

# ABB BALDOR RELIANCE III

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## Customer information packet

### CXM25222T

20//15HP, 3530//2930RPM, 3PH, 60//50HZ, 256T

Class - CLI GP D; CLII GP F,G

Division - Division I

**Specifications**

|                                       |                                                                                      |
|---------------------------------------|--------------------------------------------------------------------------------------|
| <b>Enclosure</b>                      | XPFC                                                                                 |
| <b>Frame</b>                          | 256TC                                                                                |
| <b>Frame Material</b>                 | Iron                                                                                 |
| <b>Frequency</b>                      | 50.00 Hz<br>60.00 Hz                                                                 |
| <b>Haz Area Class and Group</b>       | CLI GP D; CLII GP F,G                                                                |
| <b>Haz Area Division</b>              | Division I                                                                           |
| <b>Motor Letter Type</b>              | Three Phase                                                                          |
| <b>Output @ Frequency</b>             | 20.000 HP @ 60 HZ<br>15.000 HP @ 50 HZ                                               |
| <b>Phase</b>                          | 3                                                                                    |
| <b>Synchronous Speed @ Frequency</b>  | 3600 RPM @ 60 HZ                                                                     |
| <b>Voltage @ Frequency</b>            | 460.0 V @ 60 HZ<br>190.0 V @ 50 HZ<br>230.0 V @ 60 HZ<br>380.0 V @ 50 HZ             |
| <b>Agency Approvals</b>               | UL<br>CSA EEV                                                                        |
| <b>Ambient Temperature</b>            | 40 °C                                                                                |
| <b>Auxiliary Box</b>                  | NO AUXILLARY BOX                                                                     |
| <b>Auxiliary Box Lead Termination</b> | None                                                                                 |
| <b>Base Indicator</b>                 | Rigid                                                                                |
| <b>Bearing Grease Type</b>            | Polyrex EM (-20F +300F)                                                              |
| <b>Blower</b>                         | None                                                                                 |
| <b>Constant Torque Speed Range</b>    | 6                                                                                    |
| <b>Current @ Voltage</b>              | 20.000 A @ 380.0 V<br>22.000 A @ 460.0 V<br>40.000 A @ 190.0 V<br>44.000 A @ 230.0 V |
| <b>Design Code</b>                    | A                                                                                    |
| <b>Drip Cover</b>                     | No Drip Cover                                                                        |
| <b>Duty Rating</b>                    | CONT                                                                                 |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | F          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  |            |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 09WZ651    |
| <b>Layout</b>       | 09LYE689   |
| <b>Eff. date</b>    | 11-14-2023 |
| <b>CD Diagram</b>   | CD0180     |
| <b>Poles</b>        | 02         |
| <b>Leads</b>        | 9#10       |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 02-17-2021 |

|                               |                            |
|-------------------------------|----------------------------|
| Efficiency @ 100% Load        | 91.0 %                     |
| Electrically Isolated Bearing | Not Electrically Isolated  |
| Feedback Device               | NO FEEDBACK                |
| Haz Area Temp Code            | T3C                        |
| Heater Indicator              | No Heater                  |
| High Voltage Full Load Amps   | 20.0 a                     |
| Insulation Class              | F                          |
| Inverter Code                 | Inverter Duty              |
| IP Rating                     | NONE                       |
| KVA Code                      | H                          |
| Lifting Lugs                  | Standard Lifting Lugs      |
| Locked Bearing Indicator      | Locked Bearing             |
| Max Speed                     | 5400 rpm                   |
| Motor Lead Termination        | Flying Leads               |
| Motor Standards               | NEMA                       |
| Motor Type                    | 0950M                      |
| Mounting Arrangement          | F1                         |
| Number of Poles               | 2                          |
| Overall Length                | 26.00 IN                   |
| Power Factor                  | 91                         |
| Product Family                | General Purpose            |
| Pulley Face Code              | C-Face                     |
| Rodent Screen                 | None                       |
| Service Factor                | 1.00                       |
| Shaft Diameter                | 1.625 IN                   |
| Shaft Ground Indicator        | No Shaft Grounding         |
| Shaft Rotation                | Reversible                 |
| Speed                         | 3530 rpm                   |
| Speed Code                    | Single Speed               |
| Starting Method               | Direct on line             |
| Thermal Device - Bearing      | None                       |
| Thermal Device - Winding      | Normally Closed Thermostat |
| Vibration Sensor Indicator    | No Vibration Sensor        |
| Winding Thermal 1             | None                       |

