

# ABB BALDOR RELIANCE III

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## Customer information packet

### ECP4110T

40HP, 1775RPM, 3PH, 60HZ, 324T, 1254M, TEFC, F1

Class - CLI GP A,B,C,D

Division - Division II

**Specifications**

|                                       |                                                                 |
|---------------------------------------|-----------------------------------------------------------------|
| <b>Enclosure</b>                      | TEFC                                                            |
| <b>Frame</b>                          | 324T                                                            |
| <b>Frame Material</b>                 | Iron                                                            |
| <b>Frequency</b>                      | 60.00 Hz                                                        |
| <b>Haz Area Class and Group</b>       | CLI GP A,B,C,D                                                  |
| <b>Haz Area Division</b>              | Division II                                                     |
| <b>Motor Letter Type</b>              | Three Phase                                                     |
| <b>Output @ Frequency</b>             | 40.000 HP @ 60 HZ                                               |
| <b>Phase</b>                          | 3                                                               |
| <b>Synchronous Speed @ Frequency</b>  | 1800 RPM @ 60 HZ                                                |
| <b>Voltage @ Frequency</b>            | 460.0 V @ 60 HZ<br>230.0 V @ 60 HZ                              |
| <b>Agency Approvals</b>               | CCSA US<br>CSA EEV<br>NEMA PREMIUM<br>NEMA_PREMIUM<br>UR        |
| <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>    | 0.8                                                             |
| <b>Current @ Voltage</b>              | 96.000 A @ 230.0 V<br>48.000 A @ 460.0 V<br>102.000 A @ 208.0 V |
| <b>Design Code</b>                    | A                                                               |
| <b>Drip Cover</b>                     | No Drip Cover                                                   |
| <b>Duty Rating</b>                    | CONT                                                            |
| <b>Efficiency @ 100% Load</b>         | 94.1 %                                                          |
| <b>Electrically Isolated Bearing</b>  | Not Electrically Isolated                                       |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | L          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  | 12F904     |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 12WGY276   |
| <b>Layout</b>       | 12LYF904   |
| <b>Eff. date</b>    | 05-05-2026 |
| <b>CD Diagram</b>   | CD0180     |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 9#8        |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 12-13-2017 |

|                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>Feedback Device</b>               | <b>NO FEEDBACK</b>                 |
| <b>Front Face Code</b>               | <b>Standard</b>                    |
| <b>Front Shaft Indicator</b>         | <b>None</b>                        |
| <b>Haz Area Temp Code</b>            | <b>T3</b>                          |
| <b>Heater Indicator</b>              | <b>No Heater</b>                   |
| <b>High Voltage Full Load Amps</b>   | <b>48.0 a</b>                      |
| <b>Insulation Class</b>              | <b>F</b>                           |
| <b>Inverter Code</b>                 | <b>Inverter Duty</b>               |
| <b>KVA Code</b>                      | <b>H</b>                           |
| <b>Lifting Lugs</b>                  | <b>Standard Lifting Lugs</b>       |
| <b>Locked Bearing Indicator</b>      | <b>Locked Bearing</b>              |
| <b>Max Speed</b>                     | <b>2700 rpm</b>                    |
| <b>Motor Lead Exit</b>               | <b>Ko Box</b>                      |
| <b>Motor Lead Quantity/Wire Size</b> | <b>9 @ 8 AWG</b>                   |
| <b>Motor Lead Termination</b>        | <b>Flying Leads</b>                |
| <b>Motor Standards</b>               | <b>NEMA</b>                        |
| <b>Motor Type</b>                    | <b>1254M</b>                       |
| <b>Mounting Arrangement</b>          | <b>F1</b>                          |
| <b>Number of Poles</b>               | <b>4</b>                           |
| <b>Overall Length</b>                | <b>30.28 IN</b>                    |
| <b>Power Factor</b>                  | <b>82</b>                          |
| <b>Product Family</b>                | <b>Super-E Chemical Processing</b> |
| <b>Pulley End Bearing Type</b>       | <b>Ball</b>                        |
| <b>Pulley Face Code</b>              | <b>Standard</b>                    |
| <b>Pulley Shaft Indicator</b>        | <b>Standard</b>                    |
| <b>Rodent Screen</b>                 | <b>None</b>                        |
| <b>Service Factor</b>                | <b>1.15</b>                        |
| <b>Shaft Diameter</b>                | <b>2.125 IN</b>                    |
| <b>Shaft Extension Location</b>      | <b>Pulley End</b>                  |
| <b>Shaft Ground Indicator</b>        | <b>No Shaft Grounding</b>          |
| <b>Shaft Rotation</b>                | <b>Reversible</b>                  |
| <b>Shaft Slinger Indicator</b>       | <b>Shaft Slinger</b>               |
| <b>Speed</b>                         | <b>1775 rpm</b>                    |
| <b>Speed Code</b>                    | <b>Single Speed</b>                |

