

# ABB BALDOR RELIANCE III

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## Customer information packet

### ZDNM2333T

15HP, 1765RPM, 3PH, 60HZ, 254TC, 0948M, TENV

Class - None

Division - Not Applicable

**Specifications**

|                                       |                                          |
|---------------------------------------|------------------------------------------|
| <b>Enclosure</b>                      | TENV                                     |
| <b>Frame</b>                          | 254TC                                    |
| <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>             | 15.000 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<br>460.0 V @ 60 HZ       |
| <b>Agency Approvals</b>               | UR<br>CSA                                |
| <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>              | 18.500 A @ 460.0 V<br>37.000 A @ 230.0 V |
| <b>Design Code</b>                    | A                                        |
| <b>Drip Cover</b>                     | No Drip Cover                            |
| <b>Duty Rating</b>                    | CONT                                     |
| <b>Efficiency @ 100% Load</b>         | 92.4 %                                   |
| <b>Electrically Isolated Bearing</b>  | Not Electrically Isolated                |
| <b>Feedback Device</b>                | ENCODER                                  |
| <b>Front Face Code</b>                | Encoder/Feedback Device                  |
| <b>Front Shaft Indicator</b>          | None                                     |
| <b>Heater Indicator</b>               | No Heater                                |
| <b>High Voltage Full Load Amps</b>    | 18.5 a                                   |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | AP         |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  | 09F277     |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 09WGX946   |
| <b>Layout</b>       | 09LYF277   |
| <b>Eff. date</b>    | 11-14-2023 |
| <b>CD Diagram</b>   | CD0005     |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 9#12       |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 01-01-0001 |

|                               |                            |
|-------------------------------|----------------------------|
| Insulation Class              | H                          |
| Inverter Code                 | Inverter Duty              |
| KVA Code                      | K                          |
| Lifting Lugs                  | Standard Lifting Lugs      |
| Locked Bearing Indicator      | Locked Bearing             |
| Max Speed                     | 5000 rpm                   |
| Motor Lead Exit               | Ko Box                     |
| Motor Lead Quantity/Wire Size | 9 @ 12 AWG                 |
| Motor Lead Termination        | Flying Leads               |
| Motor Standards               | NEMA                       |
| Motor Type                    | 0948M                      |
| Mounting Arrangement          | F1                         |
| Number of Poles               | 4                          |
| Overall Length                | 24.05 IN                   |
| Power Factor                  | 80                         |
| Product Family                | General Purpose            |
| Pulley End Bearing Type       | Ball                       |
| Pulley Face Code              | C-Face                     |
| Pulley Shaft Indicator        | Standard                   |
| Rodent Screen                 | None                       |
| Service Factor                | 1.00                       |
| Shaft Diameter                | 1.625 IN                   |
| Shaft Extension Location      | Pulley End                 |
| Shaft Ground Indicator        | No Shaft Grounding         |
| Shaft Rotation                | Reversible                 |
| Shaft Slinger Indicator       | Shaft Slinger              |
| Speed                         | 1765 rpm                   |
| Speed Code                    | Single Speed               |
| Starting Method               | Direct on line             |
| Thermal Device - Bearing      | None                       |
| Thermal Device - Winding      | Normally Closed Thermostat |
| Vibration Sensor Indicator    | No Vibration Sensor        |
| Winding Thermal 1             | None                       |
| Winding Thermal 2             | None                       |

**Nameplate**

| NP1168L      |              |         |         |       |         |      |   |  |  |
|--------------|--------------|---------|---------|-------|---------|------|---|--|--|
| CAT NO       | ZDNM2333T    |         |         |       |         |      |   |  |  |
| SPEC.        | 09F277X946Z1 |         |         |       |         |      |   |  |  |
| FRAME        | 254TC        |         |         | HP    | 15 TE   |      |   |  |  |
| VOLTS        | 230/460      |         |         |       |         |      |   |  |  |
| MAG CUR      | 17.8/8.9     |         |         | FLA   | 37/18.5 |      |   |  |  |
| RPM          | 1765         |         | RPM MAX |       |         | 5000 |   |  |  |
| HZ           | 60           | PH      | 3       | CLASS |         |      | H |  |  |
| SER.F.       | 1.00         | DES     | A       | SL HZ |         |      | 1 |  |  |
| NEMA-NOM-EFF | 92.4         | WK2     | 2.1     |       |         |      |   |  |  |
| BLWR V       |              | PH      |         | HZ    |         | A    |   |  |  |
| RATING       | 40C AMB-CONT |         |         |       |         |      |   |  |  |
| DE BRG       | 6309         | ODE BRG |         |       | 6208    |      |   |  |  |
| CC           | 010A         | SER.NO  |         |       |         |      |   |  |  |

