

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

## IEEE841 TYPE

|              |                  |             |                                    |
|--------------|------------------|-------------|------------------------------------|
| Catalog No.  | IEEE2-36-145TCRD | Item No.    | Rev. No. [      ]                  |
| Project Name |                  | Project No. | Quantity                      sets |

| GENERAL SPECIFICATION   |  | PERFORMANCE DATA   |                                  |                       |          |                   |  |
|---|--|--|----------------------------------|-----------------------|----------|-------------------|--|
| Frame Size  | 145TC  | Rated Output   | 1.5 kW                      2 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                        | 2.07 A                | 2.59 A   |                   |  |
| Insulation Class  | F  |  | Locked-rotor**                   | 950 %                 | 950 %    | 950 %             |  |
| Temp. Rise at full load (by resistance method)  |  | Efficiency   |                                  |                       |          |                   |  |
| at 1.0 S.F  | 80 deg. C  | 50% Load   |                                  | 82.5 %                |          |                   |  |
| Motor Location  | <input type="checkbox"/> Indoor <input type="checkbox"/> Outdoor           | 75% Load   |                                  | 84.5 %                |          |                   |  |
| Altitude  | Less than 1,000 meter  | 100% Load  |                                  | 85.5 %                |          |                   |  |
| Relative Humidity   | Less than 80 %   | Power Factor(p.u)  |                                  |                       |          |                   |  |
| Ambient Temp.   | 40 deg. C (Max.)   | 50% Load   |                                  | 0.700                 |          |                   |  |
| Duty Type   | Continuous ( S1 )  | 75% Load   |                                  | 0.800                 |          |                   |  |
| Service Factor  | 1.15   | 100% Load  |                                  | 0.850                 |          |                   |  |
| Mounting  | B5   | Speed at Full Load   |                                  | 3480 r.p.m            |          |                   |  |
| Bearing   | Type   | Anti-Friction  |                                  |                       |          |                   |  |
|   | DE/N-DE  | 6205ZC3 / 6204ZC3  |                                  |                       |          |                   |  |
|   | Lubricant  | Grease(Polyrex-EM)   |                                  |                       |          |                   |  |
| External Thrust   | Not applicable   |  |                                  |                       |          |                   |  |
| Coupling Method   | <input checked="" type="checkbox"/> Direct <input type="checkbox"/> V-belt | Torque   |                                  |                       |          |                   |  |
| Shaft Extension   | Single   | Full Load  |                                  | 3.0 lb.ft             |          |                   |  |
| Terminal Box  | Main   | Locked-rotor**   |                                  | 180 %                 |          |                   |  |
|   | Aux.   | Breakdown**  |                                  | 250 %                 |          |                   |  |
| Box Location  | Refer to Outline Drawing   | Moment of Inertia (J)  |                                  |                       |          |                   |  |
| Application   |  | Load(Max.)   |                                  | 2.729 lb.ft2          |          |                   |  |
| Area classification   | Hazardous  | Motor  |                                  | 0.042 lb.ft2          |          |                   |  |
| Type of Ex-Protection   | Class I&II, Division 2   | Sound Pressure Level (No-load & mean value at 1m from motor)   |                                  |                       |          |                   |  |
| Applicable Standard   | IEEE841, NEMA MG1, CSA C390  |  |                                  | 69 dB(A)              |          |                   |  |
| ACCESSORIES   |  | Vibration  |                                  |                       |          | 3.8 mm/sec (peak) |  |
|   |  | Permissible number of consecutive starts   |                                  | Cold                  | 3 times  |                   |  |
|   |  |  |                                  | Hot                   | 2 times  |                   |  |
|   |  | Paint  | Munsell No.                      | 7.5BG6/1.5            |          |                   |  |
|   |  |  |                                  |                       |          |                   |  |
| SPARE PARTS   |  | SUBMITTAL DRAWING  |                                  |                       |          |                   |  |
|   |  | Outline Dimension Drawing  |                                  | Motor Weight(Approx.) |          |                   |  |
|   |  | B5   | LM-II145C5PL001                  | 55 lb.                |          |                   |  |
|   |  |  |                                  |                       |          |                   |  |
|   |  |  |                                  |                       |          |                   |  |
| REMARK  |  | <ol style="list-style-type: none"> <li>1. Premium efficiency according to NEMA MG1</li> <li>2. Inverter Duty @ 1.0 Service Factor &amp; F Temperature rise               <ul style="list-style-type: none"> <li>- 10:1 VT (20:1 VT at 50% load)</li> <li>- 10:1 CT</li> <li>- CHP up to 1.5 times base speed, NEMA MG1 Part31</li> </ul> </li> <li>3. CSA Certification               <ul style="list-style-type: none"> <li>- Class I, Division 2, Group A, B, C &amp; D</li> <li>- Class II, Division 2 Group E, F &amp; G (Group E : up to 320Fr.)</li> </ul> </li> <li>4. Service Factor 1.15 and Temperature rise B are applicable under the condition of sine wave power.</li> <li>5. Service Factor 1.25 is applicable to motors of 100HP or less with temperature rise F &amp; Non-Hazardous.</li> </ol> |                                  |                       |          |                   |  |
|   |  | 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.  |  |  |                                  |                       |          |                   |  |

