

# ABB BALDOR RELIANCE III

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## Customer information packet

### DRX32444T

40HP, 1775//1480RPM, 3PH, 60HZ, 324T, XPFC, F1

Class - CLI GP C,D

Division - Division I

**Specifications**

|                                       |                                                                                      |
|---------------------------------------|--------------------------------------------------------------------------------------|
| <b>Enclosure</b>                      | XPFC                                                                                 |
| <b>Frame</b>                          | 324T                                                                                 |
| <b>Frame Material</b>                 | Iron                                                                                 |
| <b>Frequency</b>                      | 60.00 Hz                                                                             |
| <b>Haz Area Class and Group</b>       | CLI GP C,D                                                                           |
| <b>Haz Area Division</b>              | Division I                                                                           |
| <b>Motor Letter Type</b>              | Three Phase                                                                          |
| <b>Output @ Frequency</b>             | 40.000 HP @ 60 HZ<br>30.000 HP @ 50 HZ                                               |
| <b>Phase</b>                          | 3                                                                                    |
| <b>Synchronous Speed @ Frequency</b>  | 1800 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>              | 45.000 A @ 380.0 V<br>48.000 A @ 460.0 V<br>90.000 A @ 190.0 V<br>96.000 A @ 230.0 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 %                                                                               |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | L          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  |            |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 12WGY276   |
| <b>Layout</b>       | 12LYG128   |
| <b>Eff. date</b>    | 08-03-2026 |
| <b>CD Diagram</b>   | CD0180     |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 9#8        |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 03-07-2019 |

|                                      |                            |
|--------------------------------------|----------------------------|
| <b>Electrically Isolated Bearing</b> | Not Electrically Isolated  |
| <b>Feedback Device</b>               | NO FEEDBACK                |
| <b>Haz Area Temp Code</b>            | T3C                        |
| <b>Heater Indicator</b>              | No Heater                  |
| <b>High Voltage Full Load Amps</b>   | 45.0 a                     |
| <b>Insulation Class</b>              | F                          |
| <b>Inverter Code</b>                 | Not Inverter               |
| <b>IP Rating</b>                     | NONE                       |
| <b>KVA Code</b>                      | H                          |
| <b>Lifting Lugs</b>                  | Standard Lifting Lugs      |
| <b>Locked Bearing Indicator</b>      | Locked Bearing             |
| <b>Max Speed</b>                     | 2700 rpm                   |
| <b>Motor Lead Termination</b>        | Flying Leads               |
| <b>Motor Standards</b>               | NEMA                       |
| <b>Motor Type</b>                    | 1254M                      |
| <b>Mounting Arrangement</b>          | F1                         |
| <b>Number of Poles</b>               | 4                          |
| <b>Overall Length</b>                | 32.00 IN                   |
| <b>Power Factor</b>                  | 82                         |
| <b>Product Family</b>                | Chemical Process Features  |
| <b>Pulley Face Code</b>              | Standard                   |
| <b>Rodent Screen</b>                 | None                       |
| <b>RoHS Status</b>                   | ROHS NON-COMPLIANT         |
| <b>Service Factor</b>                | 1.00                       |
| <b>Shaft Diameter</b>                | 2.125 IN                   |
| <b>Shaft Ground Indicator</b>        | No Shaft Grounding         |
| <b>Shaft Rotation</b>                | Reversible                 |
| <b>Speed</b>                         | 1775 rpm                   |
| <b>Speed Code</b>                    | Single Speed               |
| <b>Starting Method</b>               | Direct on line             |
| <b>Thermal Device - Bearing</b>      | None                       |
| <b>Thermal Device - Winding</b>      | Normally Closed Thermostat |
| <b>Vibration Sensor Indicator</b>    | No Vibration Sensor        |
| <b>Winding Thermal 1</b>             | None                       |

