

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.                                    | HES1.5-12-182TC                                                            | Item No.                 |                                                                                                          |                         | Rev. No.             | [      ] |          |
| Project Name                                   |                                                                            | Project No.              |                                                                                                          |                         | Quantity             | sets     |          |
| <b>GENERAL SPECIFICATION</b>                   |                                                                            |                          |                                                                                                          | <b>PERFORMANCE DATA</b> |                      |          |          |
| Frame Size                                     | 182TC                                                                      |                          | Rated Output                                                                                             | 1.1 kW                  |                      | 1.5 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               | 2.07 A               | 2.59 A   | 5.17 A   |
| Insulation Class                               | F                                                                          |                          |                                                                                                          | Locked-rotor**          | 770 %                | 770 %    | 770 %    |
| Temp. Rise at full load (by resistance method) |                                                                            |                          | Efficiency                                                                                               |                         |                      |          |          |
| at 1.0 S.F                                     |                                                                            |                          | 80 deg. C                                                                                                |                         |                      |          |          |
| Motor Location                                 | <input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor           |                          | 50% Load                                                                                                 |                         | 84.5 %               |          |          |
| Altitude                                       | Less than 1,000 meter                                                      |                          | 75% Load                                                                                                 |                         | 86.5 %               |          |          |
| Relative Humidity                              | Less than 80 %                                                             |                          | 100% Load                                                                                                |                         | 87.5 %               |          |          |
| Ambient Temp.                                  | 40 deg. C (Max.)                                                           |                          | Power Factor(p.u)                                                                                        |                         |                      |          |          |
| Duty Type                                      | Continuous ( S1 )                                                          |                          | 50% Load                                                                                                 |                         | 0.460                |          |          |
| Service Factor                                 | 1.15                                                                       |                          | 75% Load                                                                                                 |                         | 0.560                |          |          |
| Mounting                                       | B35                                                                        |                          | 100% Load                                                                                                |                         | 0.610                |          |          |
| Bearing                                        | Type                                                                       | Anti-Friction            | Speed at Full Load                                                                                       |                         | 1175 r.p.m           |          |          |
|                                                | DE/N-DE                                                                    | 6206ZZC3 / 6206ZZC3      | Torque                                                                                                   |                         |                      |          |          |
|                                                | Lubricant                                                                  | Grease(Polyrex-EM)       | Full Load                                                                                                |                         | 6.60 lb.ft           |          |          |
| External Thrust                                | Not applicable                                                             |                          | Locked-rotor**                                                                                           |                         | 190 %                |          |          |
| Coupling Method                                | <input checked="" type="checkbox"/> Direct <input type="checkbox"/> V-belt |                          | Breakdown**                                                                                              |                         | 270 %                |          |          |
| Shaft Extension                                | Single                                                                     |                          | Moment of Inertia (J)                                                                                    |                         |                      |          |          |
| Terminal                                       | Main                                                                       | Cast Iron                | Load(Max.)                                                                                               |                         | 32.629 lb.ft2        |          |          |
| Box                                            | Aux.                                                                       | No                       | Motor                                                                                                    |                         | 0.593 lb.ft2         |          |          |
|                                                | Location                                                                   | Refer to Outline Drawing | Sound Pressure Level (No-load & mean value at 1m from motor)                                             |                         |                      |          |          |
| Application                                    |                                                                            |                          | 55 dB(A)                                                                                                 |                         |                      |          |          |
| Area classification                            | Hazardous                                                                  |                          | Vibration                                                                                                |                         | 3.8 mm/sec (peak)    |          |          |
| Type of Ex-Protection                          | Class I&II, Division 2                                                     |                          | Permissible number of consecutive starts                                                                 |                         | Cold                 | 3 times  |          |
| Applicable Standard                            | NEMA MG1, CSA C390                                                         |                          |                                                                                                          |                         | Hot                  | 2 times  |          |
|                                                |                                                                            |                          | Paint                                                                                                    | Munsell No.             | 4.0PB5.4/5.5(VL-451) |          |          |
| <b>ACCESSORIES</b>                             |                                                                            |                          | <b>SUBMITTAL DRAWING</b>                                                                                 |                         |                      |          |          |
|                                                |                                                                            |                          | Outline Dimension Drawing \ Motor Weight(Approx.)                                                        |                         |                      |          |          |
|                                                |                                                                            |                          | B35                                                                                                      |                         | LM-T2182C4PLV23      | 125 lb.  |          |
|                                                |                                                                            |                          |                                                                                                          |                         |                      |          |          |
|                                                |                                                                            |                          |                                                                                                          |                         |                      |          |          |
| <b>SPARE PARTS</b>                             |                                                                            |                          | <b>REMARK</b>                                                                                            |                         |                      |          |          |
|                                                |                                                                            |                          | 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. CSA Certification                                                                                     |                         |                      |          |          |
|                                                |                                                                            |                          | -. Class I, Division 2, Group A, B, C & D                                                                |                         |                      |          |          |
|                                                |                                                                            |                          | -. Class II, Division 2 Group E, F & G (Group E : up to 320Fr.)                                          |                         |                      |          |          |
|                                                |                                                                            |                          | 4. Service Factor 1.15 and Temperature rise B are applicable under the condition of sine wave power.     |                         |                      |          |          |
|                                                |                                                                            |                          | 5. Service Factor 1.25 is applicable to motors of 100HP or less with temperature rise F & Non-Hazardous. |                         |                      |          |          |
|                                                |                                                                            |                          | 6. Temp. code : T3C(160°C) at sine wave                                                                  |                         |                      |          |          |
|                                                |                                                                            |                          | Date                                                                                                     | DSND                    | CHKD                 | CHKD     | APPD     |
|                                                |                                                                            |                          | 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.

