ABB BALDOR RELIANCE

# Customer information packet

## CD1805R

5HP, 1750RPM, DC, 1810ATCZ, DPG,

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9/7/2026 9:40:42 AM

## Specifications

| | |
|---|---|
| **Armature Voltage** | 180 V |
| **Base Speed** | 1750 rpm |
| **Enclosure** | DP |
| **Field Voltage** | 200 V |
| **Frame** | DC1810ATCZ |
| **Output Power** | 5.000 HP |
| **Agency Approvals** | CCSA US |
| **Ambient Temperature** | 40 °C |
| **Armature Current** | 24.0 a |
| **Drip Cover** | No Drip Cover |
| **Duty Rating** | CONT |
| **Feedback Device** | NO FEEDBACK |
| **Field Winding Type** | STR. SHUNT |
| **Frame Prefix** | DC |
| **Heater Indicator** | No Heater |
| **Insulation Class** | F |
| **Lifting Lugs** | Standard Lifting Lugs |
| **Motor Standards** | NEMA |
| **Mounting Arrangement** | F3 |
| **Overall Length** | 21.94 IN |
| **Service Factor** | 1.00 |
| **Shaft Diameter** | 1.125 IN |
| **Shaft Ground Indicator** | No Shaft Grounding |
| **Shaft Slinger Indicator** | No Slinger |
| **Thermal Device - Bearing** | None |

## Part Detail

| | |
|---|---|
| **Revision** | - |
| **Type** | DC |
| **Mech. spec.** | |
| **Base** | |
| **Status** | PRD/A |
| **Elec. spec.** | G4611A |
| **Layout** | 609980-503 |
| **Eff. date** | 12-13-2019 |
| **CD Diagram** | 406770-007 |
| **Poles** | 00 |
| **Leads** | |
| **Proprietary** | False |
| **Created date** | 12-12-2019 |

**Nameplate**

| 000613006HP | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **CAT.NO.** | CD1805R | **SPEC NO.** | T18S1105 | | | | | |
| **FR** | DC1810ATCZ | **HP** | 5 | **DUTY** | CONT | | | |
| **ENCL.** | DP | **RPM** | 1750 | **S.F.** | 1.0 | | | |
| **ENCL MOD** | GUARDED | **VOLTS** | 180 | **INSUL** | F | | | |
| **MAX SAFE SPEED** | 04500 | **AMPS** | 24.00 | **AMB.** | 40 | | | |
| | **FIELD DATA** | **SER.NO.** | | | | | | |
| **WINDING** | STR. SHUNT | **POWER CODE** | 2/2-230-60-0 | | | | | |
| **VOLTS** | 200/100 | **D.E. BRG.** | 30BC02JPP30A | | | | | |
| **MAX AMPS @ 25 C** | 1.68 | **O.D.E. BRG.** | 30BC02JPG30A | | | | | |
| **HOT AMPS** | 1.30 | **MIN. AMB.** | 0 | **TYPE** | TR | | | |
| | BRUSH:419904050A | | | | | | | |
| | FLD. DATA FOR HIGH VOLTS | | | | | | | |

| REL. S.O. | FRAME | RATING | RPM | ARM. VOLTS | ARM. AMPS |
|---|---|---|---|---|---|
| | DC1810ATZ | 5.00HP | 1750 | 180 | 24.0 |

| WINDING TYPE | S.F. | ENCL. | AMB°C/INSUL | DUTY | FIELD VOLTS |
|---|---|---|---|---|---|
| STRAIGHT SHUNT | 1.0 | DPG | 40/F | CONT | 200 |

| POWER CODE | TYPE | WK²(LB-FT²) | HOT ARM. CIR. RES. | FLD. AMPS@25°C | HOT FIELD RES |
|---|---|---|---|---|---|
| 2/2 230-60-0 | TR | .6800 | .591 | 1.67 | 153 |

| ARM. CIR. IND. (mh) | FIELD IND. (H) | COOLING AIR (CFM/IN $H_2O$) | TURNS PER COIL SHUNT/SERIES | TEST DATE |
|---|---|---|---|---|
| 8.76 | 14.1 | -/- | 1600/0 | - |

