

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.  | HSDE500-36-5010S-IBSHSP | Item No.    |  | Rev. No. | [ ]  |
| Project Name |                         | Project No. |  | Quantity | sets |

| GENERAL SPECIFICATION                          |  | PERFORMANCE DATA                         |  |                      |                      |
|--|--|--|--|----------------------|----------------------|
| Frame Size                                     | 5010S  | Rated Output                             | 375 kW      500 HP   |                      |                      |
| Type   | PJP  | Number of Poles                          | 2  |                      |                      |
| 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  | 436.7 A              | 545.9 A    1,091.8 A |
| Insulation Class                               | F  |  | Locked-rotor**   | 725 %                | 725 %    725 %       |
| 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   | 0.750                |                      |
| Duty Type                                      | Continuous ( S1 )  |  | 75% Load   | 0.850                |                      |
| Service Factor                                 | 1.15   |  | 100% Load  | 0.900                |                      |
| Mounting                                       | B3   | Speed at Full Load                       | 3570 r.p.m   |                      |                      |
| Bearing  | Type   | Anti-Friction                            | Torque   |                      |                      |
|  | DE/N-DE  | 6315C3 / 6315C3-INS.                     | Full Load  | 740.0 lb.ft          |                      |
|  | Lubricant  | Grease(Polyrex-EM)                       | Locked-rotor**   | 145 %                |                      |
| External Thrust                                | Not applicable   |  | Breakdown**  | 240 %                |                      |
| Coupling Method                                | <input checked="" type="checkbox"/> Direct <input type="checkbox"/> V-belt | Moment of Inertia (J)                    |  |                      |                      |
| Shaft Extension                                | Single   |  | Load(Max.)   | 381.000 lb.ft2       |                      |
| Terminal Box                                   | Main   | Cast Iron                                | Motor  | 76.418 lb.ft2        |                      |
|  | Aux.   | Yes                                      | Sound Pressure Level (No-load & mean value at 1m from motor) | 87 dB(A)             |                      |
|  | Location   | Refer to Outline Drawing                 | Vibration  | 3.8 mm/sec (peak)    |                      |
| Application                                    |  | Permissible number of consecutive starts | Cold   | 2 times              |                      |
| Area classification                            | Hazardous  |  | Hot  | 1 time               |                      |
| Type of Ex-Protection                          | Class I&II, Division 2   | Paint                                    | Munsell No.  | 4.0PB5.4/5.5(VL-451) |                      |
| Applicable Standard                            | NEMA MG1, CSA C390   |  |  |                      |                      |

### ACCESSORIES

\*. Space Heater : 1EA/Motor

### SPARE PARTS

1. Spare Axial Fan (C.W Direction)

### SUBMITTAL DRAWING

|                           |                       |          |  |
|---------------------------|-----------------------|----------|--|
| Outline Dimension Drawing | Motor Weight(Approx.) |          |  |
| B3                        | LM-T0511B3CE001       | 4800 lb. |  |
|                           |                       |          |  |
|                           |                       |          |  |

### REMARK

- Premium efficiency according to NEMA MG1
- 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
- NDE side : Insulated bearing
- CSA Certification
  - Class I, Division 2, Group A, B, C & D; Temp code : T3
  - Class II, Division 2 Group F & G; Temp code : T3
- Shaft material : AISI4140
- Uni-directional CCW viewed from drive end.

|            |          |          |          |          |
|------------|----------|----------|----------|----------|
| Date       | DSND     | CHKD     | CHKD     | APPD     |
| 2024-07-13 | 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.

|     |      |          |                                       |
|-----|------|----------|---------------------------------------|
| 1   | 2    | 3        | 4                                     |
| REV | DATE | CONTENTS | REVD BY   CHKD BY   CHKD BY   APPD BY |
|     |      |          |                                       |
|     |      |          |                                       |
|     |      |          |                                       |


