

# ABB BALDOR RELIANCE III

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## Customer information packet

### ECS100A2H1DF4

1HP, 1800RPM, 3PH, 60HZ, 143T, 3516B, TEFC, F1

Class - None

Division - Not Applicable

**Specifications**

|                                |                                |
|--------------------------------|--------------------------------|
| Enclosure                      | TEFC                           |
| Frame                          | 143T                           |
| Frame Material                 | Steel                          |
| Frequency                      | 60.00 Hz                       |
| Haz Area Class and Group       | None                           |
| Haz Area Division              | Not Applicable                 |
| Motor Letter Type              | Brushless Wound Field PM Rotor |
| Output @ Frequency             | 1.000 HP @ 60 HZ               |
| Phase                          | 3                              |
| Synchronous Speed @ Frequency  | 1800 RPM @ 60 HZ               |
| Voltage @ Frequency            | 230.0 V @ 60 HZ                |
| Agency Approvals               | BLUETOOTH<br>CULUS<br>WEEE     |
| Ambient Temperature            | 40 °C                          |
| Auxiliary Box                  | NO AUXILLARY BOX               |
| Auxiliary Box Lead Termination | None                           |
| Base Indicator                 | Rigid                          |
| Bearing Grease Type            | Polyrex EM (-20F +300F)        |
| Blower                         | None                           |
| Constant Torque Speed Range    | 6                              |
| Current @ Voltage              | 2.500 A @ 230.0 V              |
| Design Code                    | -                              |
| Drip Cover                     | No Drip Cover                  |
| Duty Rating                    | CONT                           |
| Efficiency @ 100% Load         | 91.0 %                         |
| Electrically Isolated Bearing  | Not Electrically Isolated      |
| Feedback Device                | NO FEEDBACK                    |
| Heater Indicator               | No Heater                      |
| High Voltage Full Load Amps    | 2.5 a                          |
| Insulation Class               | F                              |
| Inverter Code                  | 03                             |

**Part Detail**

|              |                       |
|--------------|-----------------------|
| Revision     | G                     |
| Type         | AC                    |
| Mech. spec.  | 35E5247               |
| Base         |                       |
| Status       | PRD/A                 |
| Elec. spec.  | 35WGG932              |
| Layout       | 35LYE5247             |
| Eff. date    | 07-27-2026            |
| CD Diagram   | CD0006B03             |
| Poles        | 04                    |
| Leads        | 3#14 13" LONG LEADS Y |
| Proprietary  | False                 |
| Created date | 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 @ 14 AWG          |
| <b>Motor Lead Termination</b>        | Flying Leads        |
| <b>Motor Standards</b>               | NEMA                |
| <b>Motor Type</b>                    | 3516B               |
| <b>Mounting Arrangement</b>          | F1                  |
| <b>Number of Poles</b>               | 4                   |
| <b>Overall Length</b>                | 16.71 IN            |
| <b>Power Factor</b>                  | 98                  |
| <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                |

**Nameplate**

| NP3968A01A01 |               |    |         |           |         |      |    |      |    |
|--------------|---------------|----|---------|-----------|---------|------|----|------|----|
| CAT.NO.      | ECS100A2H1DF4 |    |         |           |         |      |    |      |    |
| SPEC.        | 35E5247G932G3 |    |         |           |         |      |    |      |    |
| FRAME        | 143T          |    |         | ENCL.     |         | TEFC |    | IP   | 54 |
| HP           | 1             | 40 | C AMB   |           |         | CONT |    |      |    |
| NOM. EFF.    | 91            | PF | 98      | SF        |         | 1    |    |      |    |
| VOLTS        | 230           |    |         | FLA       |         | 2.5  |    |      |    |
| RPM          | 1800          |    | RPM-MAX |           |         | 4000 |    |      |    |
| HZ           | 60            |    | PH.     | 3         | CLASS   |      | F  |      |    |
| BEMF (V)     | 135           |    |         | RS (OHMS) |         |      |    | 4.90 |    |
| LD (MH)      | 30.8          |    |         |           | LQ (MH) |      |    | 135  |    |
| VPWM         | CHP           | 60 | TO      |           | 133     |      |    |      |    |
| CT           | 6             | TO | 60      | VT        |         | 6    | TO | 60   |    |
| MATCHED INV  | ECI2A4P3      |    |         |           |         |      |    |      |    |
| DE           | 6205          |    |         | ODE       |         | 6203 |    |      |    |
| SERIAL #     |               |    |         |           |         |      |    |      |    |