**LOAD PERFORMANCE**

| LOAD | AMPERES | TORQUE IN LB.-FT. | OUTPUT IN HP | RPM | PERCENT EFFICIENCY |
|---|---|---|---|---|---|
| NO LOAD | .77 | 0 | 0 | 1950 | 0 |
| 1/4 | 6.0 | 3.34 | 1.22 | 1921 | 65.6 |
| 2/4 | 12 | 7.13 | 2.56 | 1887 | 75.3 |
| 3/4 | 18 | 10.8 | 3.83 | 1860 | 77.5 |
| 4/4 | 24 | 14.4 | 5.03 | 1841 | 77.7 |
| O.L. | 36 | 20.6 | 7.22 | 1836 | 76.5 |

| RPM VS. FIELD AMPS | | | EG VS. FIELD AMPS | |
|---|---|---|---|---|
| FIELD AMPS | RPM N.L. | RPM F.L. | Eg N.L. @ BASE SPEED | Eg F.L. @ BASE SPEED |
| 1.30 | 1950 | 1840 | 160 | 155 |
| 1.21 | 1960 | 1870 | 156 | 152 |
| 1.13 | 1970 | 1920 | 153 | 148 |
| 1.05 | 1990 | 1970 | 149 | 144 |
| .977 | 2030 | 2050 | 146 | 139 |

REMARKS: TYPICAL DATA MAXIMUM SAFE SPEED = 4500 RPM

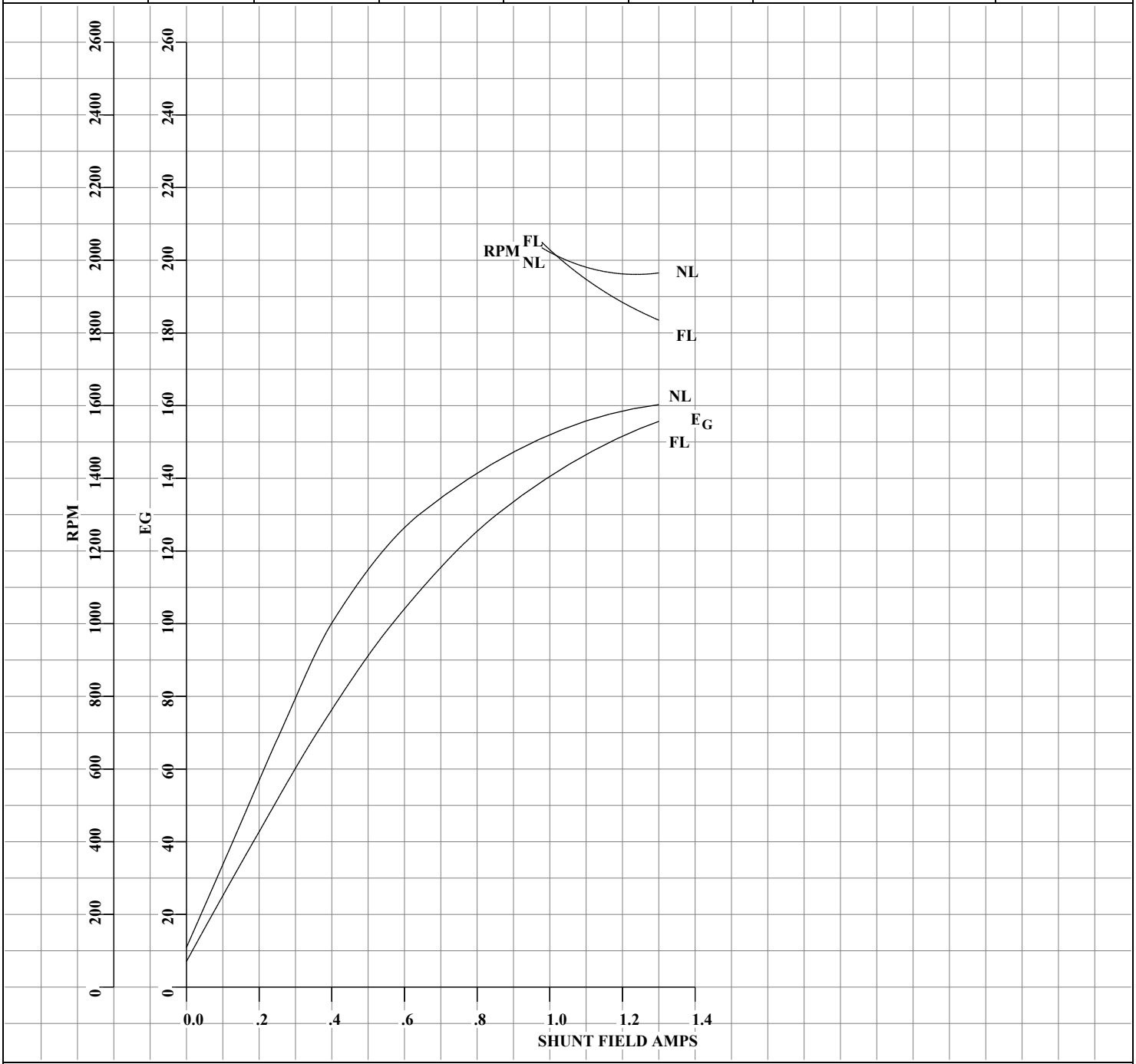
| | | | |
|---|---|---|---|
| ABB | DRAWN BY: R.ERLACHER<br>CHECKED BY: R.ERLACHER<br>APPROVED BY: T.S.EVON<br>DATE: 08-05-88 | DC MOTOR PERFORMANCE DATA | DG4611A<br>DATE ISSUED 03-10-92 |