4.72

## CROWN TRITON


Premium Efficiency AC 3 Phase Motor

|                   |                                      |             |                             |  |                           |             |                |
|-------------------|--------------------------------------|-------------|-----------------------------|--|---------------------------|-------------|----------------|
| 500HP             | 2P                                   | 460V        | Cat. No.                    | HSDE500-36-5010S-IBSHSP                          |                           |             |                |
| Model             | LATER                                |             | INS. Class                  | F  | Amps                      | 545.9       |                |
| Type              | PJP                                  | Duty        | CONT                        | Code   | H                         | Amb. 40°C   |                |
| Hertz             | 60Hz                                 |             |                             |  |                           |             |                |
| Frame             | 5010S                                | Encl.       | TEFC                        | S.F.   | 1.15                      | RPM         | 3570           |
| NEMA Nom. Eff.    | 95.8%                                |             |                             |  |                           |             |                |
| Bearing           | Drive                                | 6315C3      |                             | S.F.1.00 (10:1 C.T., 20:1 V.T., NEMA-MG1 Part31) |                           | 3/4 Eff.    | 94.8%          |
|                   | Opp.                                 | 6315C3-INS. |                             |  |                           | NEMA Design | B Torque       |
| Usable at         |                                      |             |                             |  |                           |             |                |
| CSA Certified for | CLASS I, Div. 2, Gr. A, B, C & D     |             | CLASS II, Div. 2, Gr. F & G |  | Temp. Code<br>(sine wave) | Frame       | L440FR - 500FR |
|                   | CLASS I, Zone 2, Gr. IIA, IIB, & IIC |             |                             |  |                           | Amb. 40°C   | T3 (200°C)     |
|                   |                                      |             |                             |  |                           | Amb. 55°C   | T3 (200°C)     |
| No.               | -                                    | Date        | -                           | Weight   | 4800 lb                   |             |                |

4M-136053      Made in Korea H1      

2.36

|   |         |          |            |                                   |   |                       |
|---|---------|----------|------------|-----------------------------------|---|-----------------------|
| 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<br><b>NAMEPLATE DRAWING</b> |   |                       |
| DSND BY   | S.H.LEE | DATE     | 2024.06.07 |                                   |   |                       |
|  |         |          |            | REF. NO                           | <b>4M-136053</b>                                    | Sheet No. of          |
|   |         |          |            | DWG NO                            | NP-HSDE500-36-5010S-IBSHSP                          | Revision No. <b>0</b> |



