

# ABB BALDOR RELIANCE III

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## Customer information packet

### ECP64314TR-4

60HP, 1780RPM, 3PH, 60HZ, 364T, A3658M, TEFC, W

Class - CLI GP A,B,C,D

Division - Division II

**Specifications**

|                               |                                                            |
|-------------------------------|------------------------------------------------------------|
| Enclosure                     | TEFC                                                       |
| Frame                         | 364T                                                       |
| Frame Material                | Iron                                                       |
| Frequency                     | 60.00 Hz                                                   |
| Haz Area Class and Group      | CLI GP A,B,C,D                                             |
| Haz Area Division             | Division II                                                |
| Motor Letter Type             | Three Phase                                                |
| Output @ Frequency            | 60.000 HP @ 60 HZ                                          |
| Phase                         | 3                                                          |
| Synchronous Speed @ Frequency | 1800 RPM @ 60 HZ                                           |
| Voltage @ Frequency           | 460.0 V @ 60 HZ                                            |
| Agency Approvals              | CCSA US<br>CCSAUSEEV<br>NEMA PREMIUM<br>NEMA_PREMIUM<br>UR |
| Ambient Temperature           | 40 °C                                                      |
| Auxiliary Box                 | NO AUXILLARY BOX                                           |
| Base Indicator                | Rigid                                                      |
| Bearing Grease Type           | Mobil SHC 220 (Athens Only)                                |
| Constant Torque Speed Range   | 15-60                                                      |
| Current @ Voltage             | 70.000 A @ 460.0 V                                         |
| Design Code                   | B                                                          |
| Drip Cover                    | No Drip Cover                                              |
| Duty Rating                   | CONT                                                       |
| Efficiency @ 100% Load        | 95.0 %                                                     |
| Feedback Device               | NO FEEDBACK                                                |
| Haz Area Temp Code            | T3                                                         |
| Heater Indicator              | No Heater                                                  |
| High Voltage Full Load Amps   | 70.0 a                                                     |
| Insulation Class              | F                                                          |
| Inverter Code                 | Inverter Ready                                             |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | AB         |
| Type         | AC         |
| Mech. spec.  |            |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | A36WG4085  |
| Layout       | 617428-022 |
| Eff. date    | 09-09-2024 |
| CD Diagram   | CD0006     |
| Poles        | 04         |
| Leads        | 3#4        |
| Proprietary  | False      |
| Created date | 10-19-2010 |

|                                      |                            |
|--------------------------------------|----------------------------|
| <b>KVA Code</b>                      | G                          |
| <b>Lifting Lugs</b>                  | No Lifting Lugs            |
| <b>Max Speed</b>                     | 2700 rpm                   |
| <b>Motor Lead Quantity/Wire Size</b> | 3 @ 4 AWG                  |
| <b>Motor Standards</b>               | None                       |
| <b>Motor Type</b>                    | A3658M                     |
| <b>Mounting Arrangement</b>          | W6                         |
| <b>Number of Poles</b>               | 4                          |
| <b>Overall Length</b>                | 33.48 IN                   |
| <b>Power Factor</b>                  | 84                         |
| <b>Pulley End Bearing Type</b>       | Roller                     |
| <b>Pulley Face Code</b>              | Standard                   |
| <b>Service Factor</b>                | 1.15                       |
| <b>Shaft Diameter</b>                | 2.375 IN                   |
| <b>Shaft Ground Indicator</b>        | No Shaft Grounding         |
| <b>Shaft Rotation</b>                | Phase Seq-Std Rot (CCWODE) |
| <b>Shaft Slinger Indicator</b>       | No Slinger                 |
| <b>Speed</b>                         | 1780 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>      | None                       |

**Nameplate**

| NP4371                  |              |    |             |        |   |      |                  |        |      |         |             |      |      |        |  |       |   |  |
|-------------------------|--------------|----|-------------|--------|---|------|------------------|--------|------|---------|-------------|------|------|--------|--|-------|---|--|
| CAT #                   | ECP64314TR-4 |    |             |        |   |      | FR               | 364T   |      |         | IP55        |      |      |        |  |       |   |  |
| SPEC                    | P36G3368     |    |             |        |   |      | ENCL             |        | TEFC |         | DES         | B    |      |        |  |       |   |  |
| HZ                      | 60           | PH | 3           | CL     | F | HP   | 60               | SF     | 1.15 | PF      | 84          | %    | CODE | G      |  |       |   |  |
| VOLTS                   | 460          |    |             |        |   | AMPS |                  | 70     |      |         |             |      |      |        |  |       |   |  |
| RPM                     | 1780         |    | MAX RPM     |        |   | 2700 |                  | SER    |      |         |             |      |      |        |  |       |   |  |
| NEMA-NOM-EFF            | 95           | %  |             | RATING |   |      | 40C AMB-CONT     |        |      |         |             |      |      |        |  |       |   |  |
| GUAR MIN. EFF           | 94.1         | %  |             | BRG DE |   |      | NU313            |        |      | BRG ODE |             | 6313 |      |        |  |       |   |  |
| CL I DIV 2 GRPS A,B,C,D |              |    |             |        |   |      | CL I ZONE 2 GRPS |        |      |         | IIA,IIB,IIC |      |      | TEMP T |  | 3-200 | C |  |
| CT HZ                   | 15-60        |    | VT HZ       |        |   | 0-60 |                  |        |      |         |             |      |      |        |  |       |   |  |
| CHP HZ                  | 60-90        |    | INV TEMP CL |        |   |      |                  | 200    | C    |         |             |      |      |        |  |       |   |  |
|                         |              |    |             |        |   |      |                  | MTR WT |      | 924     | LBS         |      |      |        |  |       |   |  |

| NP4372                    |             |                  |     |               |   |          |   |  |  |
|---------------------------|-------------|------------------|-----|---------------|---|----------|---|--|--|
|                           | CAT #       | ECP64314TR-4     |     | ROTOR BARS    |   | 47       |   |  |  |
|                           | SPEC        | P36G3368         |     | STATOR SLOTS  |   | 60       |   |  |  |
|                           | SER         |                  |     | MAX CORR KVAR |   | 13.8     |   |  |  |
|                           | GREASE      | MOBIL SHC 220    |     |               |   |          |   |  |  |
|                           | ABMA DE BRG | 65RU03M30X       | ODE | 65BC03J30X    |   |          |   |  |  |
|                           |             |                  |     |               |   |          |   |  |  |
|                           |             |                  |     |               |   |          |   |  |  |
| SPACE HEATER LEADS H1-H2: |             | TIE LIKE NUMBERS |     |               |   | TOGETHER |   |  |  |
| MAX. SPACE HEATER TEMP.   |             | C                | V   |               | A |          | W |  |  |

**Parts List**

| Part number | Description                              | Quantity |
|-------------|------------------------------------------|----------|
| SA206468    | SA P36G3368                              | 1.000 ea |
| RA193735    | RA P36G3368                              | 1.000 ea |
| 000613006PU | N/P (RELEASE QTY 10,000) UL CSA LABEL    | 1.000 ea |
| NP4371      | SS SUPER E INVERTER DUTY IEEE 661 MAIN N | 1.000 ea |
| NP4372      | SS SUPER-E SD 661 CLI DIV2 UR CSA C US E | 1.000 ea |
| 000692000JP | N/P                                      | 1.000 ea |
| 000692000RT | N/P                                      | 1.000 ea |
| 000692000VD | LABEL WARNING                            | 1.000 ea |
| 000692000VH | N/P (RELEASE 1000 PCS)                   | 1.000 ea |
| 004824015EB | GREASE MOBIL TEMP SHC POLYREX 222        | 0.544 lb |
| 032018008AK | HHCS 1/4-20X1 PLATED                     | 4.000 ea |
| 032018012DK | HHCS 1/2-13X1-1/2 PLTD. 032018012DR      | 4.000 ea |
| 032018024CK | HHCS 3/8-16X3 PLTD.                      | 3.000 ea |
| 034180012DA | KEY 1X4X1/4X1-1/2 L                      | 1.000 ea |
| 032018012DK | HHCS 1/2-13X1-1/2 PLTD. 032018012DR      | 4.000 ea |
| 032018024CK | HHCS 3/8-16X3 PLTD.                      | 3.000 ea |
| 034530032BB | P/NIP 1/4X4" SCHED 40                    | 1.000 ea |
| 034530052AB | P/NIP 1/8X6-1/2 Zinc                     | 1.000 ea |
| 034600001AA | BUSH 1/4TO1/8 BLACK                      | 1.000 ea |
| 034630002AB | CPLG 1/4" PLATED                         | 1.000 ea |
| 034690001AB | 1/8" NPT SQHDPLG                         | 1.000 ea |
| 035000001G  | GREASE RELIEF FITTING, ALEMITE 317400    | 1.000 ea |
| 085922083BH | BRKT 360 085922072WCC KB                 | 1.000 ea |
| 415028079E  | INPRO SEAL,.625 WIDE,313 BRG             | 1.000 ea |
| 415096002A  | CPLG 1/8 HEX TYPE                        | 1.000 ea |
| 423709011C  | WASHER                                   | 3.000 ea |
| HW4600G56   | DOME SLINGER, 7.875 OD X 2.370/2.300 ID  | 1.000 ea |
| 047174001Z  | EXT SNAP RING                            | 1.000 ea |
| 078548001K  | FAN KB 100/30 (70) 360                   | 1.000 ea |
| 078559034A  | +F/C A 078559001A - 360                  | 1.000 ea |
| 415072001B  | CLAMP                                    | 1.000 ea |

|              |                                        |          |
|--------------|----------------------------------------|----------|
| 032018010CK  | HHCS 3/8-16X1-1/4 PLTD. 032018010CR    | 4.000 ea |
| 033512008LB  | HHTTS 1/4-20X1 PLATED                  | 4.000 ea |
| 034000014AB  | WSH ID.406 OD.812 TH.065               | 4.000 ea |
| 035000001A   | ALFTG 1/8" 1610-BL                     | 1.000 ea |
| 035000001A   | ALFTG 1/8" 1610-BL                     | 1.000 ea |
| 067053000B   | GASK 320-400                           | 1.000 ea |
| 076708000BB  | CONDUIT BOX-360                        | 1.000 ea |
| 076709000A   | C/B Cover - 360                        | 1.000 ea |
| 406099000A   | PLUG - FAN COVER 320-440               | 1.000 ea |
| 415000115H   | T/LUG #2AWG-4/0AWG                     | 1.000 ea |
| 415039016A   | TERBD, 360-400                         | 1.000 ea |
| 418150003A   | GREASE FITTING CAP                     | 1.000 ea |
| 033775004EA  | DRSCR #6-1/4 304 S.S.                  | 4.000 ea |
| 418150003A   | GREASE FITTING CAP                     | 1.000 ea |
| 034530020BB  | P/NIP 1/4X2-1/2 PLATED                 | 1.000 ea |
| 034530032AB  | P/NIP 1/8X4 PLATED                     | 1.000 ea |
| 034600001AA  | BUSH 1/4TO1/8 BLACK                    | 1.000 ea |
| 034630002AB  | CPLG 1/4" PLATED                       | 1.000 ea |
| 035000001G   | GREASE RELIEF FITTING, ALEMITE 317400  | 1.000 ea |
| 085922083BH  | BRKT 360 085922072WCC KB               | 1.000 ea |
| 412118006A   | DRAIN                                  | 1.000 ea |
| 415028079E   | INPRO SEAL,.625 WIDE,313 BRG           | 1.000 ea |
| 415096002A   | CPLG 1/8 HEX TYPE                      | 1.000 ea |
| 423709011C   | WASHER                                 | 3.000 ea |
| 034180034HA  | KEY 5/8X5/8X4-1/4 L                    | 1.000 ea |
| MG1025N19    | WILKO 778.50 BLUE GREEN - 55 GAL DRUMS | 0.250 ga |
| 004824003CBY | WILKO PAINT 060.02 - ACTIVATOR         | 0.063 ga |
| 482403003BEF | RUST VETO 342                          | 0.013 ga |
| MG1500G03-5  | LACQUER PRIMER, GRAY                   | 0.063 ga |
| 421948051    | LABEL, MYLAR                           | 1.000 ea |
| 14PA1000     | PACKAGING 314 GROUP COMBINED PRINT     | 1.000 ea |
| 604797015R   | SHAFT BLOCK                            | 1.000 ea |
| 032018024EK  | HHCS,ODE BRKT                          | 1.000 ea |
| 034001018AB  | FLTWSHR,C/B BRACE                      | 1.000 ea |

|             |                                  |          |
|-------------|----------------------------------|----------|
| 034001020AB | 3/4 STD W FL WASHER              | 1.000 ea |
| 415070001A  | RUBBER MOUNT 3X3X1 THICK         | 1.000 ea |
| LB1449      | DIV-2/NEC WARNING LABEL          | 1.000 ea |
| 032018005DL | 1/2-13 X 5/8 SILICON BRONZE HHCS | 1.000 ea |



## AC Induction motor performance data

Record #72800 - Typical performance - not guaranteed values

|           |           |
|-----------|-----------|
| Winding   | A36WG4085 |
| Type      | A3658M    |
| Enclosure | TEFC      |

## Nameplate data

|                |    |              |      |
|----------------|----|--------------|------|
| Rated Output   |    |              | 60   |
| Volts          |    |              | 460  |
| Full Load Amps |    |              | 70   |
| R.P.M.         |    |              | 1780 |
| Hz             | 60 | Phase        | 3    |
| KVA Code       |    |              | G    |
| S.F.           |    |              | 1.15 |
| NEMA Nom. Eff. | 95 | Power Factor | 84   |
| Duty           |    |              | CONT |
| S.F. Amps      |    |              |      |

460 V. 60 Hz:

## High Voltage Connection

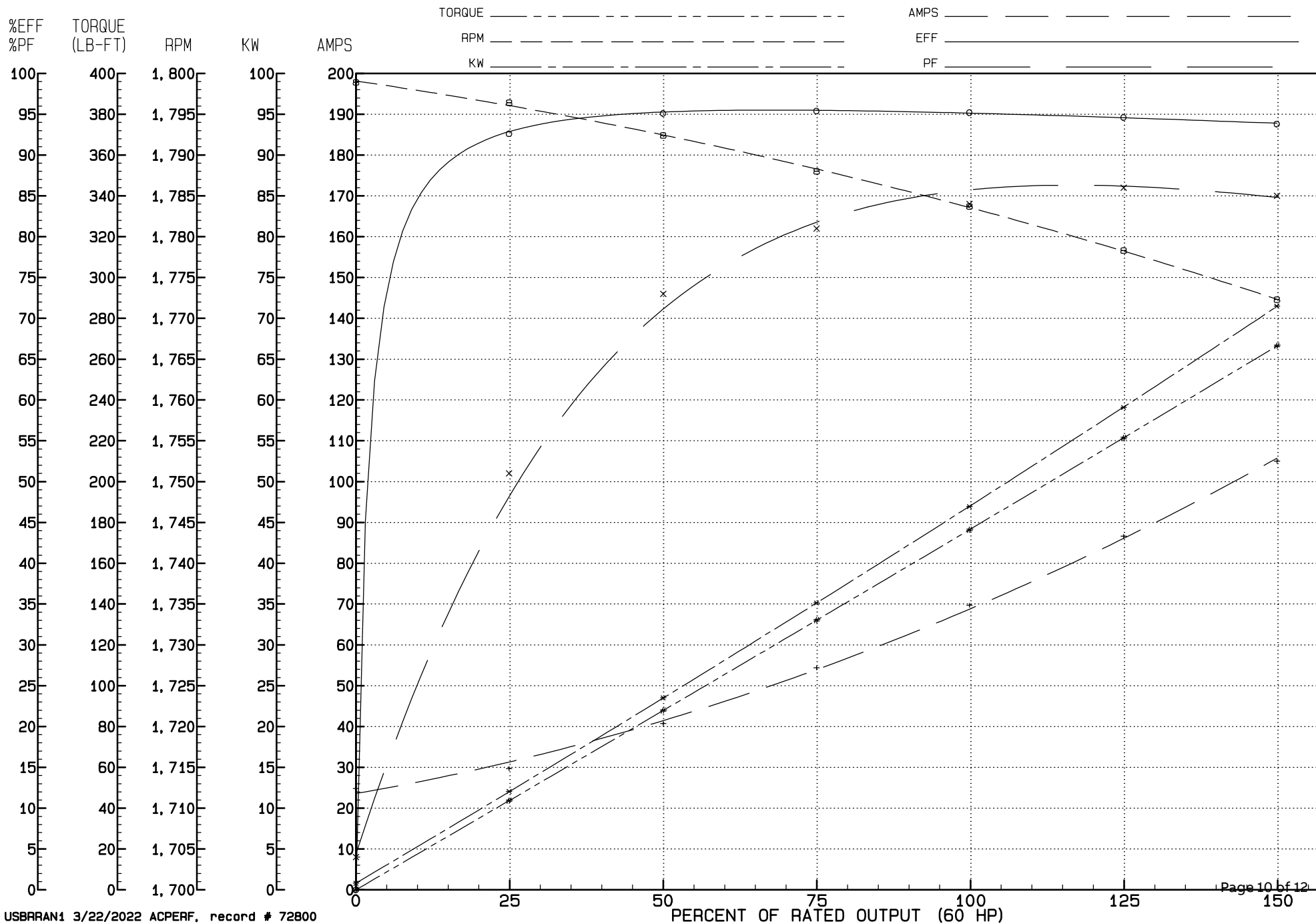
|                           |                  |
|---------------------------|------------------|
| Full Load Torque          | 176.4 LB-FT      |
| Start Configuration       | direct on line   |
| Breakdown Torque          | 422 LB-FT        |
| Pull-up Torque            | 276 LB-FT        |
| Locked-rotor Torque       | 352 LB-FT        |
| Starting Current          | 462 A            |
| No-load Current           | 24.8             |
| Line-line Res. @ 25°C     | 0.10816 $\Omega$ |
| Temp. Rise @ Rated Load   | 56°C             |
| Temp. Rise @ S.F. Load    | 70°C             |
| Locked-rotor Power Factor | 32.1             |
| Rotor inertia             | 0                |

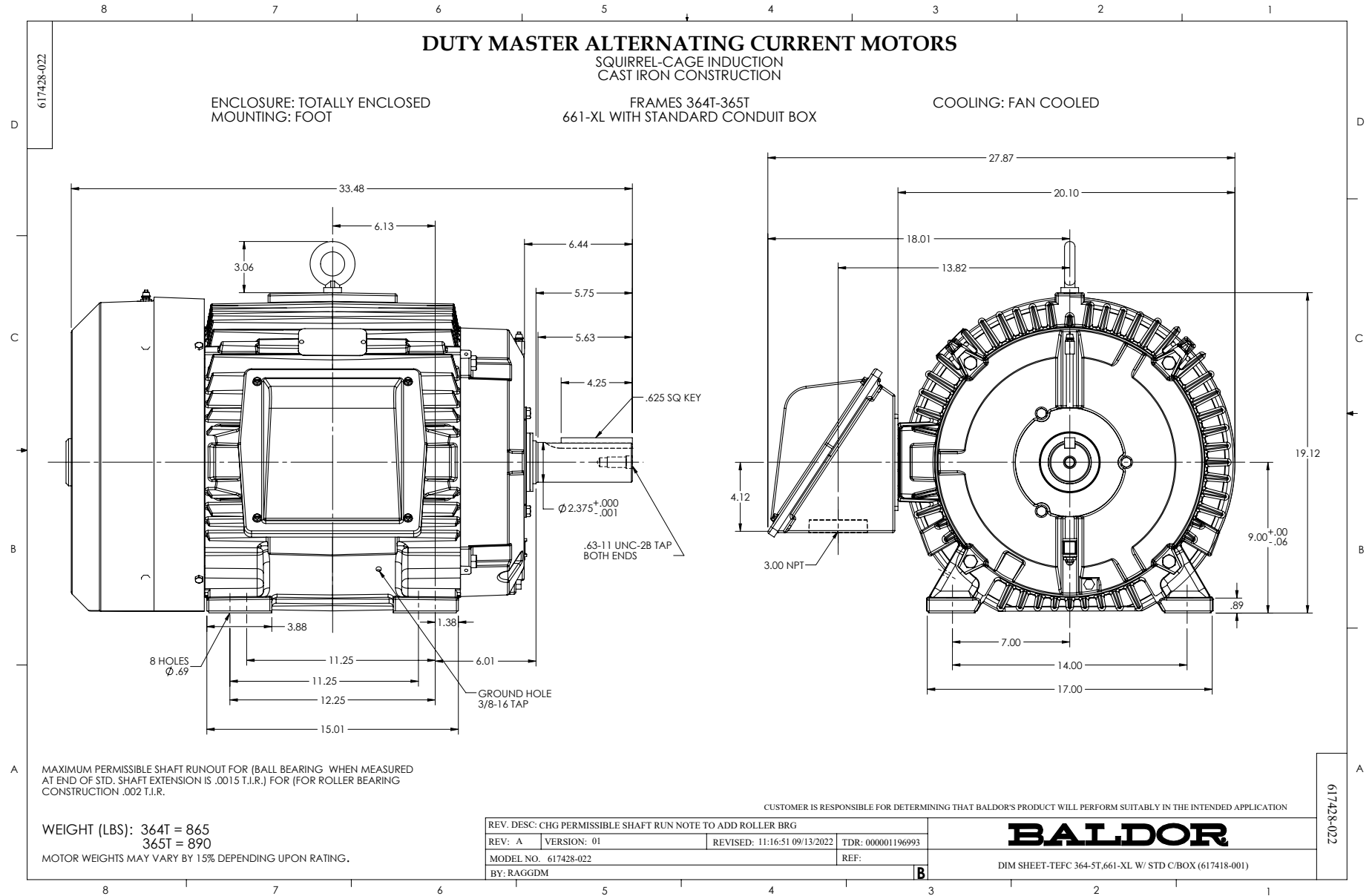
## Load Characteristics 460 V, 60 Hz, 60 HP

|                 |        |        |        |      |        |        |        |      |
|-----------------|--------|--------|--------|------|--------|--------|--------|------|
| % of Rated Load | NL     | 25     | 50     | 75   | 100    | 125    | 150    | SF   |
| Power Factor    | 4      | 51     | 73     | 81   | 84     | 86     | 85     | 85   |
| Efficiency      | 0      | 92.6   | 95.1   | 95.4 | 95.2   | 94.6   | 93.8   | 94.8 |
| Speed           | 1798.9 | 1796.4 | 1792.4 | 1788 | 1783.7 | 1778.3 | 1772.3 | 1780 |
| Line amperes    | 24.8   | 29.7   | 40.7   | 54.4 | 69.7   | 86.6   | 105    | 79.8 |

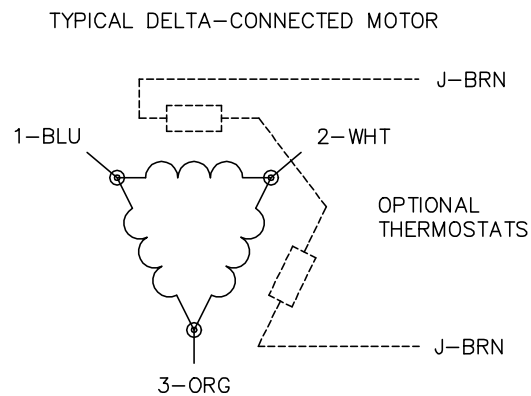
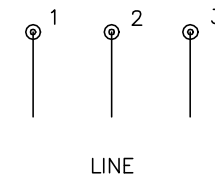
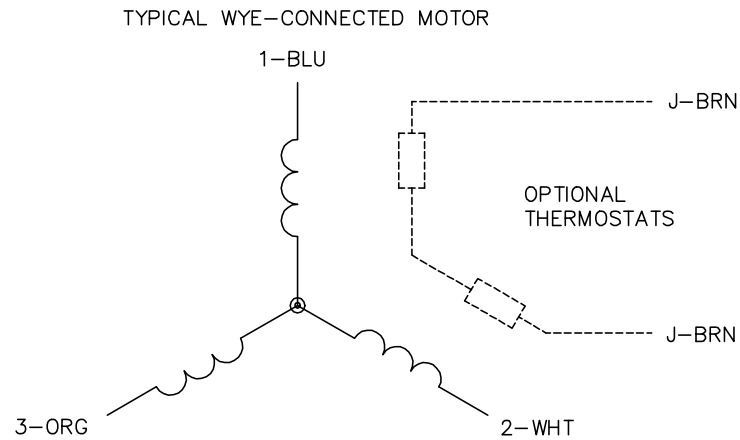
60 HP 3 PH 60 HZ 1780 RPM 460 V A3658M

TORQUES (LB-FT): PO=422.00 PU=276.00 LR=352.00 LRA=462.00





CD0006


**NOTES:**

1. THREE LEAD MOTOR MAY BE EITHER WYE CONNECTED OR DELTA CONNECTED.
2. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
3. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
4. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY VARY.
5. LEAD COLORS ARE OPTIONAL. LEADS MUST BE NUMBERED AS SHOWN.

CD0006

REV. DESC: ADD CLASS CONN00000007

REV. LTR: E

VERSION: 01

TDR: 000001099922

FILE: \AAA\00005\141

REVISED: 10:24:49 02/19/2019

BY: ENBRIRO

MTL: —


**BALDOR - RELIANCE®**

3PH, SV, 3 LEADS, WYE OR DELTA CONNECTED

SH 1 of 1