

# ABB BALDOR RELIANCE III

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## Customer information packet

### EM4104T-5

30HP, 1770RPM, 3PH, 60HZ, 286T, 1056M, TEFC, F1

Class - None

Division - Not Applicable

**Specifications**

|                                       |                                                     |
|---------------------------------------|-----------------------------------------------------|
| <b>Enclosure</b>                      | TEFC                                                |
| <b>Frame</b>                          | 286T                                                |
| <b>Frame Material</b>                 | Iron                                                |
| <b>Frequency</b>                      | 60.00 Hz                                            |
| <b>Haz Area Class and Group</b>       | None                                                |
| <b>Haz Area Division</b>              | Not Applicable                                      |
| <b>Motor Letter Type</b>              | Three Phase                                         |
| <b>Output @ Frequency</b>             | 30.000 HP @ 60 HZ                                   |
| <b>Phase</b>                          | 3                                                   |
| <b>Synchronous Speed @ Frequency</b>  | 1800 RPM @ 60 HZ                                    |
| <b>Voltage @ Frequency</b>            | 575.0 V @ 60 HZ                                     |
| <b>Agency Approvals</b>               | NEMA PREMIUM (OLD LOGO)<br>CURUSEEV<br>NEMA PREMIUM |
| <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>Current @ Voltage</b>              | 29.000 A @ 575.0 V                                  |
| <b>Design Code</b>                    | A                                                   |
| <b>Drip Cover</b>                     | No Drip Cover                                       |
| <b>Duty Rating</b>                    | CONT                                                |
| <b>Efficiency @ 100% Load</b>         | 93.6 %                                              |
| <b>Electrically Isolated Bearing</b>  | Not Electrically Isolated                           |
| <b>Feedback Device</b>                | NO FEEDBACK                                         |
| <b>Front Face Code</b>                | Standard                                            |
| <b>Front Shaft Indicator</b>          | None                                                |
| <b>Heater Indicator</b>               | No Heater                                           |
| <b>High Voltage Full Load Amps</b>    | 29.0 a                                              |
| <b>Insulation Class</b>               | F                                                   |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | AC         |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  | 10C151     |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 10WGY759   |
| <b>Layout</b>       | 10LYC151   |
| <b>Eff. date</b>    | 01-07-2026 |
| <b>CD Diagram</b>   | CD0006     |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 3#10       |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 04-29-2010 |

|                                      |                       |
|--------------------------------------|-----------------------|
| <b>Inverter Code</b>                 | Inverter Ready        |
| <b>KVA Code</b>                      | G                     |
| <b>Lifting Lugs</b>                  | Standard Lifting Lugs |
| <b>Locked Bearing Indicator</b>      | Locked Bearing        |
| <b>Motor Lead Exit</b>               | Ko Box                |
| <b>Motor Lead Quantity/Wire Size</b> | 3 @ 10 AWG            |
| <b>Motor Lead Termination</b>        | Flying Leads          |
| <b>Motor Standards</b>               | NEMA                  |
| <b>Motor Type</b>                    | 1056M                 |
| <b>Mounting Arrangement</b>          | F1                    |
| <b>Number of Poles</b>               | 4                     |
| <b>Overall Length</b>                | 27.76 IN              |
| <b>Power Factor</b>                  | 83                    |
| <b>Product Family</b>                | General Purpose       |
| <b>Pulley End Bearing Type</b>       | Ball                  |
| <b>Pulley Face Code</b>              | Standard              |
| <b>Pulley Shaft Indicator</b>        | Standard              |
| <b>Rodent Screen</b>                 | None                  |
| <b>Service Factor</b>                | 1.15                  |
| <b>Shaft Diameter</b>                | 1.875 IN              |
| <b>Shaft Extension Location</b>      | Pulley End            |
| <b>Shaft Ground Indicator</b>        | No Shaft Grounding    |
| <b>Shaft Rotation</b>                | Reversible            |
| <b>Shaft Slinger Indicator</b>       | Shaft Slinger         |
| <b>Speed</b>                         | 1770 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                  |
| <b>Vibration Sensor Indicator</b>    | No Vibration Sensor   |
| <b>Winding Thermal 1</b>             | None                  |
| <b>Winding Thermal 2</b>             | None                  |