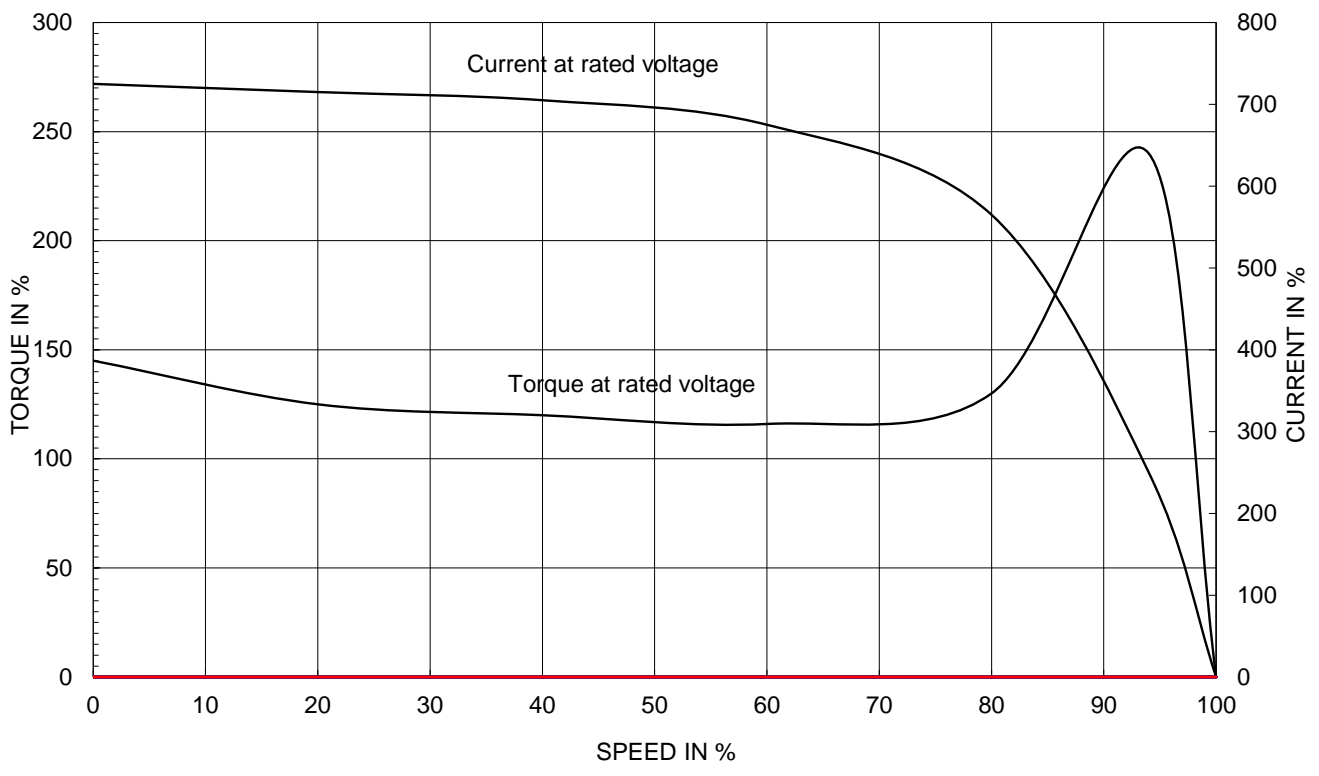
# PERFORMANCE CURVE

CURVE NO.  
PC-HSDE500-36-5010S-IBSHSP

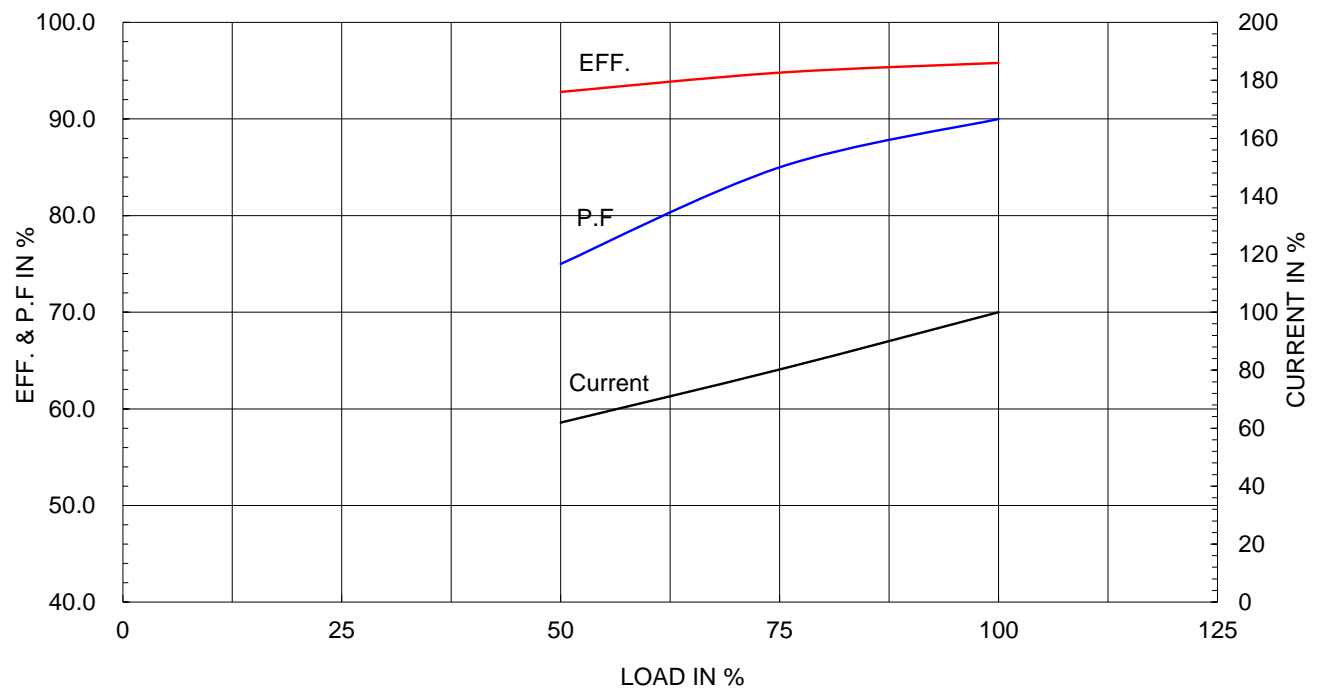
|                               |                |
|-------------------------------|----------------|
| Type :                        | PJP            |
| Full Load Torque :            | 740.0 lb.ft    |
| Load moment of Inertia (J) :  | 381.000 lb.ft2 |
| Motor moment of Inertia (J) : | 76.418 lb.ft2  |

