

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. | HSDE400-12-5009-IBSH | Item No. | Rev. No. | [] |
| Project Name | | Project No. | Quantity | sets |

| GENERAL SPECIFICATION | | | PERFORMANCE DATA | | | |
|--|--|--------------------------|--|--------------------|----------------------|----------------------|
| Frame Size | 5009 | | Rated Output | 300 kW 400 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 | 374.3 A | 467.9 A 935.8 A |
| Insulation Class | F | | | Locked-rotor** | 680 % | 680 % 680 % |
| Temp. Rise at full load (by resistance method) | | | Efficiency | | | |
| at 1.0 S.F | 80 deg. C | | 50% Load | | 92.8 % | |
| Motor Location | <input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor | | 75% Load | | 94.8 % | |
| Altitude | Less than 1,000 meter | | 100% Load | | 95.8 % | |
| Relative Humidity | Less than 80 % | | Power Factor(p.u) | | | |
| Ambient Temp. | 40 deg. C (Max.) | | 50% Load | | 0.690 | |
| Duty Type | Continuous (S1) | | 75% Load | | 0.790 | |
| Service Factor | 1.15 | | 100% Load | | 0.840 | |
| Mounting | B3 | | Speed at Full Load | 1185 r.p.m | | |
| Bearing | Type | Anti-Friction | Torque | | | |
| | DE/N-DE | NU324 / 6320C3-INS. | Full Load | 1,783.5 lb.ft | | |
| | Lubricant | Grease(Polyrex-EM) | Locked-rotor** | 135 % | | |
| External Thrust | Not applicable | | Breakdown** | 220 % | | |
| Coupling Method | <input type="checkbox"/> Direct <input type="checkbox"/> V-belt | | Moment of Inertia (J) | | | |
| Shaft Extension | Single | | Load(Max.) | 4,199.000 lb.ft2 | | |
| Terminal Box | Main | Cast Iron | Motor | 246.780 lb.ft2 | | |
| | Aux. | Yes | Sound Pressure Level (No-load & mean value at 1m from motor) | | | |
| | Location | Refer to Outline Drawing | 84 dB(A) | | | |
| Application | | | Vibration | | | |
| Area classification | Hazardous | | 3.8 mm/sec (peak) | | | |
| Type of Ex-Protection | Class I&II, Division 2 | | Permissible number of consecutive starts | Cold | 2 times | |
| Applicable Standard | NEMA MG1, CSA C390 | | Hot | 1 time | | |
| | | | Paint | Munsell No. | 4.0PB5.4/5.5(VL-451) | |

ACCESSORIES

*. Space Heater : 1EA/Motor

SPARE PARTS

SUBMITTAL DRAWING

| | | | |
|---------------------------|-----------------|-----------------------|--|
| Outline Dimension Drawing | | Motor Weight(Approx.) | |
| B3 | LM-T0509B3PE001 | 3970 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.

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|-------------------|---|--|------------------------|
| 400HP 6P 460V | | Cat. No. HSDE400-12-5009-IBSH | |
| Model LATER | INS. Class F | Amps | 467.9 |
| Type PJP | Duty CONT | Code H | Amb. 40°C |
| Frame 5009 | 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) | |
| | Opp. 6320C3-INS. | NEMA Nom. Eff. | 95.8% |
| 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 II, Div. 2, Gr. F & G | Temp. Code (sine wave) |
| | CLASS I, Zone 2, Gr. IIA, IIB, & IIC | | Frame L440FR - 500FR |
| | | | Amb. 40°C T3 (200°C) |
| No. - | Date - | Weight | 3970 lb |
| 4M-136053 | | Made in Korea H1 | |