|            |         |                                       |      |                                                   |       |    |        |
|------------|---------|---------------------------------------|------|---------------------------------------------------|-------|----|--------|
| NP VOLTS   | 230/460 | MAX SAFE RPM                          | 5000 | WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C) |       |    |        |
| NP AMPS    | 37/18.5 | Base Volt                             | 460  | R1                                                | 0.231 | X1 | 0.904  |
| HP         | 15HP    | NL AMPS                               | 8.8  | R2                                                | 0.195 | X2 | 1.090  |
| BASE SPEED | 1765    | Slips (Hz)                            | 0.93 |                                                   |       | XM | 26.400 |
| PHASE/HZ   | 3/60    | WK <sup>2</sup> (lb-ft <sup>2</sup> ) | 2.1  |                                                   |       |    |        |

### Rated Full Load Data

|            | RPM  | HP   | Torque | Volts | Freq-Hz | Amps |
|------------|------|------|--------|-------|---------|------|
| Base Speed | 1772 | 15.0 | 44.5   | 460   | 60      | 18.5 |
| Max Speed  | 2657 | 15.0 | 29.7   | 460   | 90      | 16.8 |
| Min Speed  | 0    | 0.0  | 44.5   | 20.69 | 0.93    | 18.5 |

### Load Performance at Base Speed

|           | RPM  | HP   | Torque | Volts | Freq-Hz | Amps |
|-----------|------|------|--------|-------|---------|------|
| No Load   | 1799 | 0.0  | 0.0    | 460   | 60      | 8.8  |
| 1/4       | 1794 | 3.8  | 11.1   | 460   | 60      | 9.7  |
| 1/2       | 1787 | 7.6  | 22.4   | 460   | 60      | 12.0 |
| 3/4       | 1779 | 11.4 | 33.7   | 460   | 60      | 15.1 |
| Full Load | 1772 | 15.0 | 44.5   | 460   | 60      | 18.5 |
| O/L       | 1746 | 30.0 | 90.3   | 460   | 60      | 34.4 |

| Blower Data | Volts | Ph/HZ | FL Amps | LR Amps | Frame | CFM |
|-------------|-------|-------|---------|---------|-------|-----|
|             |       |       |         |         |       |     |