|                            |                     |
|----------------------------|---------------------|
| Starting Method            | Direct on line      |
| Thermal Device - Bearing   | None                |
| Thermal Device - Winding   | None                |
| Vibration Sensor Indicator | No Vibration Sensor |
| Winding Thermal 1          | None                |
| Winding Thermal 2          | None                |

**Nameplate**

| NP3241     |              |                    |    |              |           |      |          |                         |        |           |            |      |            |  |   |          |    |
|------------|--------------|--------------------|----|--------------|-----------|------|----------|-------------------------|--------|-----------|------------|------|------------|--|---|----------|----|
| CAT.NO.    | ECP4110T     |                    |    | P/N          |           |      |          |                         |        | ENCLOSURE |            | TEFC |            |  |   |          |    |
| SPEC.      | 12F904Y276G3 |                    | CC | 010A         | FRAME     | 324T |          | S/N                     |        |           |            |      |            |  |   |          |    |
| HP         | 40           |                    |    | CLASS        | F         | HZ   | 60       | DES                     | A      |           |            |      |            |  |   |          |    |
| RPM        | 1775         |                    |    | RPM MAX      |           | 2700 |          | PH                      | 3      | KVA-CODE  |            | H    |            |  |   |          |    |
| VOLT       | 230/460      |                    |    | MOTOR WEIGHT |           |      | 618      |                         |        |           |            |      |            |  |   |          |    |
| AMP        | 96/48        |                    |    | SER.F.       | 1.15      | PF   | 82       | ODE BRG                 |        | 6312      | DE BRG     |      | 6312       |  |   |          |    |
| RATING     | 40C AMB-CONT |                    |    | NEMA-NOM-EFF |           |      | 94.1     |                         | GREASE |           | POLYREX EM |      |            |  |   |          |    |
|            |              |                    |    |              |           |      | INV.TYPE |                         | PWM    |           |            |      |            |  |   |          |    |
| TEMP CODE  | T3           | INVERTER-TEMP-CODE |    |              | 200       |      |          |                         |        |           |            |      |            |  |   |          |    |
| TEMP =     | 200          | C HP FR            | 60 | C HP TO      |           | 90   |          |                         |        |           |            |      |            |  |   |          |    |
| CT HZ FROM | 0.8          | CT HZ TO           |    | 60           |           |      |          |                         |        |           |            |      |            |  |   |          |    |
| HTR-VOLTS  |              | HTR-AMPS           |    |              | HTR-WATTS |      |          | MAX. SPACE HEATER TEMP. |        |           |            |      | VT HZ FROM |  | O | VT HZ TO | 60 |

**Accessories**

| Part number | Description | Multiplier |
|-------------|-------------|------------|
| 12-1105     | C FACE KIT  | A8         |

