

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.                                    | HSDE700-36-5812S-IBBRSRSHSP                                                | Item No.                 |                                                              |                         | Rev. No.             | [      ] |          |
| Project Name                                   |                                                                            | Project No.              |                                                              |                         | Quantity             | sets     |          |
| <b>GENERAL SPECIFICATION</b>                   |                                                                            |                          |                                                              | <b>PERFORMANCE DATA</b> |                      |          |          |
| Frame Size                                     | 5812S                                                                      |                          | Rated Output                                                 | 522 kW                  |                      | 700 HP   |          |
| Type                                           | HNE6                                                                       |                          | 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               | 614.7 A              | 768.4 A  | 1536.8 A |
| Insulation Class                               | F                                                                          |                          |                                                              | Locked-rotor**          | 720 %                | 720 %    | 720 %    |
| 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 0.740                                               |                         |                      |          |          |
| Duty Type                                      | Continuous ( S1 )                                                          |                          | 75% Load 0.840                                               |                         |                      |          |          |
| Service Factor                                 | 1.15                                                                       |                          | 100% Load 0.890                                              |                         |                      |          |          |
| Mounting                                       | B3                                                                         |                          | Speed at Full Load                                           | 3570 r.p.m              |                      |          |          |
| Bearing                                        | Type                                                                       | Anti-Friction            | Torque                                                       |                         |                      |          |          |
|                                                | DE/N-DE                                                                    | 6316C3 / 6316C3-INS.     | Full Load 1030.10 lb.ft                                      |                         |                      |          |          |
|                                                | Lubricant                                                                  | Grease(Polyrex-EM)       | Locked-rotor** 150 %                                         |                         |                      |          |          |
| External Thrust                                | Not applicable                                                             |                          | Breakdown** 250 %                                            |                         |                      |          |          |
| Coupling Method                                | <input checked="" type="checkbox"/> Direct <input type="checkbox"/> V-belt |                          | Moment of Inertia (J)                                        |                         |                      |          |          |
| Shaft Extension                                | Single                                                                     |                          | Load(Max.) 513.845 lb.ft2                                    |                         |                      |          |          |
| Terminal                                       | Main                                                                       | Steel                    | Motor 121.840 lb.ft2                                         |                         |                      |          |          |
| Box                                            | Aux.                                                                       | Yes                      | Sound Pressure Level (No-load & mean value at 1m from motor) |                         |                      |          |          |
|                                                | Location                                                                   | Refer to Outline Drawing | 89 dB(A)                                                     |                         |                      |          |          |
| Application                                    |                                                                            |                          | Vibration 3.8 mm/sec (peak)                                  |                         |                      |          |          |
| Area classification                            | Hazardous                                                                  |                          | Permissible number of Cold 2 times                           |                         |                      |          |          |
| Type of Ex-Protection                          | Class I, Division 2                                                        |                          | consecutive starts Hot 1 time                                |                         |                      |          |          |
| Applicable Standard                            | NEMA MG1, CSA C390                                                         |                          | Paint                                                        | Munsell No.             | 4.0PB5.4/5.5(VL-451) |          |          |
| <b>ACCESSORIES</b>                             |                                                                            |                          | <b>SUBMITTAL DRAWING</b>                                     |                         |                      |          |          |
| *. B.T.D.(Pt 100 Ω at 0°C,Single) : 2EA/Motor  |                                                                            |                          | Outline Dimension Drawing \ Motor Weight(Approx.)            |                         |                      |          |          |
| *. W.T.D.(Pt 100 Ω at 0°C) : 2EA/Ph.           |                                                                            |                          | B3 LM-T5812B3C7001 6730 lb.                                  |                         |                      |          |          |
| *. Space Heater : 1EA/Motor                    |                                                                            |                          |                                                              |                         |                      |          |          |
|                                                |                                                                            |                          |                                                              |                         |                      |          |          |
|                                                |                                                                            |                          |                                                              |                         |                      |          |          |
|                                                |                                                                            |                          |                                                              |                         |                      |          |          |
|                                                |                                                                            |                          | <b>REMARK</b>                                                |                         |                      |          |          |
|                                                |                                                                            |                          | 1. Premium efficiency according to NEMA MG1                  |                         |                      |          |          |
|                                                |                                                                            |                          | 2. Inverter Duty @ 1.0 Service Factor & F Temperature rise   |                         |                      |          |          |
|                                                |                                                                            |                          | -. 10:1 VT                                                   |                         |                      |          |          |
|                                                |                                                                            |                          | -. 2:1 CT                                                    |                         |                      |          |          |
|                                                |                                                                            |                          | 3. NDE side : Insulated bearing                              |                         |                      |          |          |
|                                                |                                                                            |                          | 4. CSA Certification                                         |                         |                      |          |          |
|                                                |                                                                            |                          | -. Class I, Division 2, Group A, B, C & D                    |                         |                      |          |          |
|                                                |                                                                            |                          | 5. Shaft material : AISI4140                                 |                         |                      |          |          |
|                                                |                                                                            |                          | 6. Uni-directional CCW viewed from drive end.                |                         |                      |          |          |
|                                                |                                                                            |                          | 7. Temp. code : T3A(180°C) at sine wave                      |                         |                      |          |          |
| <b>SPARE PARTS</b>                             |                                                                            |                          | Date                                                         | DSND                    | CHKD                 | CHKD     | APPD     |
| 1. Spare Axial Fan (C.W Direction)             |                                                                            |                          | 2025-07-22                                                   | 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.

