GE
Power Conversion

Product Information Packet

January 13, 2017

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

Model Number:	**5KS509XAA351A**
Catalog Number:	**Q879**
Instruction Manual:	GEI-56128
Connection Diagram:	GEM2034E-FIG2
Outline Drawing:	239C6A00FW

Accessory Connection Diagrams

Bearing Thermocouple:	None	**Heater:**	3027JE-1C
RTD:	235A3027WN	**Thermistor:**	None
Thermostat:	None	**Winding Thermocouple:**	None
Bearing RTD:	235A3027NA		

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imagination at work

Marks:

MODEL NUMBER:	**5KS509XAA351A**	**Estimated Weight:**	4446 Lbs
Outline Drawing:	239C6A00FW	**Time Rating:**	CONT
Connection Diagram:	GEM2034E-FIG2	**Enclosure:**	TEFC
Instruction Book:	GEI-56128	**Encl Construction:**	841
Design Code:	50BD3126F	**Ambient Max(°C):**	40
Type:	KS	**Alt Ambient Max(°C):**	--
Frame:	509L	**Insulation Class:**	F
Phases:	3	**NEMA Design:**	B
Poles:	6	**Nominal Efficiency:**	95.0 %
Output Power:	200HP 148KW	**Guaranteed Efficiency:**	94.1
RPM:	1185	**3/4 Load Efficiency:**	95.4
Voltage:	2300/4000	**KVA Code:**	G
Hertz:	60	**Max KVAR:**	56.9
Amps - FL:	46.6/26.8	**Power Factor:**	84.5
Service Factor:	1.15	**Bearing - DE:**	NU 320
Alt Service Factor:	--	**Bearing - ODE:**	6315ZC3

Enclosure is Totally Enclosed Fan-Cooled

Stamped Nameplate Notes:

IEEE-STD-841-2009
TSTAT HTR LDS HE1-HE2 115V 200W
DE BRG 100RU03M, ODE BRG 75BC03XP3
MAXIMUM EXPOSED INTERNAL AND EXTERNAL SURFACE
TEMPERATURES DO NOT EXCEED 200C UNDER USUAL
SERVICE CONDITIONS AT 1.0SF
MAXIMUM SPACE HEATER SURFACE TEMPERATURE FOR
NORMAL OPERATION AT RATED CONDITIONS 160C
STAMP NP249A5499AP AS BELOW:
MODEL:5KS509XAA351A S/N: XXX
EX NA IIC T3 GC CSA.09.2216219
CLASS I, ZONE 2, AEX NA IIC T3
CLASS I, DIV 2, GROUPS A, B, C, D T3
-25C <= TAMB <= 40C
ROLLER BEARING - FOR BELTED LOAD ONLY
CUSTOM POLYSEAL

Additional Information:

6P - L EXTN
PAINTED FRAME ID & SHAFT, FAN COVER INSIDE &
ODE E/S OUTSIDE
2500 CU IN - 2(4.00" NPT)
INPRO SEAL BOTH ENDS
OIL RESISTANT SLEEVING ON LEADS
.002" TIR SHAFT RUNOUT
ROUTINE TEST REPORT AND 5 POINT VIBRATION TEST
REPORT INCLUDED IN C/B

COPPER WASHER UNDER HEADS OF BEARING CAP BOLTS,
APPLY TITE-SEAL (A50CD427A) ON BEARING CAP SCREWS,
RABBETS AND PLUG THREADS.
B5F4C4 HIGH STRENGTH STEEL AISI 4142 SHAFT MATERIAL
100 0HM WINDING RTD LEADS TO AUX C/BOX OPP MAIN C/BOX
SUGGESTED WINDING RTD SETTINGS
ALARM 165C TRIP 175C
115V TSTAT CTRLD HTR LDS TO AUX BOX OPP MAIN CONDUIT BOX
SPACE HEATER CAUTION NAMEPLATE
BEARING RTD 100 OHM ON BOTH ENDS
SUGGESTED BEARING RTD SETTINGS
ALARM 115C TRIP 125C
NEMA TYPE GRD PAD
F1 MOUNTING
SHAFT BLOCKING FOR SHIPMENT