|                      |        |        |          |
|----------------------|--------|--------|----------|
| 375kW                | 500HP  | 2 P    | 60 Hz    |
| Speed at Full Load : |        |        | 3570 RPM |
| Rated Voltage        | 575V   | 460V   | 230V     |
| Full Load Current    | 436.7A | 545.9A | #####    |

SPEED VS TORQUE & CURRENT CURVE



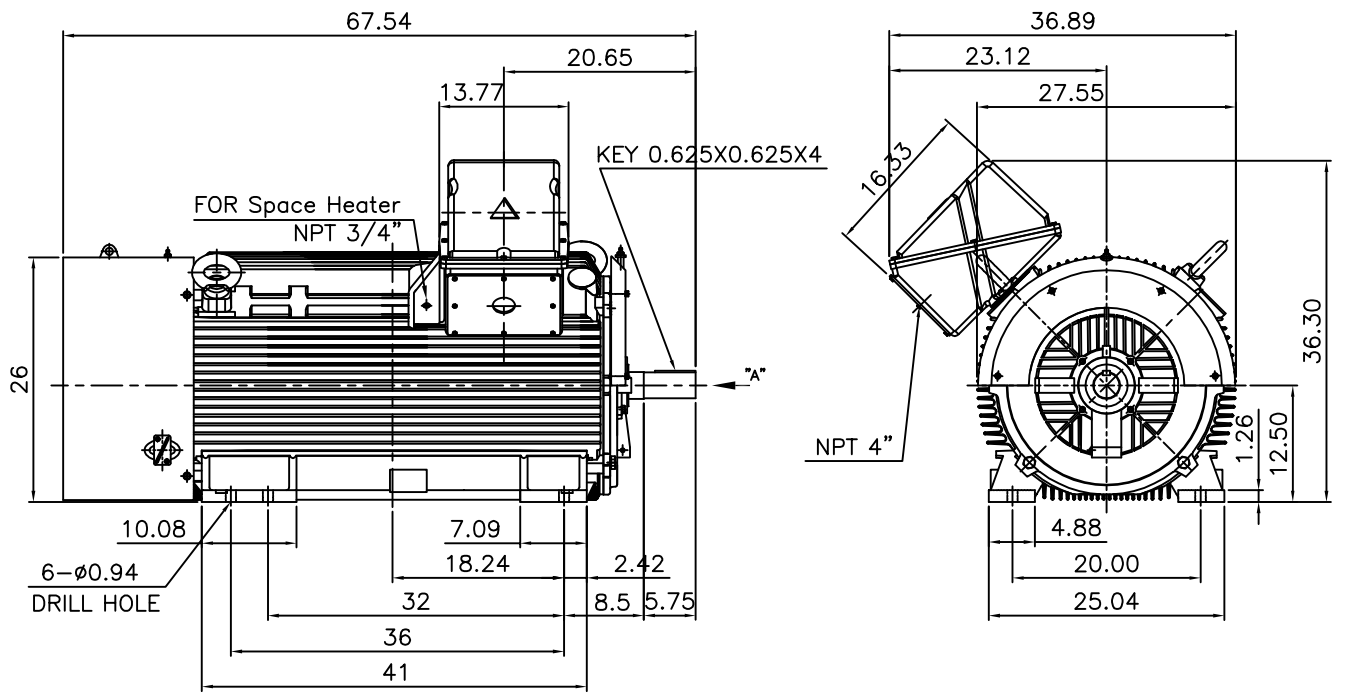
OUTPUT VS EFF., P.F & CURRENT CURVE



본 도면은 HD현대일렉트릭(주) 재산이며 허가없이 복사할 수 없음 (취급주의)