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

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| REV | DATE | CONTENTS | REVD BY |
|     |      |          |         |
|     |      |          |         |
|     |      |          |         |

4.02

1.81

**CROWN TRITON**  
Premium Efficiency AC 3 Phase Motor

|  |                                    |         |                              |   |             |               |             |
|--|------------------------------------|---------|------------------------------|---|-------------|---------------|-------------|
| 2HP  | 2P                                 | 460V    | Cat. No.                     | IEEE2-36-145TCRD                                |             |               |             |
| Model  | HLS145PL138                        |         | INS. Class                   | F   | HD-F1       | Amps 2.59     |             |
| Type   | HLS                                | Duty    | CONT                         | Code  | L           | Hertz 60Hz    |             |
| Frame  | 145TC                              | Encl.   | TEFC                         | RPM   | 3480        | Amb. 40°C     |             |
| <input type="checkbox"/>   | Drive                              | 6205ZC3 |                              | S.F.  | 1.15        | NEMA Design B |             |
|  | Opp.                               | 6204ZC3 |                              | S.F.1.00(10:1 C.T., 20:1 V.T., NEMA-MG1 Part31) |             |               |             |
| Usable at  |                                    |         |                              |   |             |               |             |
| 50Hz 1.5HP 380V 2.7A 2890rpm S.F.: 1.0 Eff.: 79.6% Code: L                     |                                    |         |                              |   |             |               |             |
| 50Hz 1.5HP 400/415V 2.6/2.6A 2900/2905rpm S.F.: 1.0 Eff.: 79.6/79.6% Code: L/L |                                    |         |                              |   |             |               |             |
| CSA Certified for  | Model                              | LATER   |                              | Type  | PJP         | Temp. Code    |             |
|  | CLASS I, Div 2, Gr A, B, C & D     |         | CLASS II, Div 2, Gr E, F & G |   | (sine wave) | Frame         | 140~320FR   |
|  | CLASS I, Zone 2, Gr IIA, IIB & IIC |         |                              |   |             | Amb.40°C      | T3C (160°C) |
|  |                                    |         |                              | Amb.55°C  | T3A (180°C) |               |             |
| No.  | -                                  |         | Date                         | -   |             | Weight 55 lb  |             |

