HD HYUNDAI ELECTRIC

Essential for Today
Potential for Tomorrow

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.	HSDE400-12-5009C-IBBRSRSH	Item No.		Rev. No.	[ ]
Project Name		Project No.		Quantity	sets

GENERAL SPECIFICATION

Frame Size		5009C
Type		PJP
Enclosure(Protection)		Totally Enclosed / IP55
Method of Cooling		IC411(FC)
Rated Frequency		60 Hz
Number of Phases		3
Insulation Class		F
Temp. Rise at full load (by resistance method)		
	at 1.0 S.F	80 deg. C
Motor Location		☐ Indoor ☐ Outdoor
Altitude		Less than 1,000 meter
Relative Humidity		Less than 80 %
Ambient Temp.		40 deg. C (Max.)
Duty Type		Continuous (S1)
Service Factor		1.15
Mounting		B35
Bearing	Type	Anti-Friction
	DE/N-DE	6324C3 / 6320C3-INS.
	Lubricant	Grease(Polyrex-EM)
External Thrust		Not applicable
Coupling Method		☑ Direct ☐ V-belt
Shaft Extension		Single
Terminal Box	Main	Cast Iron
	Aux.	Yes
	Location	Refer to Outline Drawing
Application		
Area classification		Hazardous
Type of Ex-Protection		Class I&II, Division 2
Applicable Standard		NEMA MG1, CSA C390

PERFORMANCE DATA

Rated Output		300 kW	400 HP	
Number of Poles		6		
Rotor Type		Squirrel Cage		
Starting Method*		D.O.L		
Rated Voltage		575 V	460 V	230 V
Current	Full Load	374.3 A	467.9 A	935.8 A
	Locked-rotor**	680 %	680 %	680 %
Efficiency				
	50% Load	92.8 %		
	75% Load	94.8 %		
	100% Load	95.8 %		
Power Factor(p.u)				
	50% Load	0.690		
	75% Load	0.790		
	100% Load	0.840		
Speed at Full Load		1185 r.p.m		
Torque				
	Full Load	1,783.5 lb.ft		
	Locked-rotor**	135 %		
	Breakdown**	220 %		
Moment of Inertia (J)				
	Load(Max.)	4,199.000 lb.ft2		
	Motor	246.780 lb.ft2		
Sound Pressure Level (No-load & mean value at 1m from motor)		84 dB(A)		
Vibration		3.8 mm/sec (peak)		
Permissible number of consecutive starts		Cold 2 times		
		Hot 1 time		
Paint	Munsell No.	4.0PB5.4/5.5(VL-451)		

ACCESSORIES

*. B.T.D.(Pt 100 Ω at 0°C,Single) : 2EA/Motor
*. W.T.D.(Pt 100 Ω at 0°C) : 2EA/Ph.
*. Space Heater : 1EA/Motor

SPARE PARTS

SUBMITTAL DRAWING

Outline Dimension Drawing	\ Motor Weight(Approx.)	
B35	LM-T0509C4P7001	4110 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
   -. 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; Temp code : T3
   -. Class II, Division 2 Group F & G; Temp code : T3
5. Shaft material : AISI4140

Date	DSND	CHKD	CHKD	APPD
2024-09-10	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.

REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

4.72

2.36

CROWN TRITON

Premium Efficiency AC 3 Phase Motor

c US Energy Verified CC038A

400HP 6P 460V				Cat. No.	HSDE400-12-5009C-IBBRSRSH		
Model	LATER			INS. Class	F	Amps	467.9
Type	PJP	Duty	CONT	Code	H	Amb. 40°C	Hertz 60Hz
Frame	5009C	Encl.	TEFC	S.F.	1.15	RPM 1185	NEMA Nom. Eff. 95.8%
Bearing	Drive 6324C3			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 335HP 380V 472.01A 985rpm S.F.: 1.0 Eff.: 95.8% Code: G						
	50Hz 335HP 400/415V 459.35/453.76A 986/987rpm S.F.: 1.0 Eff.: 95.8/95.81% Code: H/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 (sine wave)	Frame	L440FR - 500FR
				Amb. 40°C	T3 (200°C)
				Amb. 55°C	T3 (200°C)
No. -		Date -		Weight	4110 lb

4M-136053

MARINE DUTY IEEE45

Made in Korea H1

HD HYUNDAI ELECTRIC

APPD BY	S.Y.KIM	UNIT	INCH
CHKD BY	I.K.KIM	SCALE	NONE
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle
DSND BY	S.H.LEE	DATE	2024.06.07

SUBJECT	CSA Class I, Division2 Severe Duty (HSDE ,L449-500)	DWG SIZE	A4 (1:1)
TITLE	NAMEPLATE DRAWING		
REF. NO	4M-136053	Sheet No.	of
DWG NO	NP-HSDE400-12-5009C-IBBRSRSH	Revision No.	0

HD HYUNDAI ELECTRIC

HYUNDAI ELECTRIC

PERFORMANCE CURVE

CURVE NO.