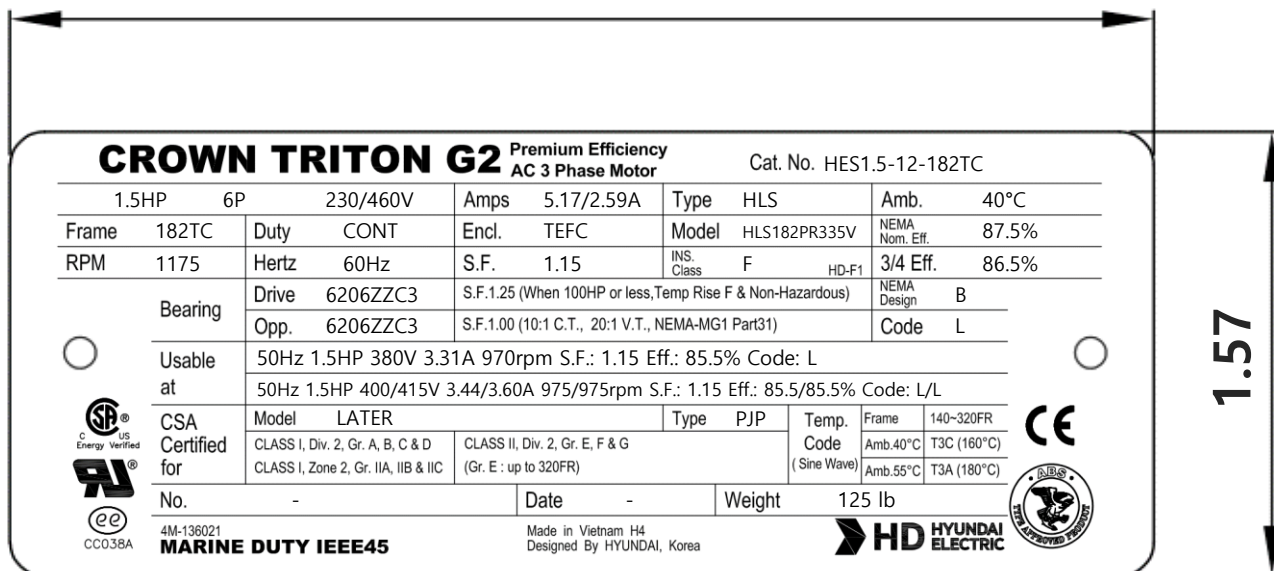
\* In case of Inverter-Fed Motor, performance data is based on sine wave tests. It may be different from test data of Inverter combined motor.