**IEEE Std 841-2021**

NP249A7178RCP1

**MARINE DUTY IEEE45**

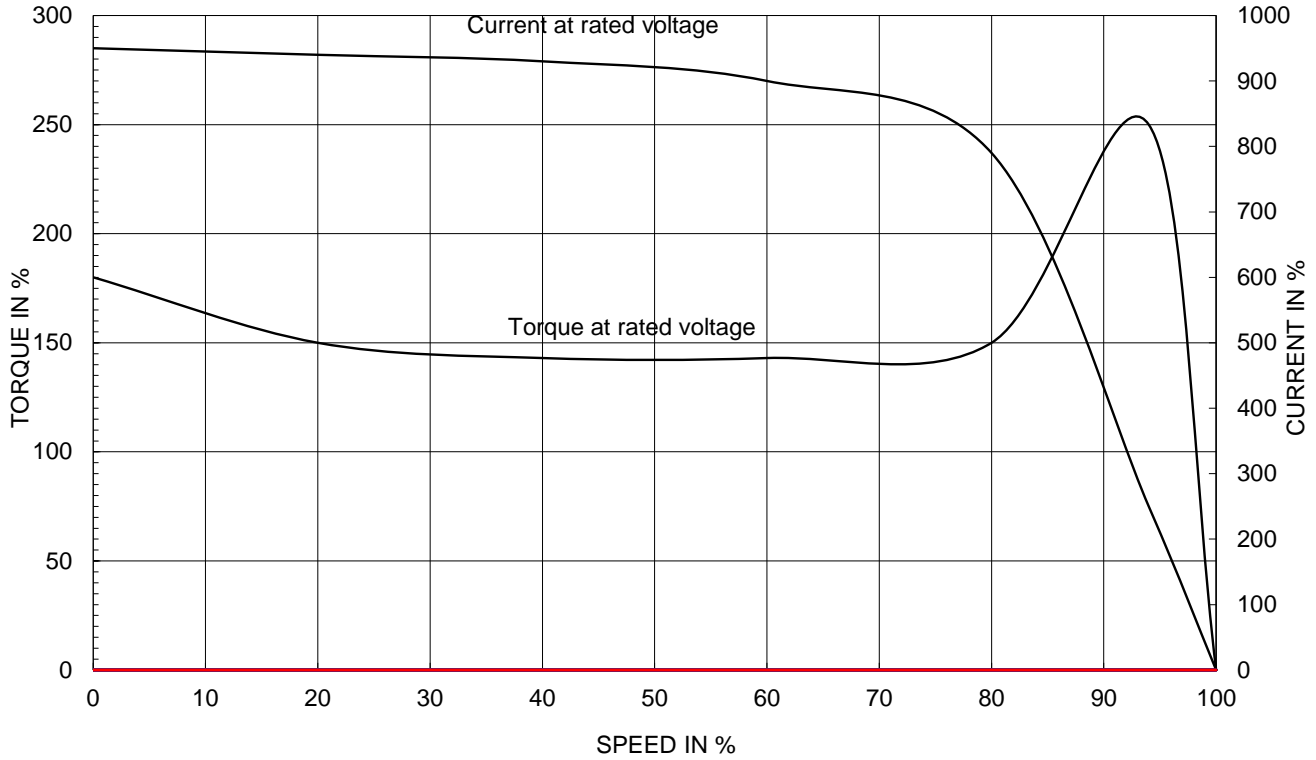
Made in Korea H3

|         |         |          |            |                   |                                     |                       |
|---------|---------|----------|------------|-------------------|-------------------------------------|-----------------------|
| APPD BY | S.Y.KIM | UNIT     | INCH       | SUBJECT           | CSA Class I, Division2 IEEE841 (HL) | DWG SIZE              |
| CHKD BY | I.K.KIM | SCALE    | NONE       |                   |                                     | A4 ( 1:1 )            |
| CHKD BY | R.G.KIM | PROJEC'N | 3rd Angle  | NAMEPLATE DRAWING |                                     |                       |
| DSND BY | S.H.LEE | DATE     | 2024.06.07 |                   |                                     |                       |
|         |         |          |            | REF. NO           | <b>NP249A7178R</b>                  | Sheet No. of          |
|         |         |          |            | DWG NO            | <b>NP-IEEE2-36-145TCRD</b>          | Revision No. <b>0</b> |