**AC Induction Motor Performance Data**

Record # 68449

Typical performance - not guaranteed values

| Winding: 12WGY276-R036 |      |              | Type: 1254M                              |                       | Enclosure: TEFC |  |
|------------------------|------|--------------|------------------------------------------|-----------------------|-----------------|--|
| Nameplate Data         |      |              | 460 V, 60 Hz:<br>High Voltage Connection |                       |                 |  |
| Rated Output (HP)      |      | 40           | Full Load Torque                         |                       | 118 LB-FT       |  |
| Volts                  |      | 230/460      | Start Configuration                      |                       | direct on line  |  |
| Full Load Amps         |      | 96/48        | Breakdown Torque                         |                       | 386 LB-FT       |  |
| R.P.M.                 |      | 1775         | Pull-up Torque                           |                       | 193 LB-FT       |  |
| Hz                     | 60   | Phase        | 3                                        | Locked-rotor Torque   | 216 LB-FT       |  |
| NEMA Design Code       | A    | KVA Code     | H                                        | Starting Current      | 338 A           |  |
| Service Factor (S.F.)  |      | 1.15         | No-load Current                          |                       | 19.9 A          |  |
| NEMA Nom. Eff.         | 94.1 | Power Factor | 82                                       | Line-line Res. @ 25°C | 0.14898 Ω       |  |
| Rating - Duty          |      | 40C AMB-CONT | Temp. Rise @ Rated Load                  |                       | 54°C            |  |
| S.F. Amps              |      |              | Temp. Rise @ S.F. Load                   |                       | 64°C            |  |
|                        |      |              | Locked-rotor Power Factor                |                       | 27.3            |  |
|                        |      |              | Rotor inertia                            |                       | 7.19 LB-FT2     |  |

**Load Characteristics 460 V, 60 Hz, 40 HP**

| % of Rated Load | 25     | 50   | 75     | 100    | 125    | 150    | S.F. |
|-----------------|--------|------|--------|--------|--------|--------|------|
| Power Factor    | 47     | 69   | 78     | 83     | 85     | 85     | 84   |
| Efficiency      | 90.1   | 93.5 | 94.2   | 94.2   | 93.8   | 93.1   | 94   |
| Speed           | 1793.5 | 1788 | 1782.5 | 1776.6 | 1770.7 | 1764.1 | 1773 |
| Line amperes    | 22.9   | 29.5 | 38.4   | 48.1   | 59.2   | 70.8   | 54.8 |

