

# ABB BALDOR RELIANCE III

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## Customer information packet

VLECP82334T-4

20HP, 1770RPM, 3PH, 60HZ, 256LP, TEFC, V1

Class - CLI GP A,B,C,D

Division - Division II

**Specifications**

|                                |                                          |
|--------------------------------|------------------------------------------|
| Enclosure                      | TEFC                                     |
| Frame                          | 256LP                                    |
| Frame Material                 | Iron                                     |
| Frequency                      | 60.00 Hz                                 |
| Haz Area Class and Group       | CLI GP A,B,C,D                           |
| Haz Area Division              | Division II                              |
| Motor Letter Type              | Three Phase                              |
| Output @ Frequency             | 20.000 HP @ 60 HZ                        |
| Phase                          | 3                                        |
| Synchronous Speed @ Frequency  | 1800 RPM @ 60 HZ                         |
| Voltage @ Frequency            | 460.0 V @ 60 HZ                          |
| Agency Approvals               | UR<br>NEMA PREMIUM<br>CSA EEV<br>CCSA US |
| Ambient Temperature            | 40 °C                                    |
| Auxiliary Box                  | NO AUXILLARY BOX                         |
| Auxiliary Box Lead Termination | None                                     |
| Base Indicator                 | No Mounting                              |
| Bearing Grease Type            | Polyrex EM (-20F +300F)                  |
| Blower                         | None                                     |
| Constant Torque Speed Range    | 1.3                                      |
| Current @ Voltage              | 23.000 A @ 460.0 V                       |
| Design Code                    | B                                        |
| Drip Cover                     | Drip Cover                               |
| Duty Rating                    | CONT                                     |
| Efficiency @ 100% Load         | 93.0 %                                   |
| Electrically Isolated Bearing  | Not Electrically Isolated                |
| Enclosure Modification         | 841                                      |
| Feedback Device                | NO FEEDBACK                              |
| Haz Area Temp Code             | T3C                                      |
| Heater Indicator               | No Heater                                |

**Part Detail**

|              |              |
|--------------|--------------|
| Revision     | J            |
| Type         | AC           |
| Mech. spec.  |              |
| Base         |              |
| Status       | PRD/A        |
| Elec. spec.  | 10WGY977     |
| Layout       | 10LY-000-527 |
| Eff. date    | 09-26-2025   |
| CD Diagram   | CD0006       |
| Poles        | 04           |
| Leads        | 3#10         |
| Proprietary  | False        |
| Created date | 05-02-2019   |

|                             |                                |
|-----------------------------|--------------------------------|
| High Voltage Full Load Amps | 23.0 a                         |
| Insulation Class            | F                              |
| Inverter Code               | Inverter Duty                  |
| IP Rating                   | IP56                           |
| KVA Code                    | G                              |
| Lifting Lugs                | Vertical Lifting Lugs          |
| Locked Bearing Indicator    | Locked Bearing                 |
| Max Speed                   | 2700 rpm                       |
| Motor Lead Termination      | Ring Terminals                 |
| Motor Standards             | NEMA                           |
| Motor Type                  | 1046M                          |
| Mounting Arrangement        | V1                             |
| Number of Poles             | 4                              |
| Overall Length              | 34.56 IN                       |
| Power Factor                | 84                             |
| Product Family              | Chem Process S/P 32-8 IEEE 841 |
| Pulley Face Code            | P-Base                         |
| Rodent Screen               | None                           |
| Service Factor              | 1.15                           |
| Shaft Diameter              | 1.625 IN                       |
| Shaft Ground Indicator      | No Shaft Grounding             |
| Shaft Rotation              | Reversible                     |
| Speed                       | 1770 rpm                       |
| Speed Code                  | Single Speed                   |
| Starting Method             | Direct on line                 |
| Thermal Device - Bearing    | None                           |
| Thermal Device - Winding    | None                           |
| Vibration Sensor Indicator  | No Vibration Sensor            |
| Winding Thermal 1           | None                           |
| Winding Thermal 2           | None                           |