Performance Characteristics 1st Winding 1st Connection **Design: 50BD3126F**

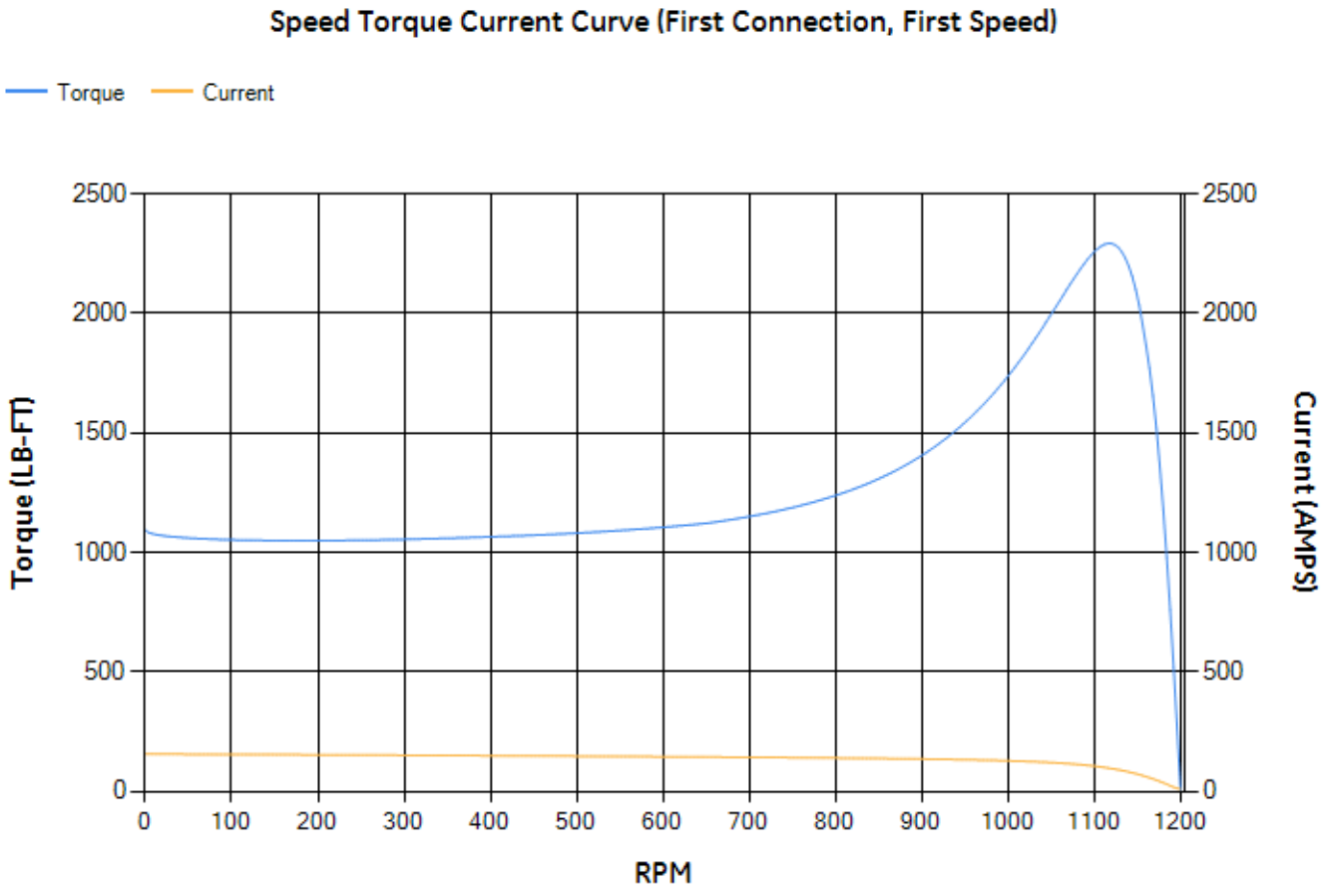
Marks:

LOAD %	125.0	115.0	100.0	75.0	50.0	25.0	0.0
% EFF	94.42	94.7	95.24	95.37	95.13	92.92	0.00
% PF	85.6	85.38	84.59	81.32	73.03	51.63	3.81
AMPS	33.29	30.62	26.73	20.82	15.49	11.22	9.12

TORQ(FL)#FT	886.12	**TORQ(LR)%FL**	123.41	**TORQ(BD)%FL**	258.33
AMPS(LR)	155.37	**PF AT START**	0.28		

This motor is capable of two cold or one hot start with a maximum connected load inertia of 10488 Lb-Ft Sq (441.54 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 42 seconds. Safe stall time at 100% voltage is 106 seconds cold, 64 seconds hot. Rotor inertia is 164.55 Lb-Ft Sq (6.93 Kg-meter Sq).

Open Circuit A-C:	0.609	**Short Circuit D-C:**	0.028
Short Circuit A-C:	0.034	**X/R Ratio:**	10.735
Stator Slots:	72	**Rotor Slots:**	58



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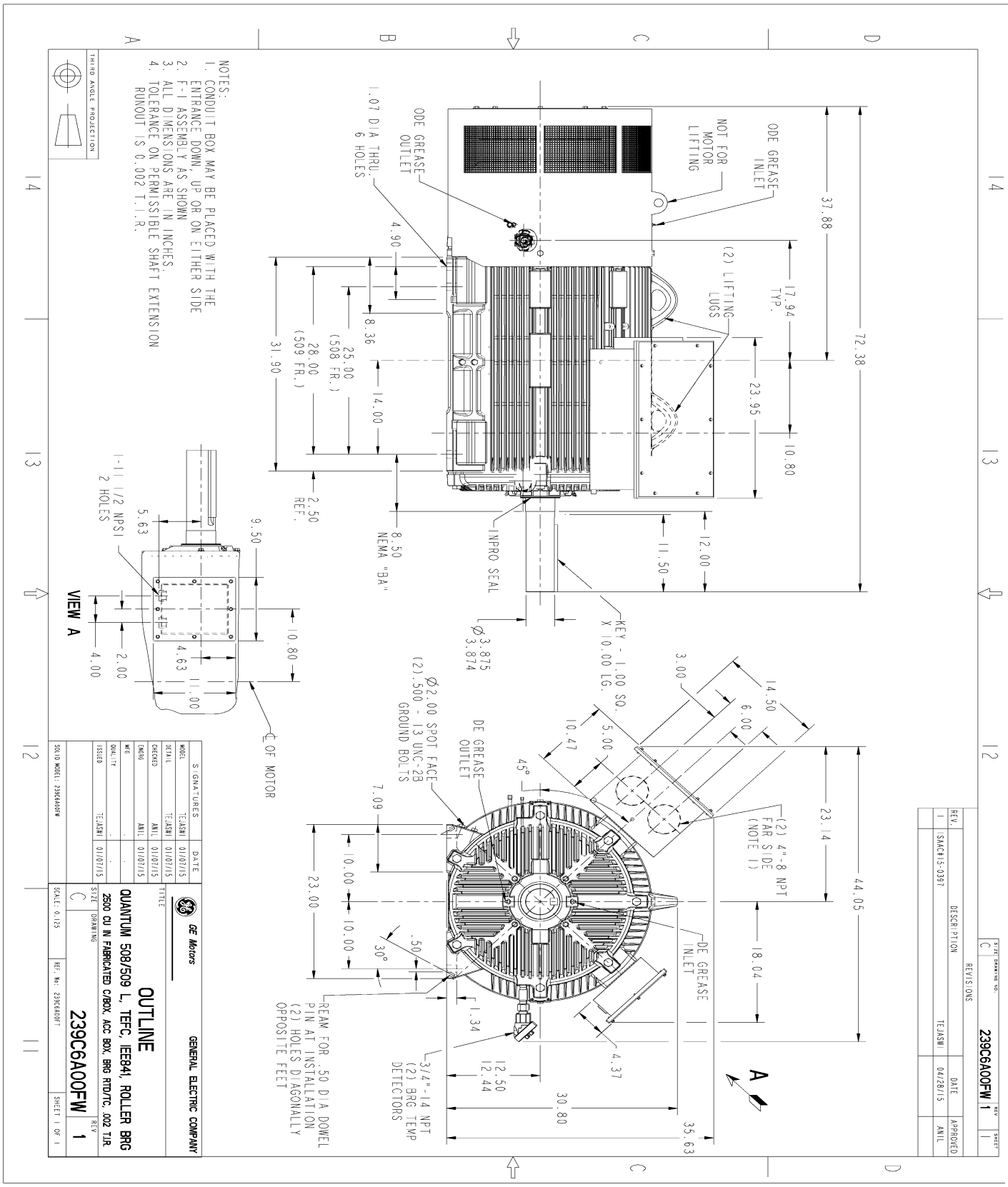
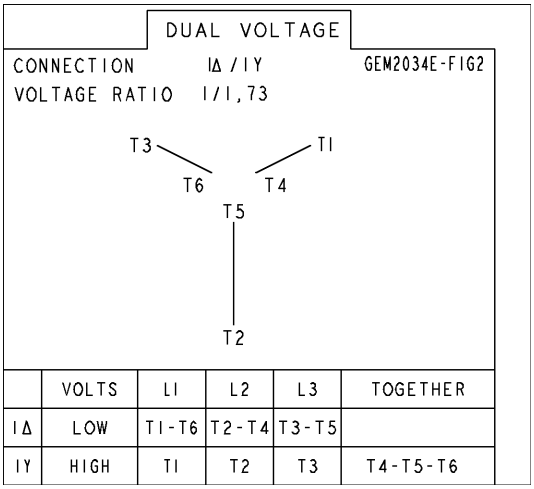