**Nameplate**

| NP3443L   |              |        |                |                     |           |         |        |            |      |  |  |      |
|-----------|--------------|--------|----------------|---------------------|-----------|---------|--------|------------|------|--|--|------|
| CAT.NO.   | EM4104T-5    |        |                |                     | CUST. P/N |         |        |            | ENCL |  |  | TEFC |
| SPEC.     | 10C151Y759G1 | CC     | 010A           | FRAME               | 286T      | SER.NO. |        |            |      |  |  |      |
| HP        | 30           |        | CLASS          | F                   | HZ        | 60      |        |            |      |  |  |      |
| R.P.M.    | 1770         |        | PH             | 3                   | DES       | A       |        |            |      |  |  |      |
| VOLTS     | 575          |        |                | CODE                | G         | ODE BRG | 6309   | DE BRG     | 6311 |  |  |      |
| AMPS      | 29           |        |                |                     |           |         |        |            |      |  |  |      |
| RATING    | 40C AMB-CONT |        | NEMA NOM. EFF. |                     |           | 93.6    | GREASE | POLYREX EM |      |  |  |      |
| P.F.      | 83           | SER.F. | 1.15           | VPWM INVERTER READY |           |         |        |            |      |  |  |      |
|           | SFA 32.9     |        |                |                     |           |         |        |            |      |  |  |      |
| HTR-VOLTS | HTR-AMPS     |        | HTR-WATTS      |                     |           |         |        |            |      |  |  |      |

**Parts List**

| Part number | Description                              | Quantity |
|-------------|------------------------------------------|----------|
| SA194236    | SA 10C151Y759G1                          | 1.000 ea |
| RA181824    | RA 10C151Y759G1                          | 1.000 ea |
| 09FN3001C02 | EXTERNAL FAN, PLASTIC (COMES W/SCREW FRO | 1.000 ea |
| 10CB3000SP  | KOBX, CAST W/2.00 LEAD HOLE              | 1.000 ea |
| 09GS1000    | GASKET-CONDUIT BOX, 1/16 THICK LEXIDE    | 1.000 ea |
| 10XN3118K12 | 5/16-18 X .75 GRADE 5, ZINC PLATED       | 4.000 ea |
| HW1001A31   | LOCKWASHER 5/16, ZINC PLT.591 OD, .319 I | 4.000 ea |
| WD1000B25   | GND LUG, BURNDY L125HP OR T&B L125HP-BB  | 1.000 ea |
| 19XW3118G08 | .31-18X.50,HEX WSHR HD,TAPTITE 2,GREEN   | 1.000 ea |
| 10EP1106A01 | FR ENDPLATE, MACH                        | 1.000 ea |
| 10XN3816K32 | BOLT, 3/8-16X2 HH YZ(5)                  | 4.000 ea |
| HA4017A01   | 1/8 X 4 GREASE EXT (F/S)                 | 1.000 ea |
| HW1001A38   | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 ea |
| HW5100A11   | W3917-042 WVY WSHR (WB)                  | 1.000 ea |
| 10XN2520K36 | 1/4-20 X 2.00 HX HD SCRW GRADE 5, ZINC P | 2.000 ea |
| HW1001A25   | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 2.000 ea |
| 10XN3118K40 | 5/16-18 X 2.50" HEX HD, GRADE 5          | 4.000 ea |
| HW1001A31   | LOCKWASHER 5/16, ZINC PLT.591 OD, .319 I | 4.000 ea |
| 10EP1105A01 | PU ENDPLATE                              | 1.000 ea |
| 10XN3816K28 | 3/8-16 X 1.75 HEX HD CAP SCREW, GRADE 5  | 4.000 ea |
| HW1001A38   | LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I | 4.000 ea |
| 10FH4000    | 310 FAN HOUSING STAMPED, PRIMED W/O P SU | 1.000 ea |
| 51XF2520A08 | SCREW, HEX SER SLT HD, ZN 1/4-20 X .50 L | 4.000 ea |
| 10CB3500SP  | CONDUIT BOX LID, CAST                    | 1.000 ea |
| 10GS1000    | GASKET, CONDUIT BOX LID                  | 1.000 ea |
| 51XW2520A12 | .25-20 X .75, TAPTITE II, HEX WSHR SLTD  | 4.000 ea |
| HW4600B40   | V-RING SLINGER 2.000 X 2.680 X .28 VITON | 1.000 ea |
| HW2501H28   | KEY, 1/2 SQ X 3.250                      | 1.000 ea |
| MN416A01    | TAG-INSTAL-MAINT no wire (2500 bx)11/25  | 1.000 ea |
| HA4051A00   | PLASTIC CAP FOR GREASE FITTING           | 1.000 ea |
| HW4500A21   | 1618BALEMITE FITTING 825 UNIVERSAL       | 1.000 ea |