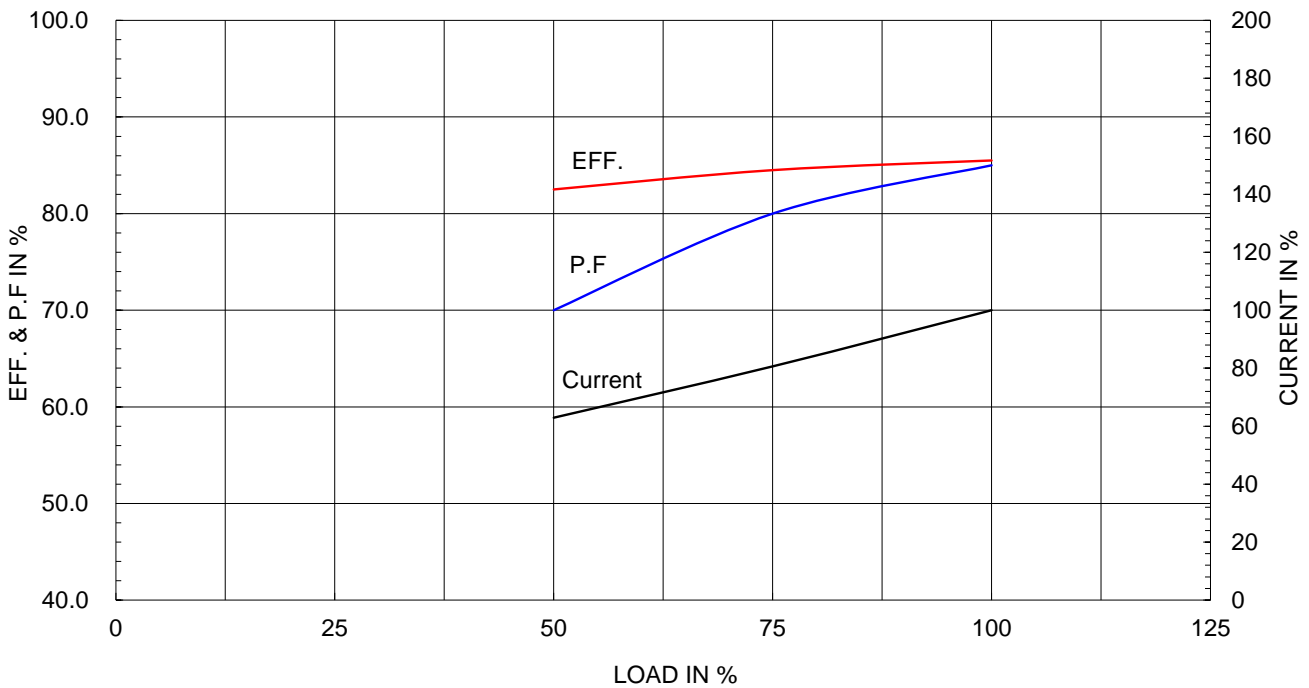
|                               |                          |
|-------------------------------|--------------------------|
| Type :                        | PJP                      |
| Full Load Torque :            | 3.0 lb.ft                |
| Load moment of Inertia (J) :  | 2.729 lb.ft <sup>2</sup> |
| Motor moment of Inertia (J) : | 0.042 lb.ft <sup>2</sup> |

|                      |      |           |
|----------------------|------|-----------|
| 1.5kW 2HP            | 2 P  | 60 Hz     |
| Speed at Full Load : |      | 3480 RPM  |
| Rated Voltage        | 575V | 460V 230V |
| Full Load Current    | 2.1A | 2.6A 5.2A |