NOTES:
1. CONDUIT BOX MAY BE PLACED WITH THE ENTRANCE DOWN, UP OR ON EITHER SIDE
2. F-1 ASSEMBLY AS SHOWN
3. ALL DIMENSIONS ARE IN INCHES.
4. TOLERANCE ON PERMISSIBLE SHAFT EXTENSION RUNOUT IS 0.002 T.I.R.
THIRD ANGLE PROJECTION
1.07 DIA THRU 6 HOLES
ODE GREASE OUTLET
ODE GREASE INLET
NOT FOR MOTOR LIFTING
(2) LIFTING LUGS
4.90
8.36
25.00 (508 FR.)
28.00 (509 FR.)
31.90
14.00
2.50 REF.
8.50 NEMA "BA"
INPRO SEAL
37.88
17.94 TYP.
23.95
10.80
72.38
11.50
12.00
1-11 1/2 NPSI 2 HOLES
5.63
9.50
10.80
4.63
11.00
2.00
4.00
VIEW A
℄ OF MOTOR
Ø3.875 3.874
KEY - 1.00 SQ. X 10.00 LG.
Ø2.00 SPOT FACE (2).500 - 13 UNC-2B GROUND BOLTS
DE GREASE OUTLET
3.00
14.50
6.00
10.47
5.00
45°
7.09
10.00
23.00
10.00
30°
.50
1.34
(2) 4"-8 NPT FAR SIDE (NOTE 1)
23.14
44.05
18.04
DE GREASE INLET
4.37
12.50
12.44
30.80
35.63
REAM FOR .50 DIA DOWEL PIN AT INSTALLATION (2) HOLES DIAGONALLY OPPOSITE FEET
3/4"-14 NPT (2) BRG TEMP DETECTORS
A
REVISIONS
REV. | DESCRIPTION | DATE | APPROVED
1 | ISAAC#15-0397 | TE.ASWI | 04/28/15 | ANIL
SIZE C | DRAWING NO. 239C6A00FW | REV 1 | SHEET 1
SIGNATURES
MODEL TE.ASWI 01/07/15
DETAIL TE.ASWI 01/07/15
CHECKED ANIL 01/07/15
ENGRG ANIL 01/07/15
MFG
QUALITY
ISSUED TE.ASWI 01/07/15
GE Motors
GENERAL ELECTRIC COMPANY
TITLE
OUTLINE
QUANTUM 508/509 L, TEFC, IEE841, ROLLER BRG
2500 CU IN FABRICATED C/BOX, ACC BOX, BRG RTD/TC, .002 T.I.R.
SIZE C DRAWING 239C6A00FW REV 1
SOLID MODEL: 239C6A00FW
SCALE: 0.125
REF. No: 239C6A00FT
SHEET 1 OF 1

