ABB BALDOR RELIANCE

# Customer information packet

## ECS100T4H2DB4

2HP, 1800RPM, 3PH, 60HZ, 145TC, 3524B, TEFC, F1
Class - None
Division - Not Applicable

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## Specifications

| | |
|---|---|
| **Enclosure** | TEFC |
| **Frame** | 145TC |
| **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** | 2.000 HP @ 60 HZ |
| **Phase** | 3 |
| **Synchronous Speed @ Frequency** | 1800 RPM @ 60 HZ |
| **Voltage @ Frequency** | 460.0 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** | 2.200 A @ 460.0 V |
| **Design Code** | - |
| **Drip Cover** | No Drip Cover |
| **Duty Rating** | CONT |
| **Efficiency @ 100% Load** | 91.9 % |
| **Electrically Isolated Bearing** | Not Electrically Isolated |
| **Feedback Device** | NO FEEDBACK |
| **Heater Indicator** | No Heater |
| **High Voltage Full Load Amps** | 2.2 a |
| **Insulation Class** | F |
| **Inverter Code** | 03 |

## Part Detail

| | |
|---|---|
| **Revision** | C |
| **Type** | AC |
| **Mech. spec.** | 35E5291 |
| **Base** | |
| **Status** | PRD/A |
| **Elec. spec.** | 35WGG963 |
| **Layout** | 35LYE5291 |
| **Eff. date** | 06-16-2025 |
| **CD Diagram** | CD0006B03 |
| **Poles** | 04 |
| **Leads** | 3#16 13" LONG LEADS Y |
| **Proprietary** | False |
| **Created date** | 05-07-2024 |

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

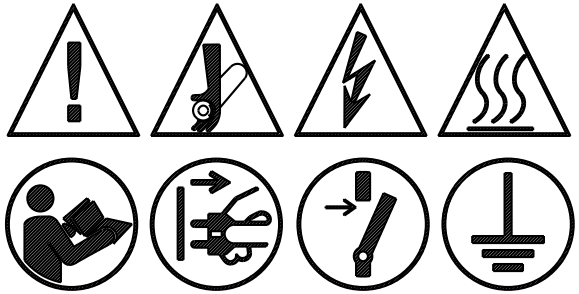
# BALDOR·RELIANCE

## EC-Titanium™

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CAT. NO. | ECS100T4H2DB4 | | | | | | |
| SPEC. | 35E5291G963 | | | | YR | *** | |
| FRAME | 145TC | | ENCL. | TEFC | IP | 54 | |
| HP | 2 | RATING | 40C AMB-CONT | | | | |
| NOM. EFF. | 91.9 | PF | 93 | SF | 1.00 | | |
| VOLTS | 460 | | FLA | 2.2 | | | |
| RPM | 1800 | RPM MAX | 4000 | | | | |
| HZ | 60 | PH. | 3 | CLASS | F | | |
| BEMF (V) | 296 | | Rs (Ω) | 11.7 | | | |
| Ld (mH) | 78.9 | | Lq (mH) | 406 | | | |
| INV TYP | VPWM | CHP | 60 TO 133 HZ | | | | |
| | CT | 6 TO 60 HZ | VT | 6 TO 60 HZ | | | |
| MATCHED INV | EC14A4P1 | | | | | | |
| BEARING | DE | 6205 | ODE | 6203 | | | |
| SERIAL# | *** | | | | | | |

ELECTRONICALLY PROTECTED MOTOR
FOR INDUSTRIAL USE

FERRITE ASSISTED
SYNCHRONOUS RELUCTANCE MOTOR
FOR INVERTER USE ONLY



PERMANENT MAGNET MOTOR. WHEN SHAFT IS ROTATED, VOLTAGE WILL BE GENERATED AT THE MOTOR TERMINALS.
MOTEUR Á AIMANT PERMANENT. LORSQUE L'ARBRE TOURNE, UNE TENSION SERA GÉNÉRÉE AUX BORNES DU MOTEUR.

BALDOR-RELIANCE
SHAFT GROUNDING BRUSH INSTALLED

c UL us LISTED
E46145

ABB MOTORS AND MECHANICAL INC.
5711 R.S. BOREHAM JR. ST., FORT SMITH, AR. MFG IN U.S.A.