Remarks: Calculated Data  
Vector PWM Inverter Duty



DR BY BR  
CK BY  
APP BY BR  
DATE 3/28/2017

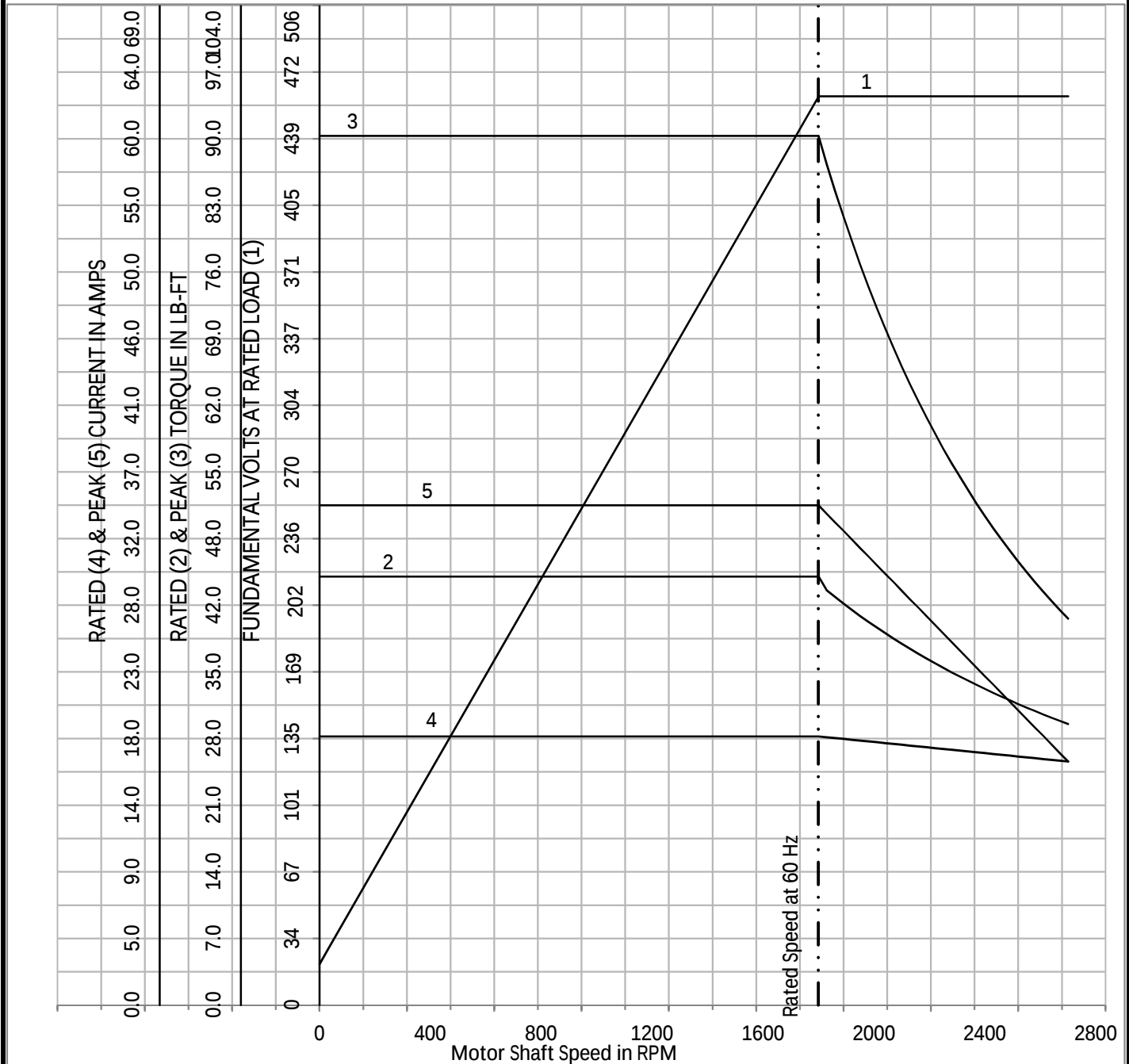
A-C MOTOR  
PERFORMANCE  
CURVES  
**09WGX946**

NP VOLTS 230/460  
NP AMPS 37/18.5  
HP 15HP  
BASE SPEED 1765  
PHASE/HZ 3/60

MAX SAFE RPM 5000  
Base Volt 460  
NL AMPS 8.75  
Slips (Hz) 0.93  
WK2 (lb-ft<sup>2</sup>) 2.1

WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)  
R1 0.231 X1 0.904  
R2 0.195 X2 1.090  
XM 26.400

Vector PWM Inverter Duty  
Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only