Marks:

Connection Diagram
GEM2034E-FIG2



	VOLTS	LI	L2	L3	TOGETHER
IΔ	LOW	TI-T6	T2-T4	T3-T5	
IY	HIGH	TI	T2	T3	T4-T5-T6

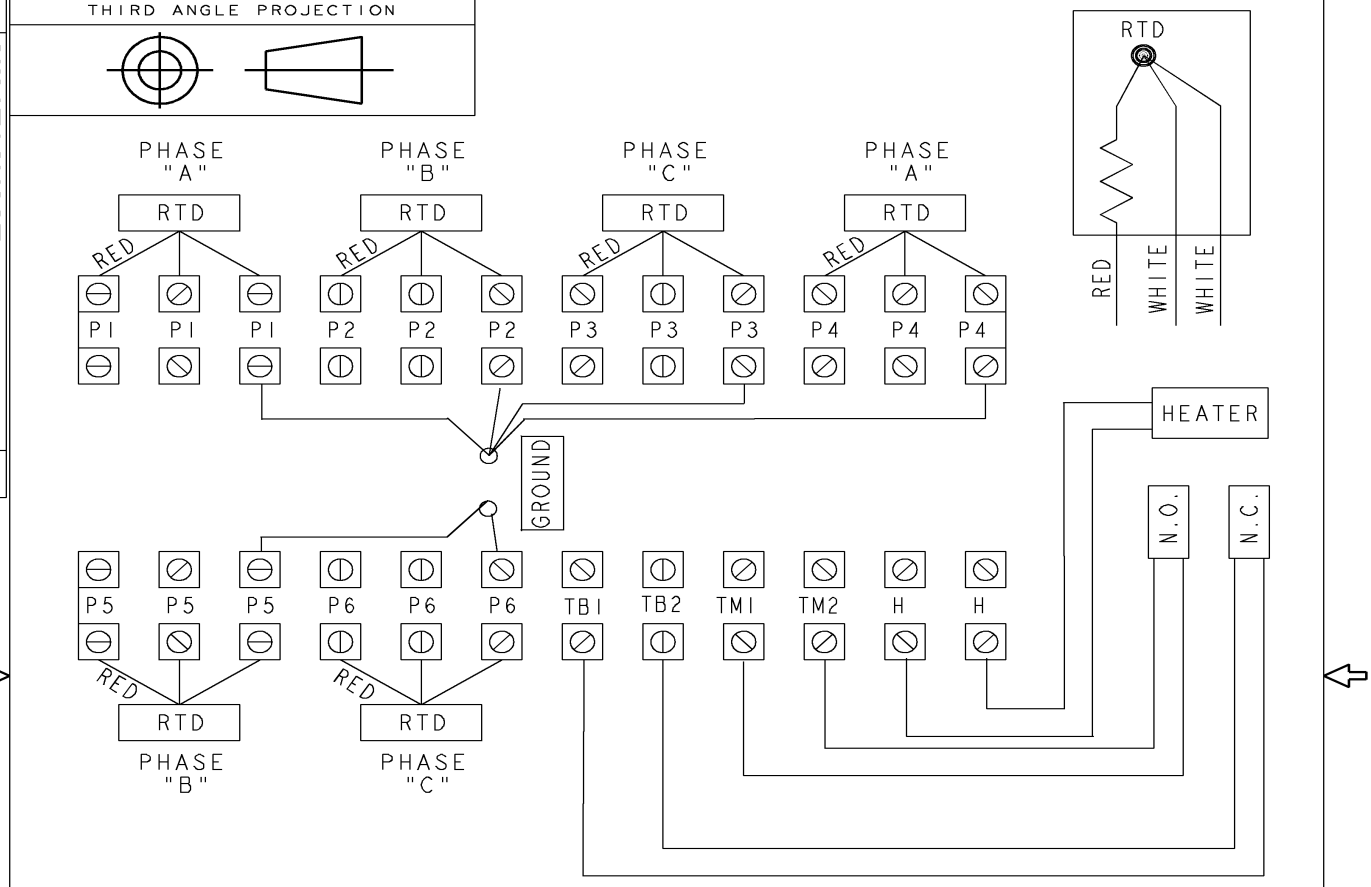
Heater Connection
3027JE-1C

SUPPLY VOLTAGE LEADS	L1	L2
HEATER LEADS	HE1	HE2

SHEET —
REV. 0
235A3027WN
DRAWING NO.
SIZE A

THIRD ANGLE PROJECTION

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



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	07/19/13
TOLERANCE ON:	CHECKED	VIJAY	07/19/13
1 PL DECIMALS ± 0.1	ENGRG		
2 PL DECIMALS ± 0.02	MFG		
3 PL DECIMALS ± 0.005	QUALITY		
ANGLES ± 0.5	ISSUED	VIVEK	07/19/13
FRACTIONS ±			
FINISH ✓			
MATERIAL	SOLID MODEL: MODEL NAME		

GE Motors GENERAL ELECTRIC COMPANY

TITLE **CONNECTION DIAGRAM**