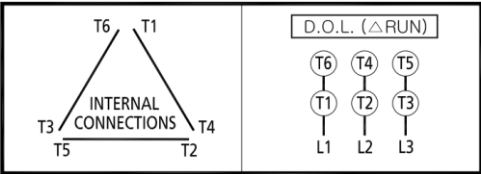
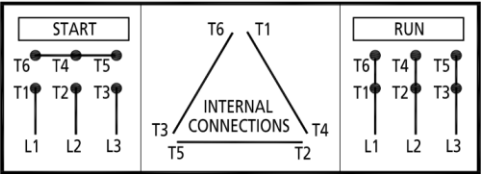
\*\* Data is based on rated voltage & frequency and is expressed as a percentage of full-load value.

MAIN NAMEPLATE

4.72

|                                     |  |                                                                                     |  |                                                                                     |  |
|-------------------------------------|--|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|--|
| <b>CROWN TRITON</b>                 |  |   |  |  |  |
| Premium Efficiency AC 3 Phase Motor |  |                                                                                     |  |                                                                                     |  |
| 700HP 2P 460V                       |  | Cat. No. HSDE700-36-5812S-IBBRSRSHSP                                                |  |                                                                                     |  |
| Model LATER                         |  | INS. Class F                                                                        |  | Amps 768.4A                                                                         |  |
| Type HNE6                           |  | Duty CONT                                                                           |  | Code G Amb. 40°C Hertz 60Hz                                                         |  |
| Frame 5812S                         |  | Encl. TEFC                                                                          |  | S.F. 1.15 RPM 3570 NEMA Nom. Eff. 95.8%                                             |  |
| Bearing                             |  | Drive 6316C3                                                                        |  | S.F.1.00 (2:1 C.T., 10:1 V.T., NEMA-MG1 Part31) 3/4 Eff. 94.8%                      |  |
|                                     |  | Opp. 6316C3-INS.                                                                    |  | NEMA Design B Torque                                                                |  |
| Usable at                           |  | 50Hz 535HP 380V 720.9A 2970rpm S.F.: 1.15 Eff.: 95.8% Code: H                       |  |                                                                                     |  |
|                                     |  | 50Hz 535HP 400/415V 692.7/675.4A 2972/2975rpm S.F.: 1.15 Eff.: 95.8/95.8% Code: J/J |  |                                                                                     |  |
| CSA Certified for                   |  | CLASS I, Div. 2, Gr. A, B, C & D                                                    |  | Temp. Code (sine wave)                                                              |  |
| No. -                               |  | Date -                                                                              |  | Frame 580FR                                                                         |  |
| 4M-136358                           |  | Made in Korea H1                                                                    |  | Maximum Amb. 50°C T3A (180°C)                                                       |  |
|                                     |  |                                                                                     |  | Weight 6730 lb                                                                      |  |

