER OPERATION DO NOT GROUND AT THE MACHINE IF CONNECTED TO A GROUND CIRCUIT AT THE CONTROL.

Part must conform to SI 900000 Sect. 4, Toxicity Procedure

FOR ADDITIONAL INFO REFER TO:	SIGNATURES	DATE
APPLIED PRACTICES	MODEL	
DIMENSIONS ARE IN INCHES	DETAIL VIVEK	01/08/15
TOLERANCE ON:	CHECKED KARTHIK	01/08/15
1 PL DECIMALS ± 0.1	ENGRG	
2 PL DECIMALS ± 0.02	MFG	
3 PL DECIMALS ± 0.005	QUALITY	
ANGLES ± 0.5	ISSUED VIVEK	01/08/15
FRACTIONS ±		
FINISH ✓		
MATERIAL	SOLID MODEL: MODEL NAME	

**GE Motors** GENERAL ELECTRIC COMPANY

TITLE: **CONNECTION DIAGRAM**  
IEC  
WINDING RTD'S & T'STATS & HEATERS

SIZE DRAWING: A  
REV: 0

235A3027XC

SCALE: NA SHEET 1 of 1

End shield Assembly		
Part Description	DE Side Part#	ODE Side Part#
End Shield	119D1850AT1	119D1853AW1
Bearing	235A2514AG01	235A2513AG01
Slinger/Inproseal	235A2300FR1	

Fan & Fan Cover Assembly	
Part Description	Part#
Fan	
Fan Cover	

Conduit & Accessories Box Assembly	
Part Description	Part#
Conduit Box	179B9025G01

Mechanical Accessories	
Part Description	Part#
Brake	
Tachometer	