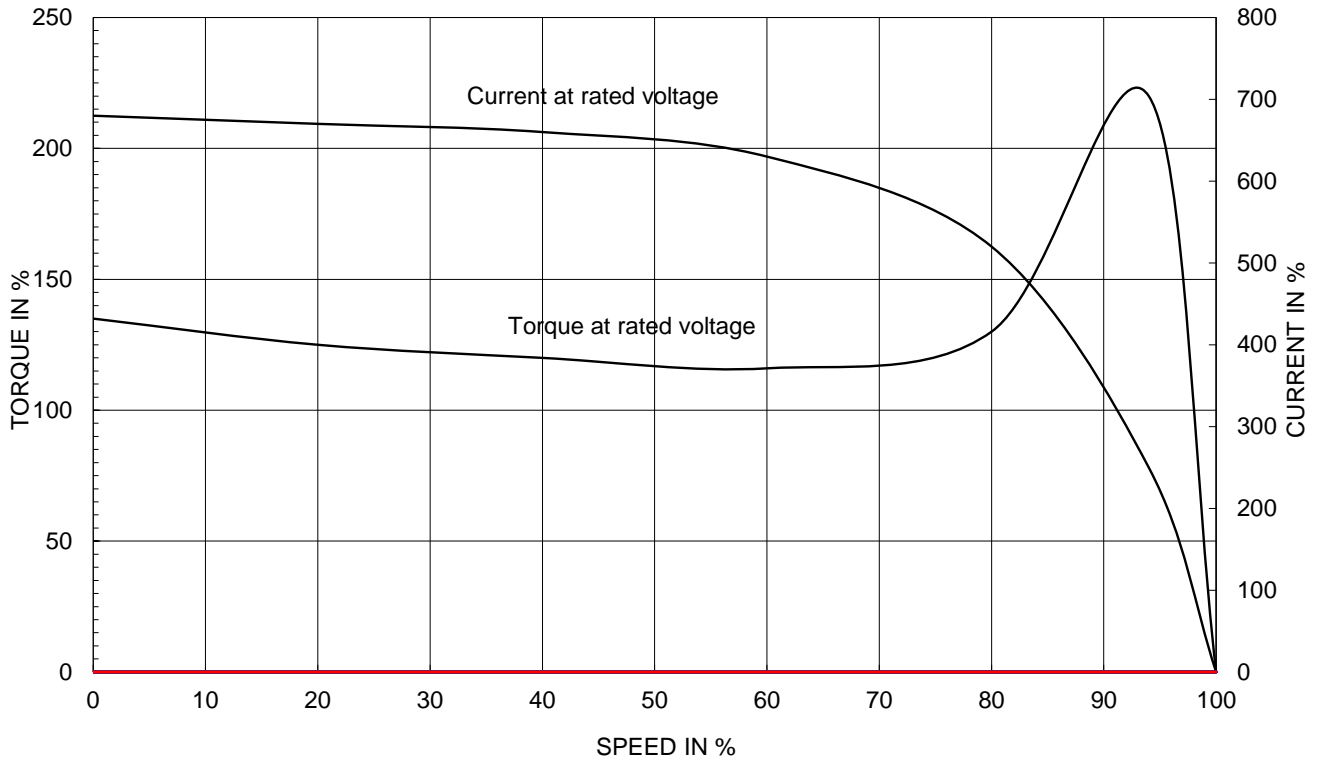
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|---------|---------|----------|------------|-------------------|---|--------------|------------|
| APPD BY | S.Y.KIM | UNIT | INCH | SUBJECT | CSA Class I, Division2 Severe Duty (HSDE ,L449-500) | DWG SIZE | A4 (1:1) |
| CHKD BY | I.K.KIM | SCALE | NONE | | | | |
| CHKD BY | R.G.KIM | PROJEC'N | 3rd Angle | NAMEPLATE DRAWING | | | |
| DSND BY | S.H.LEE | DATE | 2024.06.07 | | | | |
| | | | | REF. NO | 4M-136053 | Sheet No. | of |
| | | | | DWG NO | NP-HSDE400-12-5009-IBSH | Revision No. | 0 |

