

# ABB BALDOR RELIANCE III

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## Customer information packet

### CD7502

2HP, 1750RPM, DC, 213C, 3646D, TEFC, F1, N

Class - None

Division -

**Specifications**

|                                      |                           |
|--------------------------------------|---------------------------|
| <b>Armature Voltage</b>              | 180 V                     |
| <b>Base Speed</b>                    | 1750 rpm                  |
| <b>Enclosure</b>                     | TEFC                      |
| <b>Field Voltage</b>                 | 100 V                     |
|                                      | 200 V                     |
| <b>Frame</b>                         | 213C                      |
| <b>Frame Material</b>                | Steel                     |
| <b>Haz Area Class and Group</b>      | None                      |
| <b>Output Power</b>                  | 2.000 HP                  |
| <b>Agency Approvals</b>              | CSA                       |
|                                      | UR                        |
| <b>Ambient Temperature</b>           | 40 °C                     |
| <b>Armature Current</b>              | 9.5 a                     |
| <b>Armature Inertia</b>              | 38.770 lb-ft <sup>2</sup> |
| <b>Base Indicator</b>                | Rigid                     |
| <b>Bearing Grease Type</b>           | Polyrex EM (-20F +300F)   |
| <b>Drip Cover</b>                    | No Drip Cover             |
| <b>Duty Rating</b>                   | CONT                      |
| <b>Feedback Device</b>               | NO FEEDBACK               |
| <b>Field Winding Type</b>            | SHUNT                     |
| <b>Heater Indicator</b>              | No Heater                 |
| <b>Lifting Lugs</b>                  | Standard Lifting Lugs     |
| <b>Motor Lead Exit</b>               | Ko Box                    |
| <b>Motor Lead Quantity/Wire Size</b> | 2 @ 12 AWG                |
|                                      | 4 @ 18 AWG                |
| <b>Motor Lead Termination</b>        | Flying Leads              |
| <b>Motor Standards</b>               | NEMA                      |
| <b>Mounting Arrangement</b>          | F1                        |
| <b>Overall Length</b>                | 19.79 IN                  |
| <b>Product Family</b>                | General Purpose           |
| <b>Pulley End Bearing Type</b>       | Sealed Bearing            |
| <b>Service Factor</b>                | 1.00                      |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | L          |
| <b>Type</b>         | DC         |
| <b>Mech. spec.</b>  | 36-5580    |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 36WGZ105   |
| <b>Layout</b>       | 36LY5580   |
| <b>Eff. date</b>    | 11-12-2024 |
| <b>CD Diagram</b>   | CD0860C01  |
| <b>Poles</b>        | 00         |
| <b>Leads</b>        |            |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 11-20-2008 |

|                          |                    |
|--------------------------|--------------------|
| Shaft Diameter           | 1.125 IN           |
| Shaft Extension Location | Pulley End         |
| Shaft Ground Indicator   | No Shaft Grounding |
| Shaft Rotation           | Reversible         |
| Shaft Slinger Indicator  | No Slinger         |

**Nameplate**

| NP0111L  |             |         |       |
|----------|-------------|---------|-------|
| CAT.NO.  | CD7502      |         |       |
| SPEC.    | 36-5580Z105 |         |       |
| HP       | 2           | ENCL    | TEFC  |
| RPM      | 1750        |         |       |
| FRAME    | 213C        | TYPE    | 3646D |
| ARM V    | 180         | ARM A   | 9.5   |
| FLD V    | 200/100     | FLD A   | .4/.8 |
| INSUL    | F           | AMB.    | 40    |
| DUTY     | CONT        | SUPPLY  | K     |
| BRG/DE   | 6207        | BRG/ODE | 6205  |
| BRUSHES  | 2/BP5125A01 |         |       |
|          | BLANK       |         |       |
| SER.     |             |         |       |
| BLANK    |             |         |       |
| APRV-CSA |             | APRV-UL |       |