SPEED VS TORQUE & CURRENT CURVE



OUTPUT VS EFF., P.F & CURRENT CURVE

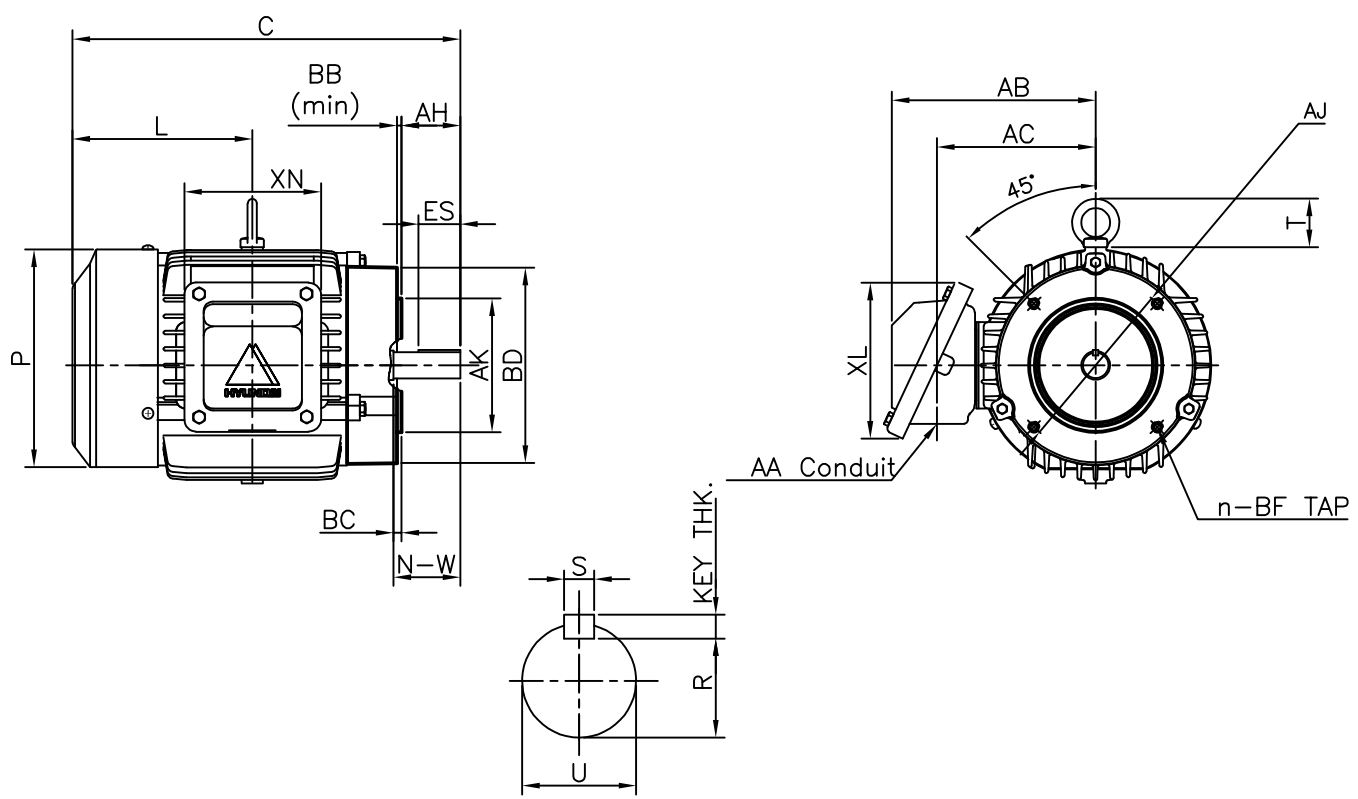


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| ▽    | 50S   | REV | DATE | CONTENTS | REVD BY | CHKD BY | CHKD BY | APPD BY |
| ▽▽   | 12.5S |     |      |          |         |         |         |         |
| ▽▽▽  | 3.2S  |     |      |          |         |         |         |         |
| ▽▽▽▽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