WINDING RTD'S & T'STATS & HEATERS

SIZE	DRAWING	REV
A	235A3027WN	0

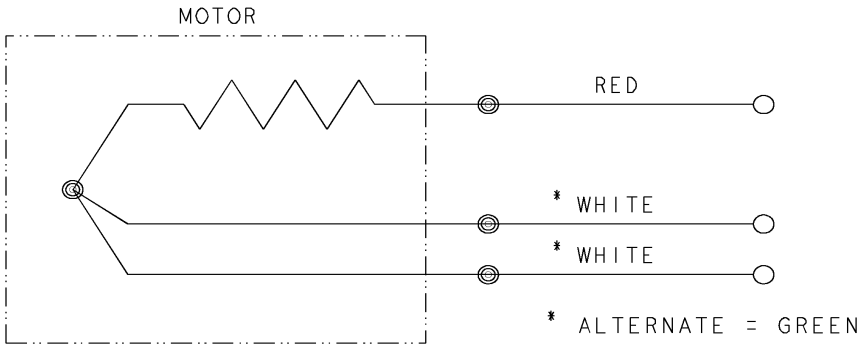
SCALE: NA | SHEET 1 of 1

REV I | SH I | DWG NO 235A3027NA | SIZE A

THIRD ANGLE PROJECTION

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
I	ISAAC #12-1124 HARI	11/19/12	KARTHIK

BEARING RTDS



UNLESS OTHERWISE SPECIFIED	SIGNATURES	DATE
DIMENSIONS ARE IN INCHES	DRAWN D.E. BAIR	12/16/92
TOLERANCES ON:		
2 PL DECIMALS ±	CHECKED D.E. BAIR	12/16/92
3 PL DECIMALS ±	ENGRG K. DESAI	12/16/92
ANGLES ±	ISSUED D.E. BAIR	12/16/92
FRACTIONS ± ✓		
MATERIAL:		
CAD NO. F500:235A3027NA		
APPLIED PRACTICES:		

GE Motors — Fort Wayne, Indiana

CONNECTION DIAGRAM

BEARING RTDS

SIZE	FSCM NO	DWG NO	DISTR TO
A		235A3027NA	-

SCALE 1/1 | SHEET 1 OF 1