

# ABB BALDOR RELIANCE III

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## Customer information packet

AEM4103-4

25HP, 1770RPM, 3PH, 60HZ, 324U, 1056M, TEFC, F1

Class - None

Division - Not Applicable

**Specifications**

|                                |                           |
|--------------------------------|---------------------------|
| Enclosure                      | TEFC                      |
| Frame                          | 324U                      |
| 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             | 25.000 HP @ 60 HZ         |
| Phase                          | 3                         |
| Synchronous Speed @ Frequency  | 1800 RPM @ 60 HZ          |
| Voltage @ Frequency            | 460.0 V @ 60 HZ           |
| Agency Approvals               | UR<br>CSA                 |
| Ambient Temperature            | 65 °C                     |
| Auxiliary Box                  | NO AUXILLARY BOX          |
| Auxiliary Box Lead Termination | None                      |
| Base Indicator                 | Rigid                     |
| Bearing Grease Type            | Polyrex EM (-20F +300F)   |
| Blower                         | None                      |
| Current @ Voltage              | 30.000 A @ 460.0 V        |
| Design Code                    | B                         |
| Drip Cover                     | No Drip Cover             |
| Duty Rating                    | CONT                      |
| Efficiency @ 100% Load         | 93.6 %                    |
| Electrically Isolated Bearing  | Not Electrically Isolated |
| Feedback Device                | NO FEEDBACK               |
| Front Face Code                | Standard                  |
| Front Shaft Indicator          | None                      |
| Heater Indicator               | No Heater                 |
| High Voltage Full Load Amps    | 30.0 a                    |
| Insulation Class               | F                         |
| Inverter Code                  | Inverter Duty             |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | E          |
| Type         | AC         |
| Mech. spec.  | 10J746     |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 10WGZ580   |
| Layout       | 10LYJ746   |
| Eff. date    | 12-09-2025 |
| CD Diagram   | CD0006     |
| Poles        | 04         |
| Leads        | 3#10       |
| Proprietary  | False      |
| Created date | 01-11-2017 |

|                                      |                                |
|--------------------------------------|--------------------------------|
| <b>KVA Code</b>                      | <b>F</b>                       |
| <b>Lifting Lugs</b>                  | <b>Standard Lifting Lugs</b>   |
| <b>Locked Bearing Indicator</b>      | <b>Locked Bearing</b>          |
| <b>Motor Lead Exit</b>               | <b>Ko Box</b>                  |
| <b>Motor Lead Quantity/Wire Size</b> | <b>3 @ 10 AWG</b>              |
| <b>Motor Lead Termination</b>        | <b>Ring Terminals</b>          |
| <b>Motor Standards</b>               | <b>NEMA</b>                    |
| <b>Motor Type</b>                    | <b>1056M</b>                   |
| <b>Mounting Arrangement</b>          | <b>F1</b>                      |
| <b>Number of Poles</b>               | <b>4</b>                       |
| <b>Overall Length</b>                | <b>30.56 IN</b>                |
| <b>Power Factor</b>                  | <b>85</b>                      |
| <b>Product Family</b>                | <b>Automotive (Not For DC)</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>1.00</b>                    |
| <b>Shaft Diameter</b>                | <b>1.875 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>1770 rpm</b>                |
| <b>Speed Code</b>                    | <b>Single Speed</b>            |
| <b>Starting Method</b>               | <b>Direct on line</b>          |
| <b>Thermal Device - Bearing</b>      | <b>NONE (OLD)</b>              |
| <b>Thermal Device - Winding</b>      | <b>None</b>                    |
| <b>Vibration Sensor Indicator</b>    | <b>No Vibration Sensor</b>     |
| <b>Winding Thermal 1</b>             | <b>None</b>                    |
| <b>Winding Thermal 2</b>             | <b>None</b>                    |

