

# ABB BALDOR RELIANCE III

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## Customer information packet

### EM2334T-BG

20HP, 1770RPM, 3PH, 60HZ, 256T, 0960M, TEFC, F1

Class - None

Division - Not Applicable

**Specifications**

|                                       |                                                                |
|---------------------------------------|----------------------------------------------------------------|
| <b>Enclosure</b>                      | TEFC                                                           |
| <b>Frame</b>                          | 256T                                                           |
| <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>             | 20.000 HP @ 60 HZ                                              |
| <b>Phase</b>                          | 3                                                              |
| <b>Synchronous Speed @ Frequency</b>  | 1800 RPM @ 60 HZ                                               |
| <b>Voltage @ Frequency</b>            | 460.0 V @ 60 HZ<br>230.0 V @ 60 HZ                             |
| <b>Agency Approvals</b>               | CSA<br>CSA EEV<br>UR                                           |
| <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>              | 48.000 A @ 230.0 V<br>52.000 A @ 208.0 V<br>24.000 A @ 460.0 V |
| <b>Design Code</b>                    | A                                                              |
| <b>Drip Cover</b>                     | No Drip Cover                                                  |
| <b>Duty Rating</b>                    | CONT                                                           |
| <b>Efficiency @ 100% Load</b>         | 93.0 %                                                         |
| <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                                                           |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | W          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  | 09K909     |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 09WGT459   |
| <b>Layout</b>       | 09LYK909   |
| <b>Eff. date</b>    | 01-16-2026 |
| <b>CD Diagram</b>   | CD0180     |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 9#10       |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 11-29-2017 |

|                                      |                       |
|--------------------------------------|-----------------------|
| <b>Heater Indicator</b>              | No Heater             |
| <b>High Voltage Full Load Amps</b>   | 24.0 a                |
| <b>Insulation Class</b>              | F                     |
| <b>Inverter Code</b>                 | Inverter Ready        |
| <b>KVA Code</b>                      | J                     |
| <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> | 9 @ 10 AWG            |
| <b>Motor Lead Termination</b>        | Flying Leads          |
| <b>Motor Standards</b>               | NEMA                  |
| <b>Motor Type</b>                    | 0960M                 |
| <b>Mounting Arrangement</b>          | F1                    |
| <b>Number of Poles</b>               | 4                     |
| <b>Overall Length</b>                | 23.30 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>                | 1.625 IN              |
| <b>Shaft Extension Location</b>      | Pulley End            |
| <b>Shaft Ground Indicator</b>        | 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                  |

Winding Thermal 2

None

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**Nameplate**

| NP3441LUA                        |                           |               |            |            |   |              |   |       |  |
|----------------------------------|---------------------------|---------------|------------|------------|---|--------------|---|-------|--|
| <b>CAT.NO.</b>                   | EM2334T-BG                |               |            |            |   |              |   |       |  |
| <b>SPEC</b>                      | 09K909T459G1              |               |            |            |   |              |   |       |  |
| <b>HP</b>                        | 20                        |               |            |            |   |              |   |       |  |
| <b>VOLTS</b>                     | 230/460                   |               |            |            |   |              |   |       |  |
| <b>AMPS</b>                      | 48/24                     |               |            |            |   |              |   |       |  |
| <b>RPM</b>                       | 1770                      |               |            |            |   |              |   |       |  |
| <b>FRAME</b>                     | 256T                      |               | <b>HZ</b>  | 60         |   | <b>PH</b>    | 3 |       |  |
| <b>SF</b>                        | 1.15                      | <b>CODE</b>   | J          | <b>DES</b> | A | <b>CLASS</b> | H |       |  |
| <b>NEMA NOM. EFF</b>             | 93                        | <b>PF</b>     | 83         |            |   |              |   |       |  |
| <b>RATING</b>                    | 40C AMB-CONT              |               |            |            |   |              |   |       |  |
| <b>CC</b>                        | 010A                      |               |            |            |   |              |   |       |  |
| <b>ENCL</b>                      | TEFC                      | <b>SER</b>    |            |            |   |              |   |       |  |
| <b>DE</b>                        | 6309                      |               | <b>ODE</b> | 6208       |   |              |   |       |  |
| <b>VPWM INVERTER READY</b>       |                           | SFA 54.4/27.2 |            |            |   |              |   |       |  |
| <b>CT6-60H(10:1)VT3-60H(20:1</b> |                           |               |            |            |   |              |   |       |  |
|                                  | 50HZ 20HP 190/380V 58/29A |               |            |            |   |              |   | SF1.0 |  |