BALDOR·RELIANCE

EC-Titanium™

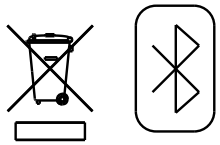
| | | | | | |
|---|---|---|---|---|---|
| PART NO. | EC14A4P1 | | | | |
| U1 | 480 | PH | 3 | HZ | 60 |
| I1 MAX | 2.9 | W/EXT. CHOKE | | | 2.7 |
| SERIAL # | *** | | | | |



POWER DOWN FOR
5 MINUTES BEFORE
REMOVING COVER

METTRE HORS TENSION
PENDANT 5 MINUTES
AVANT DE RETIRER LE
COUVERCLE

ABB MOTORS AND MECHANICAL
INC. FORT SMITH, AR.
MFG. IN U.S.A.



| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Volts | 460 | Max RPM | 4000 | Conn Diag. | CD0006B03 | Leads | 3 |
| Amps | 2.4 | Max Amps | | Cs Diagram | CS1126 | BEMF | 296 |
| HP | 2 | VFD# | ECIN4A2P2 | | | LD | 78.9 |
| RPM | 1800 | S.F. | 1.00 | | | LQ | 406 |
| Phase/Hz | 3/60 | Rating | 40C AMB-CONT | | | Rs | 11.7433 Meas. L-L |

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

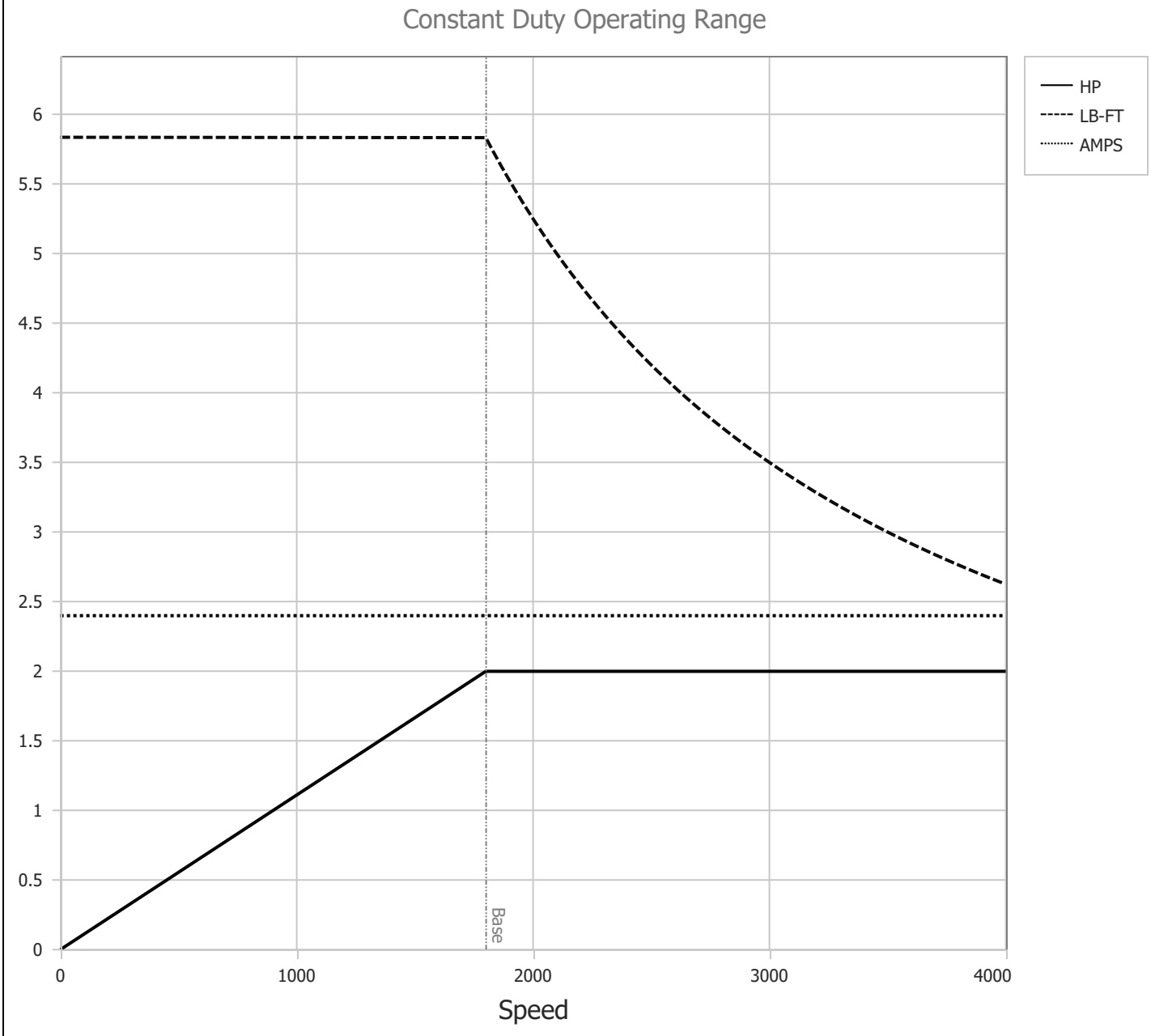
| | RPM | % Speed | LB-FT | % Torque | HP | Efficiency | Loss (% FL) | Watts Loss (W) |
|---|---|---|---|---|---|---|---|---|
| P1 | 1627 | 90% | 5.8 | 100% | 1.8 | 91.9 | 7.92% | 120 |
| P2 | 903 | 50% | 5.8 | 100% | 1.0 | 88.1 | 6.71% | 101 |
| P3 | 453 | 25% | 5.8 | 100% | 0.5 | 81.6 | 5.62% | 85 |
| P4 | 1624 | 90% | 2.9 | 50% | 0.9 | 92.2 | 3.77% | 57 |
| P5 | 903 | 50% | 2.9 | 50% | 0.5 | 90.5 | 2.61% | 39 |
| P6 | 903 | 50% | 1.5 | 25% | 0.3 | 91.1 | 1.22% | 18 |
| P7 | 454 | 25% | 1.5 | 25% | 0.1 | 88.8 | 0.79% | 12 |