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DATE 3/28/2017

A-C MOTOR  
PERFORMANCE  
CURVES  
**09WGX946**

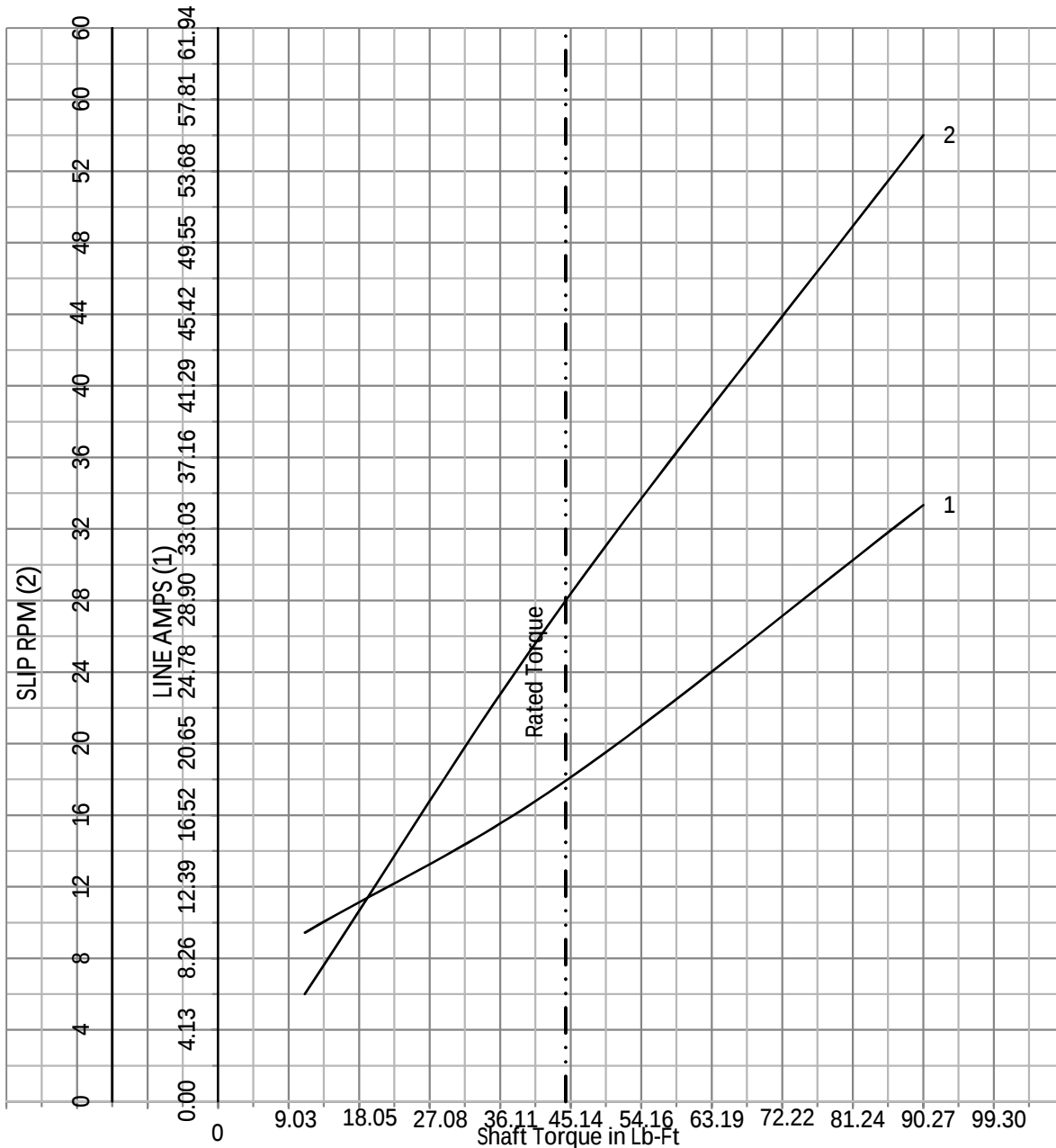
NP VOLTS 230/460  
NP AMPS 37/18.5  
HP 15HP  
BASE SPEED 1765  
PHASE/HZ 3/60

MAX SAFE RPM 5000  
Base Volt 460  
NL AMPS 8.75  
Slips (Hz) 0.93  
WK2 (lb-ft<sup>2</sup>) 2.1

WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)

|    |       |    |        |
|----|-------|----|--------|
| R1 | 0.231 | X1 | 0.904  |
| R2 | 0.195 | X2 | 1.090  |
|    |       | XM | 26.400 |

Vector PWM Inverter Duty  
Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only

**BALDOR**  
A MEMBER OF THE ABB GROUP

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DATE 3/28/2017

A-C MOTOR  
PERFORMANCE  
CURVES  
**09WGX946**