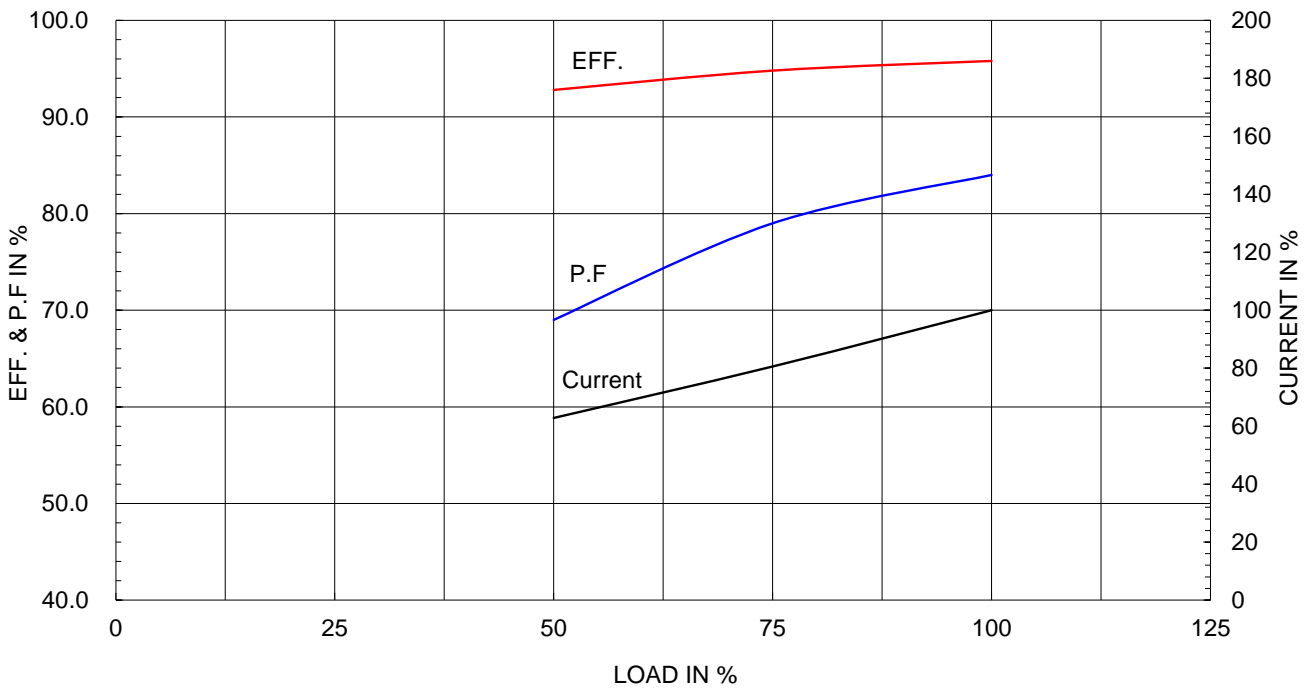
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|-------------------------------|-----------------|
| Type : | PJP |
| Full Load Torque : | 1783.5 lb.ft |
| Load moment of Inertia (J) : | 4199.000 lb.ft2 |
| Motor moment of Inertia (J) : | 246.780 lb.ft2 |

| | | |
|----------------------|--------|---------------|
| 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