**AC Induction Motor Performance Data**

Record # 68093

Typical performance - not guaranteed values

| Winding: 09WGT459-R013 |    |         | Type: 0960M                              |                     | Enclosure: TEFC           |                       |       |           |
|------------------------|----|---------|------------------------------------------|---------------------|---------------------------|-----------------------|-------|-----------|
| Nameplate Data         |    |         | 460 V, 60 Hz:<br>High Voltage Connection |                     |                           |                       |       |           |
| Rated Output (HP)      |    | 20      | Full Load Torque                         |                     | 59.27 LB-FT               |                       |       |           |
| Volts                  |    | 230/460 | Start Configuration                      |                     | direct on line            |                       |       |           |
| Full Load Amps         |    | 48/24   | Breakdown Torque                         |                     | 232 LB-FT                 |                       |       |           |
| R.P.M.                 |    | 1770    | Pull-up Torque                           |                     | 126 LB-FT                 |                       |       |           |
| Hz                     | 60 | Phase   | 3                                        | Locked-rotor Torque |                           | 141 LB-FT             |       |           |
| NEMA Design Code       |    | A       | KVA Code                                 | J                   | Starting Current          |                       | 198 A |           |
| Service Factor (S.F.)  |    | 1.15    | No-load Current                          |                     | 10.4 A                    |                       |       |           |
| NEMA Nom. Eff.         |    | 93      | Power Factor                             |                     | 83                        | Line-line Res. @ 25°C |       | 0.33814 Ω |
| Rating - Duty          |    | 40C     | AMB-CONT                                 |                     | Temp. Rise @ Rated Load   |                       | 58°C  |           |
| S.F. Amps              |    |         |                                          |                     | Temp. Rise @ S.F. Load    |                       | 70°C  |           |
|                        |    |         |                                          |                     | Locked-rotor Power Factor |                       | 26.5  |           |

**Load Characteristics 460 V, 60 Hz, 20 HP**

| % of Rated Load | 25     | 50     | 75     | 100    | 125    | 150    | S.F. |
|-----------------|--------|--------|--------|--------|--------|--------|------|
| Power Factor    | 45     | 67     | 78     | 83     | 86     | 87     | 85   |
| Efficiency      | 89.2   | 93     | 93.7   | 93.6   | 93.1   | 92.4   | 93.3 |
| Speed           | 1793.2 | 1786.4 | 1779.1 | 1771.9 | 1763.7 | 1755.3 | 1767 |
| Line amperes    | 11.8   | 15     | 19.2   | 24     | 29.3   | 34.9   | 27.2 |