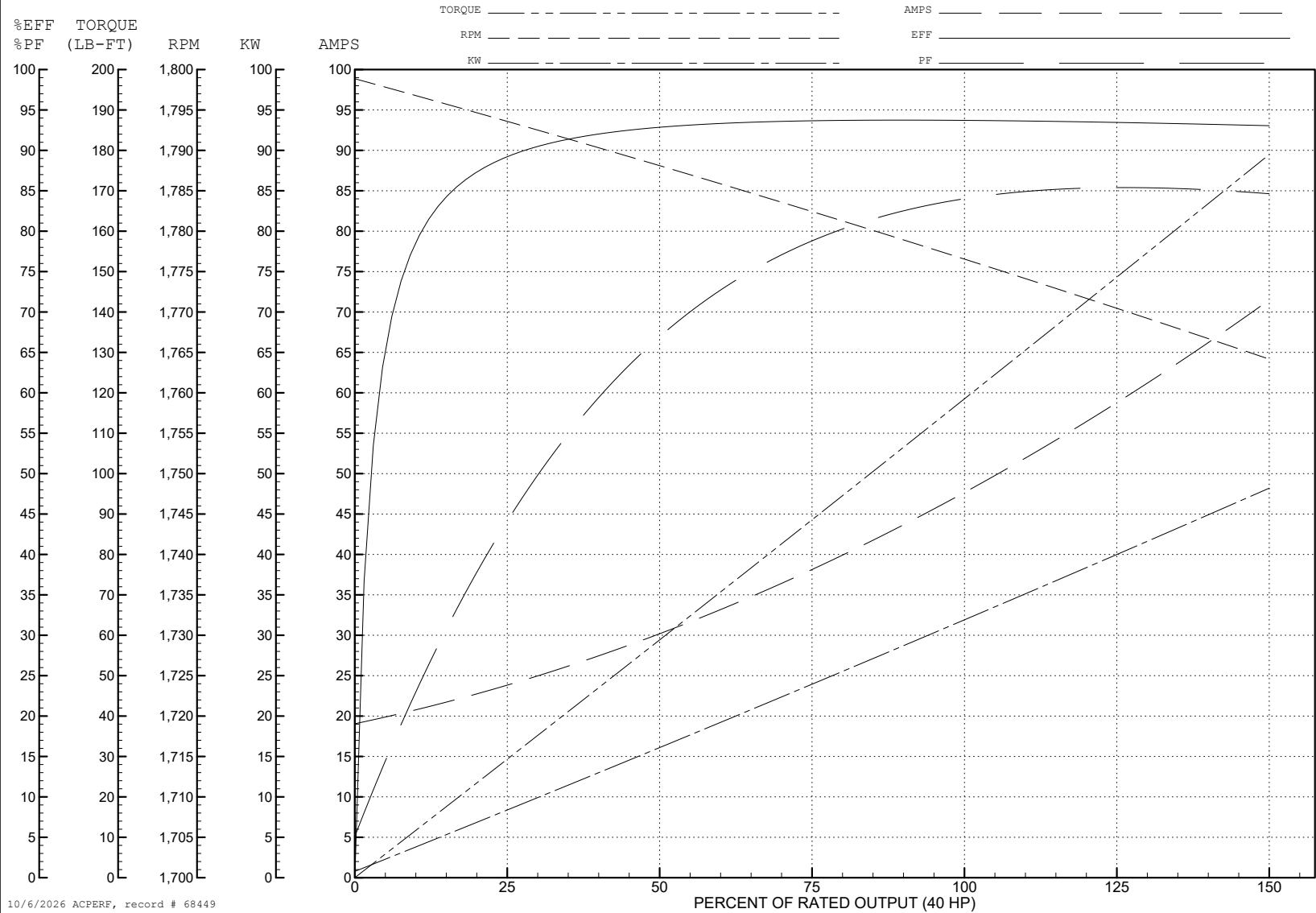
ABB Motors and Mechanical Inc.