**Winding Thermal 2**

**None**

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**Nameplate**

| NP0887XPSLEV |                        |     |        |    |              |          |            |      |     |          |  |    |
|--------------|------------------------|-----|--------|----|--------------|----------|------------|------|-----|----------|--|----|
| NO.          |                        |     |        |    |              |          | CC         | 010A |     |          |  |    |
| S/N          |                        |     |        |    |              |          | TEMP CODE  |      | T3C |          |  |    |
| SPEC.        | 09-0000-2930           |     |        |    |              |          | INV.TYPE   |      | PWM |          |  |    |
| CAT.NO.      | CXM25222T              |     |        |    |              |          | C HP FR    |      | 60  | C HP TO  |  | 90 |
| HP           | 20//15                 |     |        |    |              |          | CT HZ FROM |      | 6   | CT HZ TO |  | 60 |
| VOLTS        | 230/460//190/380       |     |        |    |              |          | VT HZ FROM |      | 6   | VT HZ TO |  | 60 |
| AMPS         | 44/22//40/20           |     |        |    | MAG CUR      |          | 10.6/5.3   |      |     |          |  |    |
| RPM          | 3530//2930             |     |        |    | MX RPM       |          | 5400       |      |     |          |  |    |
| HZ           | 60//50                 | PH  | 3      | CL | F            | NOM.EFF. |            | 91   |     |          |  |    |
| SER.F.       | 1.00                   | DES |        | A  | SL HZ        |          | 1.2        | WK2  |     | 1.28     |  |    |
| FRAME        | 256TC                  |     | RATING |    | 40C AMB-CONT |          |            |      |     |          |  |    |
|              | NEMA MG-1 PART 5, IP54 |     |        |    |              |          |            |      |     |          |  |    |
|              | 1.15 SF ON SINE WAVE   |     |        |    |              |          |            |      |     |          |  |    |

**AC Induction Motor Performance Data**

Record # 31502

Typical performance - not guaranteed values

| Winding: 09WGZ601-R003 |        |                  |              | Type: 0936M                              |  | Enclosure: TEFC |  |
|------------------------|--------|------------------|--------------|------------------------------------------|--|-----------------|--|
| Nameplate Data         |        |                  |              | 460 V, 60 Hz:<br>High Voltage Connection |  |                 |  |
| Rated Output (HP)      |        | 20//15           |              | Full Load Torque                         |  | 29.6 LB-FT      |  |
| Volts                  |        | 230/460//190/380 |              | Start Configuration                      |  | direct on line  |  |
| Full Load Amps         |        | 46/23//42/21     |              | Breakdown Torque                         |  | 111 LB-FT       |  |
| R.P.M.                 |        | 3520//2930       |              | Pull-up Torque                           |  | 39.1 LB-FT      |  |
| Hz                     | 60//50 | Phase            | 3            | Locked-rotor Torque                      |  | 49.6 LB-FT      |  |
| NEMA Design Code       |        | B                | KVA Code     | Starting Current                         |  | 161 A           |  |
| Service Factor (S.F.)  |        | 1.15             |              | No-load Current                          |  | 7.17 A          |  |
| NEMA Nom. Eff.         |        | 91               | Power Factor | Line-line Res. @ 25°C                    |  | 0.47592 Ω       |  |
| Rating - Duty          |        | 40C AMB-CONT     |              | Temp. Rise @ Rated Load                  |  | 76°C            |  |
| S.F. Amps              |        |                  |              | Temp. Rise @ S.F. Load                   |  | 95°C            |  |
|                        |        |                  |              | Locked-rotor Power Factor                |  | 29              |  |
|                        |        |                  |              | Rotor inertia                            |  | 0.92 LB-FT2     |  |

**Load Characteristics 460 V, 60 Hz, 20 HP**

| % of Rated Load | 25     | 50     | 75     | 100    | 125    | 150    | S.F. |
|-----------------|--------|--------|--------|--------|--------|--------|------|
| Power Factor    | 58     | 78     | 86     | 89     | 90     | 90     | 90   |
| Efficiency      | 88.9   | 92.2   | 92.4   | 91.7   | 90.7   | 89.2   | 91.1 |
| Speed           | 3579.6 | 3561.5 | 3541.3 | 3519.5 | 3495.4 | 3467.8 | 3505 |
| Line amperes    | 9      | 13     | 17.7   | 22.9   | 28.6   | 35     | 26.3 |

