

Customer :
Project Name :
Project No. :
Revision No. :

SPECIFICATION for INDUCTION MOTOR



0		For Bidding			
No.	DATE	DESCRIPTION	PREPARED BY	CHECKED BY	APPROVED BY

AC INDUCTION MOTOR DATA SHEET

Catalog No.	HSDE500-12-5011-IBSH	Item No.				Rev. No.	[]		
Project Name			Project No.			Quantity	sets		
GENERAL SPECIFICATION					PERFORMANCE DATA				
Frame Size	5011		Rated Output	375 kW		500 HP			
Type	PJP		Number of Poles	6					
Enclosure(Protection)	Totally Enclosed / IP55		Rotor Type	Squirrel Cage					
Method of Cooling	IC411(FC)		Starting Method*	D.O.L					
Rated Frequency	60 Hz		Rated Voltage	575 V	460 V	230 V			
Number of Phases	3		Current	Full Load	467.9 A	584.9 A	1169.8 A		
Insulation Class	F			Locked-rotor**	675 %	675 %	675 %		
Temp. Rise at full load (by resistance method)			Efficiency						
	at 1.0 S.F	80 deg. C							
Motor Location	☐ Indoor ☐ Outdoor		50% Load 92.8 %						
Altitude	Less than 1,000 meter		75% Load 94.8 %						
Relative Humidity	Less than 80 %		100% Load 95.8 %						
Ambient Temp.	40 deg. C (Max.)		Power Factor(p.u)						
Duty Type	Continuous (S1)		50% Load 0.690						
Service Factor	1.15		75% Load 0.790						
Mounting	B3		100% Load 0.840						
Bearing	Type	Anti-Friction	Speed at Full Load 1185 r.p.m						
	DE/N-DE	NU324 / 6320C3-INS.	Torque						
	Lubricant	Grease(Polyrex-EM)	Full Load 2229.42 lb.ft						
External Thrust	Not applicable		Locked-rotor** 135 %						
Coupling Method	☐ Direct ☐ V-belt		Breakdown** 220 %						
Shaft Extension	Single		Moment of Inertia (J)						
Terminal	Main	Cast Iron	Load(Max.) 4,666.000 lb.ft2						
Box	Aux.	Yes	Motor 272.448 lb.ft2						
	Location	Refer to Outline Drawing	Sound Pressure Level (No-load & mean value at 1m from motor)						
Application			84 dB(A)						
Area classification	Hazardous		Vibration 3.8 mm/s (peak)						
Type of Ex-Protection	Class I&II, Division 2		Permissible number of Cold 2 times						
Applicable Standard	NEMA MG1, CSA C390		consecutive starts Hot 1 time						
			Paint	Munsell No.	4.0PB5.4/5.5(VL-451)				
ACCESSORIES			SUBMITTAL DRAWING						
*. Space Heater : 1EA/Motor			Outline Dimension Drawing \ Motor Weight(Approx.)						
			B3	LM-T0511B3PE001	4850 lb.				
			REMARK						
			1. Premium efficiency according to NEMA MG1						
			2. Inverter Duty @ 1.0 Service Factor & F Temperature rise						
			-. 10:1 VT (20:1 VT at 50% load)						
			-. 10:1 CT (1 hour duty, 4:1 continuous)						
			-. CHP up to 1.5 times base speed, NEMA MG1 Part31						
			3. NDE side : Insulated bearing						
			4. CSA Certification						
			-. Class I, Division 2, Group A, B, C & D						
			-. Class II, Division 2 Group F & G						
			5. Shaft material : AISI4140						
			6. Temp. code : T3(200°C) at sine wave						
SPARE PARTS			Date	DSND	CHKD	CHKD	APPD		
			2025-09-19	S.H. LEE	I.K. KIM	R.G. KIM	S.W. KIM		

[Note] Others not mentioned in this data sheet shall be in accordance with maker standard.

Above technical data are only design values and shall be guaranteed with tolerance of applicable standard.

Inspection and performance test shall be done according to maker standard, if not mentioned.

* In case of Inverter-Fed Motor, performance data is based on sine wave tests. It may be different from test data of Inverter combined motor.