**Nameplate**
**NP4332**

|              |               |                    |      |              |      |           |                         |            |            |        |            |   |          |    |
|--------------|---------------|--------------------|------|--------------|------|-----------|-------------------------|------------|------------|--------|------------|---|----------|----|
| CAT.NO.      | VLECP82334T-4 |                    |      | P/N          |      | ENCLOSURE |                         |            | TEFC       |        |            |   |          |    |
| SPEC.        | 10-0000-0757  |                    |      | CC           | 010A | FRAME     | 256LP                   | S/N        |            |        |            |   |          |    |
| HP           | 20            |                    |      | CLASS        | F    | HZ        | 60                      | ODE BRG    | 7309       | DE BRG | 6213       |   |          |    |
| RPM          | 1770          | RPM MAX            | 2700 | PH           | 3    | DES       | B                       | D.E. BRG.  | 65BC02X30X |        |            |   |          |    |
| VOLT         | 460           |                    |      | KVA-CODE     | G    |           | O.D.E. BRG.             | 45BT03X30X |            |        |            |   |          |    |
| AMP          | 23            |                    |      | MOTOR WEIGHT |      |           | 420                     | GREASE     | POLYREX EM |        |            |   |          |    |
| RATING       | 40C AMB-CONT  |                    |      | MAX. KVAR    |      |           | 5.1                     | BLANK      |            |        |            |   |          |    |
| NEMA-NOM-EFF | 93            | # OF ROTOR BARS    |      |              | 40   | SER.F.    | 1.15                    | IP         | 56         |        |            |   |          |    |
| G.MIN.EFF    | 91.7          | # OF STATOR SLOTS  |      |              | 48   | PF        | 84                      | INV.TYPE   | PWM        |        |            |   |          |    |
| TEMP CODE    | T3C           | INVERTER-TEMP-CODE |      |              | 180  |           |                         |            |            |        |            |   |          |    |
| TEMP =       | 160           | C HP FR            | 60   | C HP TO      | 90   |           |                         |            |            |        |            |   |          |    |
| CT HZ FROM   | 1.3           | CT HZ TO           | 60   |              |      |           |                         |            |            |        |            |   |          |    |
| HTR-VOLTS    |               | HTR-AMPS           |      | HTR-WATTS    |      |           | MAX. SPACE HEATER TEMP. |            |            |        | VT HZ FROM | O | VT HZ TO | 60 |

**AC Induction Motor Performance Data**

Record # 51457

Typical performance - not guaranteed values

| Winding: 10WGY977-R017 |    |              | Type: 1046M                           | Enclosure: TEFC           |                |
|------------------------|----|--------------|---------------------------------------|---------------------------|----------------|
| Nameplate Data         |    |              | 460 V, 60 Hz:<br>Single Voltage Motor |                           |                |
| Rated Output (HP)      |    | 20           | Full Load Torque                      |                           | 59.3 LB-FT     |
| Volts                  |    | 460          | Start Configuration                   |                           | direct on line |
| Full Load Amps         |    | 23           | Breakdown Torque                      |                           | 189 LB-FT      |
| R.P.M.                 |    | 1770         | Pull-up Torque                        |                           | 76.6 LB-FT     |
| Hz                     | 60 | Phase        | 3                                     | Locked-rotor Torque       | 95.9 LB-FT     |
| NEMA Design Code       | B  | KVA Code     | G                                     | Starting Current          | 145 A          |
| Service Factor (S.F.)  |    | 1.15         | No-load Current                       |                           | 7.85 A         |
| NEMA Nom. Eff.         | 93 | Power Factor | 84                                    | Line-line Res. @ 25°C     | 0.368 Ω        |
| Rating - Duty          |    | 40C          | AMB-CONT                              | Temp. Rise @ Rated Load   | 40°C           |
| S.F. Amps              |    |              |                                       | Temp. Rise @ S.F. Load    | 47°C           |
|                        |    |              |                                       | Locked-rotor Power Factor | 31.8           |
|                        |    |              |                                       | Rotor inertia             | 3.66 LB-FT2    |

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

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 57   | 78   | 85   | 87   | 88   | 87   | 88   |
| Efficiency      | 88.4 | 92.3 | 93.5 | 93.5 | 93.3 | 92.6 | 93.3 |
| Speed           | 1793 | 1785 | 1779 | 1771 | 1763 | 1755 | 1766 |
| Line amperes    | 9.5  | 13.1 | 17.7 | 22.9 | 28.4 | 34.6 | 26.2 |