**Parts List**

| Part number   | Description                              | Quantity |
|---------------|------------------------------------------|----------|
| SA177549      | SA 36-5580Z105                           | 1.000 ea |
| AA013620      | AA 36-5580Z105                           | 1.000 ea |
| BP5125A01SP   | CARBON BRUSH - SERRATED H45 - FOR 36D    | 1.000 ea |
| BP2000A01SP   | BRUSH SPRING FOR DC MOTORS               | 1.000 ea |
| 36CB3000SP    | CONDUIT BOX, CAST                        | 1.000 ea |
| 36GS1000SP    | GASKET-CONDUIT BOX, .06 THICK #SV-330 LE | 1.000 ea |
| 51XB1016A07   | 10-16 X 7/16 HXWSSLD SERTYB              | 2.000 ea |
| 11XW1032G06   | 10-32 X .38, TAPTITE II, HEX WSHR SLTD U | 1.000 ea |
| HW3001B02     | BRASS CUP WASHER W/GROUND SYMBOL TAB,    | 1.000 ea |
| 36EP3300A03   | FR ENDPLATE, MACH                        | 1.000 ea |
| HW5100A05     | WVY WSHR F/205 & 304 BRGS                | 1.000 ea |
| HW5010U49     | RET. RING 5100-143 TRU ARC               | 1.000 ea |
| 36EP1307A31   | PU EP ENCL 207 BRG 182-215TC W/NO TS, NO | 1.000 ea |
| 10XN2520A28   | 1/4-20X 1 3/4 HEX HD                     | 4.000 ea |
| HW1001A25     | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 4.000 ea |
| 10XN2520A12   | 1/4-20 X 3/4 HEX HEAD CAP                | 2.000 ea |
| HW1000A25     | 1/4 SAE FLAT WASHER (FS)                 | 2.000 ea |
| HW1001A25     | LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I | 2.000 ea |
| 36FN3000A01SP | EXFN, PLASTIC, 7.00 OD, .912 ID          | 1.000 ea |
| 51XB1214A16   | 12-14X1.00 HXWSSLD SERTYB                | 1.000 ea |
| 36FH5000A11   | FAN COVER/TACH. ACC. ASSY.08 45823107    | 1.000 ea |
| 51XW1032A06   | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S | 3.000 ea |
| 36CV4000      | INSPECTION COVER, BRUSH Z                | 2.000 ea |
| 36GS1016      | GASKET, BRUSH INSP COVER X               | 2.000 ea |
| 35CB4514      | 35 LIPPED CB LID                         | 1.000 ea |
| 36GS1001SP    | GASKET, CONDUIT BOX LID, .06 THICK #SV-3 | 1.000 ea |
| 51XW0832A07   | 8-32 X .44, TAPTITE II, HEX WSHR SLTD SE | 4.000 ea |
| 51XW1032A06   | 10-32 X .38, TAPTITE II, HEX WSHR SLTD S | 4.000 ea |
| HW2501E18     | KEY, 1/4 SQ X 2.000                      | 1.000 ea |
| HA7000A02     | KEY RETAINER RING, 1 1/8 DIA, 1 3/8 DIA  | 1.000 ea |
| MG1050G01     | CELEROL MEDIUM CHARCOAL METALLIC GRAY    | 0.022 ga |

|             |                                          |          |
|-------------|------------------------------------------|----------|
| 85XU0407S04 | 4X1/4 U DRIVE PIN STAINLESS              | 2.000 ea |
| 36RK5002SP  | ROCKERARM ASSY                           | 1.000 ea |
| HA3101A30   | THRUBOLT 1/4-20 X 13.312                 | 4.000 ea |
| LB1624      | COMBINED WARNING LABEL, ISO/ANSI PICTOGR | 1.000 ea |
| LC0860      | CONN. DIAGRAM-DC(SHUNT WOUND MOTOR)      | 1.000 ea |
| MN416A01    | TAG-INSTAL-MAINT no wire (2500 bx)11/25  | 1.000 ea |
| NP0111L     | NP STD LASER ENGRAVED DC MOTORS, UL CSA  | 1.000 ea |
| 35PA1007    | PKG GRP, PRINT PK1034A07                 | 1.000 ea |

**Accessories**

| Part number | Description                   | Multiplier |
|-------------|-------------------------------|------------|
| TK7500      | TEFC TACH MTG. CONVERSION KIT |            |

