

# ABB BALDOR RELIANCE III

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## Customer information packet

### ECS100T8H2DF4

2HP, 1800RPM, 3PH, 60HZ, 145T, 3524B, TEFC, F1

Class - None

Division - Not Applicable

**Specifications**

|                                       |                                |
|---------------------------------------|--------------------------------|
| <b>Enclosure</b>                      | TEFC                           |
| <b>Frame</b>                          | 145T                           |
| <b>Frame Material</b>                 | Steel                          |
| <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>              | Brushless Wound Field PM Rotor |
| <b>Output @ Frequency</b>             | 2.000 HP @ 60 HZ               |
| <b>Phase</b>                          | 3                              |
| <b>Synchronous Speed @ Frequency</b>  | 1800 RPM @ 60 HZ               |
| <b>Voltage @ Frequency</b>            | 230.0 V @ 60 HZ                |
| <b>Agency Approvals</b>               | BLUETOOTH<br>CULUS<br>WEEE     |
| <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>Constant Torque Speed Range</b>    | 6                              |
| <b>Current @ Voltage</b>              | 4.800 A @ 230.0 V              |
| <b>Design Code</b>                    | -                              |
| <b>Drip Cover</b>                     | No Drip Cover                  |
| <b>Duty Rating</b>                    | CONT                           |
| <b>Efficiency @ 100% Load</b>         | 91.3 %                         |
| <b>Electrically Isolated Bearing</b>  | Not Electrically Isolated      |
| <b>Feedback Device</b>                | NO FEEDBACK                    |
| <b>Heater Indicator</b>               | No Heater                      |
| <b>High Voltage Full Load Amps</b>    | 4.8 a                          |
| <b>Insulation Class</b>               | F                              |
| <b>Inverter Code</b>                  | 03                             |

**Part Detail**

|                     |                       |
|---------------------|-----------------------|
| <b>Revision</b>     | D                     |
| <b>Type</b>         | AC                    |
| <b>Mech. spec.</b>  | 35E5209               |
| <b>Base</b>         |                       |
| <b>Status</b>       | PRD/A                 |
| <b>Elec. spec.</b>  | 35WGG964              |
| <b>Layout</b>       | 35LYE5209             |
| <b>Eff. date</b>    | 06-16-2025            |
| <b>CD Diagram</b>   | CD0006B03             |
| <b>Poles</b>        | 04                    |
| <b>Leads</b>        | 3#16 13" LONG LEADS Y |
| <b>Proprietary</b>  | False                 |
| <b>Created date</b> | 05-06-2024            |

|                                      |                     |
|--------------------------------------|---------------------|
| <b>KVA Code</b>                      | -                   |
| <b>Lifting Lugs</b>                  | No Lifting Lugs     |
| <b>Locked Bearing Indicator</b>      | Locked Bearing      |
| <b>Motor Lead Quantity/Wire Size</b> | 3 @ 16 AWG          |
| <b>Motor Lead Termination</b>        | Flying Leads        |
| <b>Motor Standards</b>               | NEMA                |
| <b>Motor Type</b>                    | 3524B               |
| <b>Mounting Arrangement</b>          | F1                  |
| <b>Number of Poles</b>               | 4                   |
| <b>Overall Length</b>                | 13.38 IN            |
| <b>Power Factor</b>                  | 93                  |
| <b>Product Family</b>                | General Purpose     |
| <b>Pulley Face Code</b>              | Standard            |
| <b>Rodent Screen</b>                 | None                |
| <b>Service Factor</b>                | 1.00                |
| <b>Shaft Diameter</b>                | 0.875 IN            |
| <b>Shaft Ground Indicator</b>        | Shaft Grounding     |
| <b>Shaft Rotation</b>                | Reversible          |
| <b>Speed</b>                         | 1800 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                |

|          |      |          |                |            |           |       |                  |
|----------|------|----------|----------------|------------|-----------|-------|------------------|
| Volts    | 230  | Max RPM  | 4000           | Conn Diag. | CD0006B03 | Leads | 3                |
| Amps     | 4.8  | Max Amps |                | Cs Diagram | CS1127    | BEMF  | 95               |
| HP       | 2    | VFD#     | OPC-2-120070-1 |            |           | LD    | 15.2             |
| RPM      | 1800 | S.F.     | 1.00           |            |           | LQ    | 63.5             |
| Phase/Hz | 3/60 | Rating   | 40C AMB-CONT   |            |           | Rs    | 9.5595 Meas. L-L |