**Nameplate**

| NP1404       |              |  |        |      |  |     |   |  |      |
|--------------|--------------|--|--------|------|--|-----|---|--|------|
| CAT.NO.      | AEM4103-4    |  |        |      |  |     |   |  |      |
| SPEC.        | 10J746Z580G1 |  |        |      |  |     |   |  |      |
| VOLTS        | 460          |  |        |      |  |     |   |  |      |
| AMP          | 30           |  |        |      |  |     |   |  |      |
| RPM          | 1770         |  | HP     | 25   |  |     |   |  |      |
| FRAME        | 324U         |  | HZ     | 60   |  | PH  | 3 |  |      |
| SER.F.       | 1.00         |  | CODE   | F    |  | DES | B |  | CL F |
| NEMA-NOM-EFF | 93.6         |  | PF     | 85   |  |     |   |  |      |
| G.MIN.EFF    | 92.4         |  | CC     | 010A |  |     |   |  |      |
| RATING       | 65C AMB-CONT |  |        |      |  |     |   |  |      |
| LUBRICATION  | POLYREX EM   |  |        |      |  |     |   |  |      |
| DE           | 6312         |  | ODE    | 6309 |  |     |   |  |      |
| ENCL         | TEFC         |  | SER. # |      |  |     |   |  |      |

**Accessories**

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

**AC Induction Motor Performance Data**

Record # 61590

Typical performance - not guaranteed values

| Winding: 10WGZ580-R003 |      |              | Type: 1056M         |                                       | Enclosure: TEFC         |           |
|------------------------|------|--------------|---------------------|---------------------------------------|-------------------------|-----------|
| Nameplate Data         |      |              |                     | 460 V, 60 Hz:<br>Single Voltage Motor |                         |           |
| Rated Output (HP)      |      | 25           | Full Load Torque    |                                       | 74.31 LB-FT             |           |
| Volts                  |      | 460          | Start Configuration |                                       | direct on line          |           |
| Full Load Amps         |      | 30           | Breakdown Torque    |                                       | 197 LB-FT               |           |
| R.P.M.                 |      | 1770         | Pull-up Torque      |                                       | 91.4 LB-FT              |           |
| Hz                     | 60   | Phase        | 3                   | Locked-rotor Torque                   |                         | 115 LB-FT |
| NEMA Design Code       |      | B            | KVA Code            | F                                     | Starting Current        |           |
| Service Factor (S.F.)  |      | 1            | No-load Current     |                                       | 10.4 A                  |           |
| NEMA Nom. Eff.         | 93.6 | Power Factor | 85                  | Line-line Res. @ 25°C                 |                         | 0.29877 Ω |
| Rating - Duty          |      | 65C          | AMB-CONT            |                                       | Temp. Rise @ Rated Load |           |
|                        |      |              |                     | Locked-rotor Power Factor             |                         | 30.3      |

**Load Characteristics 460 V, 60 Hz, 25 HP**

| % of Rated Load | 25     | 50     | 75     | 100    | 125    | 150    |
|-----------------|--------|--------|--------|--------|--------|--------|
| Power Factor    | 51     | 73     | 81     | 85     | 86     | 86     |
| Efficiency      | 91     | 93.8   | 94.1   | 93.7   | 92.9   | 91.8   |
| Speed           | 1792.8 | 1785.5 | 1778.9 | 1770.7 | 1762.4 | 1751.5 |
| Line amperes    | 12.5   | 17     | 22.9   | 29.5   | 36.5   | 44.7   |