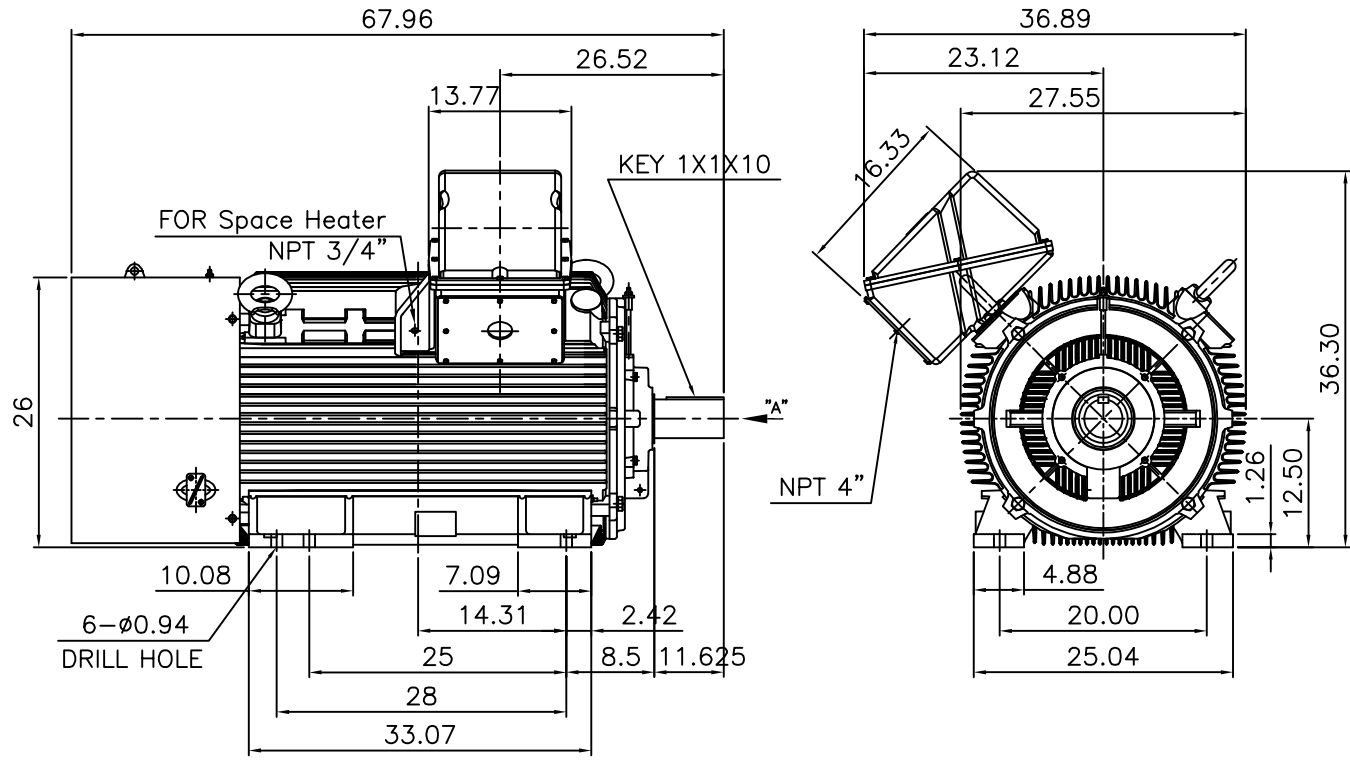
OUTPUT VS EFF., P.F & CURRENT CURVE



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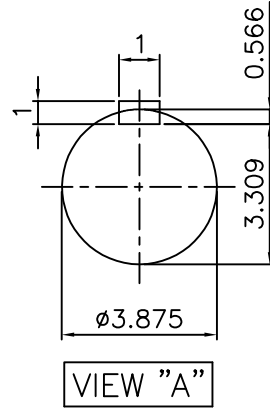
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| ▽▽ | 12.5S | | | | | | | |
| ▽▽▽ | 3.2S | | | | | | | |
| ▽▽▽▽ | 0.4S | | | | | | | |



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.5008/5009 | DWG SIZE | A4 (1:19) |
| CHKD BY | O.J.KIM | SCALE | 1/19 | TITLE | OUTLINE | REF. NO | Sheet No. of |
| CHKD BY | R.G.KIM | PROJEC'N | 3각법(3rd Angle) | | | | |
| DSND BY | H.K.LEE | DATE | 2021-04-27 | | | | |
| | | | | DWG NO | LM-T0509B3PE001 | Revision No. 0 | |