**IEEE841**



DIMENSIONS

Unit : inch

| F L A N G E |      |      |      |       |        |   | C O N D U I T   B O X |      |      |      |      | A P P R O X .<br>W G T . ( L B ) |
|-------------|------|------|------|-------|--------|---|-----------------------|------|------|------|------|----------------------------------|
| AJ          | AK   | BD   | BB   | BC    | BF     | n | AA                    | AB   | AC   | XL   | XN   |                                  |
| 5.875       | 4.50 | 6.57 | 0.16 | +0.12 | 3/8-16 | 4 | 0.75                  | 7.02 | 5.34 | 5.26 | 4.61 | 55                               |

| O V E R A L L |      |      |      | S H A F T |      |      |             |      |       | K E Y<br>T H K . | B E A R I N G  |                        |
|---------------|------|------|------|-----------|------|------|-------------|------|-------|------------------|----------------|------------------------|
| C             | L    | P    | T    | U         | N-W  | A-H  | K E Y W A Y |      |       |                  | DRIVE<br>E N D | OPP.<br>DRIVE<br>E N D |
|               |      |      |      |           |      |      | R           | ES   | S     |                  |                |                        |
| 13.05         | 6.05 | 7.33 | 1.63 | 0.875     | 2.25 | 2.12 | 0.771       | 1.41 | 0.188 | 0.188            | 6205Z          | 6204Z                  |

**NOTE**

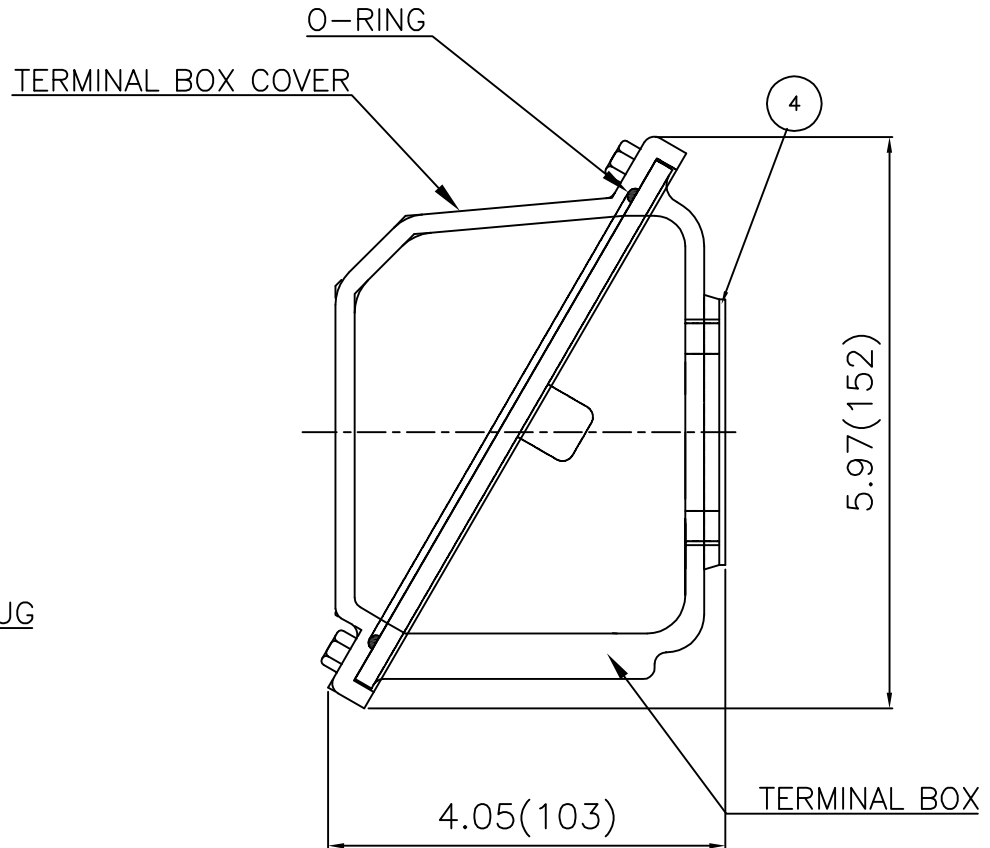
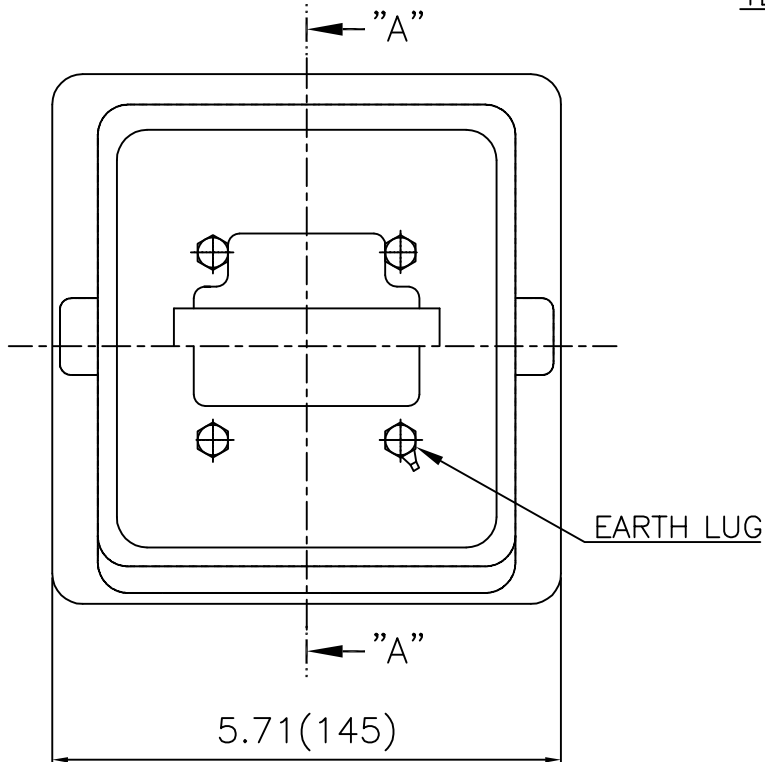
- 1.Dimension "D" tolerance : +0.00inch - 0.03inch
- 2.Dimension "U" tolerance : +0.000inch - 0.0005inch
- 3.Dimension "R" tolerance : +0.000inch - 0.015inch