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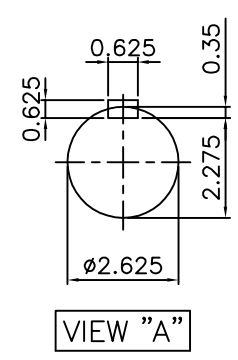
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| ▽    | 50S   | REV | DATE | CONTENTS | REVD BY | CHKD BY | CHKD BY | APPD BY |
| ▽▽   | 12.5S |     |      |          |         |         |         |         |
| ▽▽▽  | 3.2S  |     |      |          |         |         |         |         |
| ▽▽▽▽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



**NOTE**

1.TOLERANCE :

|                |        |        |        |
|----------------|--------|--------|--------|
| CENTER HEIGHT  | 12.5   | +0.000 | -0.060 |
| SHAFT DIAMETER | ø2.625 | +0.000 | -0.001 |
| KEYWAY WIDTH   | 0.625  | +0.002 | -0.000 |



|                            |         |          |                 |                |                 |                |                 |
|----------------------------|---------|----------|-----------------|----------------|-----------------|----------------|-----------------|
| APPD BY                    | S.Y.KIM | UNIT     | INCH            | SUBJECT        | Fr.5010/5011TS  | DWG SIZE       | A4 (1:20)       |
| CHKD BY                    | O.J.KIM | SCALE    | 1/20            |                |                 | TITLE          | CAST IRON T-BOX |
| CHKD BY                    | R.G.KIM | PROJEC'N | 3각법 (3rd Angle) | <b>OUTLINE</b> |                 |                |                 |
| DSND BY                    | H.K.LEE | DATE     | 2021-04-27      |                |                 |                |                 |
| <b>HD HYUNDAI ELECTRIC</b> |         |          |                 | REF. NO        | Sheet No. of    |                |                 |
|                            |         |          |                 | DWG NO         | LM-T0511B3CE001 | Revision No. 0 |                 |