PC-HSDE400-12-5009C-IBBRSRSH

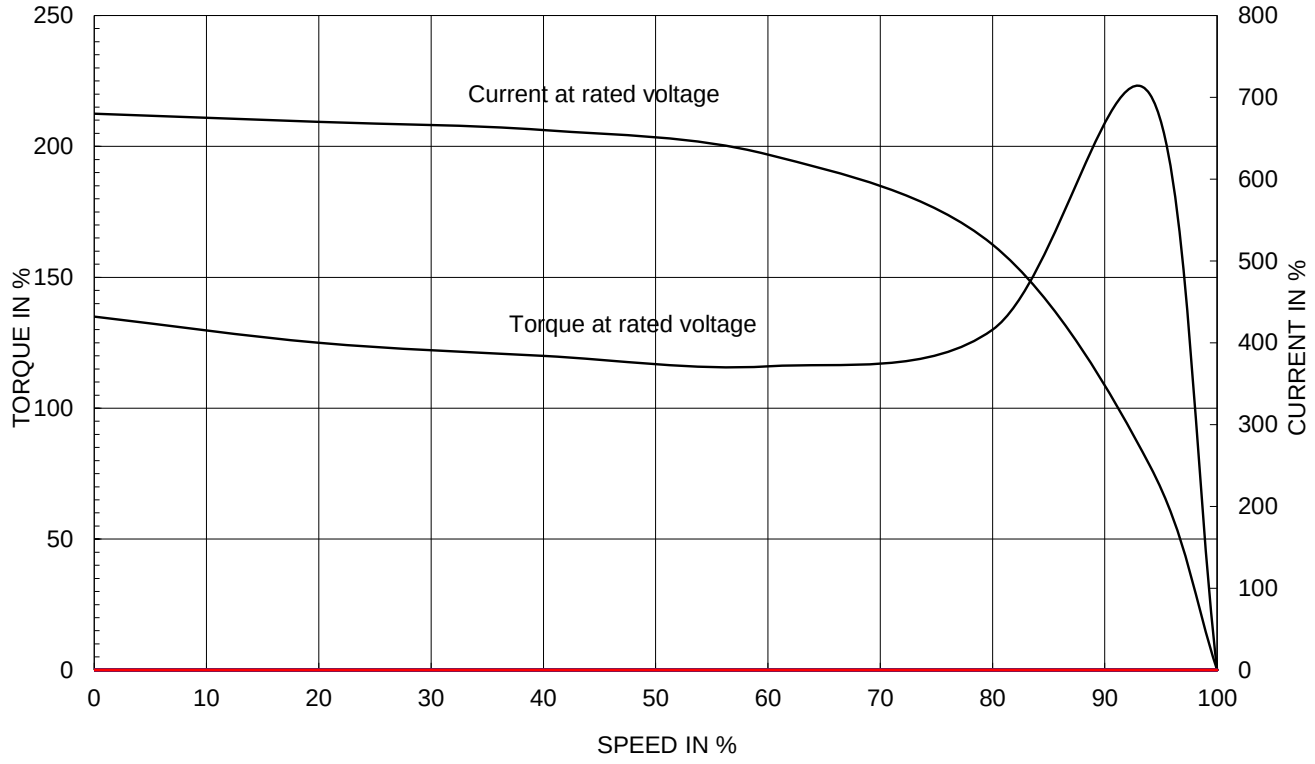
Type :	PJP	
Full Load Torque :	1783.5	lb.ft
Load moment of Inertia (J) :	4199.000	lb.ft2
Motor moment of Inertia (J) :	246.780	lb.ft2