WIRING DIAGRAM

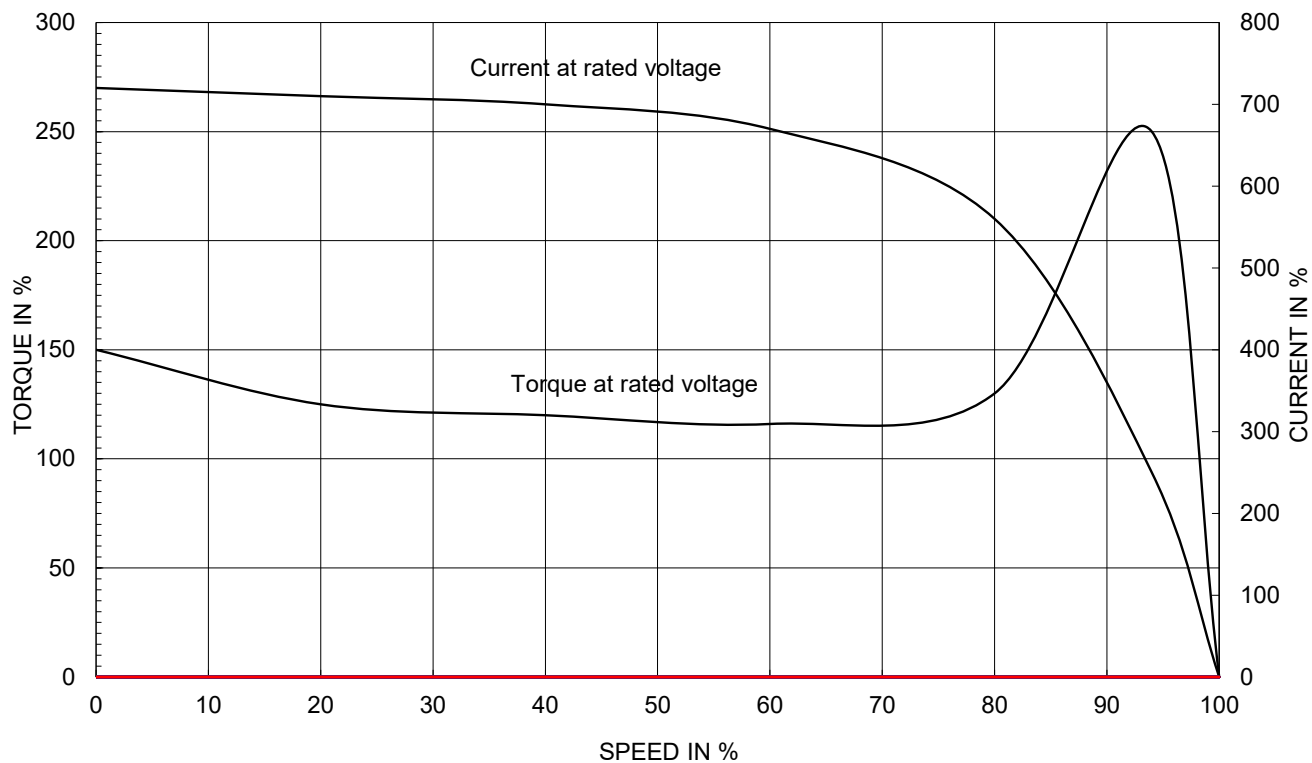
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>D.O.L<br/>(INVERTER &amp; SOFT STARTER)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>WYE-DELTA<br/>(Y-D)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|  <b>WARNING</b><br>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.<br><br>KEEP FINGERS AND FOREIGN OBJECTS AWAY FROM OPENINGS AND ROTATING PARTS DISCONNECT ALL POWER SOURCES BEFORE TOUCHING INTERNAL PARTS TO AVOID ELECTRICAL SHOCK.<br>4M-129326 |  <b>WARNING</b><br>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.<br><br>KEEP FINGERS AND FOREIGN OBJECTS AWAY FROM OPENINGS AND ROTATING PARTS DISCONNECT ALL POWER SOURCES BEFORE TOUCHING INTERNAL PARTS TO AVOID ELECTRICAL SHOCK.<br>4M-128852 |

|                                                                                     |         |          |            |                            |                                                 |                |
|-------------------------------------------------------------------------------------|---------|----------|------------|----------------------------|-------------------------------------------------|----------------|
| APPD BY                                                                             | S.Y.KIM | UNIT     | INCH       | SUBJECT                    | CSA Class I, Division2 Severe Duty (HSDE ,5812) | DWG SIZE       |
| CHKD BY                                                                             | I.K.KIM | SCALE    | NONE       |                            |                                                 | A4 ( 1:1 )     |
| CHKD BY                                                                             | R.G.KIM | PROJEC'N | 3rd Angle  | TITLE<br>NAMEPLATE DRAWING |                                                 |                |
| DSND BY                                                                             | S.H.LEE | DATE     | 2024.06.07 | REF. NO                    | 4M-136358 / 4M-129326                           | Sheet No. of   |
|  |         |          |            | DWG NO                     | NP-HSDE700-36-5812S-IBBRSRSHSP                  | Revision No. 0 |