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

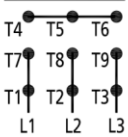
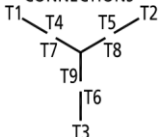
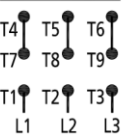
|     |      | 2        | 3       | 4       |         |         |
|-----|------|----------|---------|---------|---------|---------|
| REV | DATE | CONTENTS | REVD BY | CHKD BY | CHKD BY | APPD BY |
|     |      |          |         |         |         |         |
|     |      |          |         | 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

## ■ MAIN NAMEPLATE

3.94



## ■ WIRING DIAGRAM

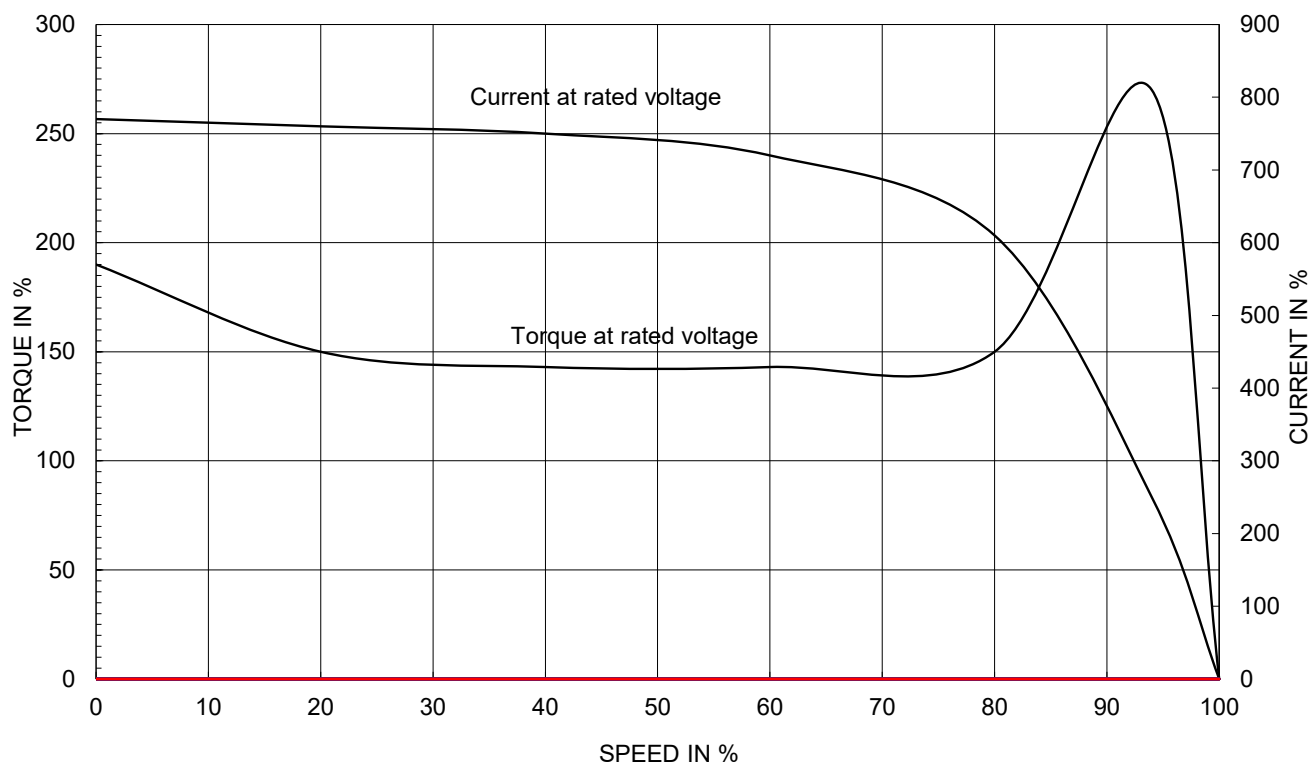
| <div data-bbox="264 1093 782 1171"> <div>D.O.L<br/>(INVERTER &amp; SOFT STARTER)</div> </div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <div data-bbox="1056 1093 1272 1171"> <div>WYE-DELTA<br/>(Y-D)</div> </div> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <div data-bbox="309 1207 724 1290">  <div>WARNING</div> </div> <div data-bbox="264 1312 782 1424"> <p>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.</p> </div> <div data-bbox="258 1429 782 1619"> <div> <div> <div>LOW VOLTAGE</div>  </div> <div> <div>INTERNAL CONNECTIONS</div>  </div> <div> <div>HIGH VOLTAGE</div>  </div> </div> <div data-bbox="264 1626 782 1693"> <p>KEEP FINGERS AND FOREIGN OBJECTS AWAY FROM OPENINGS AND ROTATING PARTS DISCONNECT ALL POWER SOURCES BEFORE TOUCHING INTERNAL PARTS TO AVOID ELECTRICAL SHOCK.</p> </div> <div data-bbox="699 1711 782 1729"> 4M-128845 </div> </div> | <div data-bbox="1107 1440 1208 1489"> N/A </div>                            |