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

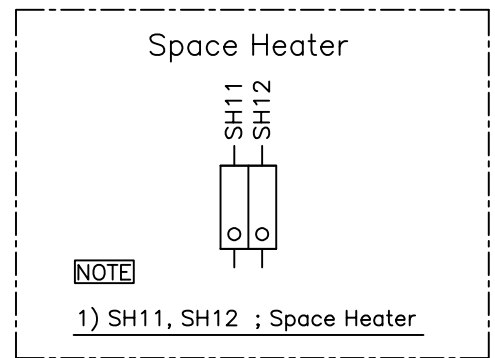
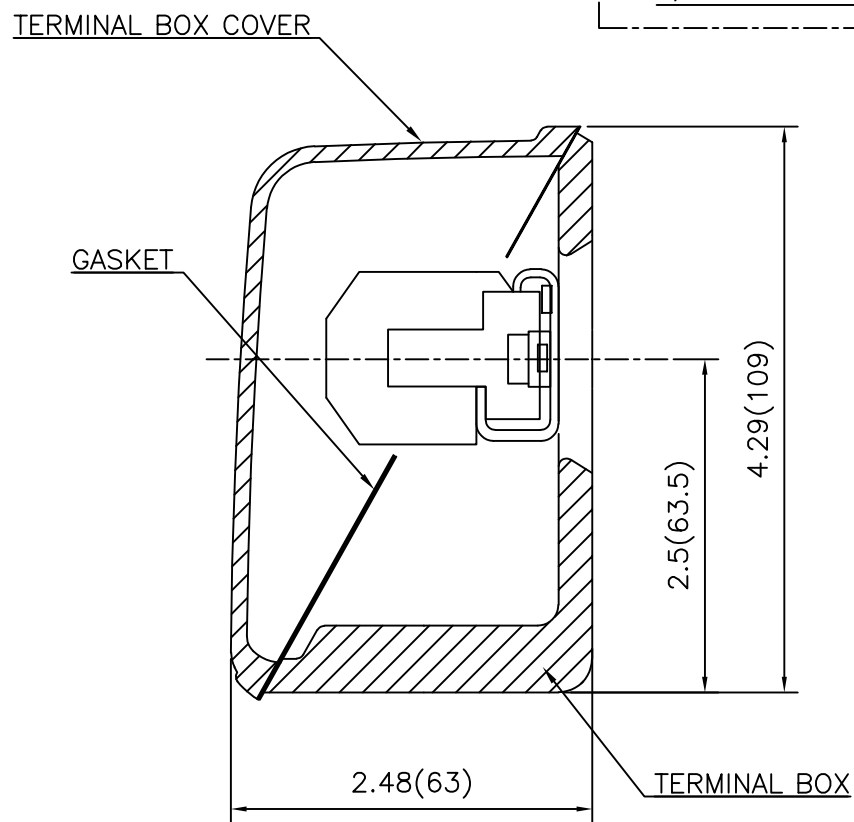
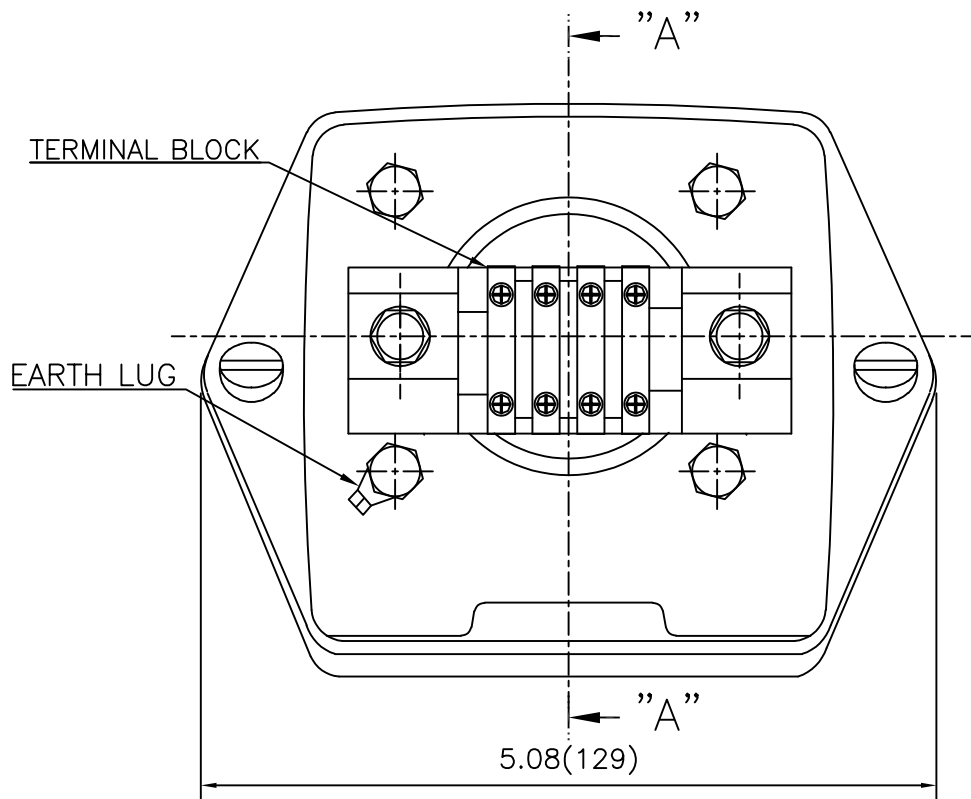
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| APPD BY | S.Y.KIM | UNIT | inch(mm) | SUBJECT | FR.180 (CAST IRON) | DWG SIZE |
| CHKD BY | | SCALE | 1/1 | TITLE | SUB. TERMINAL BOX ASS'Y | A3 (1:1.1) |
| CHKD BY | R.G.KIM | PROJEC'N | 3rd Angle | | | |
| DSND BY | 배승희 | DATE | 2024-01-18 | | | |
| | | | | REF. NO | | Sheet No. of |
| | | | | DWG NO | 3M-165277 | Revision No. 0 |