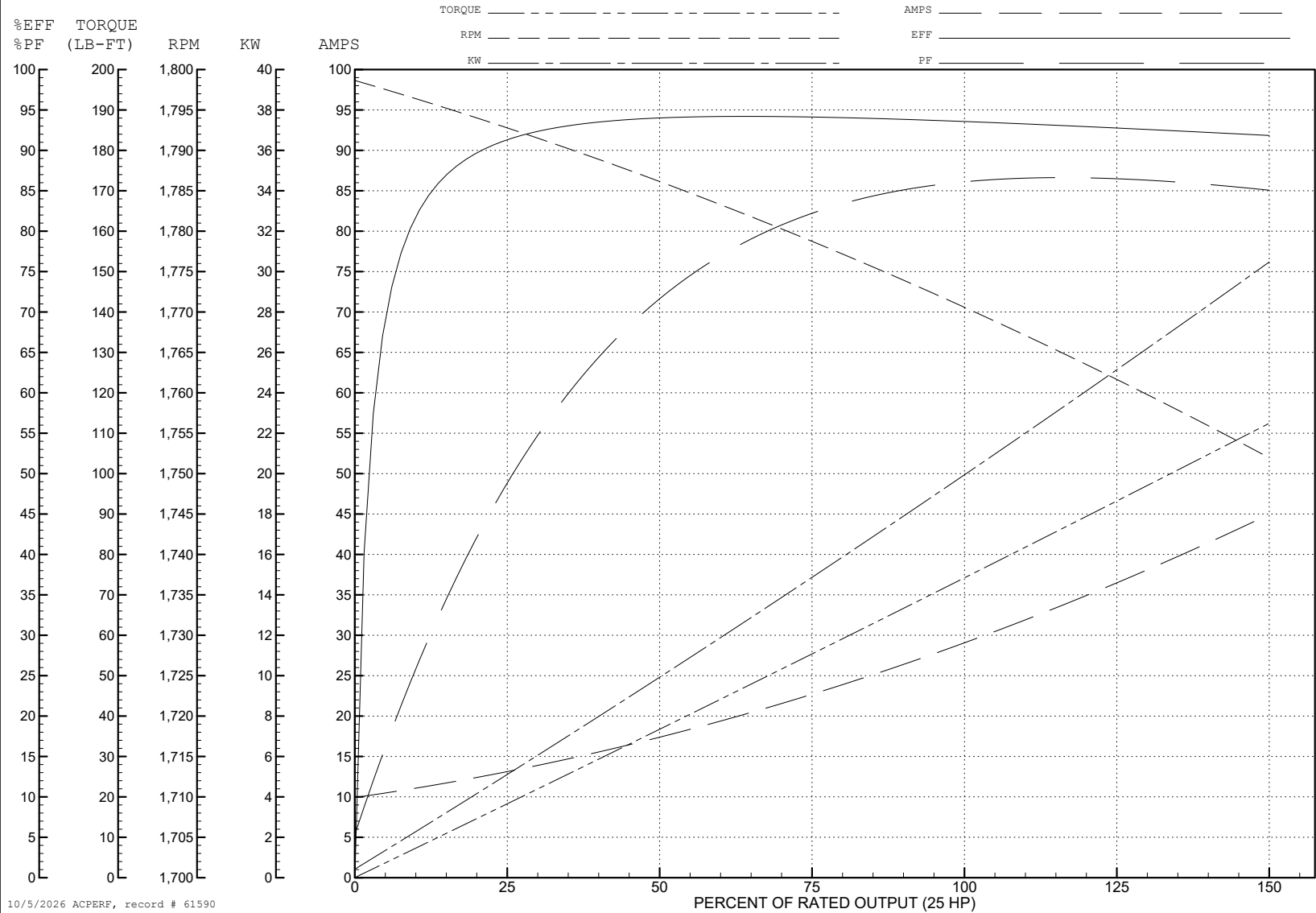
ABB Motors and Mechanical Inc.