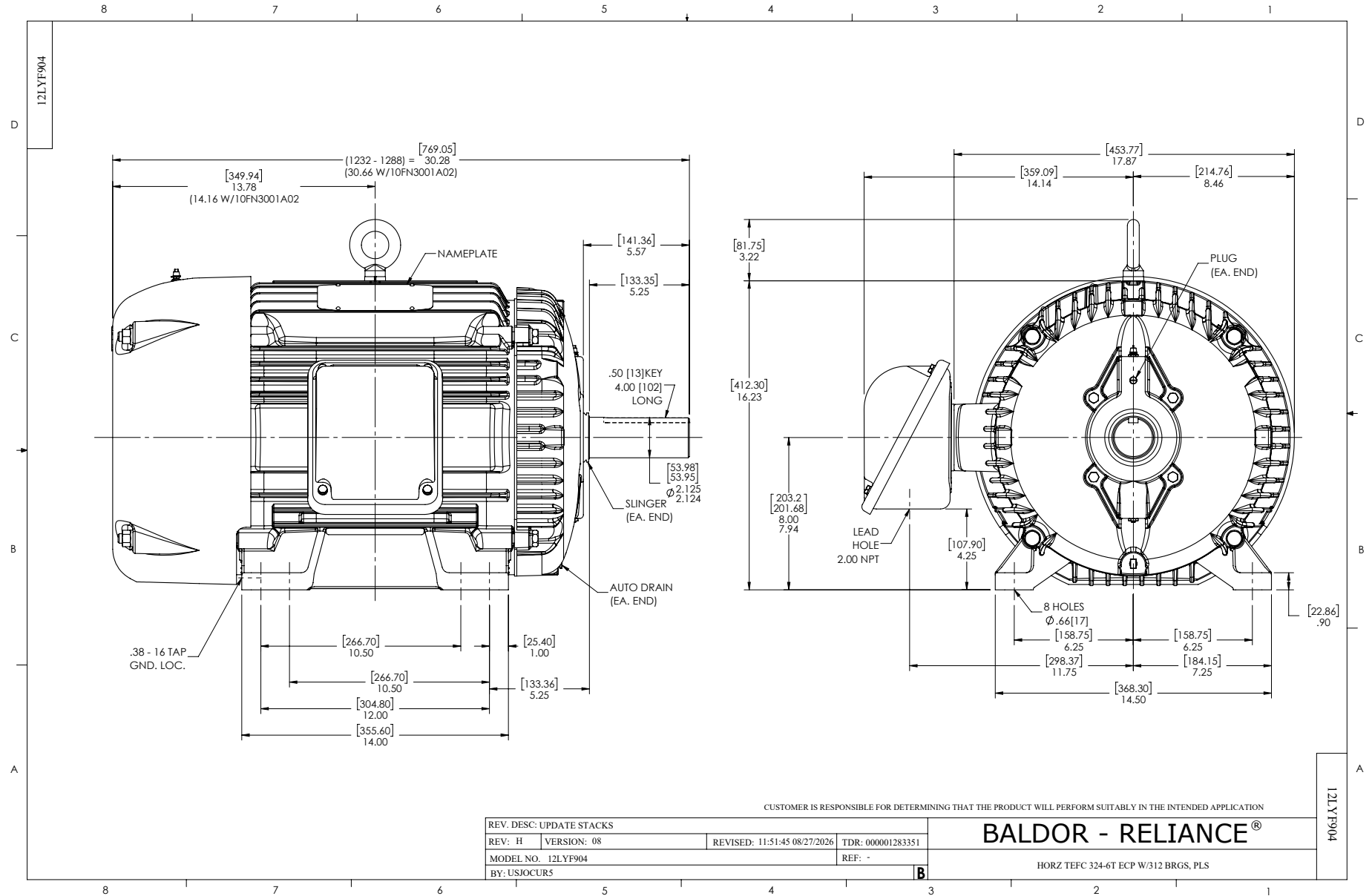
WINDING # 12WGY276

Typical performance - not guaranteed values.

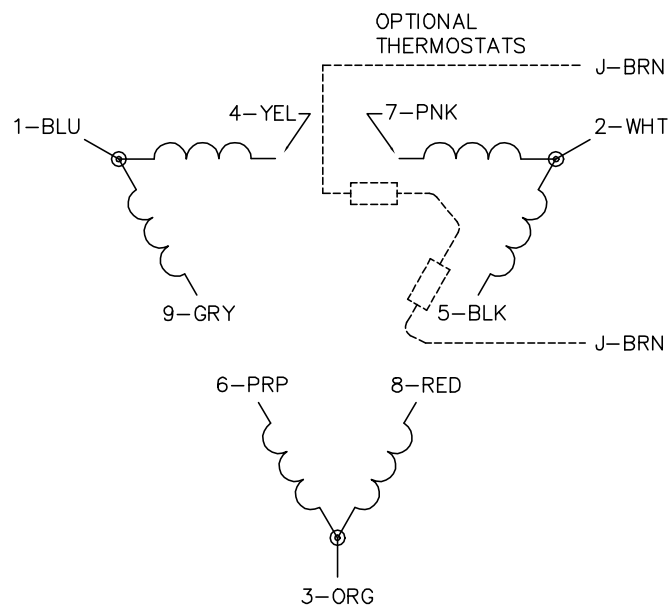
40 HP 3 PH 60 HZ 1775 RPM 460 V 1254M

TORQUES (LB-FT): PO=386 PU=193 LR=216 LRA=338

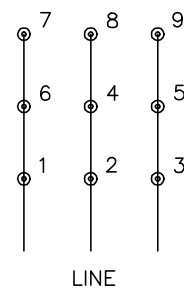




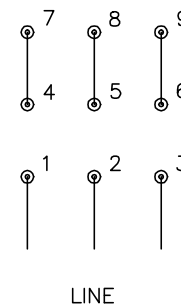
CD0180



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