300kW 400HP 6 P 60 Hz

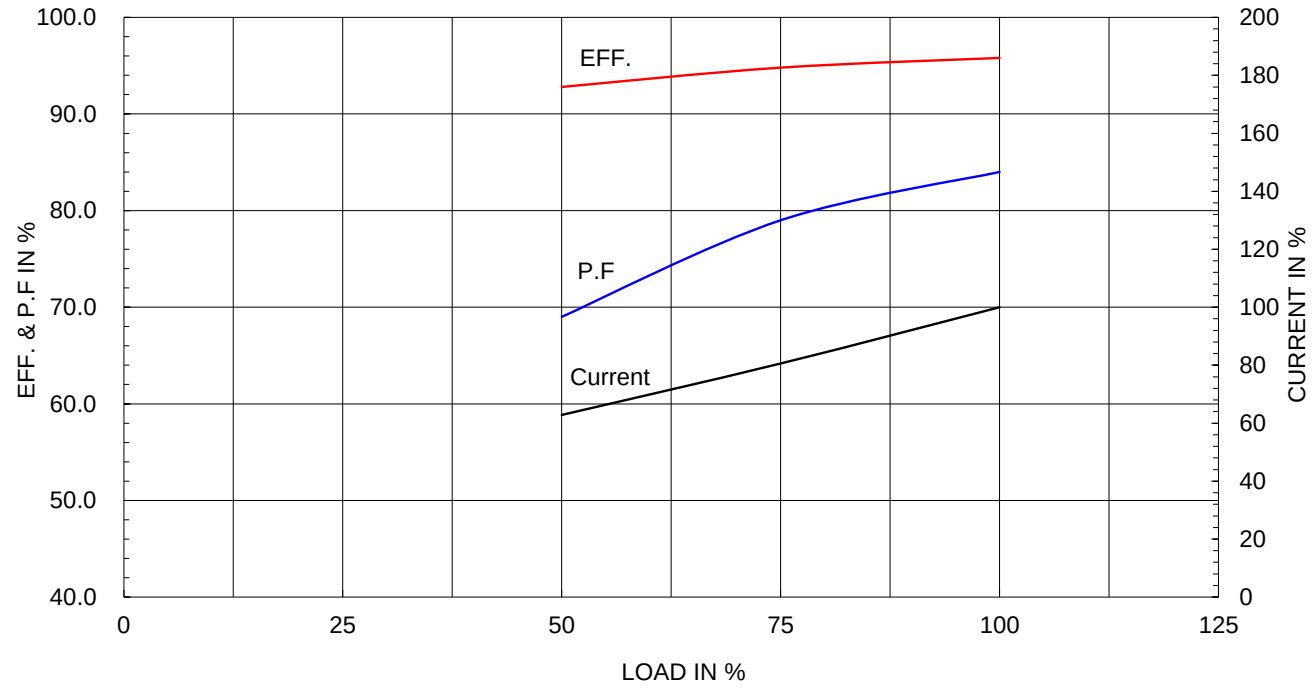
Speed at Full Load : 1185 RPM

Rated Voltage	575V	460V	230V
Full Load Current	374.3A	467.9A	935.8A

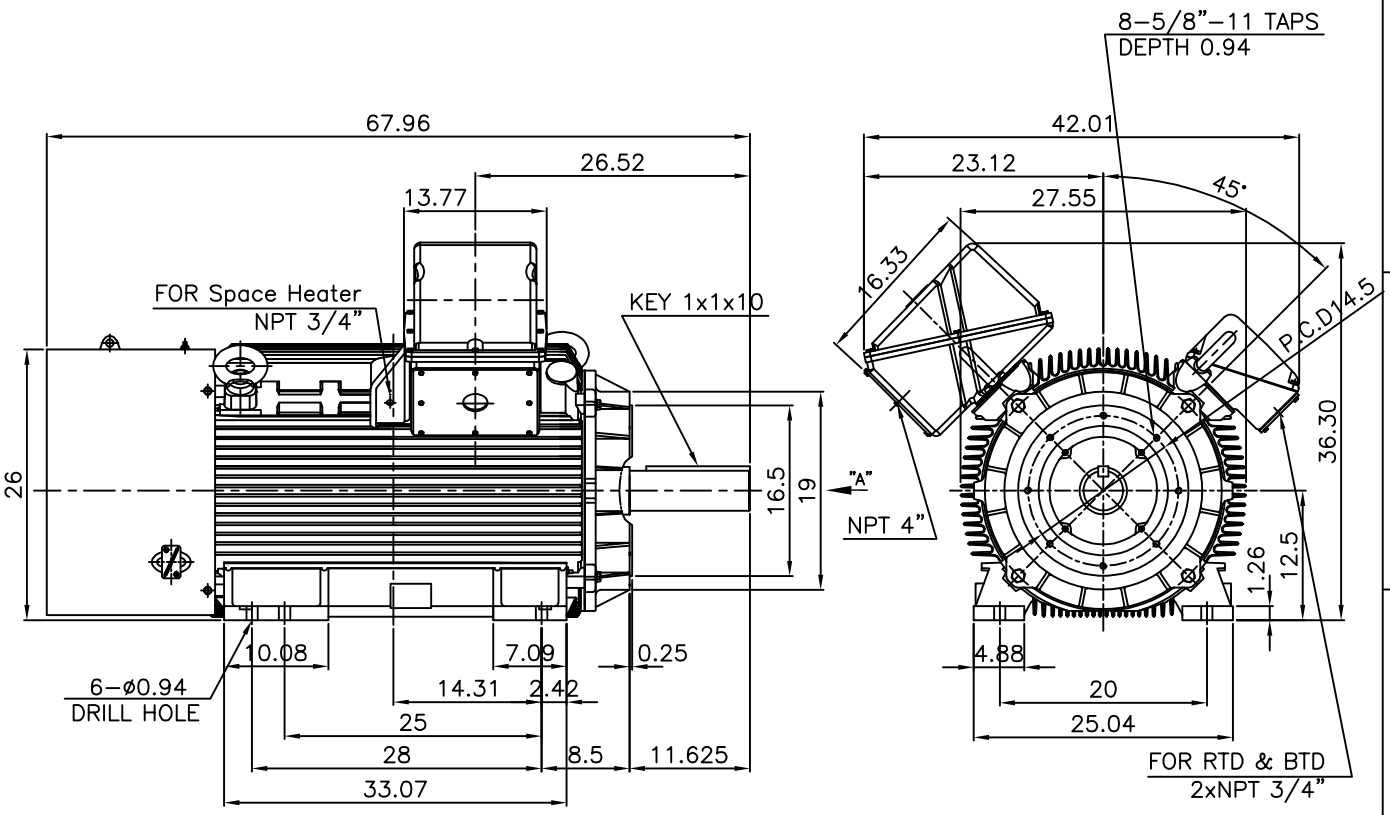
SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE



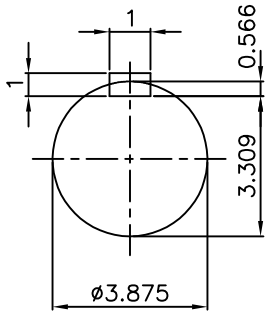