| FRAME | RATING | BASE SPEED | WINDING TYPE |
|---|---|---|---|
| DC1810ATZ | 5.00HP | 1750 | STRAIGHT SHUNT |

| S.F. | ENCL. | AMB°C/INSUL | DUTY | POWER CODE/FORM FACTOR | TYPE | WK²(LB-FT²) |
|---|---|---|---|---|---|---|
| 1.0 | DPG | 40/F | CONT | 2/2 230-60-0 | TR | .6800 |

| COOLING AIR (CFM/IN $H_2O$) | J (sec) | R (hot) | T E | T M | BASIC RPM | MAX CONT | WINDER RPM | MAX. SAFE SPEED |
|---|---|---|---|---|---|---|---|---|
| -/- | .257 | .102 | .0125 | .0264 | 1950 | 2050 | - | 4500 |

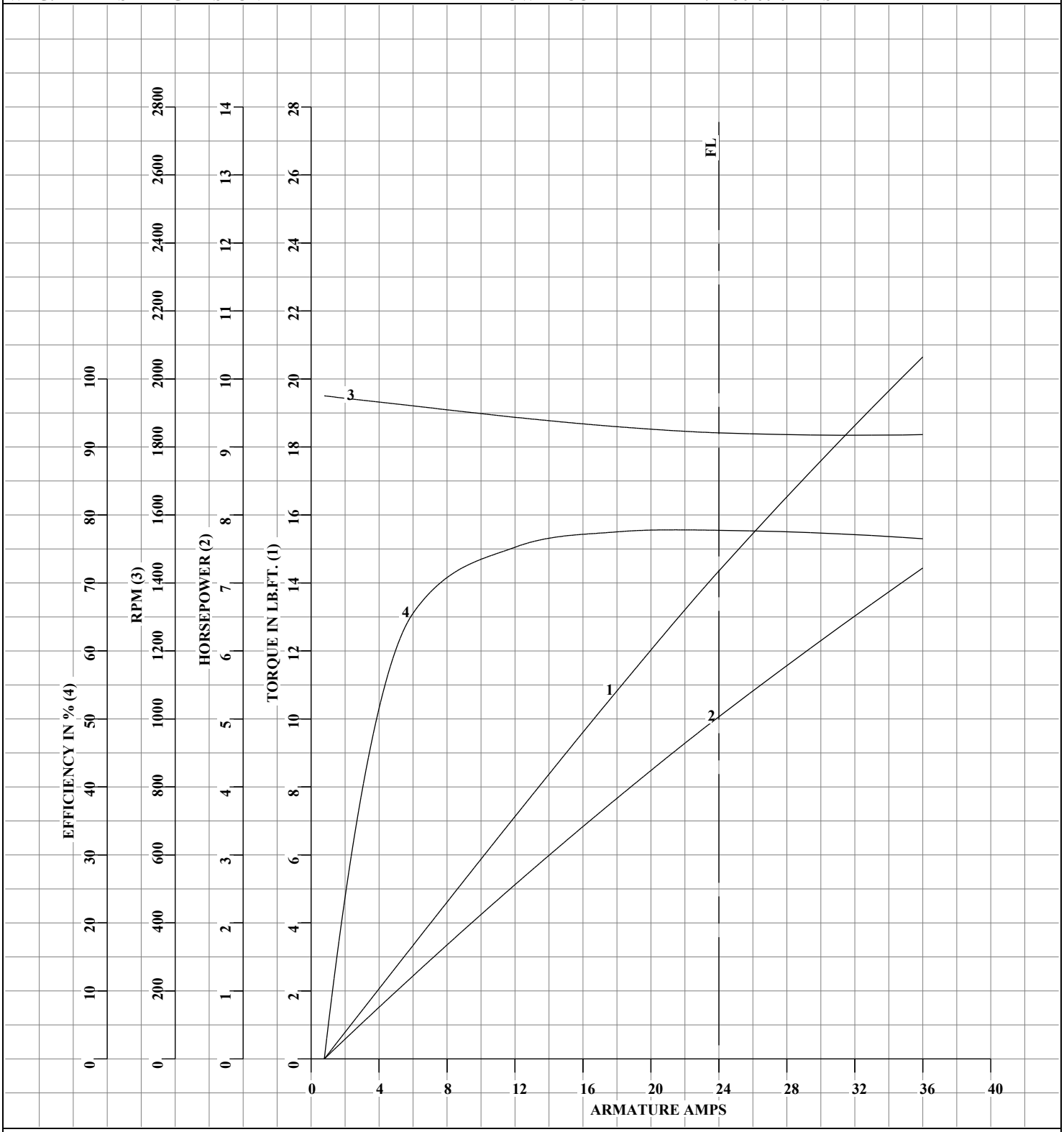
| WINDING | VOLTS | RESISTANCE | | CURRENT | | INDUCTANCE | TURNS PER C |
|---|---|---|---|---|---|---|---|
| | | 25°C | HOT | 25°C | HOT | | |
| ARM CIRCUIT | 180 | .461 | .592 | - | 24.0 | 8.77 | - |
| SERIES S1-S2 | - | - | - | - | - | - | - |