** Data is based on rated voltage & frequency and is expressed as a percentage of full-load value.

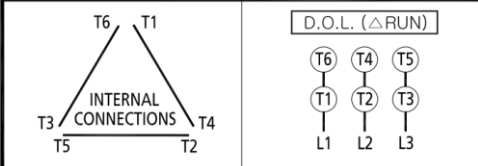
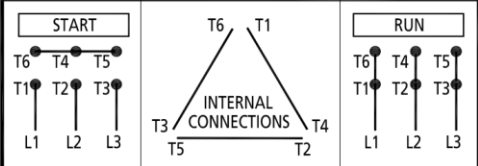
MAIN NAMEPLATE

4.72

2.36

CROWN TRITON							
Premium Efficiency AC 3 Phase Motor							
500HP	6P	460V	Cat. No.	HSDE500-12-5011-IBSH			
Model	-		INS. Class	F	Amps	584.9A	
Type	PJP	Duty	CONT	Code	G	Amb.	40°C
Frame	5011	Encl.	TEFC	S.F.	1.15	RPM	1185
Bearing	Drive	NU324	S.F.1.00 (10:1 C.T., 20:1 V.T., NEMA-MG1 Part31)		3/4 Eff.	94.8%	
	Opp.	6320C3-INS.			NEMA Design	B Torque	
Usable at	50Hz 420HP 380V 594.7A 985rpm S.F.: 1.0 Eff.: 95.8% Code: G						
	50Hz 420HP 400/415V 515.9/571.7A 986/987rpm S.F.: 1.0 Eff.: 95.8/95.8% Code: G/J						
CSA Certified for	CLASS I, Div. 2, Gr. A, B, C & D CLASS I, Zone 2, Gr. IIA, IIB, & IIC		CLASS II, Div. 2, Gr. F & G		Temp. Code	Frame	L440FR - 500FR
					(sine wave)	Amb. 40°C	T3 (200°C)
						Amb. 55°C	T3 (200°C)
No.	-	Date	-	Weight	4850 lb		
4M-137952		Made in Korea H1					
MARINE DUTY IEEE45							

WIRING DIAGRAM

D.O.L (INVERTER & SOFT STARTER)	WYE-DELTA (Y-D)
 WARNING IMPROPER INSTALLATION, CONNECTION, OPERATION, GROUNDING OF THIS MOTOR MAY CAUSE SERIOUS INJURY TO PERSONNEL OR MOTOR FAILURE. READ INSTRUCTIONS CAREFULLY. GROUNDING SHOULD BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND APPLICABLE LOCAL SOUND PRACTICES.  KEEP FINGERS AND FOREIGN OBJECTS AWAY FROM OPENINGS AND ROTATING PARTS DISCONNECT ALL POWER SOURCES BEFORE TOUCHING INTERNAL PARTS TO AVOID ELECTRICAL SHOCK. 4M-129326	 WARNING IMPROPER INSTALLATION, CONNECTION, OPERATION, GROUNDING OF THIS MOTOR MAY CAUSE SERIOUS INJURY TO PERSONNEL OR MOTOR FAILURE. READ INSTRUCTIONS CAREFULLY. GROUNDING SHOULD BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND APPLICABLE LOCAL SOUND PRACTICES.  KEEP FINGERS AND FOREIGN OBJECTS AWAY FROM OPENINGS AND ROTATING PARTS DISCONNECT ALL POWER SOURCES BEFORE TOUCHING INTERNAL PARTS TO AVOID ELECTRICAL SHOCK. 4M-128852

APPD BY	S.Y.KIM	UNIT	INCH	SUBJECT	CSA Class I, Division2 Severe Duty (HSDE, L449-500)		DWG SIZE	
CHKD BY	I.K.KIM	SCALE	NONE					A4 (1:1)
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle	TITLE				NAMEPLATE DRAWING
DSND BY	S.H.LEE	DATE	2024.06.07	REF. NO				
				4M-137952 / 4M-129326		Sheet No. of		
				DWG NO		NP-HSDE500-12-5011-IBSH		
						Revision No. 0		