|             |                                              |          |
|-------------|----------------------------------------------|----------|
| HW4500A17   | 317400 ALEMITE GREASE RELIEF                 | 1.000 ea |
| HA4054      | SHORT T-DRAIN FITTING, .125" N.P.T.          | 1.000 ea |
| MJ1000A02   | GREASE, POLYREX EM EXXON                     | 0.130 lb |
| HA4051A00   | PLASTIC CAP FOR GREASE FITTING               | 1.000 ea |
| HW4500A03   | GREASE FITTING, .125 NPT 1610(ALEMITE) 8     | 1.000 ea |
| HW4500A17   | 317400 ALEMITE GREASE RELIEF                 | 1.000 ea |
| HA4054      | SHORT T-DRAIN FITTING, .125" N.P.T.          | 1.000 ea |
| HW2500A25   | WOODRUFF KEY USA #1008 #BLOW CARBON STEEL    | 1.000 ea |
| MG1050Y01   | CELEROL BALDOR GOLD *5 GALLON BUCKET*        | 0.125 ga |
| 85XU0407S04 | 4X1/4 U DRIVE PIN STAINLESS                  | 4.000 ea |
| LB1624      | COMBINED WARNING LABEL, ISO/ANSI PICTOGR     | 1.000 ea |
| LC0006      | CONNECTION LABEL                             | 1.000 ea |
| NP3443L     | SS SUPER-E, INV RED, CURUS EEV, NEMA PREM, C | 1.000 ea |
| 10PA1000    | PACKAGING GROUP COMBINED PRINT PK1023A07     | 1.000 ea |
| FE-0000022  | ZRTG FE ASSEMBLY                             | 1.000 ea |
| PE-0000013  | ZRTG PE ASSEMBLY                             | 1.000 ea |