Winding Thermal 2

None

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**Nameplate**

| NP1401XPSLEV |                             |        |   |              |      |          |                     |       |         |          |  |    |
|--------------|-----------------------------|--------|---|--------------|------|----------|---------------------|-------|---------|----------|--|----|
| NO.          |                             |        |   |              |      |          | CC                  | 010A  |         |          |  |    |
| S/N          |                             |        |   |              |      |          | TEMP CODE           |       | T3C     |          |  |    |
| SPEC.        | 12-0000-0549                |        |   |              |      |          | INV.TYPE            |       | PWM     |          |  |    |
| CAT.NO.      | DRX32444T                   |        |   |              |      |          | C HP FR             | 60    | C HP TO | 90       |  |    |
| HP           | 40//30                      |        |   |              |      |          | CT HZ FROM          |       | 6       | CT HZ TO |  | 60 |
| VOLTS        | 230/460                     |        |   |              |      |          | VT HZ FROM          |       | 6       | VT HZ TO |  | 60 |
| AMPS         | 96/48//90/45                |        |   |              |      |          | MAG CUR             | 40/20 |         |          |  |    |
| RPM          | 1775//1480                  |        |   |              |      |          | MX RPM              | 2700  |         |          |  |    |
| HZ           | 60//50                      | PH     | 3 | CL           | F    | NOM.EFF. |                     | 94.1  |         |          |  |    |
| SER.F.       | 1.00                        | DES    | A | SL HZ        | 0.83 | WK2      | 7.19                |       |         |          |  |    |
| FRAME        | 324T                        | RATING |   | 40C AMB-CONT |      |          |                     |       |         |          |  |    |
|              | 55C AMB AT 1.0 SF, 60C RISE |        |   |              |      |          |                     |       |         |          |  |    |
|              | 1.15SF ON SINEWAVE          |        |   |              |      |          | NEMA MG-1 PT.5,IP55 |       |         |          |  |    |

**AC Induction Motor Performance Data**

Record # 43813

Typical performance - not guaranteed values

| Winding: 12WGY276-R023 |  |              |  | Type: 1254M                              |  | Enclosure: XPFC     |  |                       |           |
|------------------------|--|--------------|--|------------------------------------------|--|---------------------|--|-----------------------|-----------|
| 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            |  | 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                |  |                       |           |
|                        |  |              |  | Locked-rotor Power Factor                |  | 27                  |  |                       |           |
|                        |  |              |  | Rotor inertia                            |  | 7.19 LB-FT2         |  |                       |           |

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

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

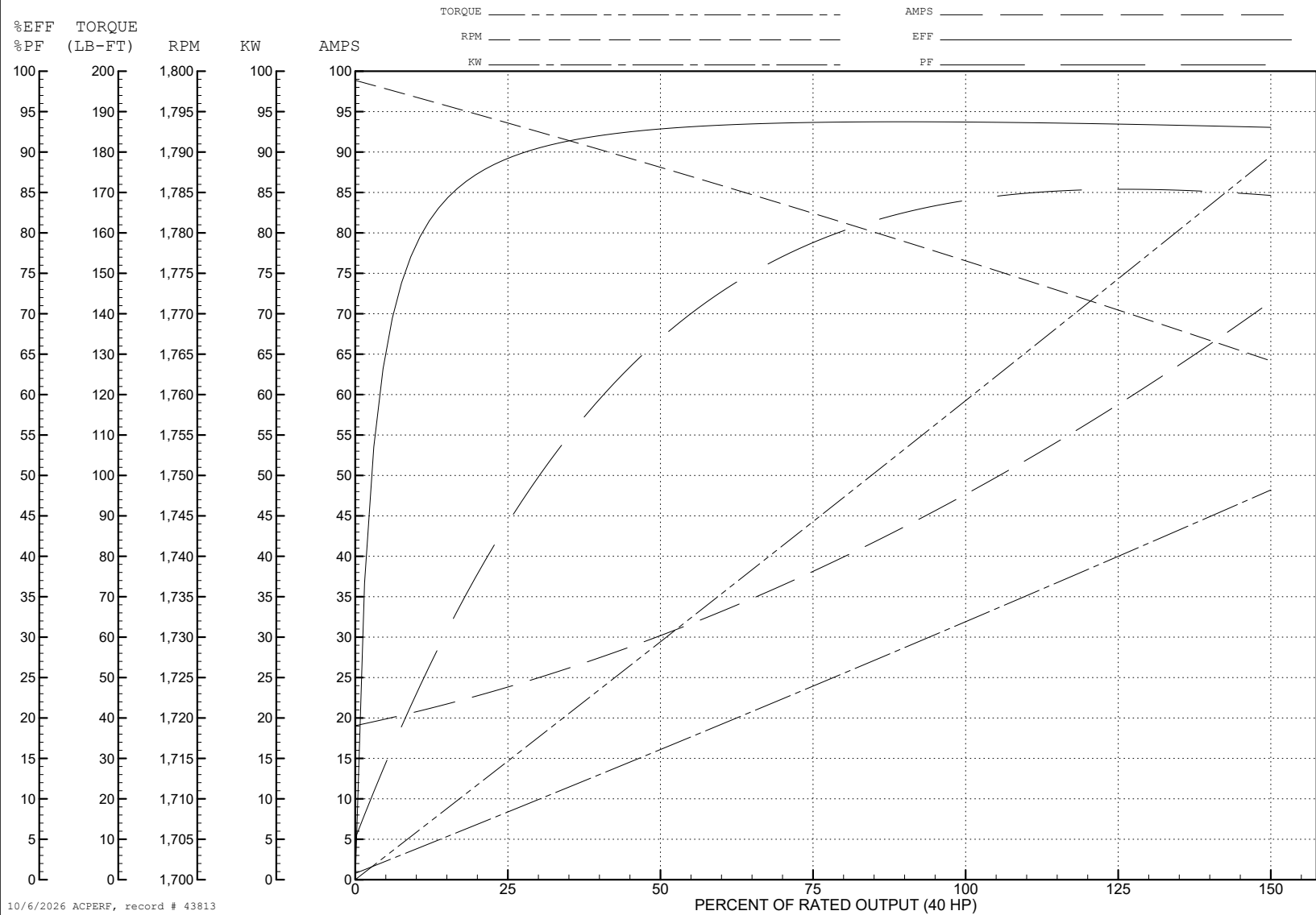
ABB Motors and Mechanical Inc.

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



**AC Induction Motor Performance Data**

Record # 74483

Typical performance - not guaranteed values

| Winding: 12WGY276-R040 |        |                  |              | Type: 1254M                              |                       | Enclosure: XPFC |         |
|------------------------|--------|------------------|--------------|------------------------------------------|-----------------------|-----------------|---------|
| Nameplate Data         |        |                  |              | 380 V, 50 Hz:<br>High Voltage Connection |                       |                 |         |
| Rated Output (HP)      |        | 40//30           |              | Full Load Torque                         |                       | 106 LB-FT       |         |
| Volts                  |        | 230/460//190/380 |              | Start Configuration                      |                       | direct on line  |         |
| Full Load Amps         |        | 96/48//90/45     |              | Breakdown Torque                         |                       | 373 LB-FT       |         |
| R.P.M.                 |        | 1775//1480       |              | Pull-up Torque                           |                       | 203 LB-FT       |         |
| Hz                     | 60//50 | Phase            | 3            | Locked-rotor Torque                      |                       | 227 LB-FT       |         |
| NEMA Design Code       |        | A                | KVA Code     | H                                        | Starting Current      |                 | 331 A   |
| Service Factor (S.F.)  |        | 1                |              | No-load Current                          |                       | 19.39 A         |         |
| NEMA Nom. Eff.         |        | 94.1             | Power Factor | 82                                       | Line-line Res. @ 25°C |                 | 0.145 Ω |
| Rating - Duty          |        | 40C AMB-CONT     |              | Temp. Rise @ Rated Load                  |                       | 47°C            |         |
| S.F. Amps              |        |                  |              | Temp. Rise @ S.F. Load                   |                       | 57°C            |         |
|                        |        |                  |              | Locked-rotor Power Factor                |                       | 30.4            |         |
|                        |        |                  |              | Rotor inertia                            |                       | 7.19 LB-FT2     |         |

**Load Characteristics 380 V, 50 Hz, 30 HP**

| % of Rated Load | 25    | 50    | 75    | 100   | 125   | 150  |
|-----------------|-------|-------|-------|-------|-------|------|
| Power Factor    | 44    | 66    | 77    | 82    | 84    | 85   |
| Efficiency      | 88.7  | 92.8  | 93.7  | 93.1  | 92.8  | 92.5 |
| Speed           | 1494  | 1489  | 1484  | 1479  | 1474  | 1468 |
| Line amperes    | 21.96 | 27.73 | 35.61 | 44.25 | 54.18 | 64.6 |

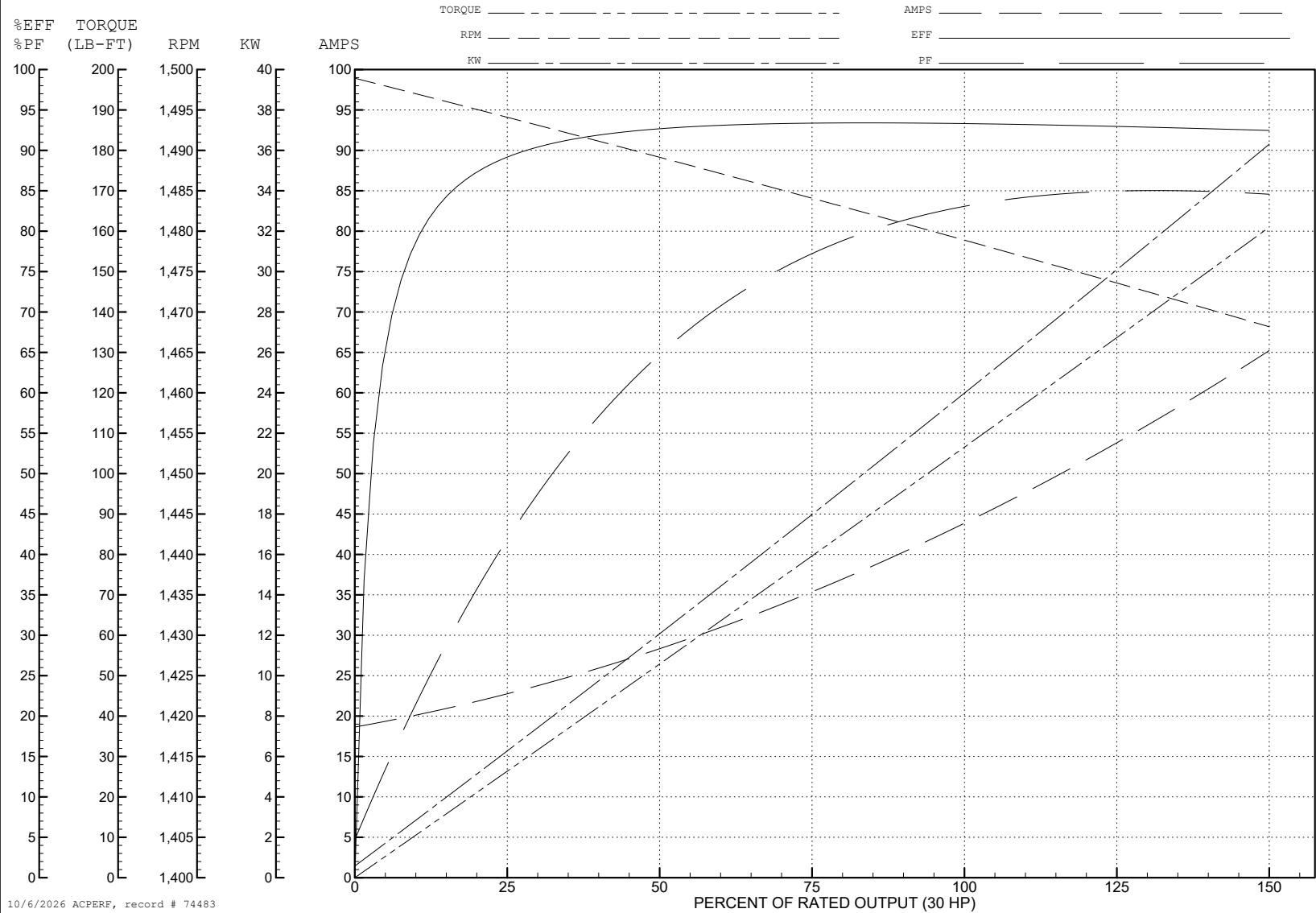
ABB Motors and Mechanical Inc.

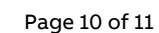
WINDING # 12WGY276

Typical performance - not guaranteed values.

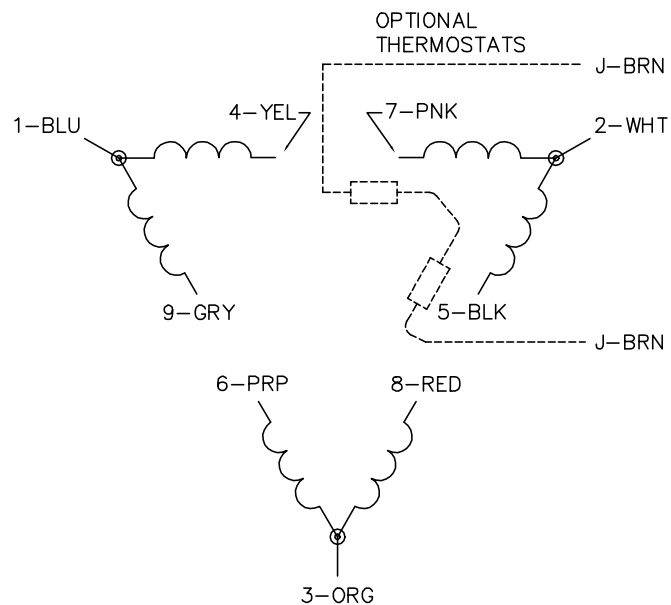
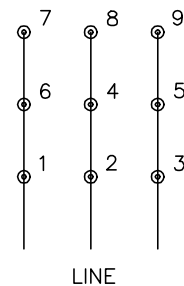
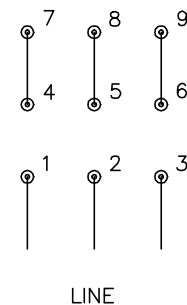
30 HP 3 PH 50 HZ 1479 RPM 380 V 1254M

TORQUES (LB-FT): PO=373 PU=203 LR=227 LRA=331





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