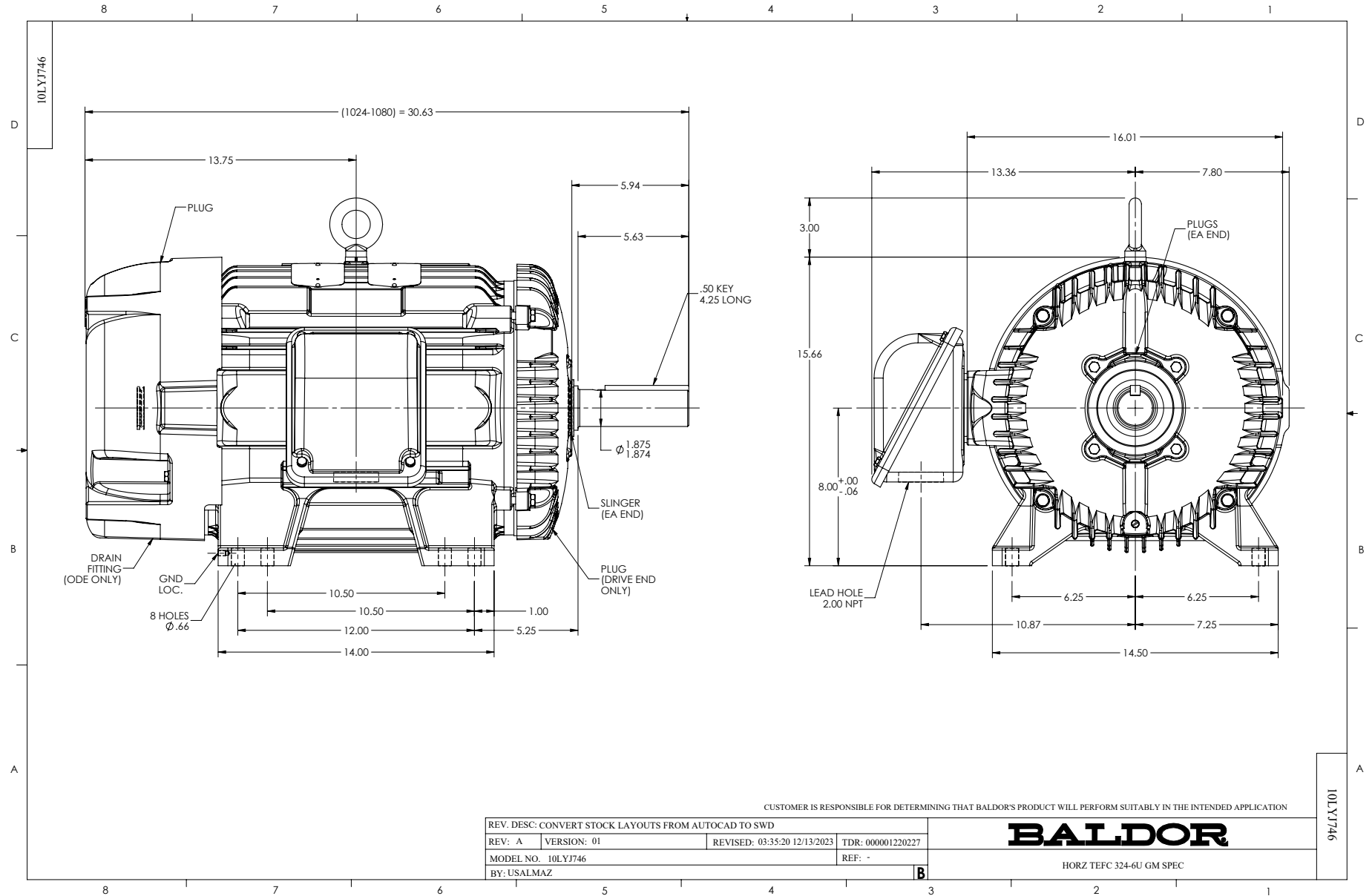
WINDING # 10WGZ580

Typical performance - not guaranteed values.

25 HP 3 PH 60 HZ 1770 RPM 460 V 1056M

TORQUES (LB-FT): PO=197 PU=91.4 LR=115 LRA=173





CD0006

TYPICAL WYE-CONNECTED MOTOR

1-BLU

J-BRN

OPTIONAL THERMOSTATS

J-BRN

3-ORG

2-WHT

TYPICAL DELTA-CONNECTED MOTOR

1-BLU

J-BRN

2-WHT

OPTIONAL THERMOSTATS

J-BRN

3-ORG

1

2

3

LINE

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 |                                |                   | <div>BALDOR - RELIANCE®</div> <div>3PH, SV, 3 LEADS, WYE OR DELTA CONNECTED</div> <div>SH 1 of 1</div> |
| REV. LTR: E                       | VERSION: 01                    | TDR: 000001099922 |                                                                                                        |
| FILE: \AAA\00005\141              | REVISED: 10: 24: 49 02/19/2019 | BY: ENBRIRO       |                                                                                                        |
| MTL: —                            |                                |                   |                                                                                                        |

10WGZ438: Electrical Design

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