▽	50S	REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY
▽▽	12.5S							
▽▽▽	3.2S							
▽▽▽▽	0.4S							



NOTE

1.TOLERANCE :

CENTER HEIGHT	12.5	+0.000 −0.060
RABBET DIAMETER	ø16.5	+0.000 −0.005
SHAFT DIAMETER	ø3.875	+0.000 −0.001
KEYWAY WIDTH	1	+0.003 −0.000



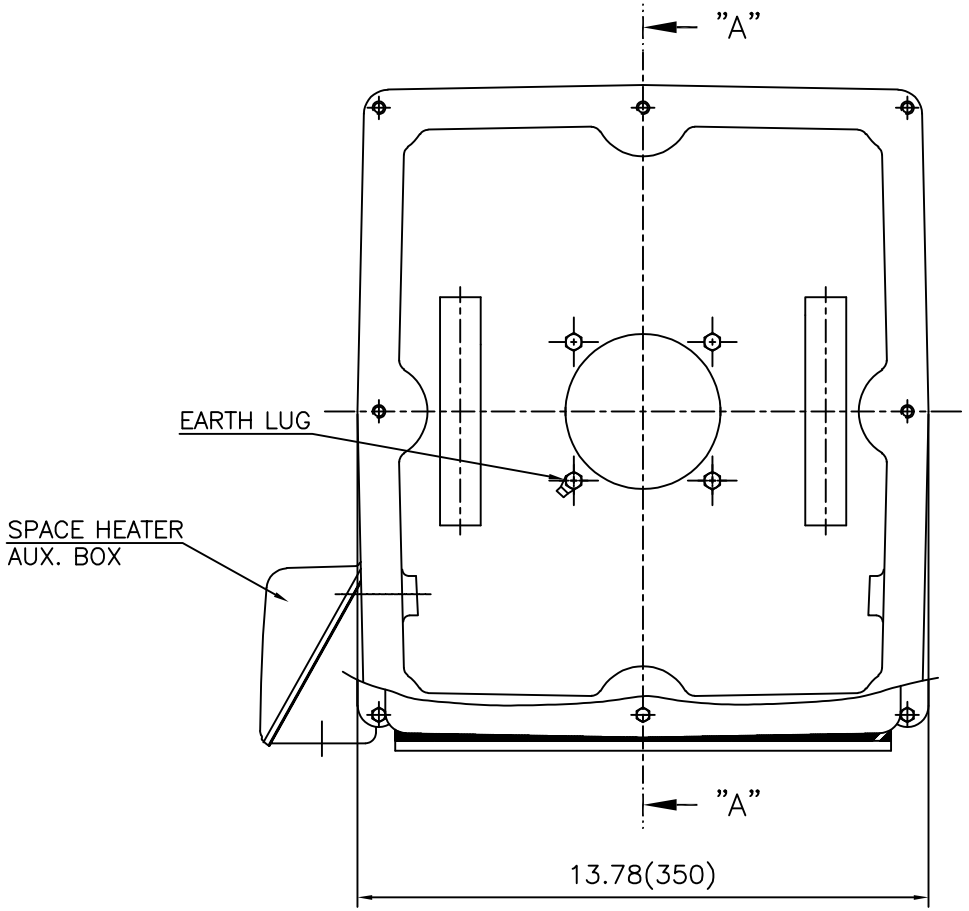
VIEW "A"