**DC Motor Performance Data**

Record # 306

Typical performance - not guaranteed values

| Winding: 36WGZ105-R001 |              | Type: 3646D                              | Enclosure: TEFC         |
|------------------------|--------------|------------------------------------------|-------------------------|
| Nameplate Data         |              | General Characteristics                  |                         |
| Rated Output (HP)      | 2            | Armature Resistance<br>@ 25°C            | 0.631 Ω                 |
| R.P.M.                 | 1750         | Commutating Winding Resistance<br>@ 25°C | 0.451 Ω                 |
| Armature Volts         | 180          |                                          |                         |
| Armature Amps          | 9.5          | Shunt Winding Resistance<br>@ 25°C       | 428 Ω                   |
| Field Volts            | 200 / 100    |                                          |                         |
| Field Amps             | 0.4 / 0.8    | Armature Inertia                         | 38.7702 LI <sup>2</sup> |
| Rating - Duty          | 40C AMB-CONT |                                          |                         |
| Power Supply Code      | K            |                                          |                         |

**Load Characteristics at 180 Armature Volts, 200 Field Volts, 0.42 Field Amps**

| Load Point       | 1    | 2    | 3    | 4    | 5    | 6    | 7    |
|------------------|------|------|------|------|------|------|------|
| Armature Amps    | 0.6  | 2.7  | 4.6  | 6.5  | 8.75 | 10.8 | 13   |
| R.P.M.           | 1683 | 1669 | 1647 | 1637 | 1615 | 1602 | 1588 |
| Torque ( LB-FT ) | 0    | 1.5  | 3    | 4.5  | 6    | 7.5  | 9    |



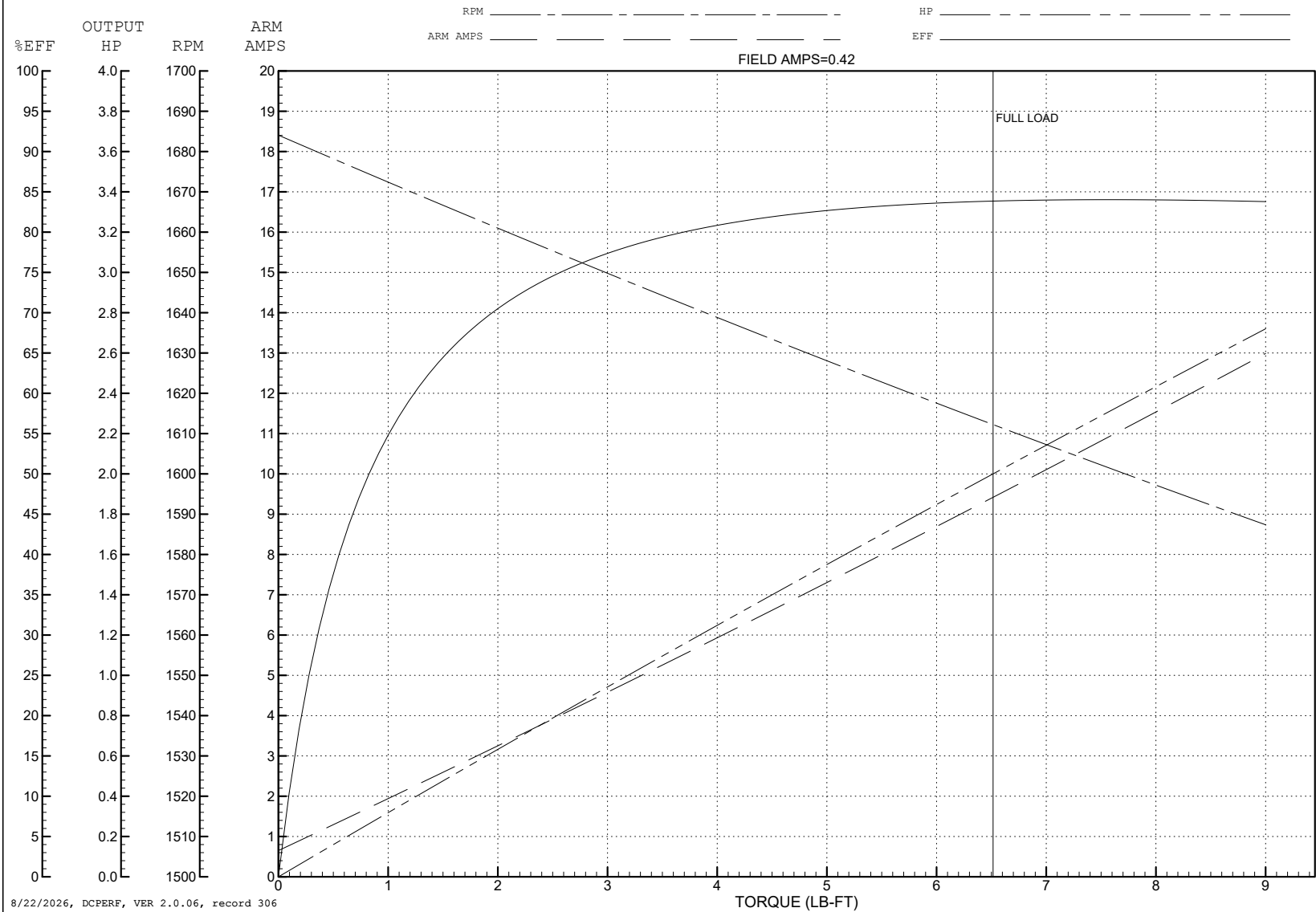
ABB Motors and Mechanical Inc.