|         |         |          |                |         |                |          |            |
|---------|---------|----------|----------------|---------|----------------|----------|------------|
| APPD BY | S.Y.KIM | UNIT     | INCH           | SUBJECT | NEMA 145TCH    | DWG SIZE | A4 ( 1:1 ) |
| CHKD BY | R.G.KIM | SCALE    | NONE           | TITLE   | <b>OUTLINE</b> |          |            |
| CHKD BY | Y.H.BAE | PROJEC'N | 3각법(3rd Angle) |         |                |          |            |
| DSND BY | H.K.LEE | DATE     | 2021-04-30     |         |                |          |            |



|         |                 |              |    |
|---------|-----------------|--------------|----|
| REF. NO | 350A8502AA      | Sheet No.    | of |
| DWG NO  | LM-I1145C5PL001 | Revision No. | 0  |

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



SEC. "A" - "A"

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

| REV | DATE | CONTENTS | REVD BY | CHKD BY | CHKD BY | APPD BY |
|-----|------|----------|---------|---------|---------|---------|
|     |      |          |         |         |         |         |

| 일반기공차  |      | 일반계공차    |      |
|--------|------|----------|------|
| 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 (CAST IRON) | DWG SIZE  | A3 (1:1.5) |
| CHKD BY | I.K.KIM     | SCALE    | 1/2        | TITLE              |                     |           |            |
| CHKD BY |             | PROJEC'N | 3rd Angle  | TERMINAL BOX ASS'Y |                     |           |            |
| DSND BY | E.J.KIM     | DATE     | 2024-02-02 | REF. NO            |                     | Sheet No. | of         |
|         |             | DWG NO   | 3M-249376  | Revision No.       | 0                   |           |            |