Type : PJP

375kW 500HP 6 P 60 Hz

Full Load Torque : 2229.42 lb.ft

Speed at Full Load : 1185 RPM

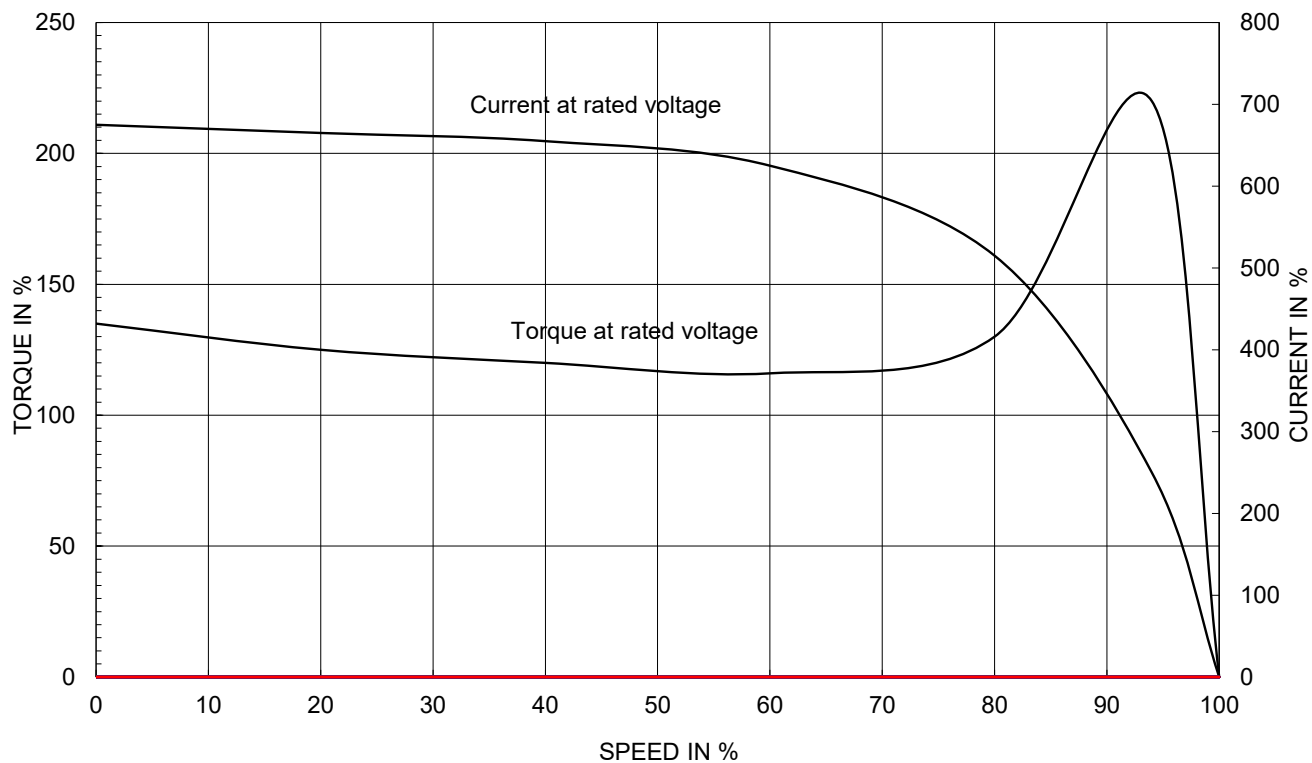
Load moment of Inertia (J) : 4666.000 lb.ft2