| SHUNT F1-F2 | 200 | 119 | 154 | 1.68 | 1.30 | 14.1 | 1600 |




REMARKS: TYPICAL DATACURVES VALID FOR NAMEPLATE SPEED RANGE ONLY

| | | | |
|---|---|---|---|
| ABB | DRAWN BY: R.ERLACHER<br>CHECKED BY: R.ERLACHER<br>APPROVED BY: T.S.EVON<br>DATE: 08-05-88 | DC MOTOR APPLICATION DATA | G4611A<br>ISSUE DATE 03-10-92 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| FRAME | DC1810ATZ | DUTY | CONT | TYPE | TR | S.F. | 1.0 |
| HP/KW | 5.00HP | ENCL. | DPG | WK²(LB-FT²) | .6800 | FLD. AMPS @25°C | 1.67 |
| RPM | 1750 | AMB.°C INSUL | 40/F | HOT ARM. CIR. RES. | .591 | FIELD IND (H) | 14.1 |
| ARM. VOLT | 180 | ARM. AMPS | 24.0 | ARM. CIRCUIT IND(mh) | 8.76 | CFM/IN. $H_2O$ | -/- |
| WDG. TYPE | STRAIGHT SHUNT | FIELD VOLTS | 200 | HOT FIELD RES. | 153 | TEST S.O. | - |
| | | | | POWER CODE | 2/2 230-60-0 | TEST DATE | - |