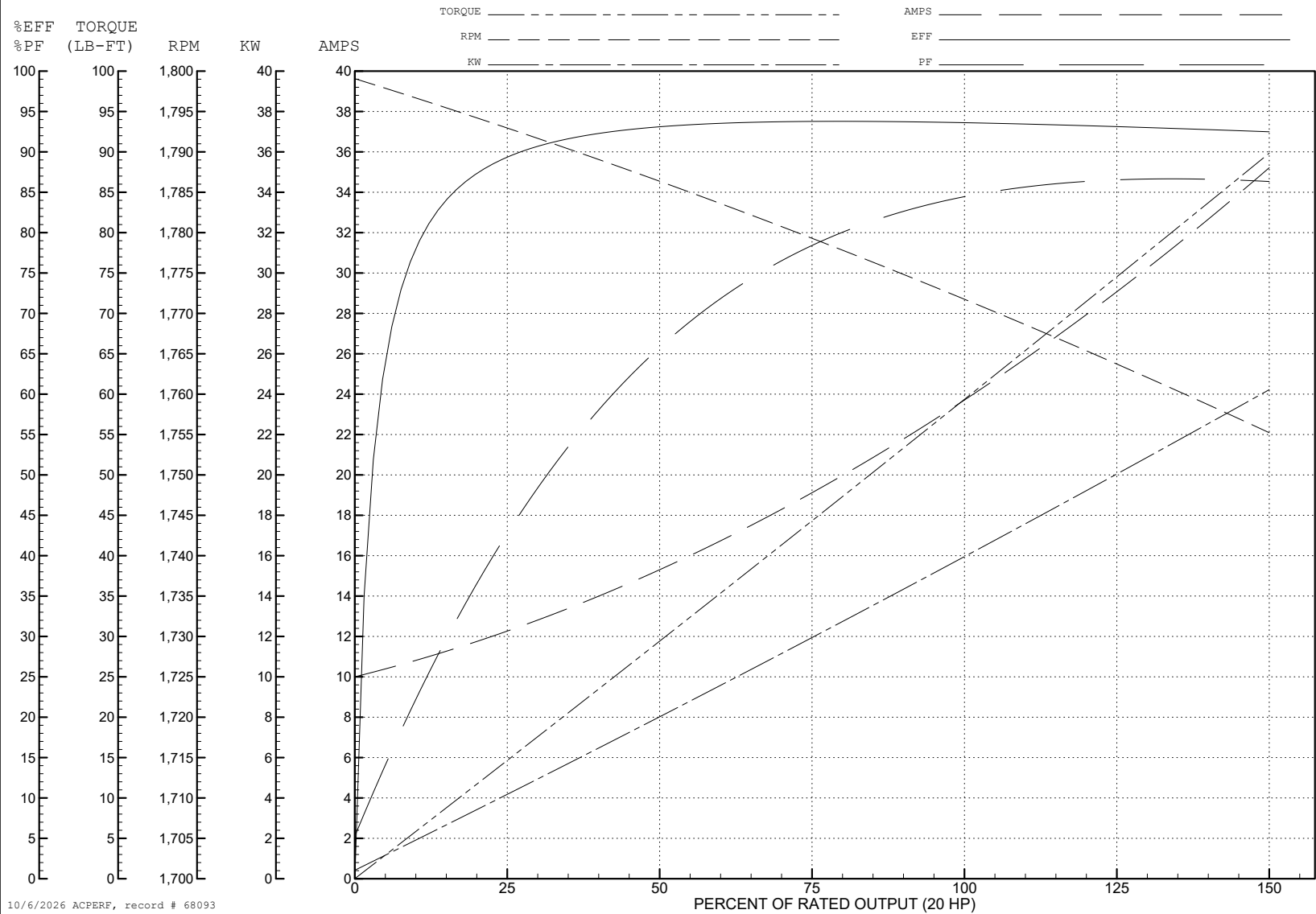
ABB Motors and Mechanical Inc.

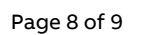
WINDING # 09WGT459

Typical performance - not guaranteed values.

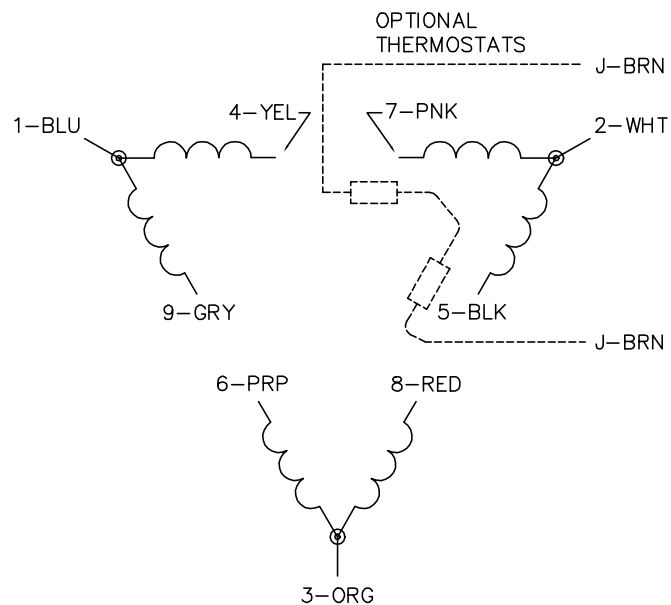
20 HP 3 PH 60 HZ 1770 RPM 460 V 0960M

TORQUES (LB-FT): PO=232 PU=126 LR=141 LRA=198

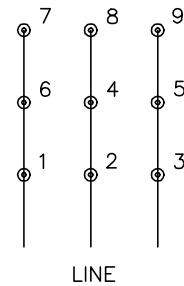




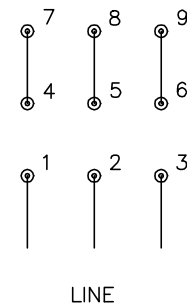
CD0180



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.

CD0180

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