|                                                                                     |         |          |            |         |                                                   |                                |    |
|-------------------------------------------------------------------------------------|---------|----------|------------|---------|---------------------------------------------------|--------------------------------|----|
| APPD BY                                                                             | S.Y.KIM | UNIT     | INCH       | SUBJECT | CSA Class I, Division2 Severe Duty (HES, 143-215) | DWG SIZE                       |    |
| CHKD BY                                                                             | I.K.KIM | SCALE    | NONE       |         |                                                   | A4 ( 1:1 )                     |    |
| CHKD BY                                                                             | R.G.KIM | PROJEC'N | 3rd Angle  |         |                                                   | TITLE<br><br>NAMEPLATE DRAWING |    |
| DSND BY                                                                             | S.H.LEE | DATE     | 2024.06.07 |         |                                                   |                                |    |
|  |         |          |            | REF. NO | 4M-136021 / 4M-128845                             | Sheet No.                      | of |
|                                                                                     |         |          |            | DWG NO  | NP-HES1.5-12-182TC                                | Revision No.                   | 0  |

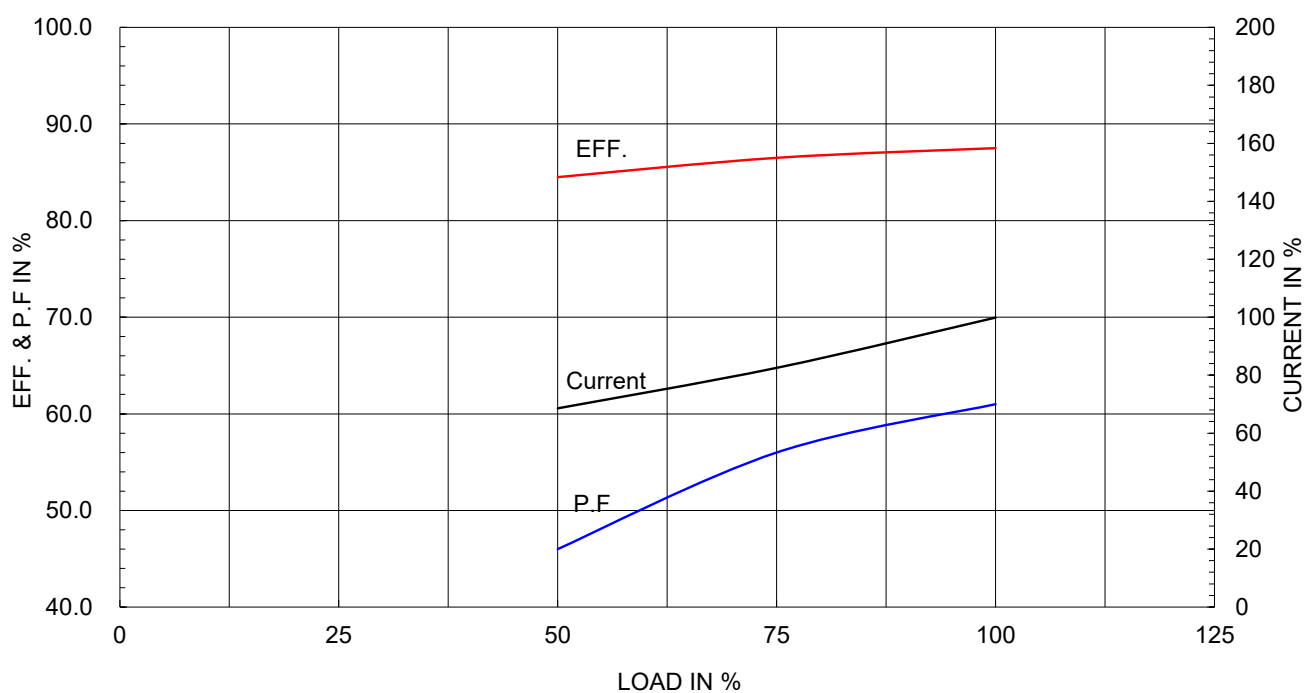
|                               |        |        |
|-------------------------------|--------|--------|
| Type :                        | PJP    |        |
| Full Load Torque :            | 6.60   | lb.ft  |
| Load moment of Inertia (J) :  | 32.629 | lb.ft2 |
| Motor moment of Inertia (J) : | 0.593  | lb.ft2 |