Rated Voltage	575V	460V	230V
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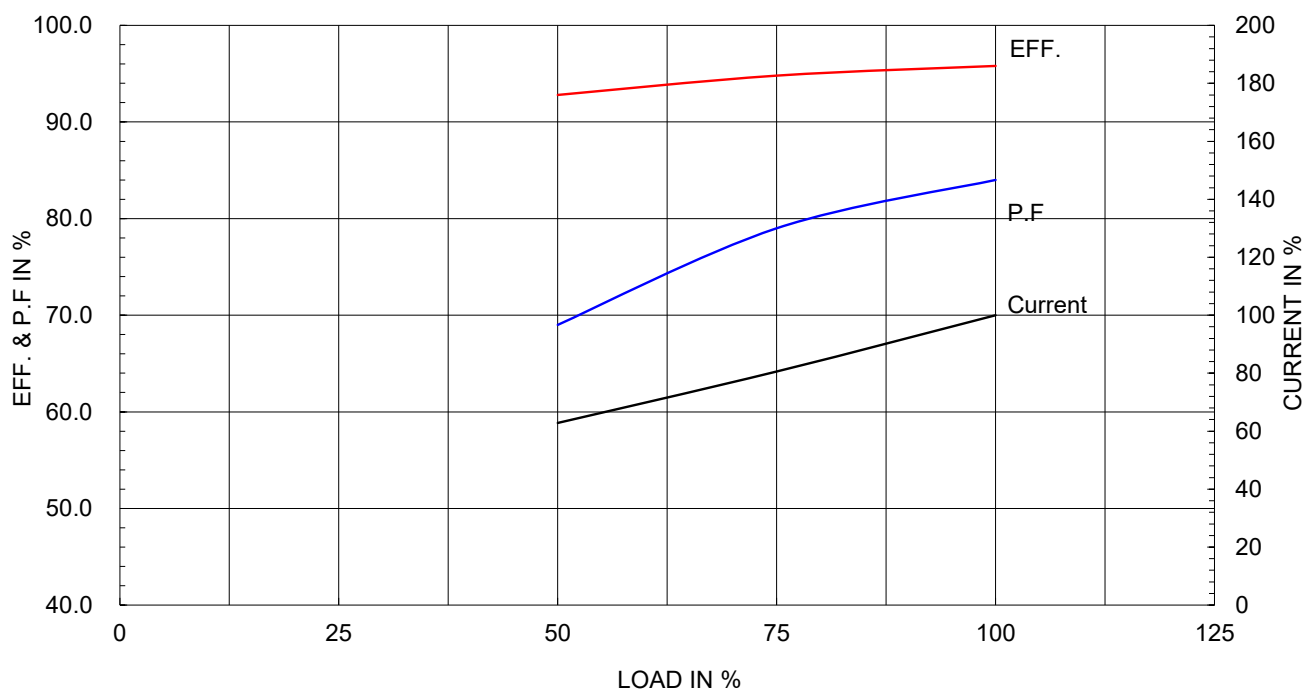
Motor moment of Inertia (J) : 272.448 lb.ft2

Full Load Current	467.9A	584.9A	1169.8A
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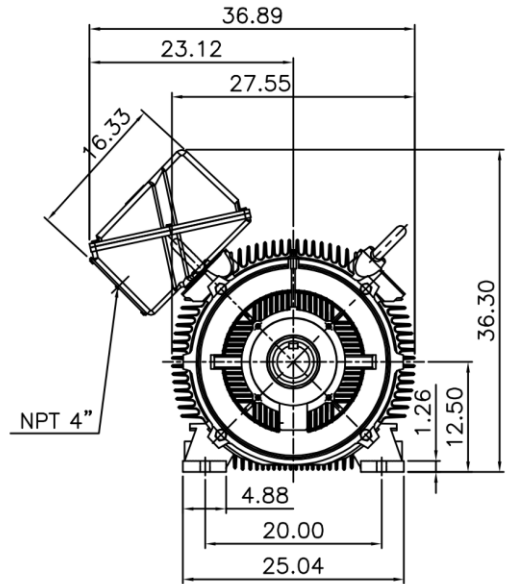
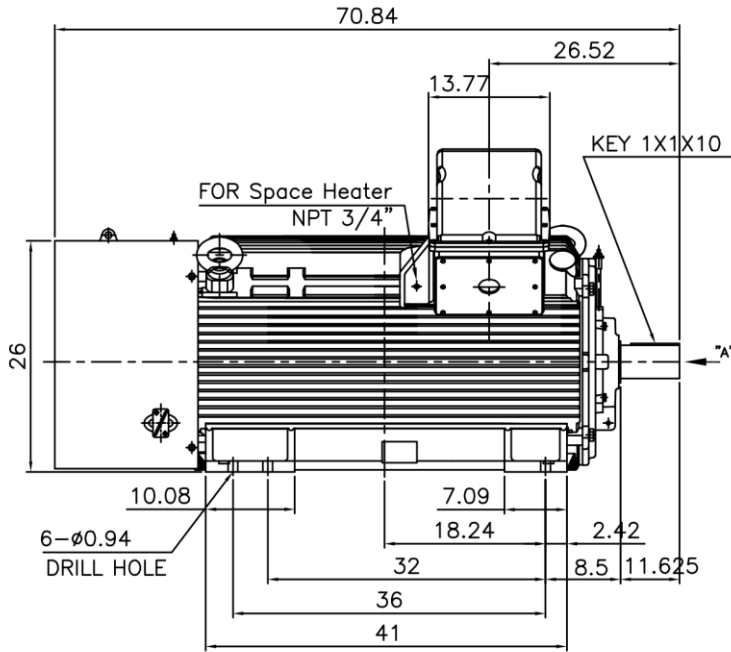
SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE



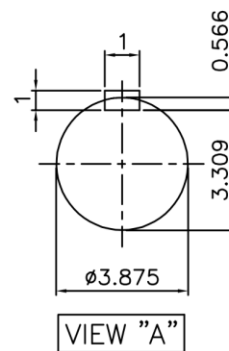
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▽	50S	REV	DATE	CONTENTS		REVD BY	CHKD BY	CHKD BY	APPD BY
▽▽	12.5S								
▽▽▽	3.2S								
▽▽▽▽	0.4S								



NOTE

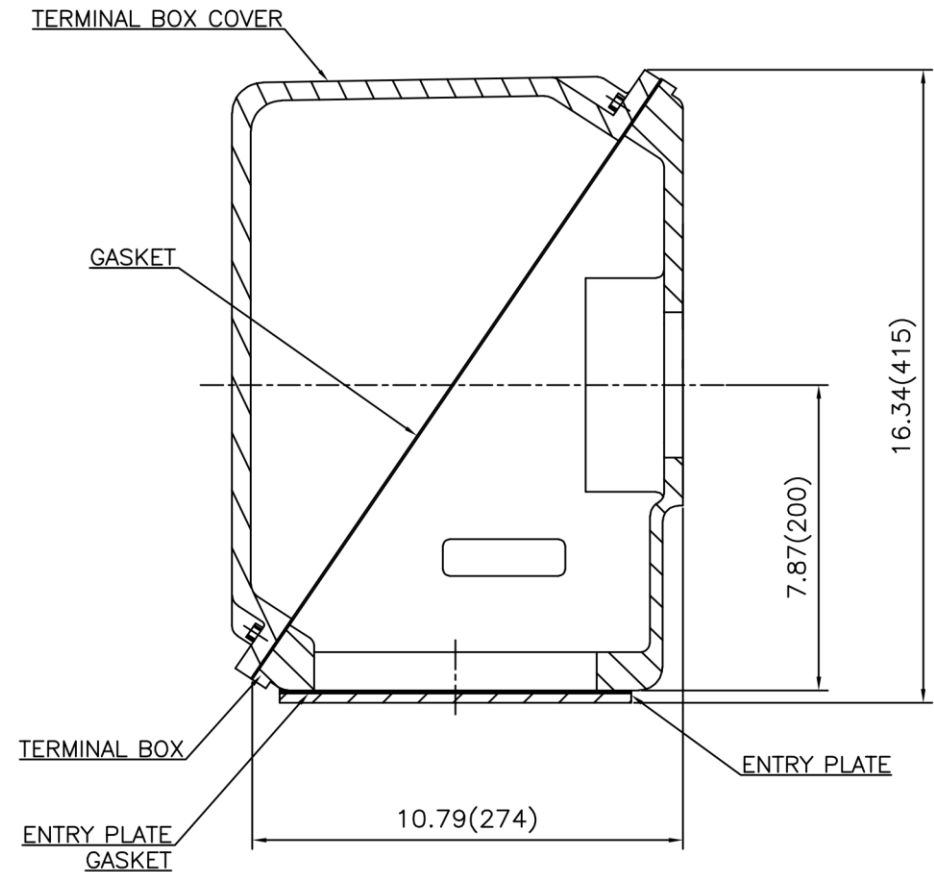
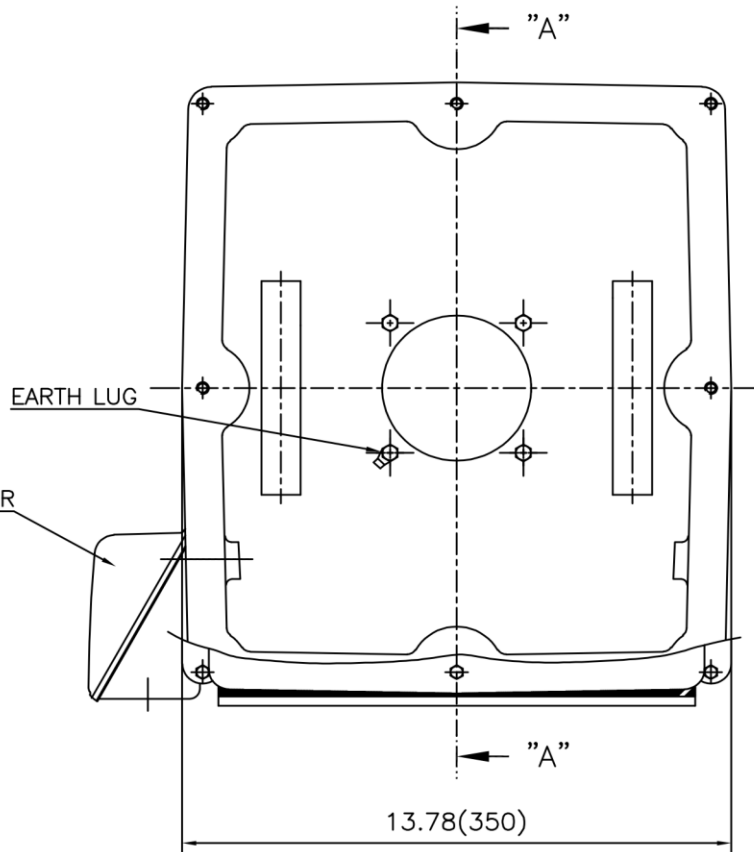
1.TOLERANCE :