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

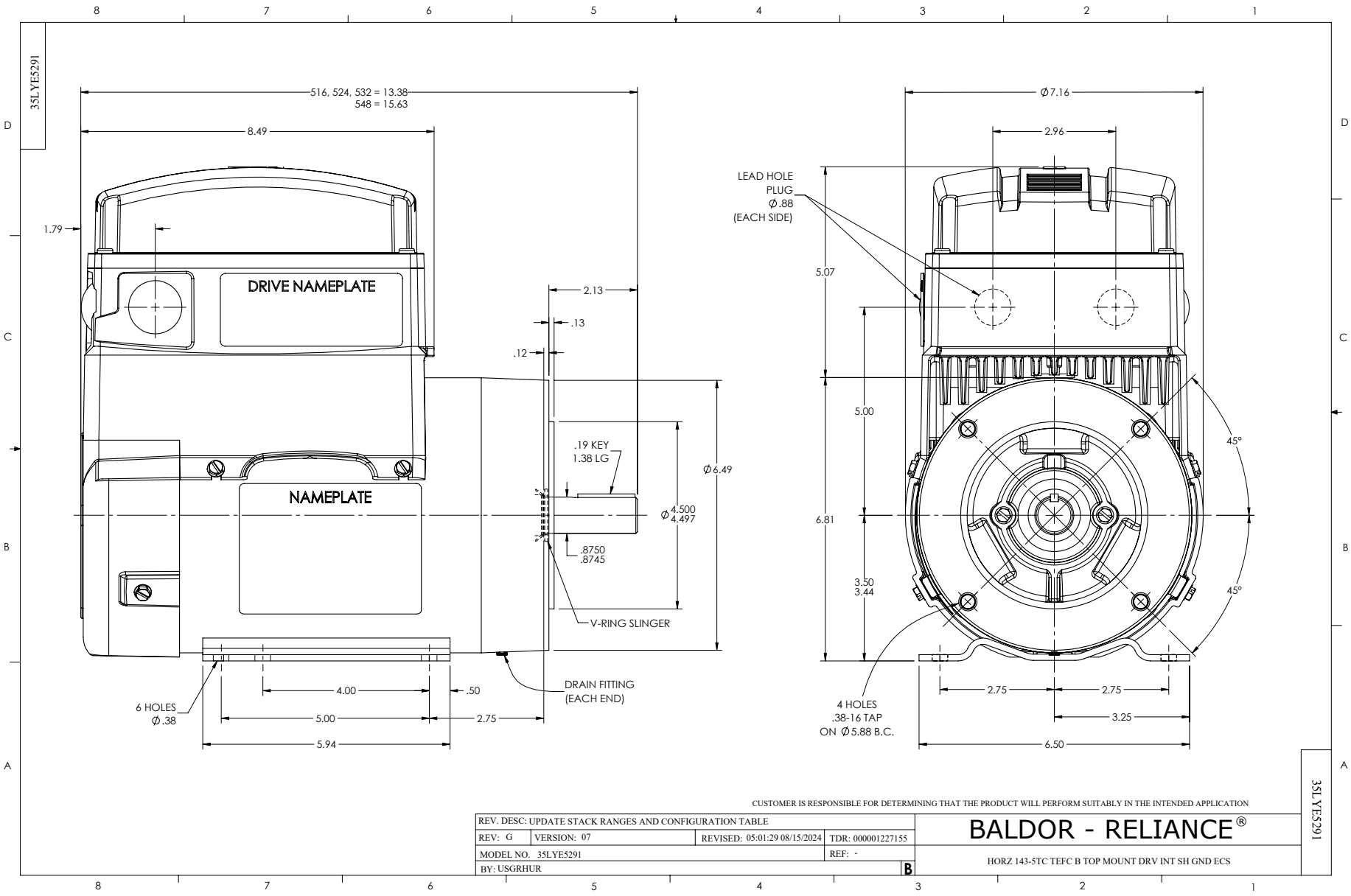
| | RPM | % Speed | LB-FT | % Torque | HP | System Efficiency | Loss (% FL) | Watts Loss (W) |
|---|---|---|---|---|---|---|---|---|
| P1 | 1812 | 100% | 5.8 | 100% | 2.0 | 89.2 | 12.04% | 182 |
| P2 | 903 | 50% | 5.8 | 100% | 1.0 | 84.1 | 9.39% | 142 |
| P3 | 302 | 17% | 5.8 | 100% | 0.3 | 68.1 | 7.78% | 117 |
| P4 | 1804 | 100% | 2.9 | 50% | 1.0 | 89.1 | 6.06% | 91 |
| P5 | 903 | 50% | 2.9 | 50% | 0.5 | 84.6 | 4.53% | 68 |
| P6 | 302 | 17% | 2.9 | 50% | 0.2 | 69.3 | 3.67% | 55 |
| P7 | 903 | 50% | 1.5 | 25% | 0.3 | 81.9 | 2.75% | 42 |
| P8 | 302 | 17% | 1.5 | 25% | 0.1 | 65.2 | 2.21% | 33 |