**Cls. I&II, Div. 2  
IEEE 841**

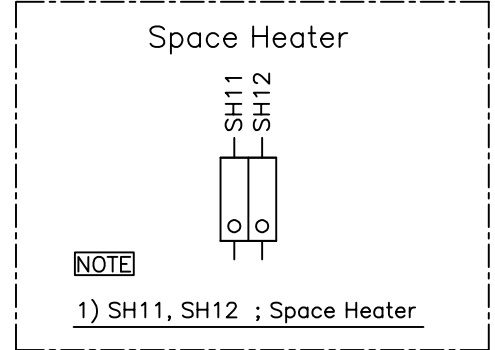
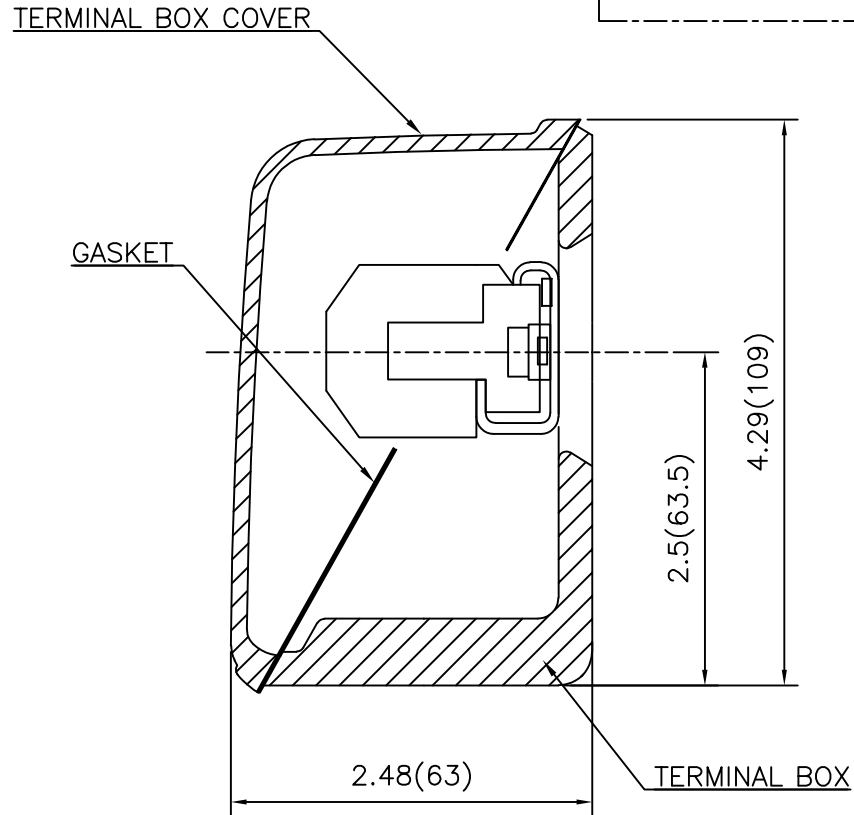
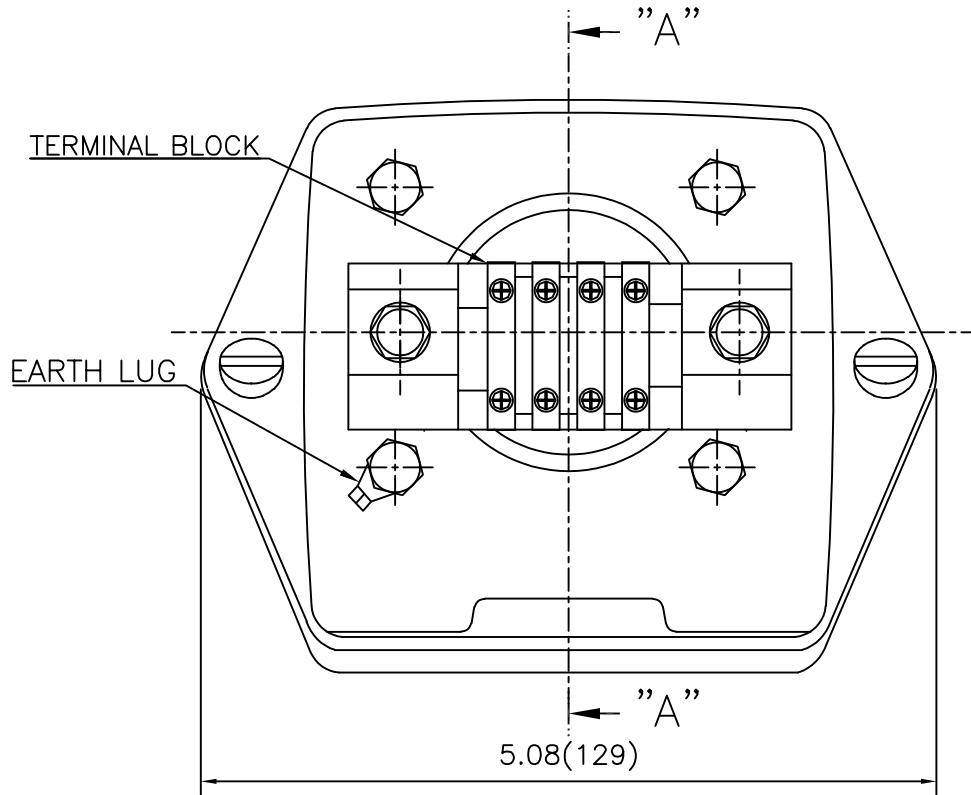


SEC. "A" - "A"

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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 |