CENTER HEIGHT	12.5	+0.000 -0.060
SHAFT DIAMETER	Ø3.875	+0.000 -0.001
KEYWAY WIDTH	1	+0.003 -0.000



APPD BY	S.Y.KIM	UNIT	INCH	SUBJECT	Fr.5010/5011	DWG SIZE
CHKD BY	O.J.KIM	SCALE	1/20	TITLE		A4 (1:20)
CHKD BY	R.G.KIM	PROJEC'N	3각법 (3rd Angle)			
DSND BY	H.K.LEE	DATE	2021-04-27	OUTLINE		
				REF. NO	Sheet No. of	
				DWG NO	LM-T0511B3PE001	Revision No. 0

Cls. I&II, Div. 2 IEEE 841

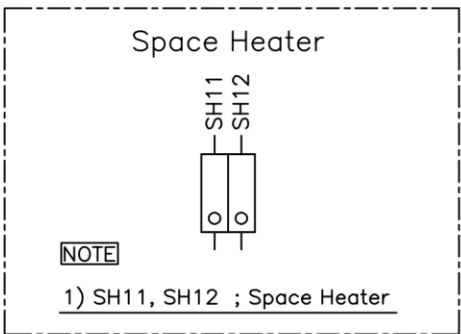
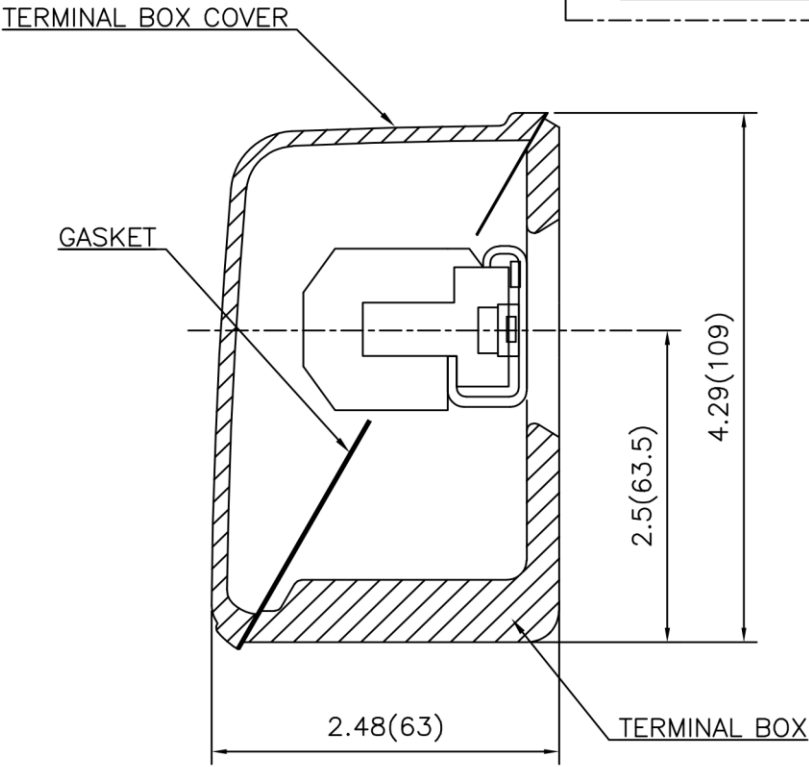
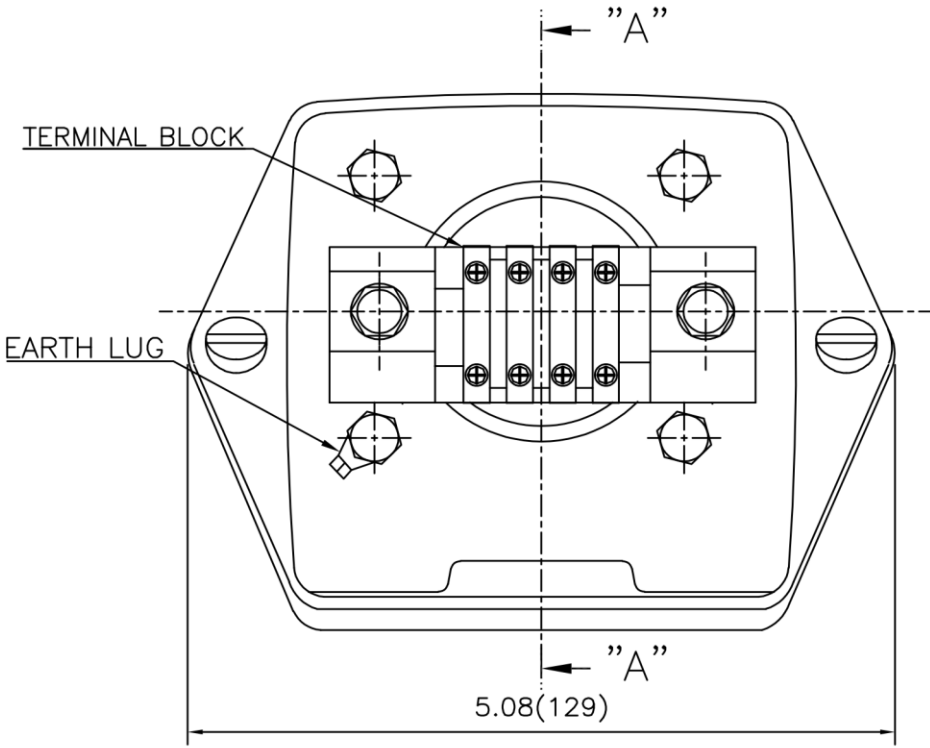


SEC. "A" - "A"

APPD BY	S.Y.KIM	UNIT	inch(mm)	SUBJECT	FR. L440 (CAST IRON)	DWG SIZE	A3 (1:3.5)
CHKD BY		SCALE	1/3.5	TITLE	MAIN TERMINAL BOX ASS'Y		
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle				
DSND BY	내수위	DATE	2023-10-19	REF. NO		Sheet No.	of
				DWG NO	3M-248452	Revision No.	0

REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

Cls. I&II, Div. 2
IEEE 841



APPD BY	S.Y.KIM	UNIT	inch(mm)	SUBJECT	FR.180 (CAST IRON)	DWG SIZE
CHKD BY		SCALE	1/1	TITLE		A3 (1:1.1)
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle			
DSND BY	배승희	DATE	2024-01-18	SUB. TERMINAL BOX ASS'Y		
				REF. NO		Sheet No. of
				DWG NO	3M-165278	Revision No. 0

REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY