

# ABB BALDOR RELIANCE III

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## Customer information packet

### EFM4400T

100HP, 1785RPM, 3PH, 60HZ, 405T, A40064M, TEFC

Class - None

Division - Not Applicable

**Specifications**

|                               |                                            |
|-------------------------------|--------------------------------------------|
| Enclosure                     | TEFC                                       |
| Frame                         | 405T                                       |
| Frame Material                | Iron                                       |
| Frequency                     | 60.00 Hz                                   |
| Haz Area Class and Group      | None                                       |
| Haz Area Division             | Not Applicable                             |
| Motor Letter Type             | Three Phase                                |
| Output @ Frequency            | 100.000 HP @ 60 HZ                         |
| Phase                         | 3                                          |
| Synchronous Speed @ Frequency | 1800 RPM @ 60 HZ                           |
| Voltage @ Frequency           | 230.0 V @ 60 HZ<br>460.0 V @ 60 HZ         |
| Agency Approvals              | CURUSEEV<br>CCSAUSEEV                      |
| Ambient Temperature           | 40 °C                                      |
| Auxiliary Box                 | NO AUXILLARY BOX                           |
| Base Indicator                | Rigid                                      |
| Bearing Grease Type           | Polyrex EM (-20F +300F)                    |
| Current @ Voltage             | 224.000 A @ 230.0 V<br>112.000 A @ 460.0 V |
| Design Code                   | B                                          |
| Drip Cover                    | No Drip Cover                              |
| Duty Rating                   | CONT                                       |
| Efficiency @ 100% Load        | 95.4 %                                     |
| Feedback Device               | NO FEEDBACK                                |
| Heater Indicator              | No Heater                                  |
| High Voltage Full Load Amps   | 112.0 a                                    |
| Insulation Class              | F                                          |
| Inverter Code                 | Inverter Ready                             |
| KVA Code                      | G                                          |
| Lifting Lugs                  | Standard Lifting Lugs                      |
| Motor Lead Quantity/Wire Size | 3 @ 2 AWG                                  |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | J          |
| Type         | AC         |
| Mech. spec.  |            |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | A40WG0251  |
| Layout       | 617429-011 |
| Eff. date    | 09-04-2024 |
| CD Diagram   | 416820-002 |
| Poles        | 04         |
| Leads        | 3#2,6#4    |
| Proprietary  | False      |
| Created date | 07-16-2013 |

|                                 |                    |
|---------------------------------|--------------------|
| <b>Motor Standards</b>          | <b>NEMA</b>        |
| <b>Motor Type</b>               | A40064M            |
| <b>Mounting Arrangement</b>     | F2                 |
| <b>Number of Poles</b>          | 4                  |
| <b>Overall Length</b>           | 38.18 IN           |
| <b>Power Factor</b>             | 87                 |
| <b>Pulley End Bearing Type</b>  | Ball               |
| <b>Pulley Face Code</b>         | Standard           |
| <b>Service Factor</b>           | 1.15               |
| <b>Shaft Diameter</b>           | 2.875 IN           |
| <b>Shaft Ground Indicator</b>   | No Shaft Grounding |
| <b>Shaft Rotation</b>           | Reversible         |
| <b>Shaft Slinger Indicator</b>  | No Slinger         |
| <b>Speed</b>                    | 1785 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**

| NP2349L           |            |       |  |              |      |                         |    |                     |    |       |                       |      |      |
|-------------------|------------|-------|--|--------------|------|-------------------------|----|---------------------|----|-------|-----------------------|------|------|
| SPEC NO.          | P40G3924   |       |  | CAT.NO.      |      | EFM4400T                |    |                     |    | FRAME | 405T                  |      |      |
| HP                | 100        | VOLTS |  | 230/460      |      | PHASE                   | 3  | DESIGN              | B  | TYPE  | P                     |      |      |
| RPM               | 1785       | AMPS  |  | 224/112      |      | HZ                      | 60 | AMB                 | 40 | SF    | 1.15                  |      |      |
| DRIVE END BEARING | 80BC03J30X |       |  | DUTY         | CONT | INSUL.CLASS             |    |                     | F  |       |                       |      |      |
| OPP D.E. BEARING  | 80BC03J30X |       |  | ENCL         | TEFC | CODE                    | G  |                     |    |       |                       |      |      |
| SER.NO.           |            |       |  | POWER FACTOR |      | 87                      |    | NEMA-NOM-EFFICIENCY |    |       |                       | 95.4 |      |
|                   |            |       |  |              |      | MAX CORR KVAR           |    |                     | 18 |       | GUARANTEED EFFICIENCY |      | 94.5 |
|                   |            |       |  |              |      | NEMA NOM/CSA QUOTED EFF |    |                     |    |       |                       |      |      |
|                   |            |       |  |              |      | MOTOR WEIGHT            |    |                     |    |       |                       |      |      |

| NP2496L          |  |
|------------------|--|
| MOBIL POLYREX EM |  |
|                  |  |

**Parts List**

| Part number | Description                              | Quantity |
|-------------|------------------------------------------|----------|
| SA267713    | SA P40G3924                              | 1.000 ea |
| RA254383    | RA P40G3924                              | 1.000 ea |
| 000613006PU | N/P (RELEASE QTY 10,000) UL CSA LABEL    | 1.000 ea |
| 000692000VD | LABEL WARNING                            | 1.000 ea |
| 000692000FF | N/P                                      | 1.000 ea |
| NP2349L     | SUPER-E ,SS, CURUS EEV, CC, LASER        | 1.000 ea |
| 421948032   | LABEL, MYLAR                             | 1.000 ea |
| 412118006A  | DRAIN                                    | 2.000 ea |
| 004824015A  | GREASE POLYREX EM                        | 0.884 lb |
| 032018008CK | HHCS 3/8-16X1L PLATED                    | 4.000 ea |
| 032018008CK | HHCS 3/8-16X1L PLATED                    | 4.000 ea |
| 032018020EK | HHCS 5/8-11X2-1/2 PLTD.                  | 4.000 ea |
| 032018024CK | HHCS 3/8-16X3 PLTD.                      | 3.000 ea |
| 034000014AB | WSH ID.406 OD.812 TH.065                 | 4.000 ea |
| 034180012DA | KEY 1X4X1/4X1-1/2 L                      | 1.000 ea |
| 034530052AB | P/NIP 1/8X6-1/2 Zinc                     | 1.000 ea |
| 034530056BB | P/NIP 1/4X7 SCHED 40                     | 1.000 ea |
| 034631002AB | BUSH 1/4 TO 1/8 PLTD.                    | 1.000 ea |
| 034692005AA | P PLUG 3/4"BLK.                          | 1.000 ea |
| 034690001AB | 1/8" NPT SQHDPLG                         | 1.000 ea |
| 078548001R  | FAN KB 234/150 (84) 400                  | 1.000 ea |
| 083198127A  | G400 MOLDED FAN COVER                    | 1.000 ea |
| 089412501A  | BRKT FTMT G400 FIN MACH 6316 89412500WCA | 1.000 ea |
| 410700000DA | WAVY SPRING WASHER                       | 1.000 ea |
| 415072001B  | CLAMP                                    | 1.000 ea |
| 415096002A  | CPLG 1/8 HEX TYPE                        | 1.000 ea |
| 032018020EK | HHCS 5/8-11X2-1/2 PLTD.                  | 4.000 ea |
| 032018024CK | HHCS 3/8-16X3 PLTD.                      | 3.000 ea |
| 034690002AB | PPLG 1/4" PLTD.                          | 1.000 ea |
| 089412501A  | BRKT FTMT G400 FIN MACH 6316 89412500WCA | 1.000 ea |
| 032018005AK | HHCS 1/4-20X5/8 PLATED                   | 4.000 ea |

|             |                                         |          |
|-------------|-----------------------------------------|----------|
| 035000001A  | ALFTG 1/8" 1610-BL                      | 1.000 ea |
| 035000001A  | ALFTG 1/8" 1610-BL                      | 1.000 ea |
| 043292000AJ | GASK 320-400                            | 1.000 ea |
| 077176000L  | C/BOX, PAINTED 440                      | 1.000 ea |
| 077176001A  | CBOX Cover 360-400                      | 1.000 ea |
| 402731001A  | GASK 360-440                            | 1.000 ea |
| 406099000A  | PLUG - FAN COVER 320-440                | 1.000 ea |
| 415000115H  | T/LUG #2AWG-4/0AWG                      | 1.000 ea |
| 418150003A  | GREASE FITTING CAP                      | 1.000 ea |
| MG1025Y17   | WILKOFAS, 789.701, SUPER E PEARL GOLD   | 0.375 ga |
| 418150003A  | GREASE FITTING CAP                      | 1.000 ea |
| 033775004EA | DRSCR #6-1/4 304 S.S.                   | 2.000 ea |
| 034180044JA | KEY 3/4X3/4X5-1/2 L                     | 1.000 ea |
| 032018005DL | 1/2-13 X 5/8 SILICON BRONZE HHCS        | 1.000 ea |
| PK5004A02   | WOOD BASE 40X32 WITH STACKED 2X4 RUNNER | 1.000 ea |
| NP2496L     | MOTOR LUBE NAMEPLATE                    | 1.000 ea |

|                                                                                                                                               |              |                                                                                     |                   |                                                                     |                 |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------|-----------------|---------|
| REL.<br>S.O.                                                                                                                                  | FRAME        | HP                                                                                  | TYPE              | PHASE/<br>HERTZ                                                     | RPM             | VOLTS   |
|                                                                                                                                               | 405T         | 100                                                                                 | P                 | 3/60                                                                | 1785            | 230/460 |
| AMPS                                                                                                                                          | DUTY         | AMB °C/<br>INSUL.                                                                   | S.F.              | NEMA<br>DESIGN                                                      | CODE<br>LETTER  | ENCL.   |
| 224/112                                                                                                                                       | CONT         | 40/F                                                                                | 1.15              | B                                                                   | G               | TEFC    |
| E/S                                                                                                                                           | ROTOR        | TEST<br>S.O.                                                                        | TEST<br>DATE      | STATOR RES. @25 °C<br>OHMS (BETWEEN LINES)                          |                 |         |
| 596956                                                                                                                                        | 418142-33-RE | ---                                                                                 | ---               | .0123/.0492                                                         |                 |         |
| PERFORMANCE                                                                                                                                   |              |                                                                                     |                   |                                                                     |                 |         |
| LOAD                                                                                                                                          | HP           | AMPERES                                                                             | RPM               | %<br>POWER FACTOR                                                   | %<br>EFFICIENCY |         |
| NO LOAD                                                                                                                                       | 0            | 28.6                                                                                | 1800              | 5.49                                                                | 0               |         |
| 1/4                                                                                                                                           | 25.0         | 39.2                                                                                | 1796              | 64.3                                                                | 93.0            |         |
| 2/4                                                                                                                                           | 50.0         | 59.5                                                                                | 1792              | 82.5                                                                | 95.4            |         |
| 3/4                                                                                                                                           | 75.0         | 84.6                                                                                | 1788              | 86.7                                                                | 95.7            |         |
| 4/4                                                                                                                                           | 100          | 112                                                                                 | 1783              | 87.4                                                                | 95.4            |         |
| 5/4                                                                                                                                           | 125          | 141                                                                                 | 1778              | 87.3                                                                | 94.9            |         |
| SPEED TORQUE                                                                                                                                  |              |                                                                                     |                   |                                                                     |                 |         |
|                                                                                                                                               | RPM          | TORQUE<br>% FULL LOAD                                                               | TORQUE<br>LB.-FT. | AMPERES                                                             |                 |         |
| LOCKED ROTOR                                                                                                                                  | 0            | 151                                                                                 | 445               | 725                                                                 |                 |         |
| PULL UP                                                                                                                                       | 360          | 136                                                                                 | 400               | 706                                                                 |                 |         |
| BREAKDOWN                                                                                                                                     | 1721         | 250                                                                                 | 735               | 382                                                                 |                 |         |
| FULL LOAD                                                                                                                                     | 1783         | 100                                                                                 | 295               | 112                                                                 |                 |         |
| AMPERES SHOWN FOR 460. VOLT CONNECTION. IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE<br>AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE |              |                                                                                     |                   |                                                                     |                 |         |
| REMARKS: TYPICAL DATA<br>XE MOTOR-DATA-NEMA NOM. EFF. 95.4 PCT<br>GUARANTEED MIN EFF. 95.0 PCT                                                |              |                                                                                     |                   |                                                                     |                 |         |
|                                                            |              | DR. BY J. J. HARRISON<br>CK. BY W. L. SMITH<br>APP. BY W. L. SMITH<br>DATE 07/26/04 |                   | A-C MOTOR<br>PERFORMANCE A40WG0251-R001<br>DATA ISSUE DATE 12/15/10 |                 |         |

FRAME 405T

VOLTS 230/460

NEMA DESIGN B

TEST S.O. TYPICAL DATA

HP 100

AMPS 224/112

CODE LETTER G

TEST DATE ---

TYPE P

DUTY CONT

ENCLOSURE TEFC

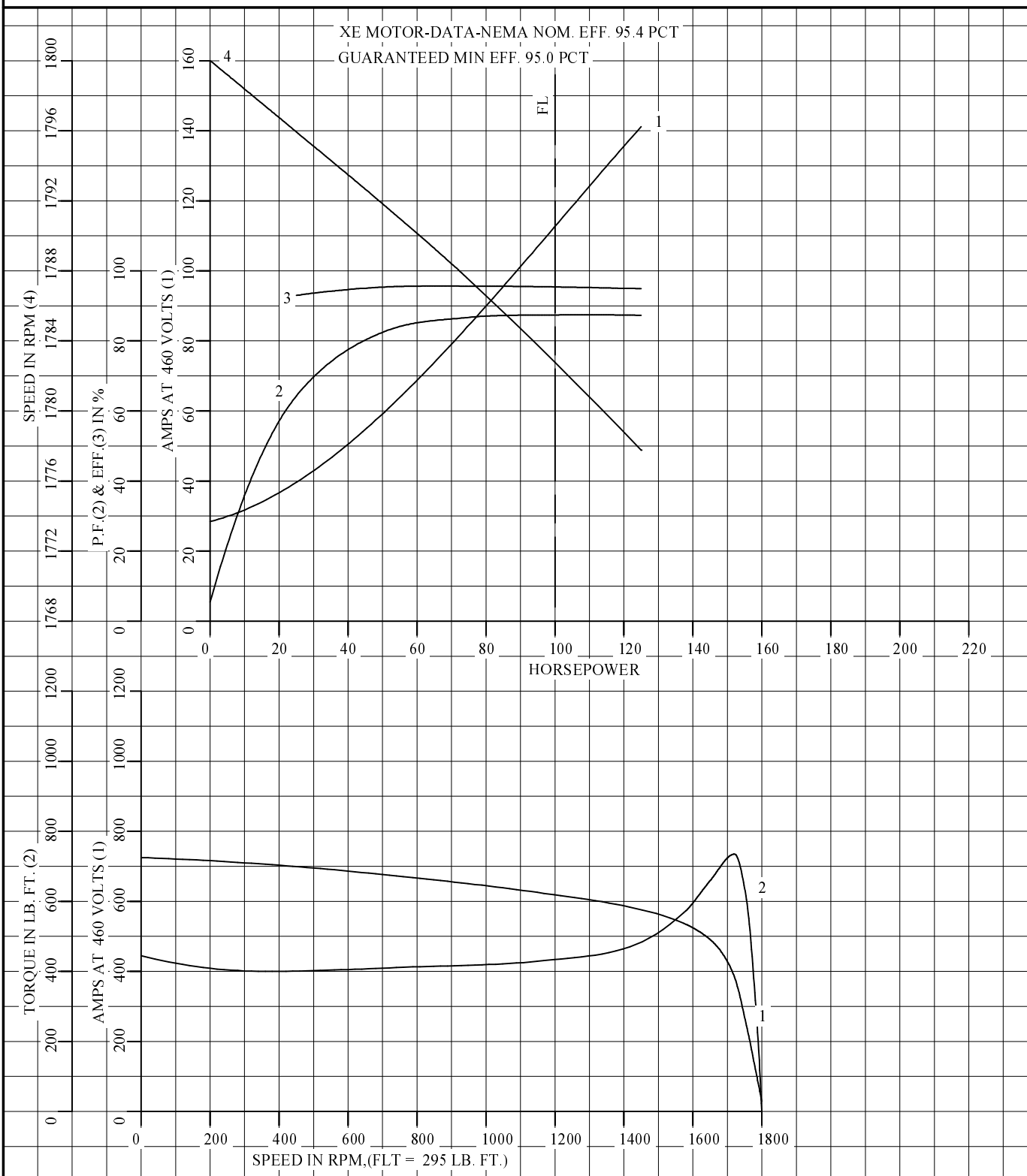
STATOR RES. @ 25 °C .0123/.0492

PHASE/HERTZ 3/60

AMB °C/INSUL 40/F

E/S 596956

OHMS (BETWEEN LINES)



AMPERES SHOWN FOR 460 VOLT CONNECTION, IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE.

**BALDOR**

DR. BY J J HARRISON  
CK. BY W L SMITH  
APP. BY W L SMITH  
DATE 07/26/04

**A-C MOTOR  
PERFORMANCE  
CURVES** A40WG0251-R001  
ISSUE DATE 12/15/10

REL. S.O.

RPM 1785

S.F. 1.15

ROTOR 418142-33-RE

FRAME 405T

VOLTS 230/460

NEMA DESIGN B

TEST S.O. TYPICAL DATA

HP 100

AMPS 224/112

CODE LETTER G

TEST DATE ---

TYPE P

DUTY CONT

ENCLOSURE TEFC

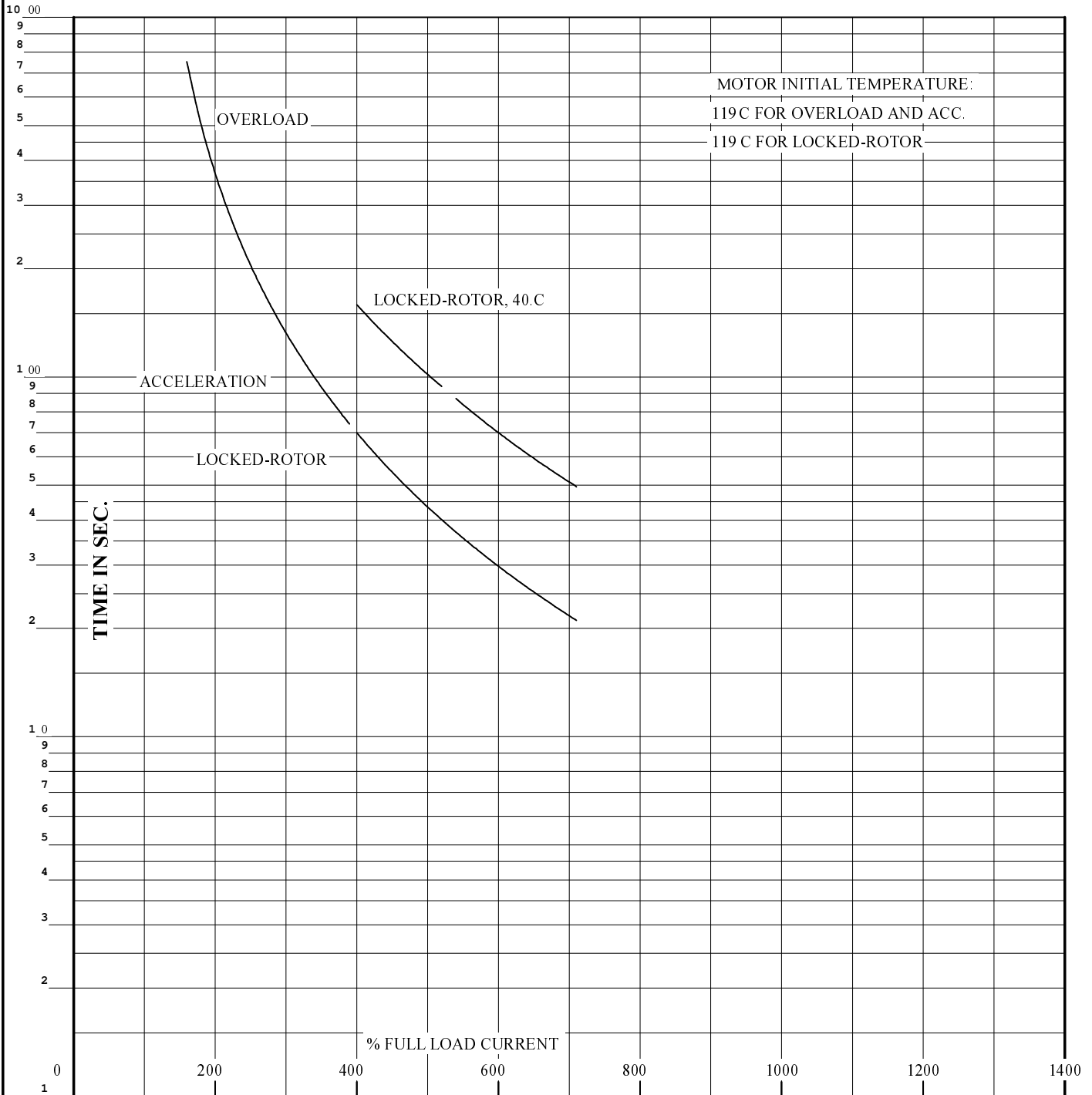
STATOR RES. @ 25 °C .0123/.0492

PHASE/HERTZ 3/60

AMB °C/INSUL 40/F

E/S 596956

OHMS (BETWEEN LINES)



THERMAL LIMIT CURVE

REMARKS:

XE MOTOR-DATA-NEMA NOM. EFF. 95.4 PCT

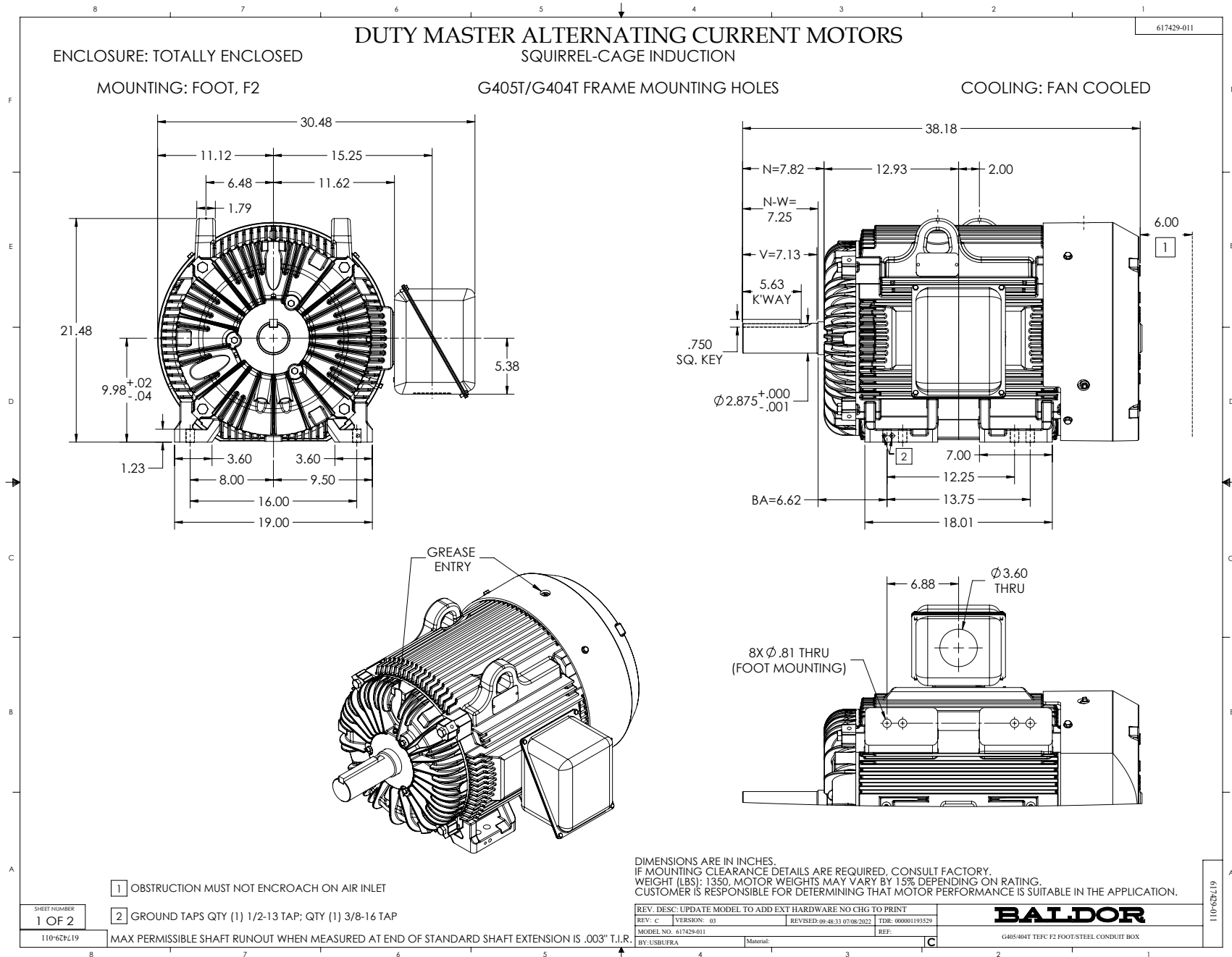
GUARANTEED MIN EFF. 95.0 PCT

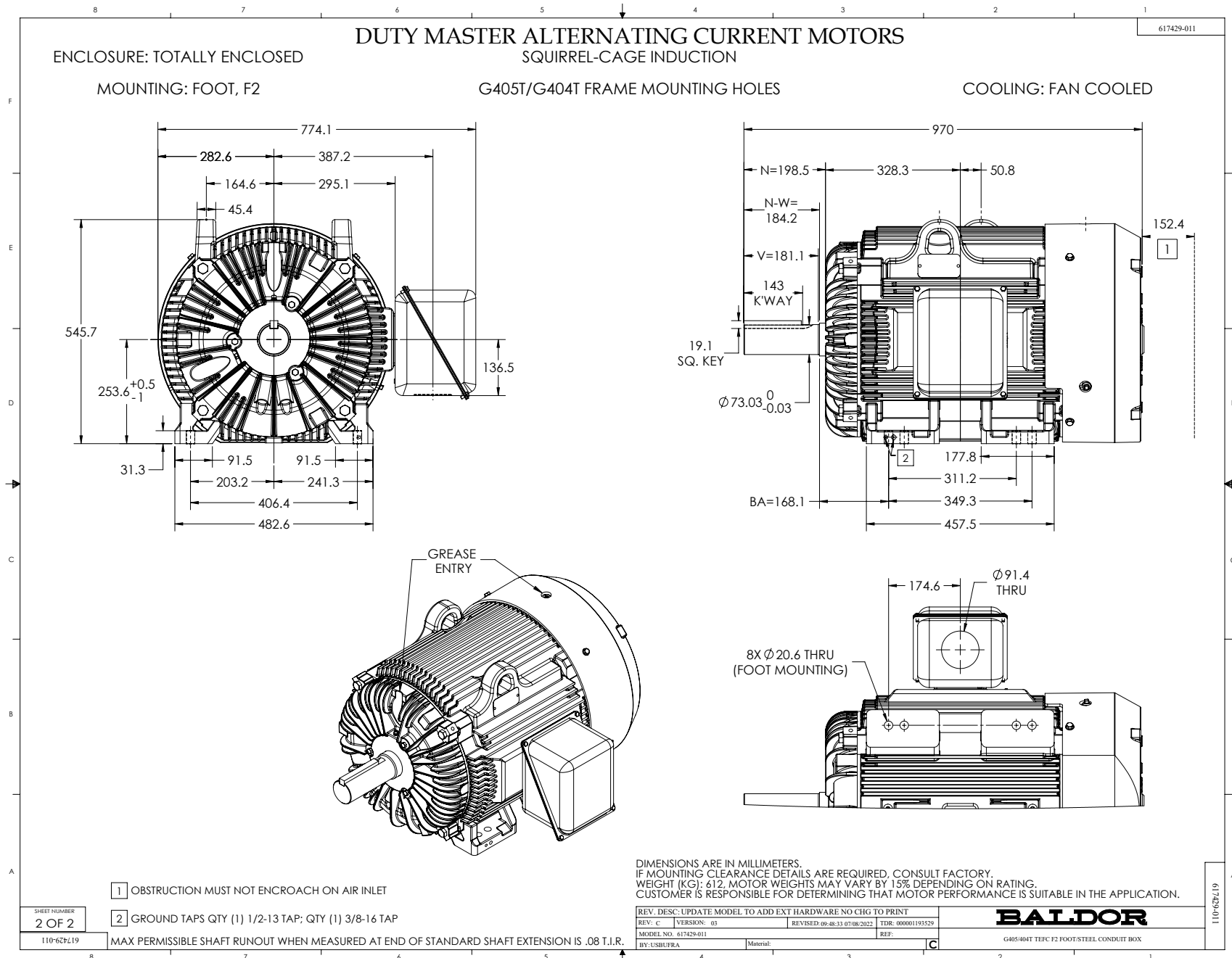
AMPERES SHOWN FOR 460 VOLT CONNECTION, IF OTHER VOLTAGE CONNECTIONS ARE AVAILABLE, THE AMPERES WILL VARY INVERSELY WITH THE RATED VOLTAGE.

# BALDOR

DR. BY J.J. HARRISON  
CK. BY W.L. SMITH  
APP. BY W.L. SMITH  
DATE 07/26/04

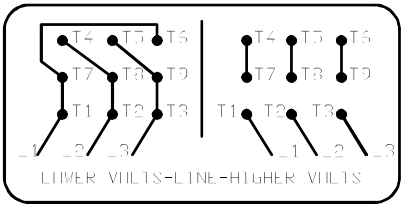
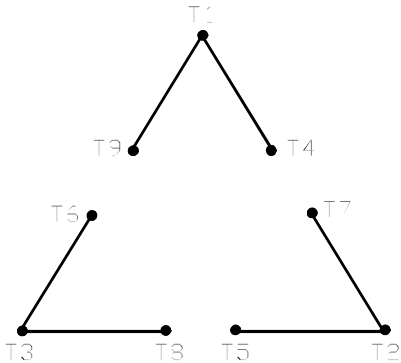
**A-C MOTOR  
PERFORMANCE CURVES** A40WG0251-R001  
ISSUE DATE 12/15/10





416820-002

A-C MOTOR  
CONNECTION DIAGRAM  
STANDARD 9 LEAD DELTA-CONNECTED



(N.P. 1575-B)

|                                           |                              |                   |
|-------------------------------------------|------------------------------|-------------------|
| REV. DESC: FONT CHANGE FOR PDF SEARCHABLE |                              |                   |
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| FILE: \MGA\00000\661                      | REVISED: 02:46:19 02/13/2020 | BY: MGHMTT        |
| MTL: —                                    |                              |                   |

**BALDOR - RELIANCE®**

CONN DIAG — STANDARD 9 LEAD, DELTA-CONNECTED  
SH 1 of 1

416820-002