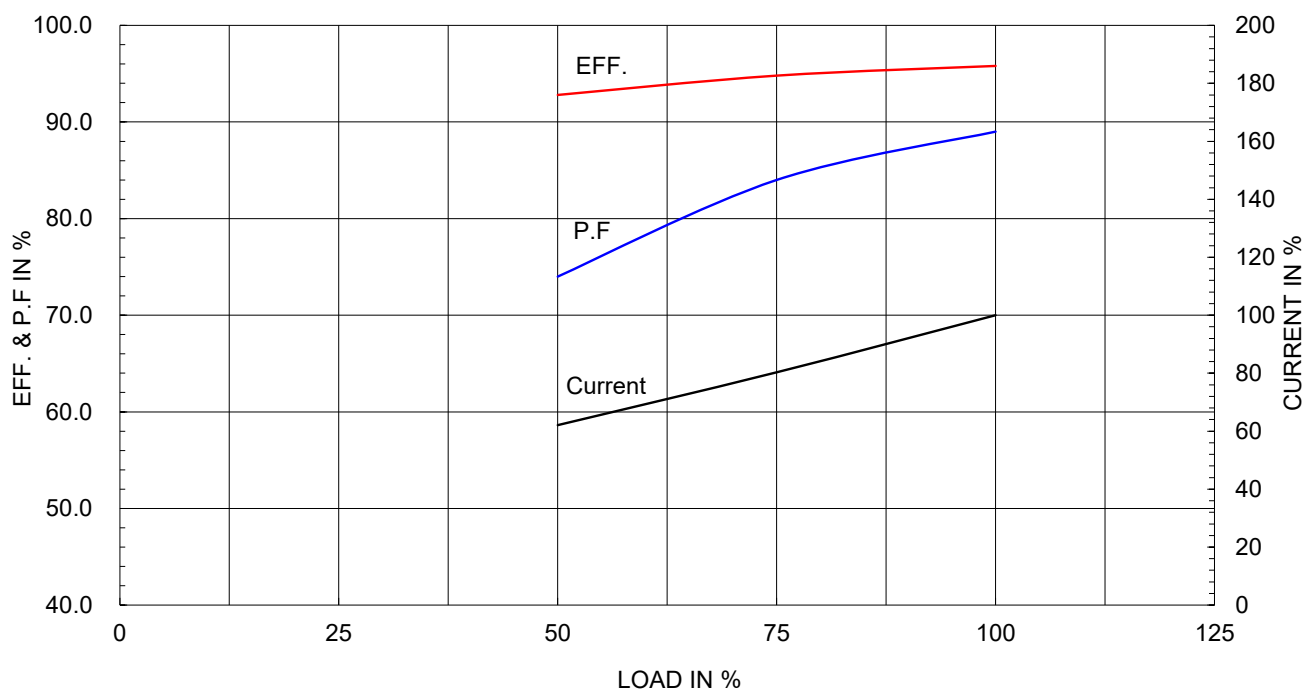
|                               |         |        |
|-------------------------------|---------|--------|
| Type :                        | HNE6    |        |
| Full Load Torque :            | 1030.10 | lb.ft  |
| Load moment of Inertia (J) :  | 513.845 | lb.ft2 |
| Motor moment of Inertia (J) : | 121.840 | lb.ft2 |