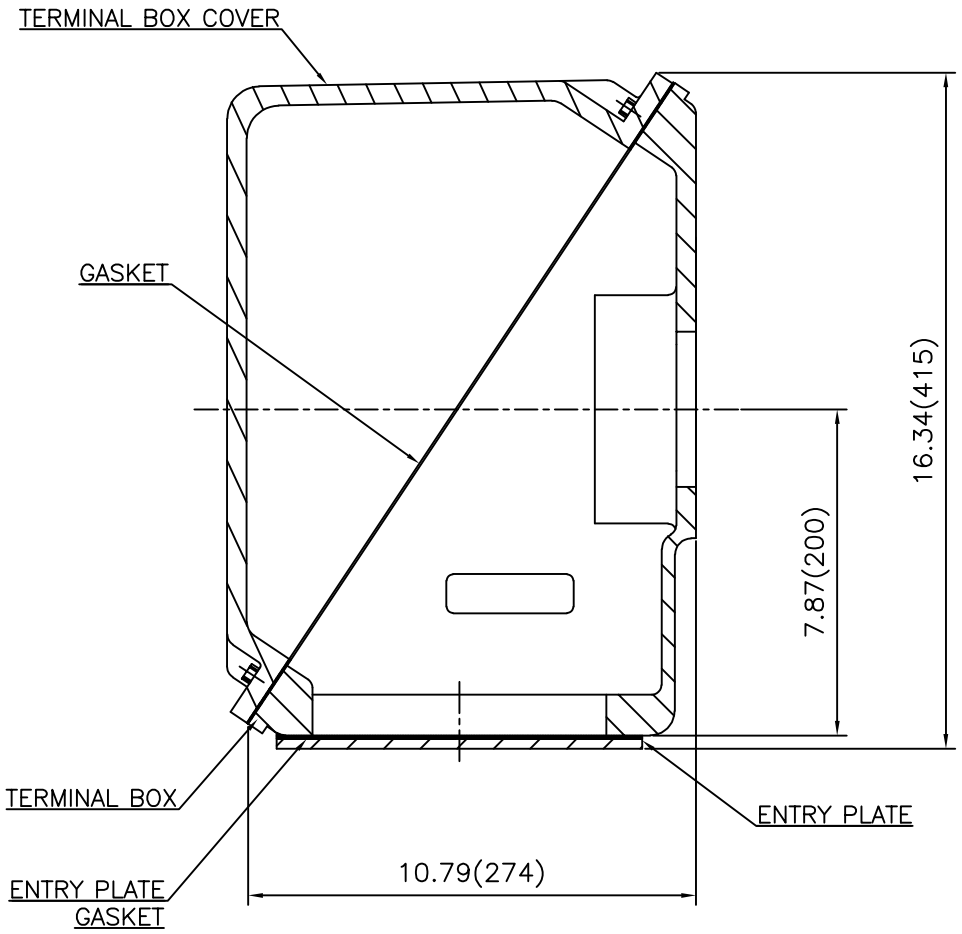
APPD BY	S.Y.KIM	UNIT	INCH
CHKD BY	O.J.KIM	SCALE	1/19
CHKD BY	R.G.KIM	PROJEC'N	3각법(3rd Angle)
DSND BY	H.K.LEE	DATE	2021-04-27