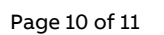
WINDING # 36WGZ105

Typical performance - not guaranteed values.

2 HP DC 1750 RPM 180 V ARM 200/100 V FLD 3646D

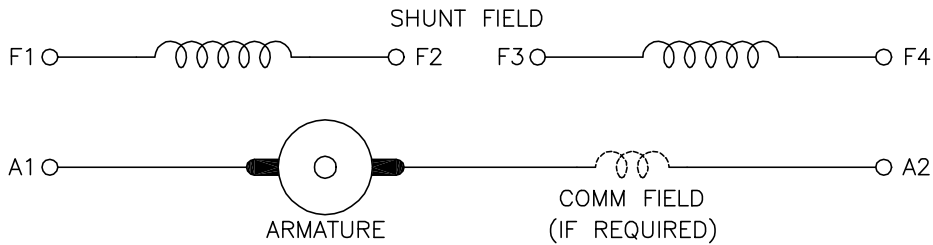
ENCL: TEFC DUTY: CONT CL: F





SHUNT WOUND

CD0860C01



| CONNECTION      | DIRECTION OF ROTATION |                 |                 |                 |
|-----------------|-----------------------|-----------------|-----------------|-----------------|
|                 | CWDE                  |                 | CCWDE           |                 |
|                 | POS TERM<br>(+)       | NEG TERM<br>(-) | POS TERM<br>(+) | NEG TERM<br>(-) |
| HIGH<br>VOLTAGE | A1                    | A2              | A2              | A1              |
|                 | F1                    | F4              | F1              | F4              |
|                 | CONNECT F2 & F3       |                 | CONNECT F2 & F3 |                 |
| LOW<br>VOLTAGE  | A1                    | A2              | A2              | A1              |
|                 | F1 & F3               | F2 & F4         | F1 & F3         | F2 & F4         |

- NOTES:
- 1. LIMIT STARTING INRUSH CURRENT TO NOT MORE THAN 3 TIMES RATED AMPERES BY ENERGIZING THE FULL SHUNT FIELD BEFORE BRINGING THE ARMATURE VOLTAGE UP SLOWLY OR IN STEPS.
  - 2. OPTIONAL FIELD REOSTAT MAY BE CONNECTED IN SERIES WITH THE SHUNT FIELD.
  - 3. OPTIONAL THERMOSTAT LEADS ARE MARKED J,J.

|                                |         |                              |                |
|--------------------------------|---------|------------------------------|----------------|
| REV. DESC: NEW, REPLACE CD0860 |         |                              |                |
| REV. LTR: -                    | BY: JLP | REVISED: 15:35:22 11/03/2004 | TDR: 347796    |
| 10C0980C0                      |         | FILE: AAA00121477            | REF: CD0860C01 |
|                                |         | MTL: -                       |                |

**BALDOR ELECTRIC Co.**

DC CONNECTION DIAGRAM, SHUNT FIELD, 6 LEAD, DUAL VOLTAGE

CD0860C01