### 60034-2-3 Motor Performance at Standardized Operating Points

|    | RPM  | % Speed | LB-FT | % Torque | HP  | Efficiency | Loss<br>(% FL) | Watts Loss<br>(W) |
|----|------|---------|-------|----------|-----|------------|----------------|-------------------|
| P1 | 1619 | 90%     | 5.8   | 100%     | 1.8 | 84.2       | 16.73%         | 252               |
| P2 | 906  | 50%     | 4.2   | 100%     | 0.7 | 62.7       | 21.27%         | 321               |
| P3 | 440  | 25%     | 2.8   | 100%     | 0.2 | 36.4       | 20.56%         | 310               |
| P4 | 1627 | 90%     | 2.9   | 50%      | 0.9 | 83.8       | 8.66%          | 131               |
| P5 | 902  | 50%     | 2.9   | 50%      | 0.5 | 69.3       | 10.98%         | 166               |
| P6 | 901  | 50%     | 1.5   | 25%      | 0.3 | 76.0       | 3.93%          | 59                |
| P7 | 455  | 25%     | 1.5   | 25%      | 0.1 | 61.2       | 3.96%          | 60                |

### 61800-9-2 PDS Performance at Reference Operating Points

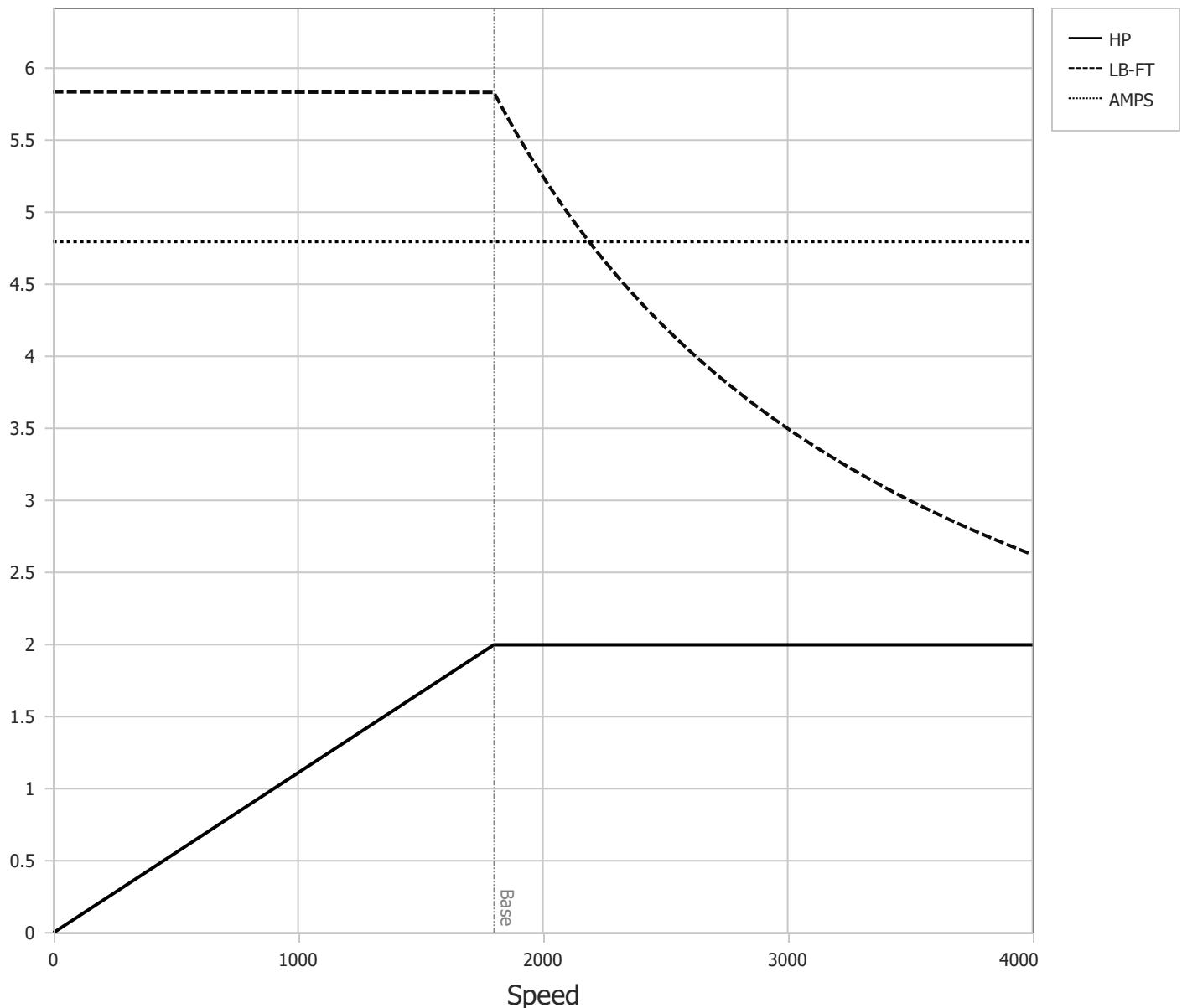
|    | RPM  | % Speed | LB-FT | % Torque | HP  | System<br>Efficiency | Loss<br>(% FL) | Watts Loss<br>(W) |
|----|------|---------|-------|----------|-----|----------------------|----------------|-------------------|
| P1 | 1784 | 100%    | 5.8   | 100%     | 2.0 | 81.2                 | 22.62%         | 341               |
| P2 | 906  | 50%     | 4.2   | 100%     | 0.7 | 58.0                 | 25.91%         | 391               |
| P3 | 298  | 17%     | 2.2   | 100%     | 0.1 | 26.7                 | 16.78%         | 253               |
| P4 | 1790 | 100%    | 2.9   | 50%      | 1.0 | 79.0                 | 13.05%         | 197               |
| P5 | 902  | 50%     | 2.9   | 50%      | 0.5 | 63.9                 | 14.02%         | 212               |
| P6 | 299  | 17%     | 2.2   | 50%      | 0.1 | 26.7                 | 16.62%         | 251               |
| P7 | 901  | 50%     | 1.5   | 25%      | 0.3 | 68.7                 | 5.66%          | 85                |
| P8 | 311  | 17%     | 1.5   | 25%      | 0.1 | 40.6                 | 6.26%          | 94                |