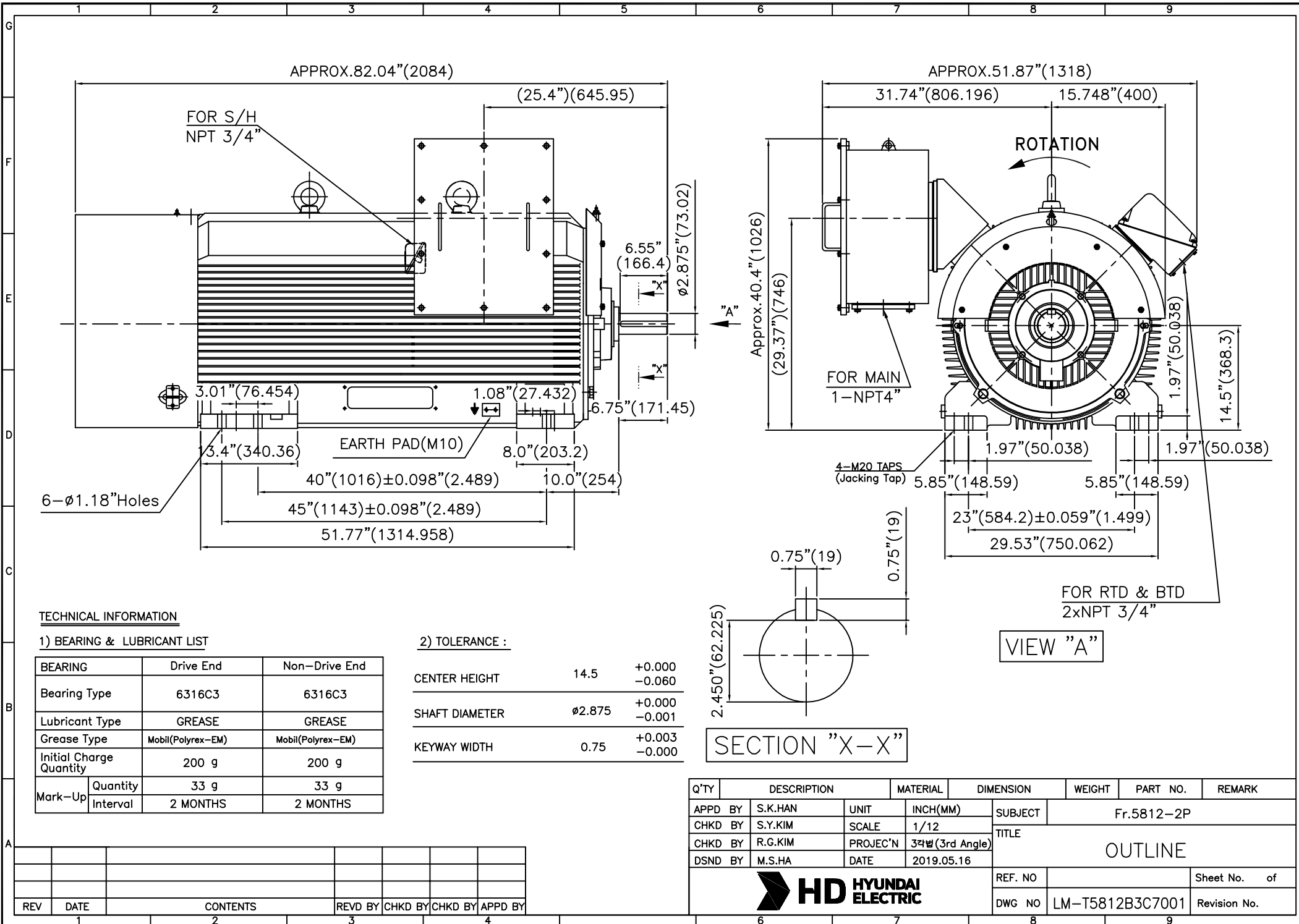
|                      |        |          |         |
|----------------------|--------|----------|---------|
| 522kW                | 700HP  | 2 P      | 60 Hz   |
| Speed at Full Load : |        | 3570 RPM |         |
| Rated Voltage        | 575V   | 460V     | 230V    |
| Full Load Current    | 614.7A | 768.4A   | 1536.8A |