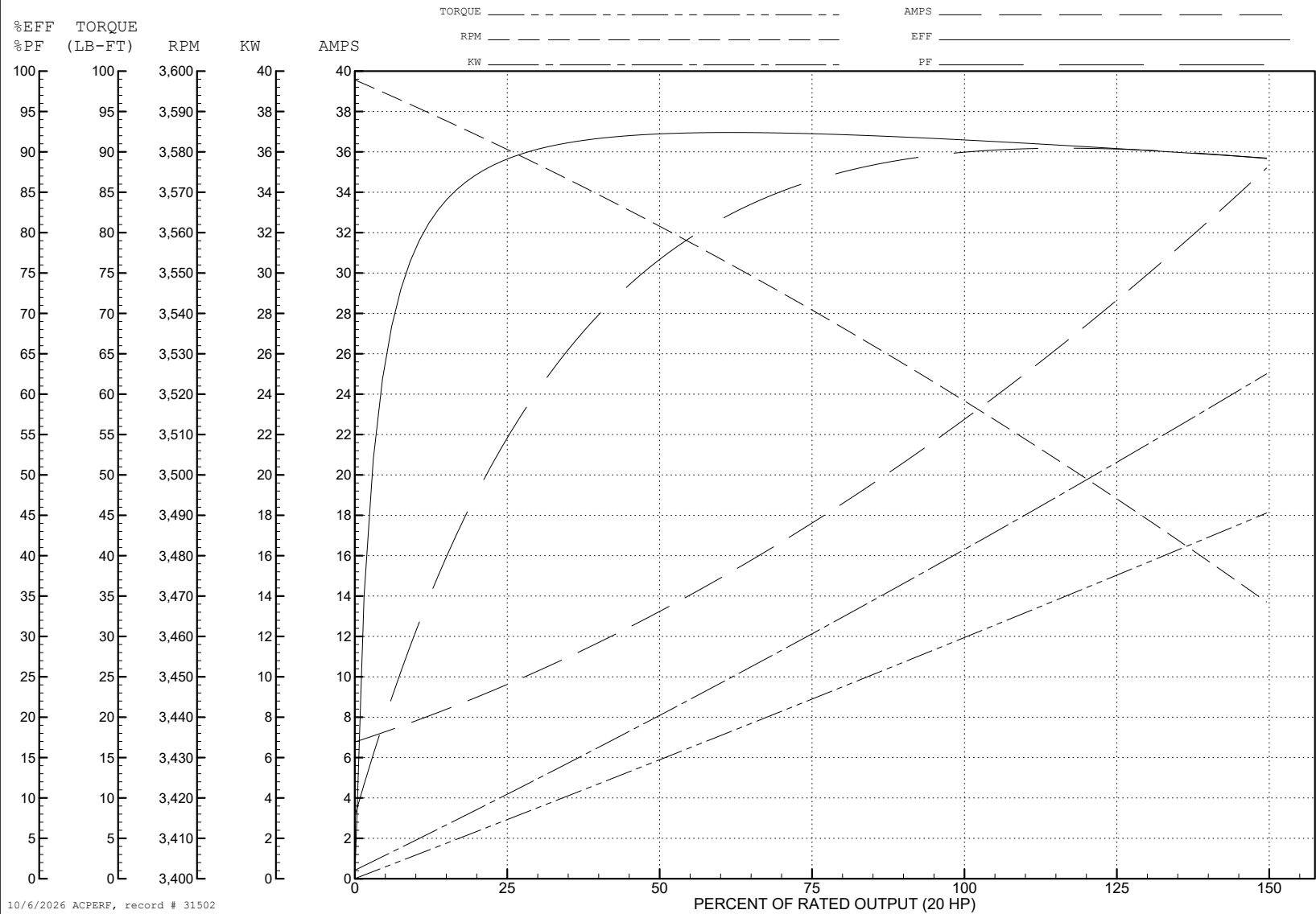
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WINDING # 09WGZ601

Typical performance - not guaranteed values.