HD HYUNDAI ELECTRIC

SUBJECT	Fr.5008/5009C		DWG SIZE A4 (1:19)
TITLE	OUTLINE		
REF. NO			Sheet No. of
DWG NO	LM-T0509C4P7001		Revision No. 0

Cls. I&II, Div. 2
IEEE 841





SEC. "A"–"A"

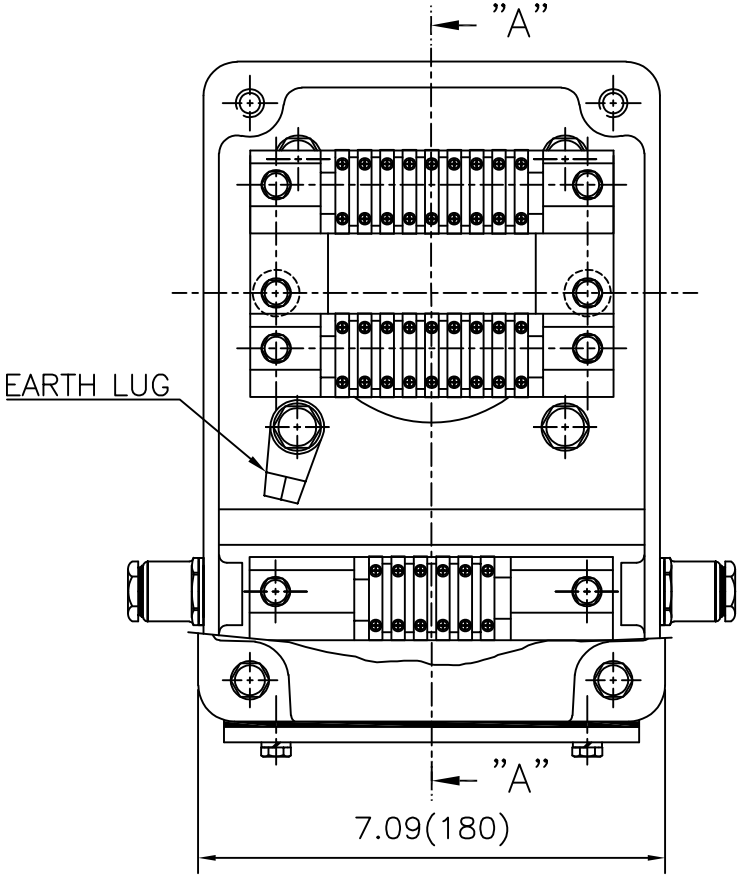
REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

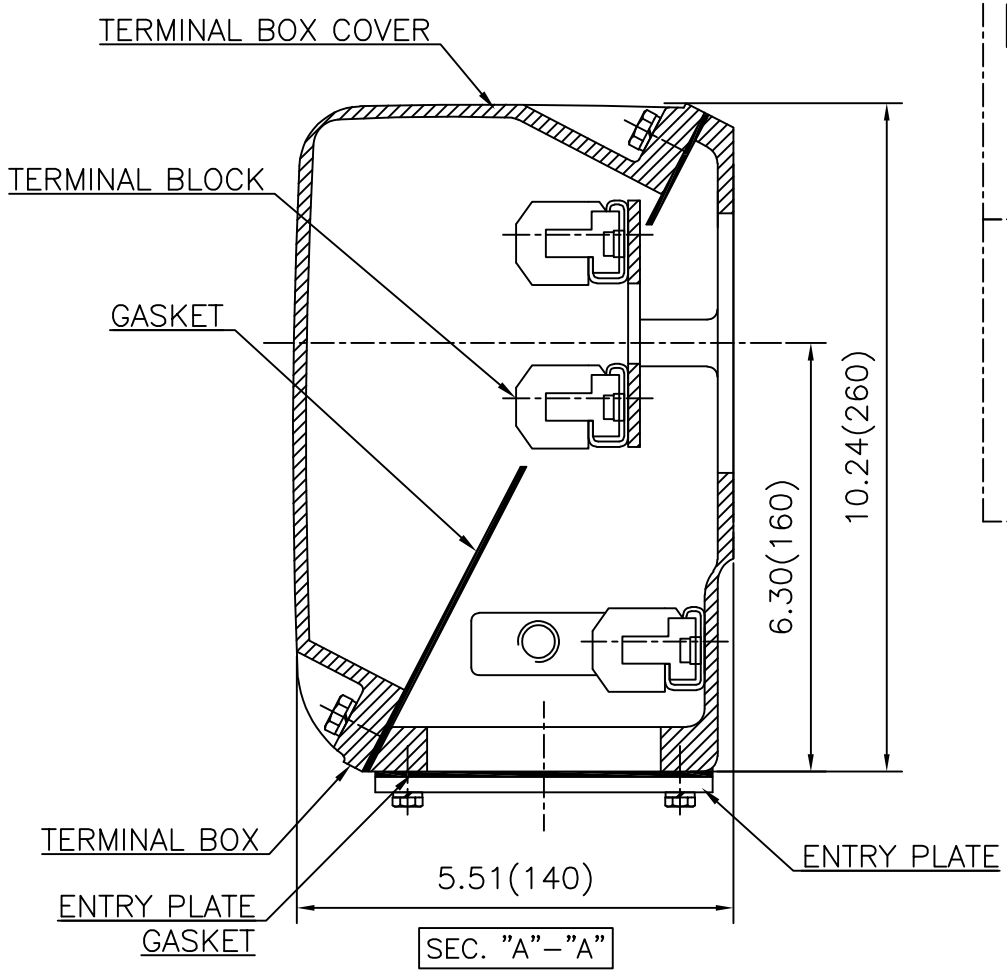
APPD BY	S.Y.KIM	UNIT	inch(mm)
CHKD BY		SCALE	1/3.5
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle
DSND BY	배슬희	DATE	2023-10-19