**AC Induction Motor Performance Data**

Record # 30991

Typical performance - not guaranteed values

| Winding: 10WGY759-R001 |    |              | Type: 1056M                           |                           | Enclosure: TEFC       |             |         |
|------------------------|----|--------------|---------------------------------------|---------------------------|-----------------------|-------------|---------|
| Nameplate Data         |    |              | 575 V, 60 Hz:<br>Single Voltage Motor |                           |                       |             |         |
| Rated Output (HP)      |    | 30           | Full Load Torque                      |                           | 89.2 LB-FT            |             |         |
| Volts                  |    | 575          | Start Configuration                   |                           | direct on line        |             |         |
| Full Load Amps         |    | 29           | Breakdown Torque                      |                           | 255 LB-FT             |             |         |
| R.P.M.                 |    | 1770         | Pull-up Torque                        |                           | 120 LB-FT             |             |         |
| Hz                     | 60 | Phase        | 3                                     | Locked-rotor Torque       |                       | 136 LB-FT   |         |
| NEMA Design Code       |    | B            | KVA Code                              | G                         | Starting Current      |             | 177 A   |
| Service Factor (S.F.)  |    | 1.15         | No-load Current                       |                           | 11.5 A                |             |         |
| NEMA Nom. Eff.         |    | 93.6         | Power Factor                          | 83                        | Line-line Res. @ 25°C |             | 0.375 Ω |
| Rating - Duty          |    | 40C AMB-CONT |                                       | Temp. Rise @ Rated Load   |                       | 58°C        |         |
| S.F. Amps              |    |              |                                       | Temp. Rise @ S.F. Load    |                       | 71°C        |         |
|                        |    |              |                                       | Locked-rotor Power Factor |                       | 32          |         |
|                        |    |              |                                       | Rotor inertia             |                       | 4.45 LB-FT2 |         |

**Load Characteristics 575 V, 60 Hz, 30 HP**

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 47   | 69   | 77   | 84   | 84   | 83   | 84   |
| Efficiency      | 90.9 | 93.9 | 94.4 | 94   | 92.9 | 92.5 | 93.4 |
| Speed           | 1794 | 1786 | 1780 | 1773 | 1764 | 1754 | 1768 |
| Line amperes    | 13.3 | 17.6 | 23.4 | 28.5 | 35.9 | 43.6 | 32.9 |

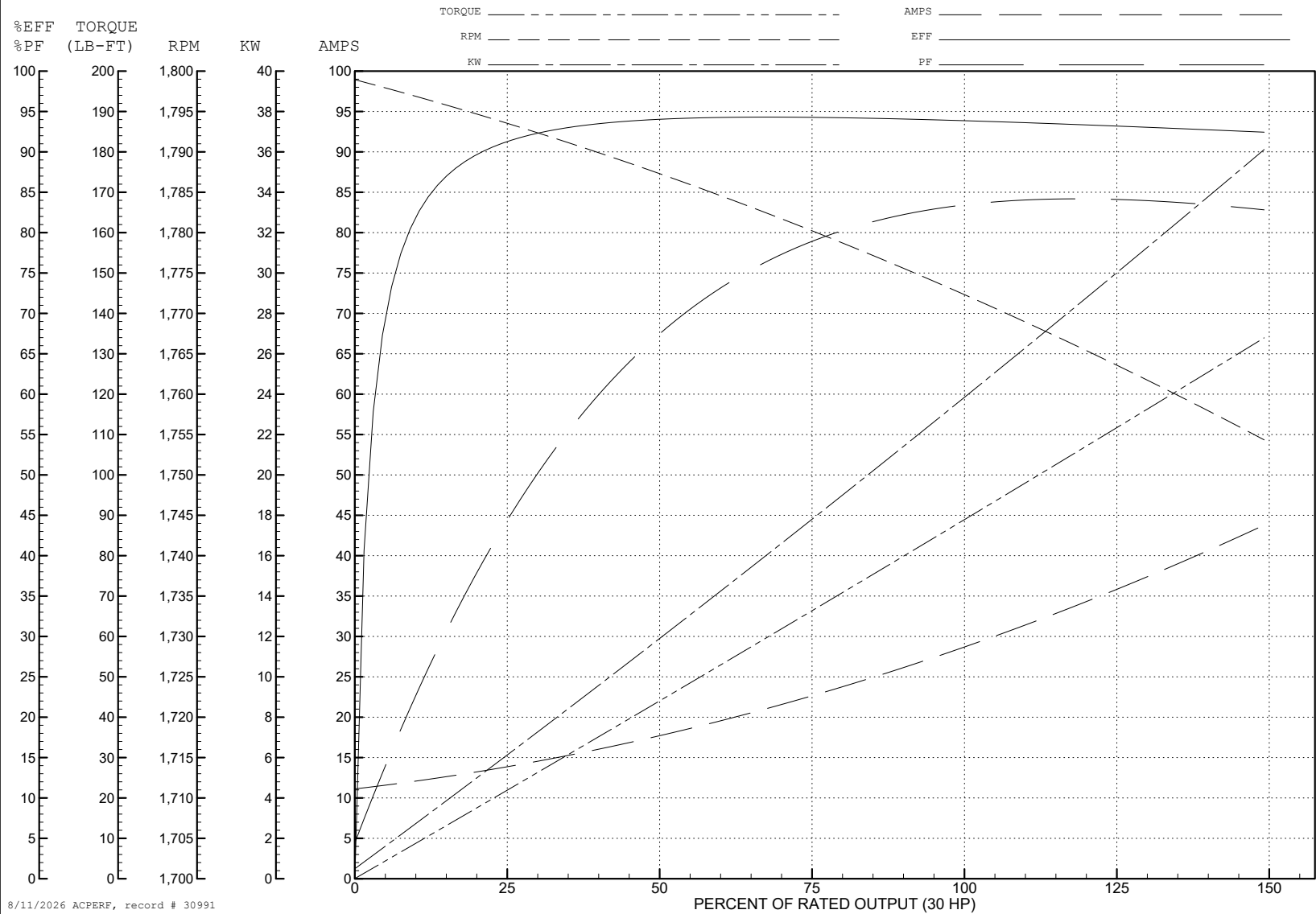
ABB Motors and Mechanical Inc.