20 HP 3 PH 60 HZ 3519.5 RPM 460 V 0936M

TORQUES (LB-FT): PO=111 PU=39.1 LR=49.6 LRA=161



**AC Induction Motor Performance Data**

Record # 31503

Typical performance - not guaranteed values

| Winding: 09WGZ601-R003 |        |                  | Type: 0936M  |                                          | Enclosure: TEFC |                |
|------------------------|--------|------------------|--------------|------------------------------------------|-----------------|----------------|
| Nameplate Data         |        |                  |              | 380 V, 50 Hz:<br>High Voltage Connection |                 |                |
| Rated Output (HP)      |        | 20//15           |              | Full Load Torque                         |                 | 26.7 LB-FT     |
| Volts                  |        | 230/460//190/380 |              | Start Configuration                      |                 | direct on line |
| Full Load Amps         |        | 46/23//42/21     |              | Breakdown Torque                         |                 | 106 LB-FT      |
| R.P.M.                 |        | 3520//2930       |              | Pull-up Torque                           |                 | 41.4 LB-FT     |
| Hz                     | 60//50 | Phase            | 3            | Locked-rotor Torque                      |                 | 52.5 LB-FT     |
| NEMA Design Code       |        | B                | KVA Code     | Starting Current                         |                 | 157 A          |
| Service Factor (S.F.)  |        | 1.15             |              | No-load Current                          |                 | 6.99 A         |
| NEMA Nom. Eff.         |        | 91               | Power Factor | Line-line Res. @ 25°C                    |                 | 0.447 Ω        |
| Rating - Duty          |        | 40C AMB-CONT     |              | Temp. Rise @ Rated Load                  |                 | 67°C           |
| S.F. Amps              |        |                  |              | Temp. Rise @ S.F. Load                   |                 | 84°C           |
|                        |        |                  |              | Locked-rotor Power Factor                |                 | 33             |
|                        |        |                  |              | Rotor inertia                            |                 | 0.92 LB-FT2    |

**Load Characteristics 380 V, 50 Hz, 15 HP**

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 55   | 76   | 85   | 88   | 90   | 90   | 89   |
| Efficiency      | 88.8 | 92   | 92.1 | 91.3 | 90.2 | 88.7 | 90.6 |
| Speed           | 2982 | 2966 | 2947 | 2928 | 2907 | 2882 | 2915 |
| Line amperes    | 8.55 | 12   | 16.3 | 21   | 26.1 | 31.8 | 24.1 |