| NP3978A01 |          |              |   |    |    |   |
|-----------|----------|--------------|---|----|----|---|
| PART NO.  | ECI2A4P3 |              |   |    |    |   |
| U1        | 240      | PH           | 3 | HZ | 60 |   |
| I1        | 3.6      | W/EXT. CHOKE |   |    |    | 3 |
| SERIAL #  |          |              |   |    |    |   |

|          |           |          |              |            |           |       |                  |
|----------|-----------|----------|--------------|------------|-----------|-------|------------------|
| Volts    | 208 - 230 | Max RPM  | 4000         | Conn Diag. | CD0006B03 | Leads | 3                |
| Amps     | 2.6 - 2.4 | Max Amps |              | Cs Diagram | CS1127    | BEMF  | 135              |
| HP       | 1         | VFD#     | ECIN2A4P3    |            |           | LD    | 29.3             |
| RPM      | 1800      | S.F.     | 1.00         |            |           | LQ    | 136              |
| Phase/Hz | 3/60      | Rating   | 40C AMB-CONT |            |           | Rs    | 4.8923 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 | 1618 | 90%     | 2.9   | 100%     | 0.9 | 89.1       | 10.92%         | 82                |
| P2 | 901  | 50%     | 2.9   | 100%     | 0.5 | 84.3       | 9.24%          | 70                |
| P3 | 450  | 25%     | 2.9   | 100%     | 0.3 | 78.4       | 6.85%          | 52                |
| P4 | 1621 | 90%     | 1.5   | 50%      | 0.5 | 89.0       | 5.52%          | 42                |
| P5 | 900  | 50%     | 1.5   | 50%      | 0.3 | 87.1       | 3.69%          | 28                |
| P6 | 900  | 50%     | 0.7   | 25%      | 0.1 | 86.1       | 1.99%          | 15                |
| P7 | 450  | 25%     | 0.7   | 25%      | 0.1 | 83.2       | 1.24%          | 9                 |