REMARKS: TYPICAL DATACURVES VALID FOR NAMEPLATE SPEED RANGE ONLY

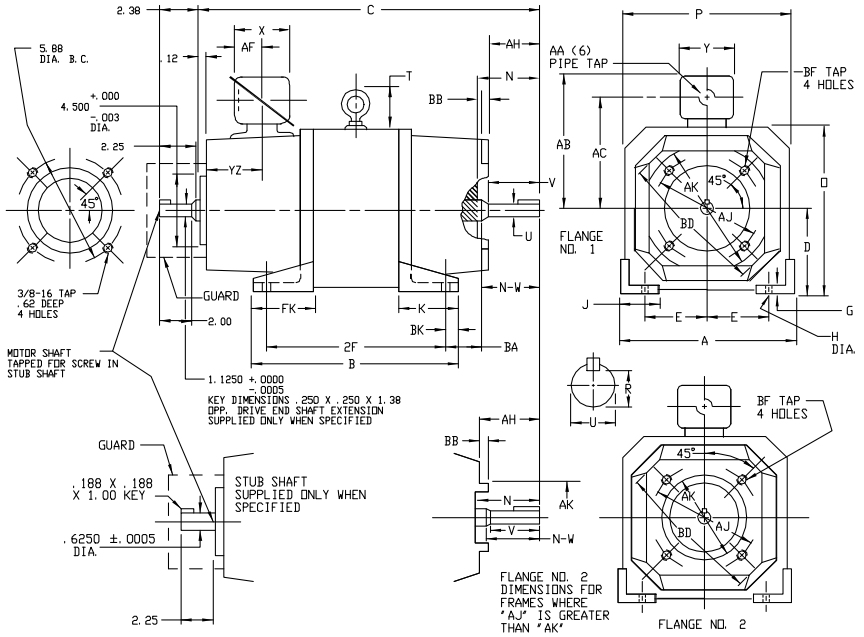
| | | | |
|---|---|---|---|
| ABB | DRAWN BY: R.ERLACHER<br>CHECKED BY: R.ERLACHER<br>APPROVED BY: T.S.EVON<br>DATE: 08-05-88 | DC MOTOR PERFORMANCE DATA | G4611A<br>DATE ISSUED 03-10-92 |

609980-503

# INDUSTRIAL DIRECT CURRENT MOTORS AND GENERATORS – RPM III

ENCLOSURE:DRIP-PROOF FULLY-GUARDED, SPLASHPROOF, TOTALLY ENCLOSED
MOUNTING:FOOT,"C" FACE
METHOD OF DRIVE:COUPLED OR BELTED
COOLING:SELF-VENTILATED NON-VENTILATED
ACCESSORIES:PROVISIONS FOR TACHOMETER MOUNTING ONLY WHEN SPECIFIED

## DC180ATY–DC180ATCZ




DIMENSIONS ARE IN INCHES

| FRAME | FLANGE | A | D(1) | E | G | H | J | K | FK | BK | D | P | T | BA | BB(7) | BD | BF TAP | BF TAP 'DEPTH' | AJ | AK(4) | A.C. SHAFT EXT. REF. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DC189ATY | NO. 2 | 9.00 | 4.50 | 3.75 | .31 | .44 | 1.50 | 3.56 | 3.56 | .50 | 8.88 | 8.75 | 1.88 | 2.75 | .12 | 8.75 | 3/8-16 | .62 | 5.88 | 4.500 | 140TC EXT. |
| DC189ATCZ | NO. 1 | 9.00 | 4.50 | 3.75 | .31 | .44 | 1.50 | 3.56 | 3.56 | .50 | 8.88 | 8.75 | 1.88 | 2.75 | .25 | 8.75 | 1/2-13 | .88 | 7.25 | 8.500 | 180TC EXT. |
| DC1810ATY | NO. 2 | 9.00 | 4.50 | 3.75 | .31 | .44 | 1.50 | 3.56 | 3.56 | .50 | 8.88 | 8.75 | 1.88 | 2.75 | .12 | 8.75 | 3/8-16 | .62 | 5.88 | 4.500 | 140TC EXT. |
| DC1810ATCZ | NO. 1 | 9.00 | 4.50 | 3.75 | .31 | .44 | 1.50 | 3.56 | 3.56 | .50 | 8.88 | 8.75 | 1.88 | 2.75 | .25 | 8.75 | 1/2-13 | .88 | 7.25 | 8.500 | 180TC EXT. |
| DC1811ATY | NO. 2 | 9.00 | 4.50 | 3.75 | .31 | .44 | 1.50 | 3.56 | 3.56 | .50 | 8.88 | 8.75 | 1.88 | 2.75 | .12 | 8.75 | 3/8-16 | .62 | 5.88 | 4.500 | 140TC EXT. |
| DC1811ATCZ | NO. 1 | 9.00 | 4.50 | 3.75 | .31 | .44 | 1.50 | 3.56 | 3.56 | .50 | 8.88 | 8.75 | 1.88 | 2.75 | .25 | 8.75 | 1/2-13 | .88 | 7.25 | 8.500 | 180TC EXT. |