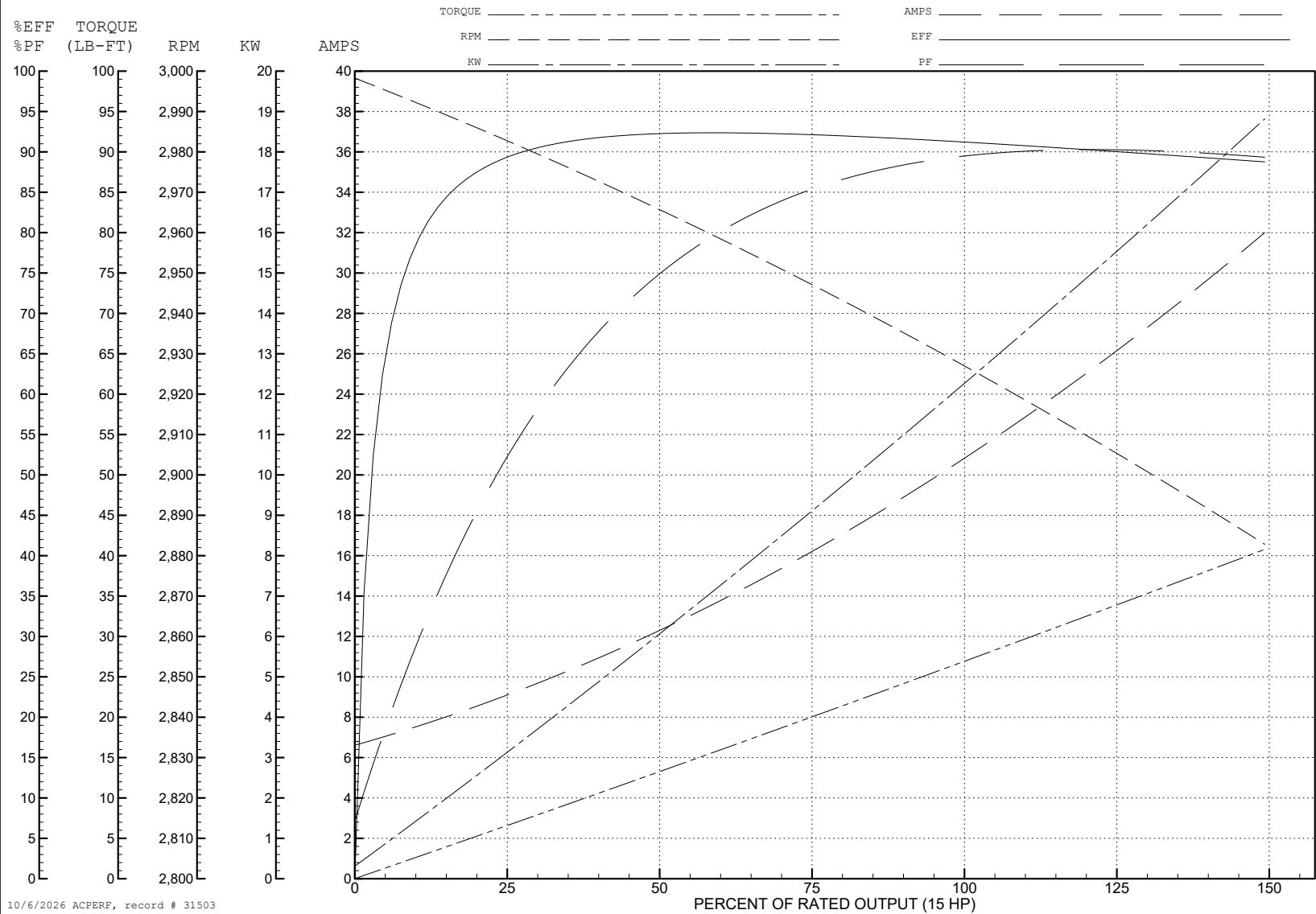
ABB Motors and Mechanical Inc.