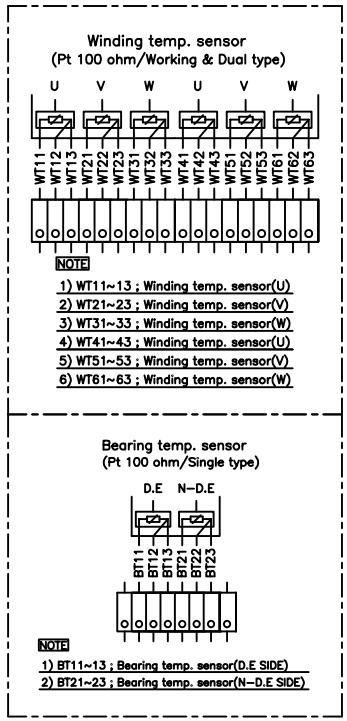
HD HYUNDAI ELECTRIC

SUBJECT	FR. L440 (CAST IRON)	DWG SIZE A3 (1:3.5)
TITLE	MAIN TERMINAL BOX ASS'Y	
REF. NO		Sheet No. of
DWG NO	3M-248452	Revision No. 0

Cls. I&II, Div. 2
IEEE 841







REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

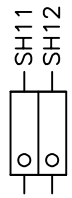
APPD BY	S.Y.KIM	UNIT	inch(mm)
CHKD BY		SCALE	1/1
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle
DSND BY	배슬희	DATE	2024-01-18

HD HYUNDAI ELECTRIC

SUBJECT	FR.360 (CAST IRON)		DWG SIZE A3 (1:2.2)
TITLE	AUX. TERMINAL BOX ASS'Y		
REF. NO			Sheet No. of
DWG NO	3M-165277		Revision No. 0