|                      |       |       |          |
|----------------------|-------|-------|----------|
| 1.1kW                | 1.5HP | 6 P   | 60 Hz    |
| Speed at Full Load : |       |       | 1175 RPM |
| Rated Voltage        | 575V  | 460V  | 230V     |
| Full Load Current    | 2.07A | 2.59A | 5.17A    |

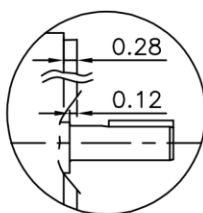
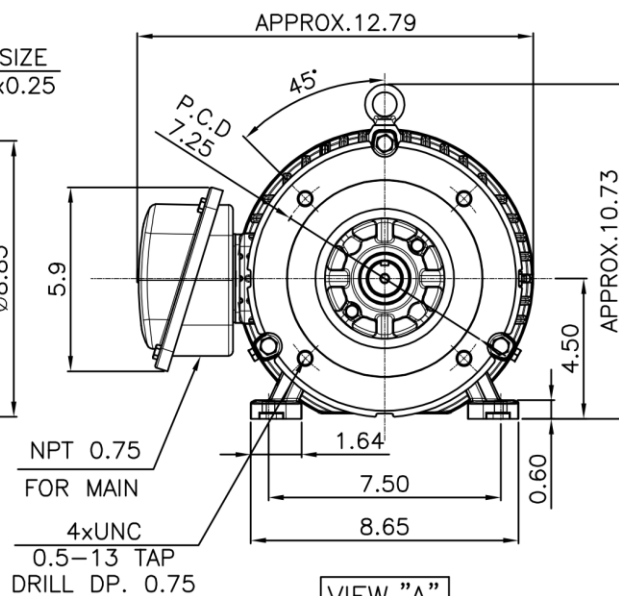
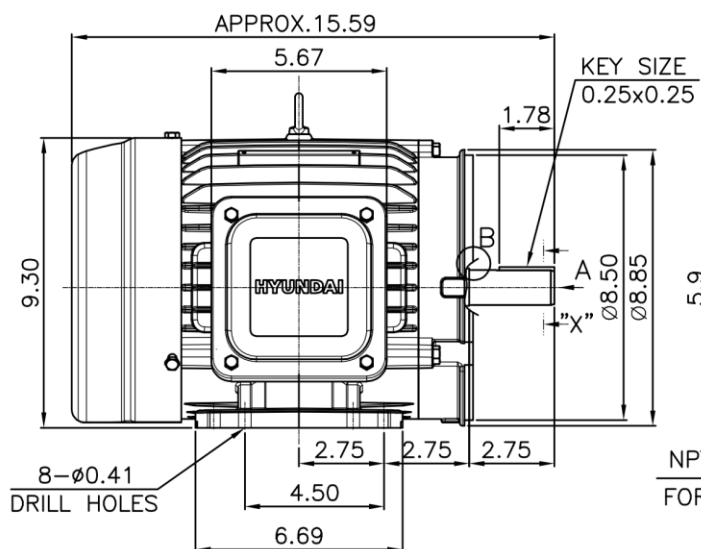
## SPEED VS TORQUE & CURRENT CURVE