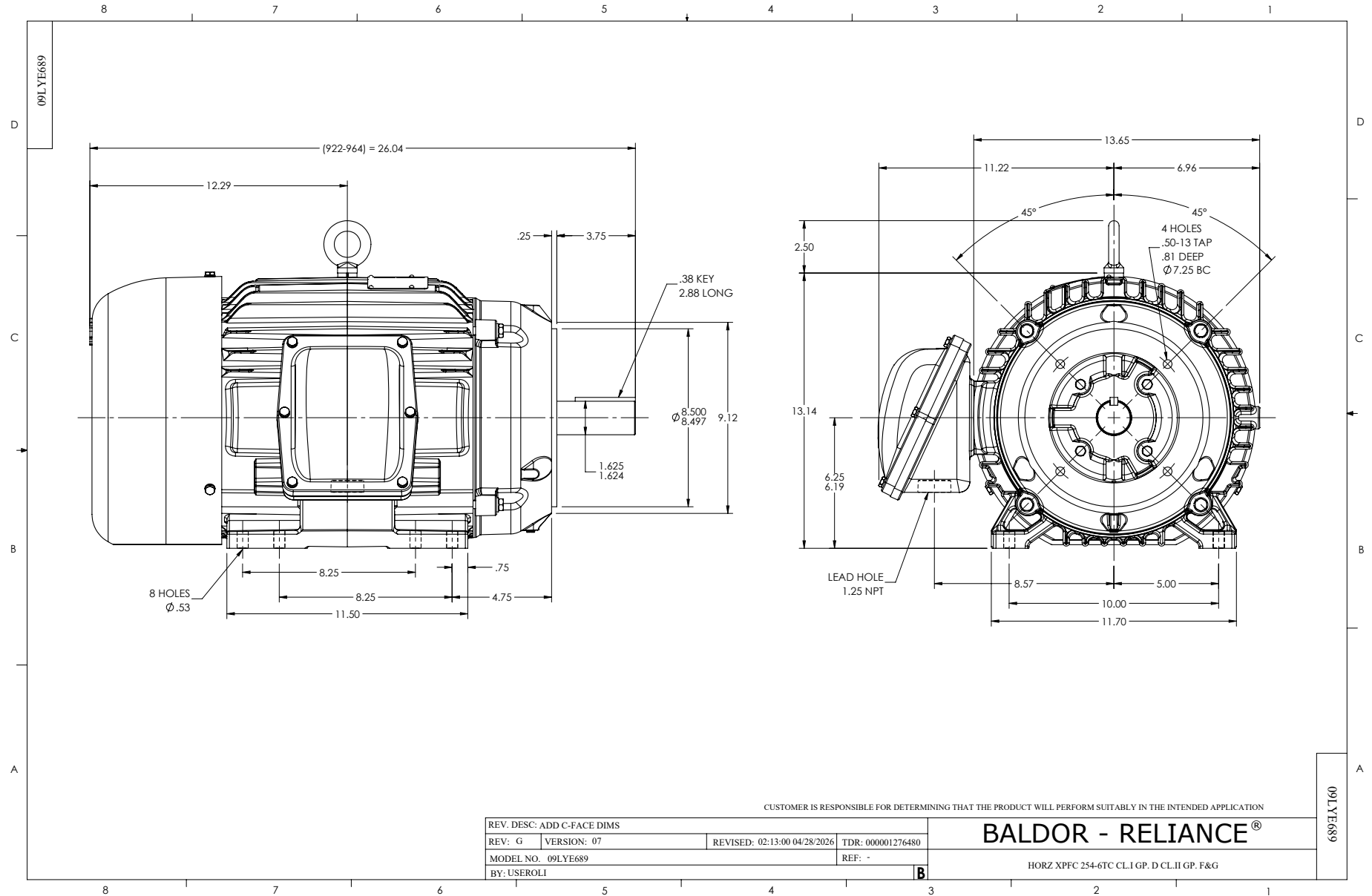
WINDING # 09WGZ601

Typical performance - not guaranteed values.

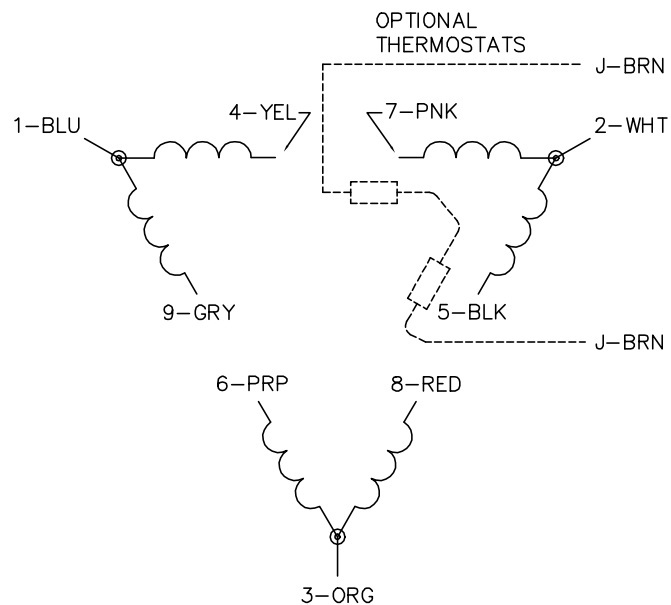
15 HP 3 PH 50 HZ 2928 RPM 380 V 0936M

TORQUES (LB-FT): PO=106 PU=41.4 LR=52.5 LRA=157

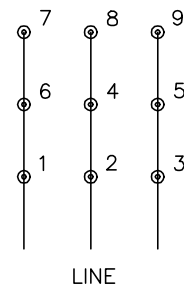




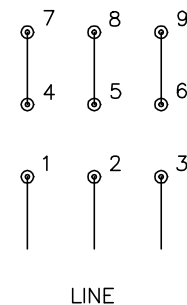
CD0180



LOW VOLTAGE  
(2D)



HIGH VOLTAGE  
(1D)



NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
4. LEAD COLORS ARE OPTIONAL. LEADS MUST ALWAYS BE NUMBERED AS SHOWN.

REV. DESC: ADD CLASS CONN00000007

REV. LTR: D

VERSION: 01

TDR: 000001099922

FILE: \AAA\00005\148

REVISED: 10: 25: 29 02/19/2019

BY: ENBRIRO

MTL: -



**BALDOR - RELIANCE®**

3PH, DV, 9 LEADS, DELTA CONNECTION

SH 1 of 1

CD0180