SPEED VS TORQUE & CURRENT CURVE



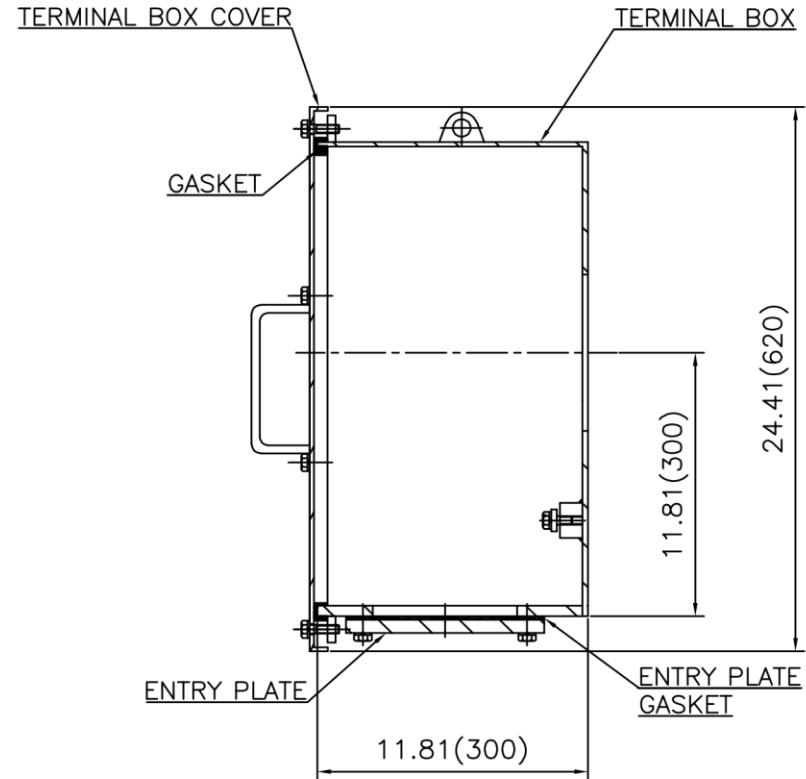
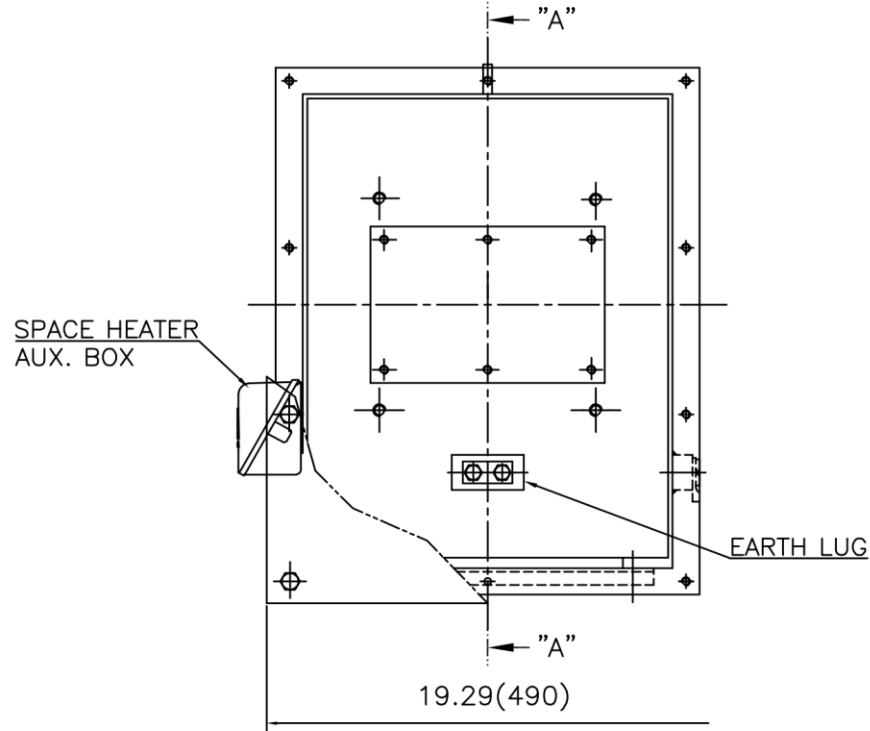
OUTPUT VS EFF., P.F & CURRENT CURVE