WINDING # 10WGY759

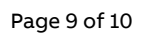
Typical performance - not guaranteed values.

30 HP 3 PH 60 HZ 1770 RPM 575 V 1056M

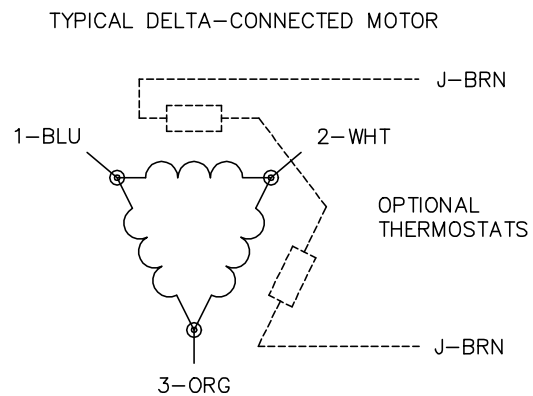
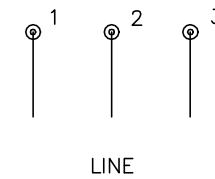
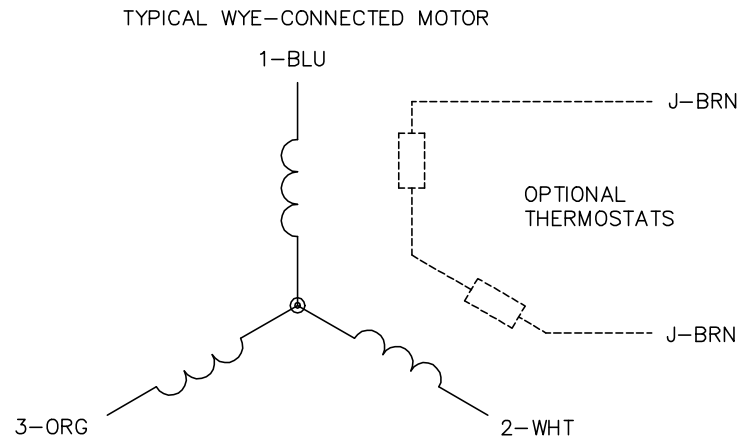
TORQUES (LB-FT): PO=255 PU=120 LR=136 LRA=177







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