Points not taken in certified order.

|                                                                                    |         |                   |                                            |                                                   |
|------------------------------------------------------------------------------------|---------|-------------------|--------------------------------------------|---------------------------------------------------|
|  | DR By:  | <u>R &amp; D</u>  | <b>AC MOTOR<br/>PERFORMANCE<br/>CURVES</b> | <b>35WGA0050</b><br>35-0000-1619<br>Test - 111860 |
|                                                                                    | CK By:  | <u>USTOSAN</u>    |                                            |                                                   |
|                                                                                    | APP By: | <u>USJAROB1</u>   |                                            |                                                   |
|                                                                                    | Date:   | <u>01/29/2025</u> |                                            |                                                   |

|          |      |          |                |            |           |       |                 |
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| Volts    | 230  | Max RPM  | 4000           | Conn Diag. | CD0006B03 | Leads | 3               |
| Amps     | 4.8  | Max Amps |                | Cs Diagram | CS1127    | BEMF  | 95              |
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| RPM      | 1800 | S.F.     | 1.00           |            |           | LQ    | 63.5            |
| Phase/Hz | 3/60 | Rating   | 40C AMB-CONT   |            |           | Rs    | 9.5595 Meas L-L |

Constant Duty Operating Range


**BALDOR • RELIANCE**

DR By: R & D

CK By: USTOSAN

APP By: USJAROB1

Date: 01/29/2025
**AC MOTOR  
PERFORMANCE  
CURVES**
**35WGA0050**

35-0000-1619

Test - 111860