*Points not taken in certified order.*

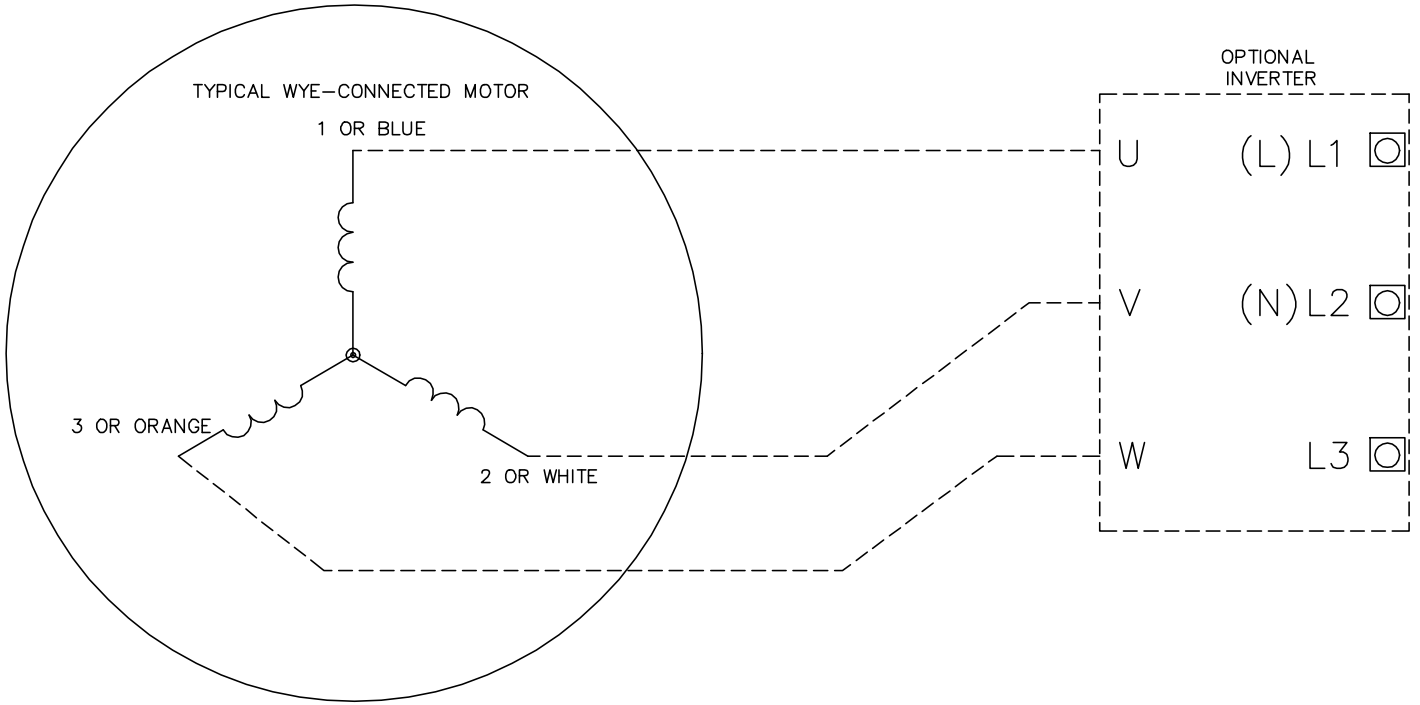
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Volts | 460 | Max RPM | 4000 | Conn Diag. | CD0006B03 | Leads | 3 |
| Amps | 2.4 | Max Amps | | Cs Diagram | CS1126 | BEMF | 296 |
| HP | 2 | VFD # | ECIN4A2P2 | | | LD | 78.9 |
| RPM | 1800 | S.F. | 1.00 | | | LQ | 406 |
| Phase/Hz | 3/60 | Rating | 40C AMB-CONT | | | Rs | 11.7433 Meas L-L |




| | | | |
|---|---|---|---|
| BALDOR • RELIANCE | DR By: R & D<br>CK By: USTOSAN<br>APP By: USJAROB1<br>Date: 07/03/2024 | **AC MOTOR PERFORMANCE CURVES** | **35WGG963**<br>35E5209G963<br>*Test - 110893* |


35LYE5291
516, 524, 532 = 13.38
548 = 15.63
8.49
1.79
DRIVE NAMEPLATE
NAMEPLATE
2.13
.13
.12
.19 KEY
1.38 LG
Ø 6.49
Ø 4.500
4.497
.8750
.8745
V-RING SLINGER
DRAIN FITTING
(EACH END)
6 HOLES
Ø .38
4.00
.50
5.00
2.75
5.94
Ø 7.16
2.96
LEAD HOLE
PLUG
Ø .88
(EACH SIDE)
5.07
5.00
6.81
3.50
3.44
45°
45°
4 HOLES
.38-16 TAP
ON Ø 5.88 B.C.
2.75
2.75
3.25
6.50
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT THE PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION
REV. DESC: UPDATE STACK RANGES AND CONFIGURATION TABLE
REV: G
VERSION: 07
REVISED: 05:01:29 08/15/2024
TDR: 000001227155
MODEL NO. 35LYE5291
REF: -
BY: USGRHUR
B
BALDOR - RELIANCE®
HORZ 143-5TC TEFC B TOP MOUNT DRV INT SH GND ECS
35LYE5291

CD0006B03




NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY VARY.

CD0006B03

| | | |
|---|---|---|
| REV. DESC: CHANGE LEAD COLORS TO BLUE WHITE ORANGE | | |
| REV. LTR: A | VERSION: 01 | TDR: 000001158598 |
| FILE: \AAA\00252\917 | REVISED: 11:01:03 01/19/2021 | BY: ENMARSO |
| MTL: – | | |

BALDOR - RELIANCE®

3PH, SV, 3 LEADS, WYE CONNECTED, ECS

SH 1 of 1