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

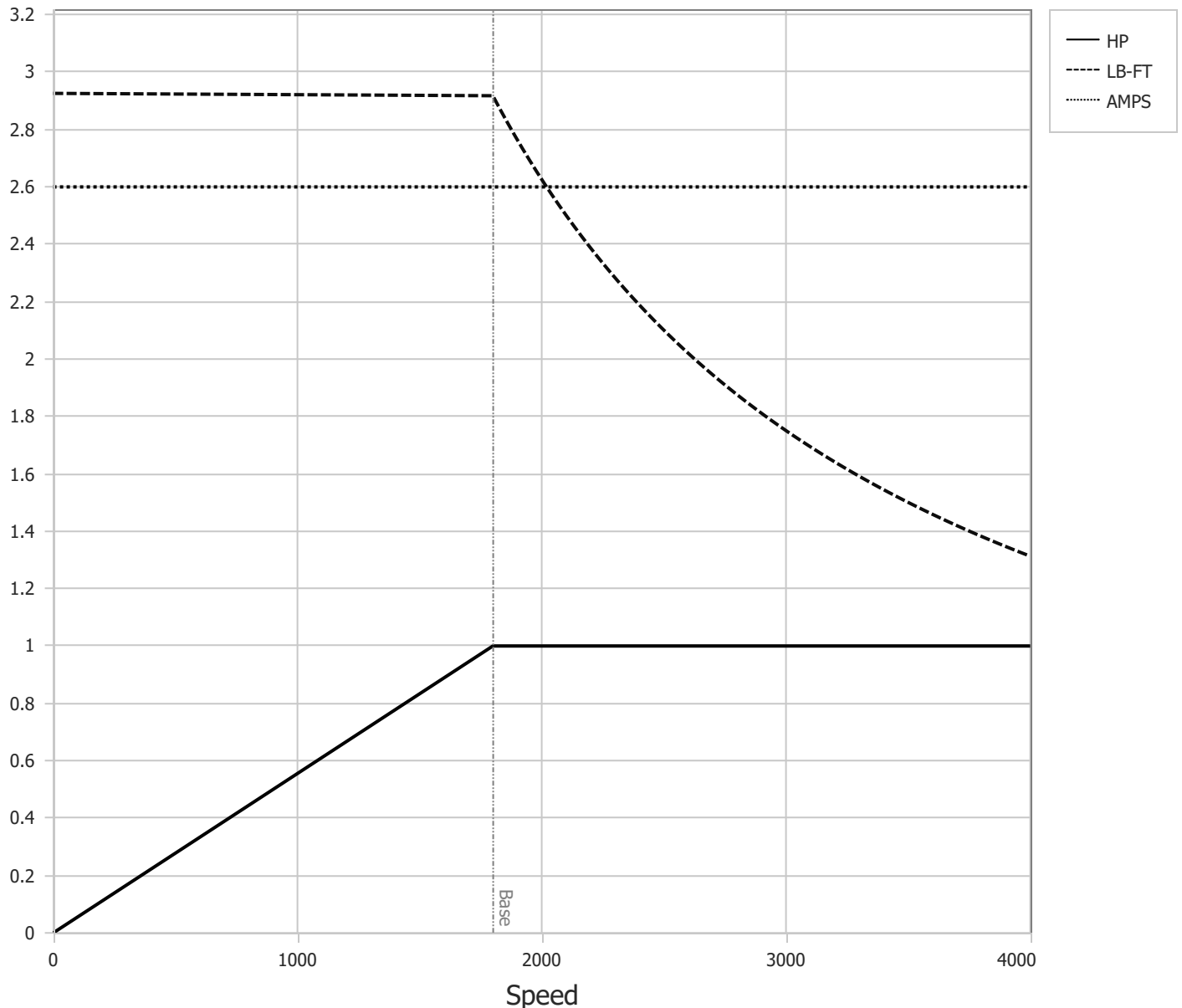
|    | RPM  | % Speed | LB-FT | % Torque | HP  | System<br>Efficiency | Loss<br>(% FL) | Watts Loss<br>(W) |
|----|------|---------|-------|----------|-----|----------------------|----------------|-------------------|
| P1 | 1804 | 100%    | 2.9   | 100%     | 1.0 | 87.4                 | 14.30%         | 108               |
| P2 | 901  | 50%     | 2.9   | 100%     | 0.5 | 80.3                 | 12.17%         | 92                |
| P3 | 300  | 17%     | 2.9   | 100%     | 0.2 | 64.8                 | 8.96%          | 68                |
| P4 | 1801 | 100%    | 1.5   | 50%      | 0.5 | 85.8                 | 8.17%          | 62                |
| P5 | 900  | 50%     | 1.5   | 50%      | 0.3 | 81.9                 | 5.45%          | 41                |
| P6 | 300  | 17%     | 1.5   | 50%      | 0.1 | 66.9                 | 4.07%          | 31                |
| P7 | 900  | 50%     | 0.7   | 25%      | 0.1 | 79.0                 | 3.27%          | 25                |
| P8 | 300  | 17%     | 0.7   | 25%      | 0.0 | 64.4                 | 2.28%          | 17                |

Points not taken in certified order.

|                                                                                    |         |                   |                                            |                                                  |
|------------------------------------------------------------------------------------|---------|-------------------|--------------------------------------------|--------------------------------------------------|
|  | DR By:  | <u>R &amp; D</u>  | <b>AC MOTOR<br/>PERFORMANCE<br/>CURVES</b> | <b>35WGG932</b><br>35-0000-1620<br>Test - 111668 |
|                                                                                    | CK By:  | <u>USBIBAK</u>    |                                            |                                                  |
|                                                                                    | APP By: | <u>USWEQUA1</u>   |                                            |                                                  |
|                                                                                    | Date:   | <u>12/07/2024</u> |                                            |                                                  |

|          |           |          |              |            |           |       |                 |
|----------|-----------|----------|--------------|------------|-----------|-------|-----------------|
| Volts    | 208 - 230 | Max RPM  | 4000         | Conn Diag. | CD0006B03 | Leads | 3               |
| Amps     | 2.6 - 2.4 | Max Amps |              | Cs Diagram | CS1127    | BEMF  | 135             |
| HP       | 1         | VFD #    | ECIN2A4P3    |            |           | LD    | 29.3            |
| RPM      | 1800      | S.F.     | 1.00         |            |           | LQ    | 136             |
| Phase/Hz | 3/60      | Rating   | 40C AMB-CONT |            |           | Rs    | 4.8923 Meas L-L |

### Constant Duty Operating Range


**BALDOR • RELIANCE**

DR By: R & D  
 CK By: USBIBAK  
 APP By: USWEQUA1  
 Date: 12/07/2024

**AC MOTOR  
PERFORMANCE  
CURVES**

**35WGG932**  
 35-0000-1620  
 Test - 111668