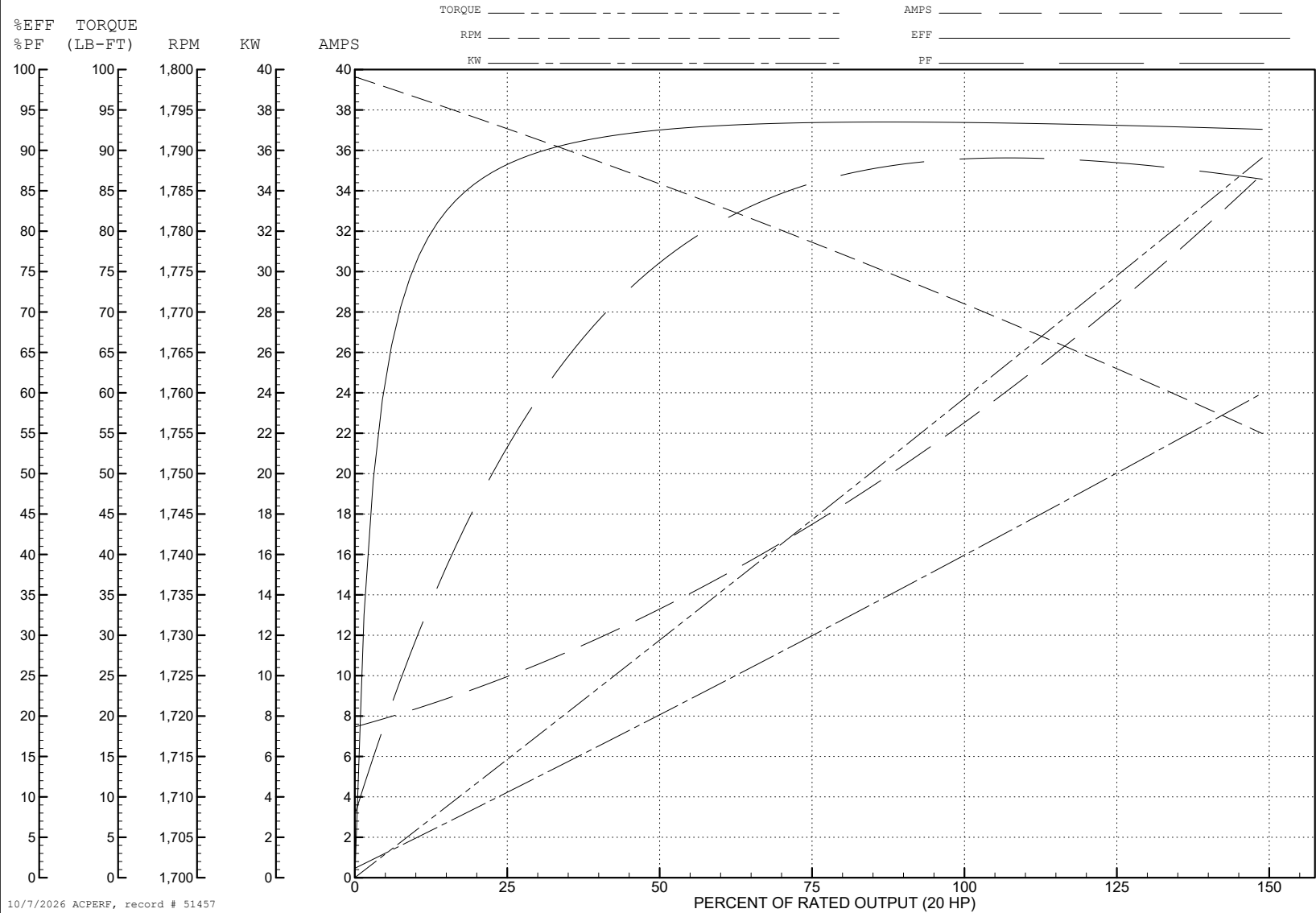
ABB Motors and Mechanical Inc.

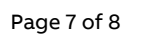
WINDING # 10WGY977

Typical performance - not guaranteed values.

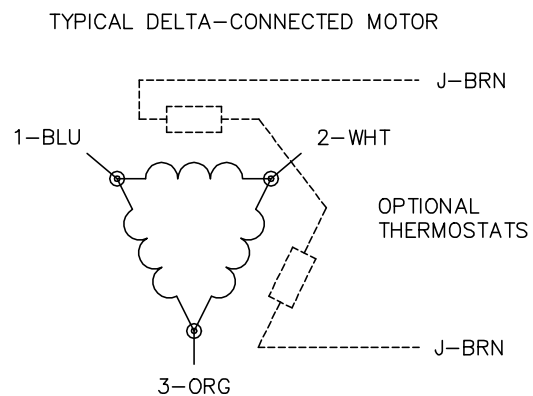
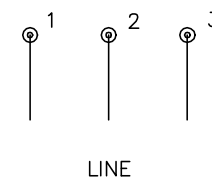
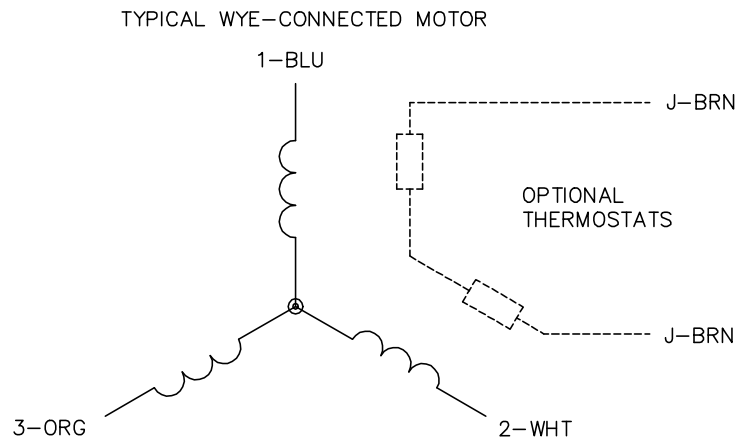
20 HP 3 PH 60 HZ 1770 RPM 460 V 1046M

TORQUES (LB-FT): PO=189 PU=76.6 LR=95.9 LRA=145





CD0006



**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

REV. LTR: E

VERSION: 01

TDR: 000001099922

FILE: \AAA\00005\141

REVISED: 10: 24: 49 02/19/2019

BY: ENBRIRO

MTL: —



**BALDOR - RELIANCE®**

3PH, SV, 3 LEADS, WYE OR DELTA CONNECTED

SH 1 of 1