## OUTPUT VS EFF., P.F & CURRENT CURVE



| 1    |       |     | 2    |          | 3 |         | 4       |         |         |
|------|-------|-----|------|----------|---|---------|---------|---------|---------|
| ▽    | 50S   | REV | DATE | CONTENTS |   | REVD BY | CHKD BY | CHKD BY | APPD BY |
| ▽▽   | 12.5S |     |      |          |   |         |         |         |         |
| ▽▽▽  | 3.2S  |     |      |          |   |         |         |         |         |
| ▽▽▽▽ | 0.4S  |     |      |          |   |         |         |         |         |

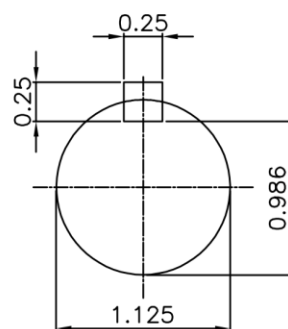


DETAIL - B

NOTE

[TOLERANCE]

1. CENTER HEIGHT : +0.00inch - 0.03inch
- 
2. SHAFT DIAMETER : +0.000inch - 0.0005inch
- 
3. KEYWAY DEPTH : +0.000inch - 0.015inch



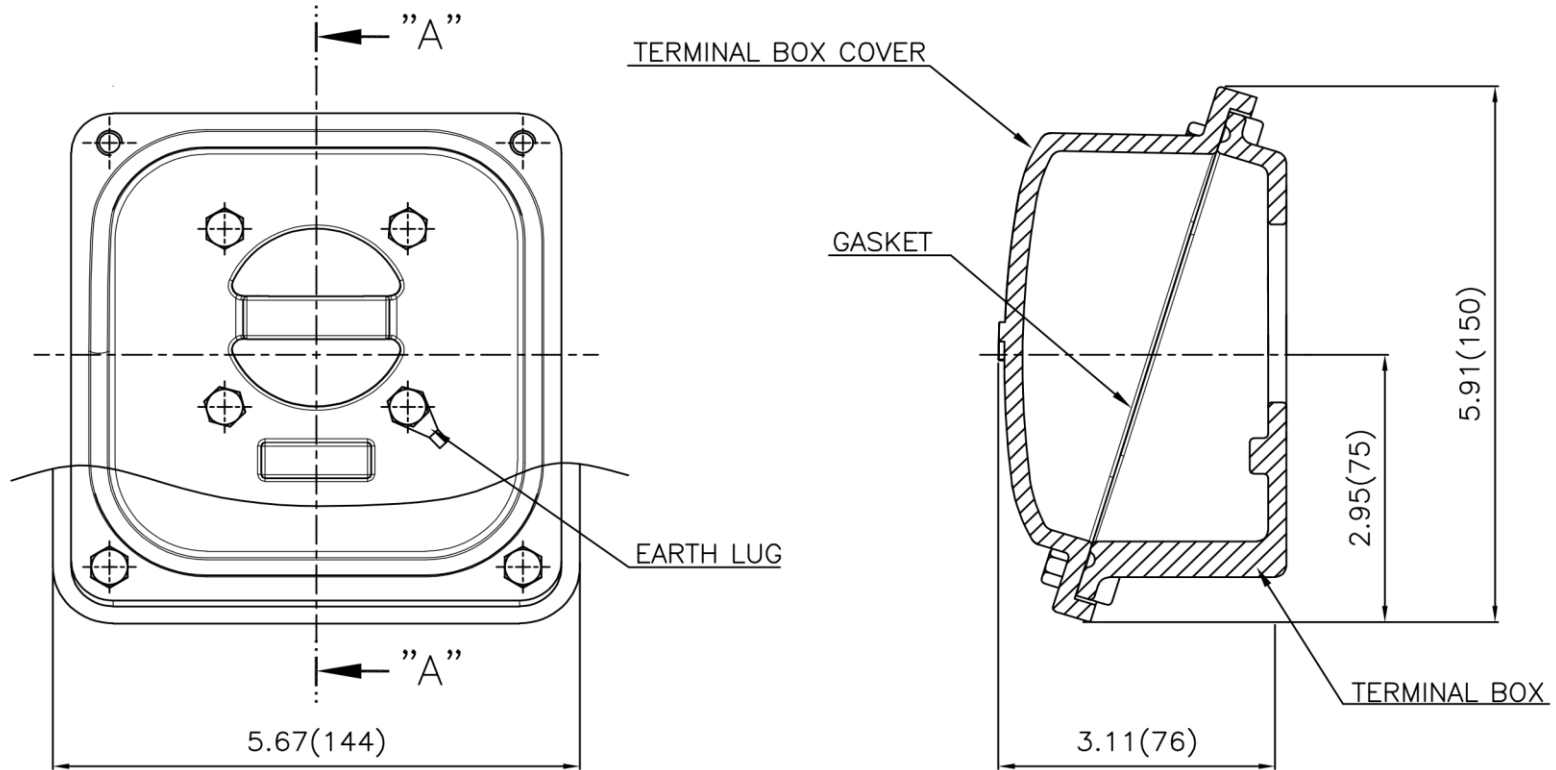
SECTION "X-X"