# Cls. I&II, Div. 2

## IEEE 841



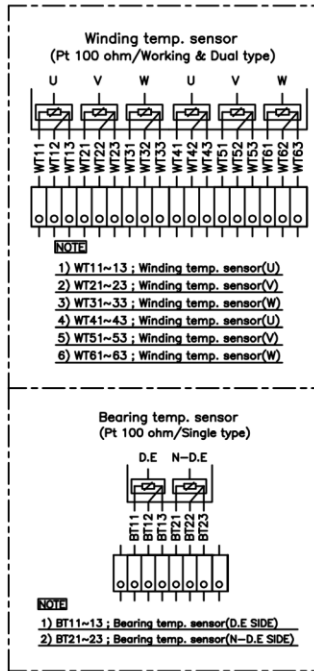
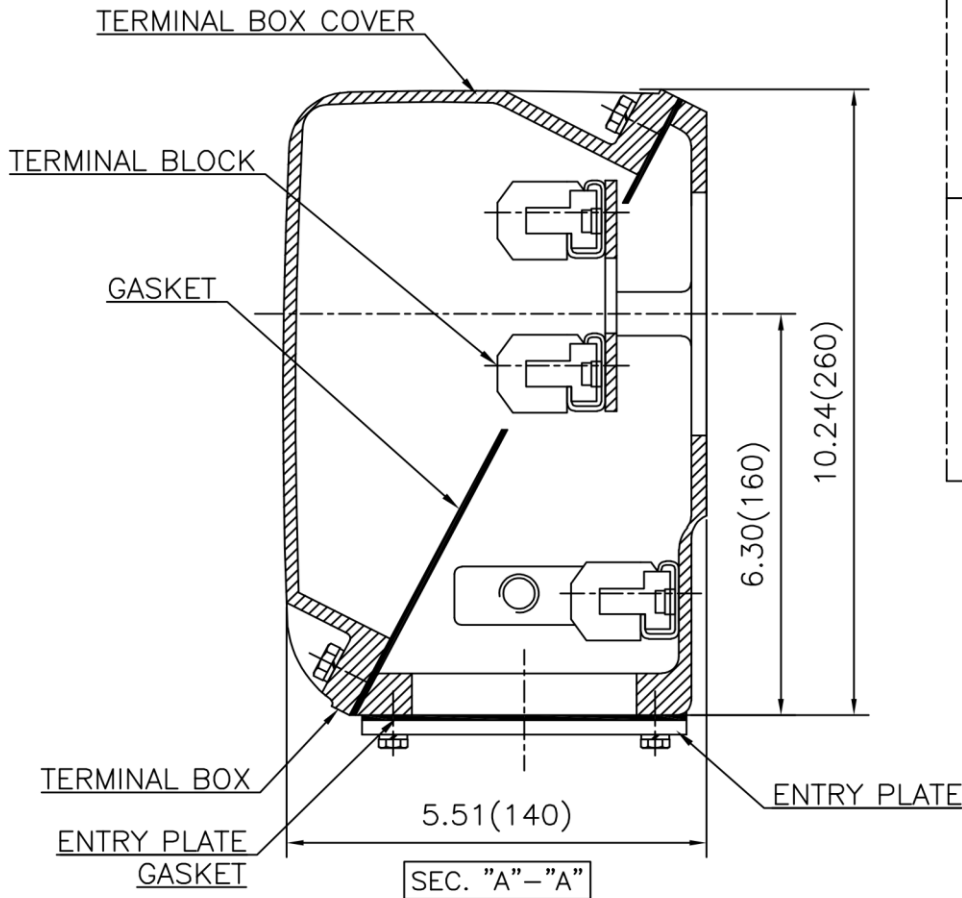
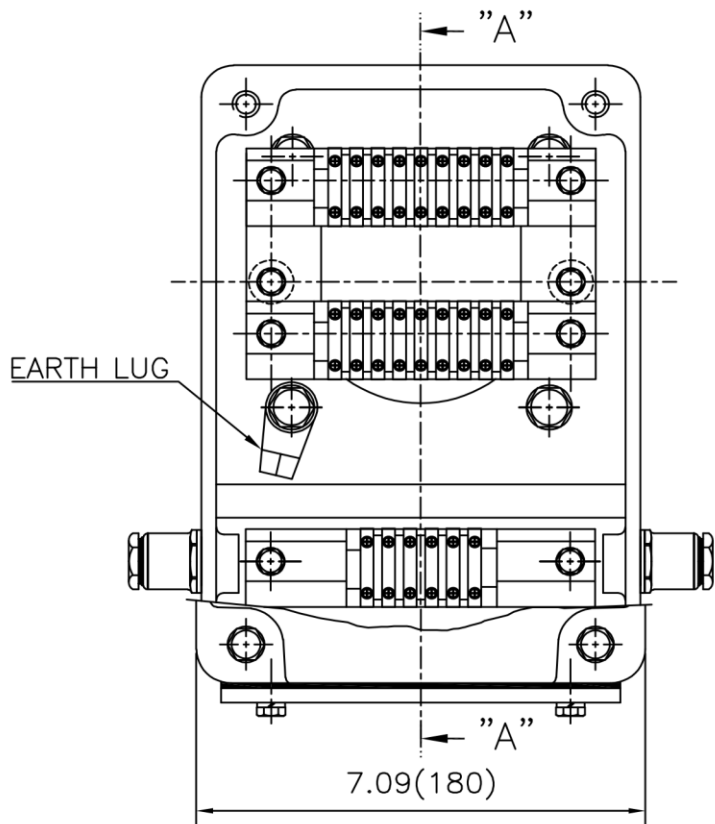
SEC. "A" - "A"