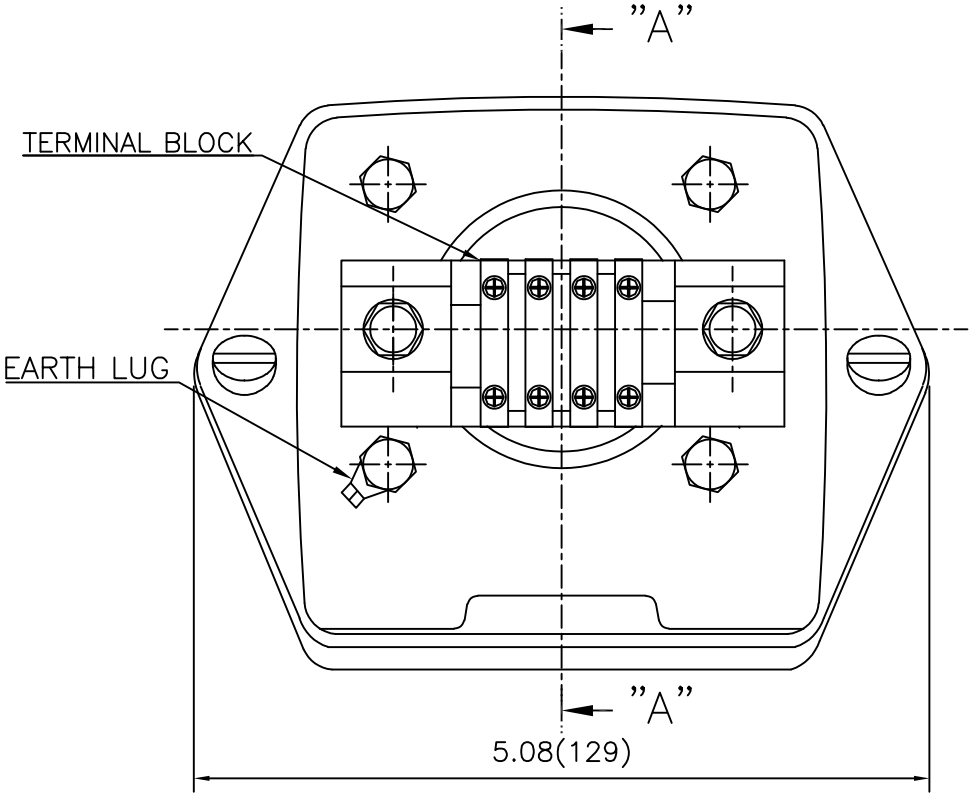
Cls. I&II, Div. 2
IEEE 841

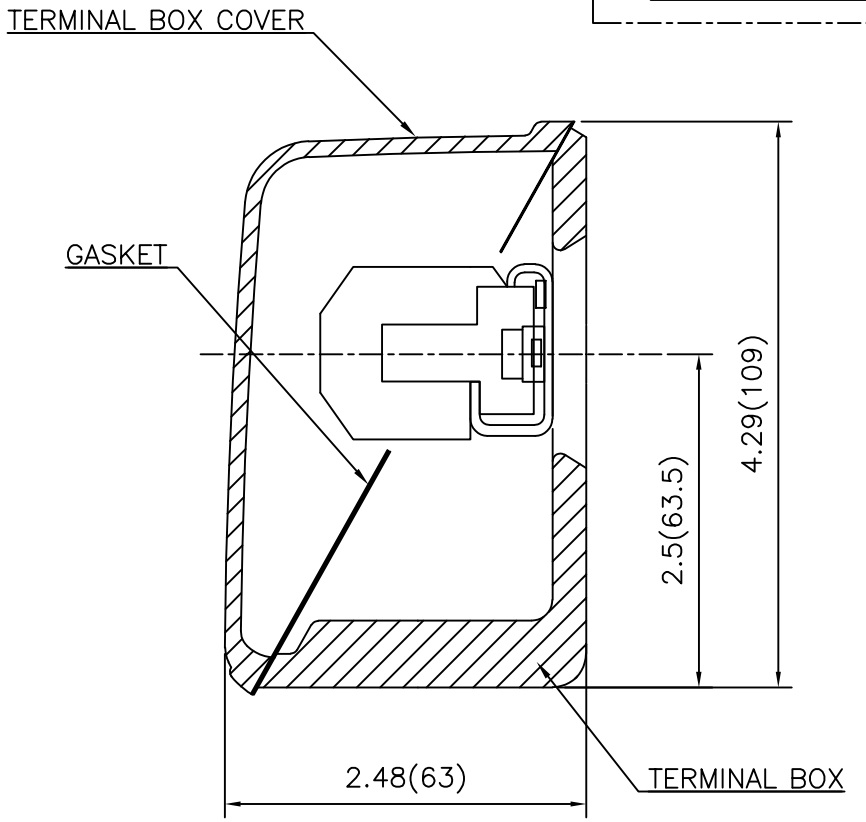
Space Heater



NOTE

1) SH11, SH12 ; Space Heater





SEC. "A"–"A"

REV	DATE	CONTENTS	REVD BY	CHKD BY	CHKD BY	APPD BY

APPD BY	S.Y.KIM	UNIT	inch(mm)
CHKD BY		SCALE	1/1
CHKD BY	R.G.KIM	PROJEC'N	3rd Angle
DSND BY	배슬희	DATE	2024-01-18

HD HYUNDAI ELECTRIC

SUBJECT	FR.180 (CAST IRON)		DWG SIZE A3 (1:1.1)
TITLE	SUB. TERMINAL BOX ASS'Y		
REF. NO			Sheet No. of
DWG NO	3M-165277		Revision No. 0