SCALE 5/6

|                                                                                     |         |          |            |                      |                 |                |
|-------------------------------------------------------------------------------------|---------|----------|------------|----------------------|-----------------|----------------|
| APPD BY                                                                             | S.Y.KIM | UNIT     | inch       | SUBJECT              | NAMA 182TC      | DWG SIZE       |
| CHKD BY                                                                             | R.G.KIM | SCALE    | 1/6        |                      |                 | A4 ( 16 )      |
| CHKD BY                                                                             |         | PROJEC'N | 3rd Angle  | TITLE<br><br>OUTLINE |                 |                |
| DSND BY                                                                             | 주유림     | DATE     | 2021-04-29 |                      |                 |                |
|  |         |          |            | REF. NO              | .               | Sheet No. of   |
|                                                                                     |         |          |            | DWG NO               | LM-T2182C4PLV23 | Revision No. 0 |

# Cls. I&II, Div. 2

## IEEE 841



|      |       |
|------|-------|
| ▽    | 50S   |
| ▽▽   | 12.5S |
| ▽▽▽  | 3.2S  |
| ▽▽▽▽ | 0.4S  |

| REV | DATE | CONTENTS | REV'D BY | CHK'D BY | CHK'D BY | APP'D BY | 일반기공표                     | 일반계공표 |
|-----|------|----------|----------|----------|----------|----------|---------------------------|-------|
| 1   |      |          |          |          |          |          | 1-4 ±0.1 6-30 ±0.5        |       |
|     |      |          |          |          |          |          | 4-18 ±0.2 30-120 ±0.8     |       |
|     |      |          |          |          |          |          | 18-63 ±0.3 120-315 ±1.2   |       |
|     |      |          |          |          |          |          | 63-250 ±0.5 315-1000 ±2.0 |       |
|     |      |          |          |          |          |          | 250- ±0.8 1000- ±3.0      |       |

| Q'TY    | DESCRIPTION | MATERIAL | DIMENSION  | WEIGHT  | PART NO.                | REMARK         | NO. |
|---------|-------------|----------|------------|---------|-------------------------|----------------|-----|
| APPD BY | S.Y.KIM     | UNIT     | inch(mm)   | SUBJECT | FR. 140-180 (CAST IRON) | DWG SIZE       |     |
| CHKD BY |             | SCALE    | 1/1.5      | TITLE   | TERMINAL BOX ASS'Y      | A3 (1:1.5)     |     |
| CHKD BY | R.G.KIM     | PROJEC'N | 3rd Angle  | REF. NO |                         | Sheet No. of   |     |
| DSND BY | 네슬피         | DATE     | 2023-10-19 | DWG NO  | 3M-248456               | Revision No. 0 |     |