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

|         |         |          |            |         |                         |                |
|---------|---------|----------|------------|---------|-------------------------|----------------|
| APPD BY | S.Y.KIM | UNIT     | inch(mm)   | SUBJECT | FR.580 (STEEL)          | DWG SIZE       |
| CHKD BY |         | SCALE    | 1/6        | TITLE   | MAIN TERMINAL BOX ASS'Y | A3 (1:6)       |
| CHKD BY | R.G.KIM | PROJEC'N | 3rd Angle  | REF. NO |                         | Sheet No. of   |
| DSND BY | 내수위     | DATE     | 2023-10-25 | DWG NO  | 3M-248512               | Revision No. 0 |



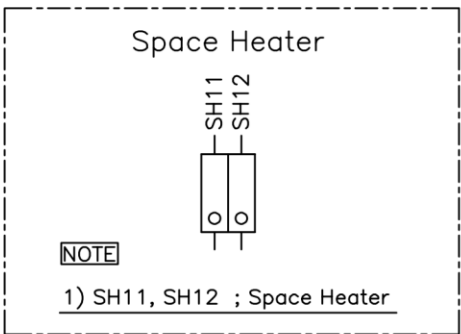
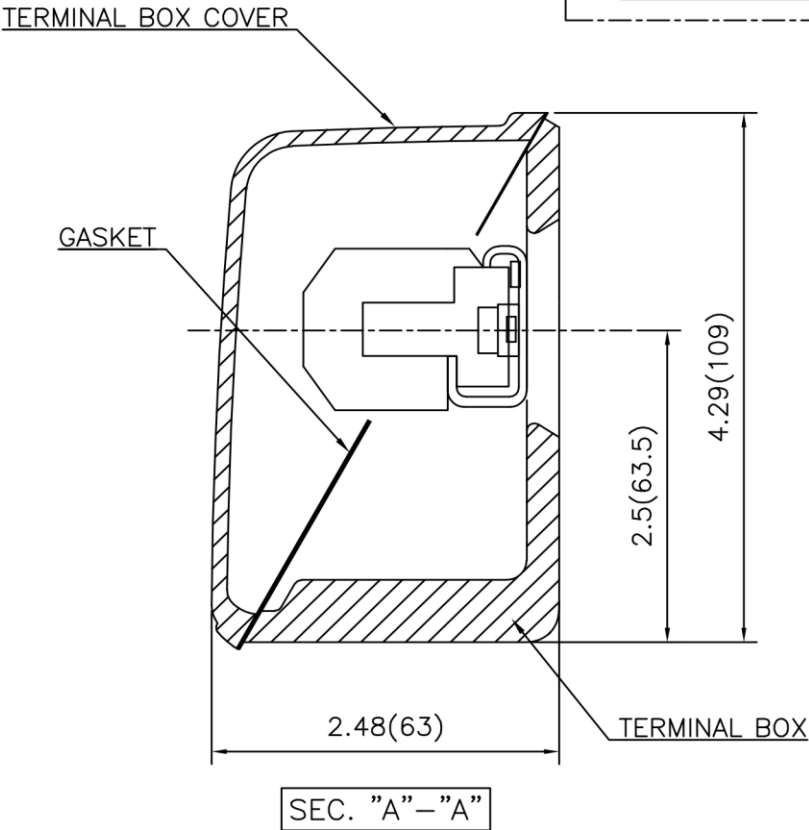
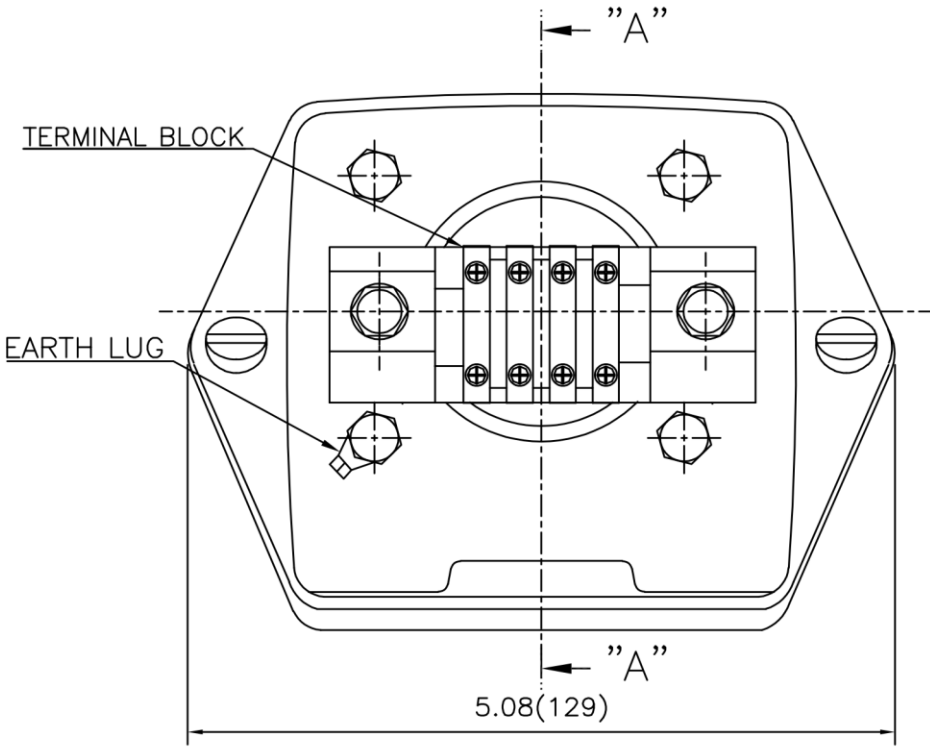
# Cls. I&II, Div. 2 IEEE 841



|         |         |          |            |                         |                    |                |
|---------|---------|----------|------------|-------------------------|--------------------|----------------|
| APPD BY | S.Y.KIM | UNIT     | inch(mm)   | SUBJECT                 | FR.360 (CAST IRON) | DWG SIZE       |
| CHKD BY |         | SCALE    | 1/1        | TITLE                   |                    | A3 (1:2.2)     |
| CHKD BY | R.G.KIM | PROJEC'N | 3rd Angle  | AUX. TERMINAL BOX ASS'Y |                    |                |
| DSND BY | 배승희     | DATE     | 2024-01-18 | REF. NO                 |                    | Sheet No. of   |
|         |         |          |            | DWG NO                  | 3M-165277          | 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<br>SUB. TERMINAL BOX ASS'Y |                    |                |
| CHKD BY | R.G.KIM | PROJEC'N | 3rd Angle  |                                  |                    |                |
| DSND BY | 배승희     | DATE     | 2024-01-18 | REF. NO                          |                    | Sheet No. of   |
|         |         |          |            | DWG NO                           | 3M-165278          | Revision No. 0 |
|         |         |          |            |                                  |                    |                |