| FRAME | FLANGE | C(5) | B | 2F | DRIVE END SHAFT AND KEY | | | | | | | | TERMINAL BOX DIMENSIONS | | | | | | | WT. LBS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | N | N-W | UX(2) | V | AH | R(3) | SQ. | LGTH | AA | AB | AC | AF | X | Y | YZ | |
| DC189ATY | NO. 2 | 18.81 | 11.62 | 10.00 | 2.44 | 2.25 | .8750 | 2.00 | 2.12 | .771 | .188 | 1.38 | 1.00 | 7.30 | 6.11 | 2.19 | 4.38 | 3.75 | 3.25 | 130 |
| DC189ATCZ | NO. 1 | 19.44 | 11.62 | 10.00 | 3.06 | 2.88 | 1.1250 | 2.62 | 2.62 | .986 | .250 | 1.81 | 1.00 | 7.30 | 6.11 | 2.19 | 4.38 | 3.75 | 3.25 | 130 |
| DC1810ATY | NO. 2 | 19.56 | 12.38 | 11.00 | 2.44 | 2.25 | .8750 | 2.00 | 2.12 | .771 | .188 | 1.38 | 1.00 | 7.30 | 6.11 | 2.19 | 4.38 | 3.75 | 3.25 | 155 |
| DC1810ATCZ | NO. 1 | 20.19 | 12.38 | 11.00 | 3.06 | 2.88 | 1.1250 | 2.62 | 2.62 | .986 | .250 | 1.81 | 1.00 | 7.30 | 6.11 | 2.19 | 4.38 | 3.75 | 3.25 | 155 |
| DC1811ATY | NO. 2 | 21.06 | 13.88 | 12.50 | 2.44 | 2.25 | .8750 | 2.00 | 2.12 | .771 | .188 | 1.38 | 1.00 | 7.30 | 6.11 | 2.19 | 4.38 | 3.75 | 3.25 | 185 |
| DC1811ATCZ | NO. 1 | 21.69 | 13.88 | 12.50 | 3.06 | 2.88 | 1.1250 | 2.62 | 2.62 | .986 | .250 | 1.81 | 1.00 | 7.30 | 6.11 | 2.19 | 4.38 | 3.75 | 3.25 | 185 |

(1) 'D' DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES. TOLERANCE +.00/-.06 .
(2) 'U' VARIES +.0000, -.0005.
(3) 'R' VARIES +.000, -.015.
(4) 'AK' VARIES +.000, -.003. FACE RUNOUT AND ECCENTRICITY .004 MAX. T.I.R.
(5) WHEN THE MOTOR APPLICATION DOES NOT REQUIRE THE USE OF OPP. DRIVE END, ADD .25 TO 'C' DIM. FOR BRACKET COVER.
(6) TERMINAL BOX CAN BE ROTATED TO REPOSITION CONDUIT CONNECTION. IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.
(7) 'BB' OF .25 IS A MINIMUM VALUE.

MOTOR WEIGHT MAY VARY 15% FOR NON-STANDARD RATINGS AND/OR ACCESSORIES.

CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION.

| | | |
|---|---|---|
| REV. DESC: REVISE "D" DIM TOLERANCE | | |
| REV. LTR: D | VERSION: 04 | TDR: 000001148815 |
| FILE: \RGG\00030\373 | REVISED: 03:18:10 09/15/2020 | BY: RGGNAS |
| MTL: – | | |

BALDOR - RELIANCE®

DIMENSION DRAWING,DC180ATY – DC180ATCZ,DPP,TENV,FOOT MTG.

SH 1 of 1

609980-503

406770-007

406770-007

# CONNECTION DIAGRAM
## D-C MOTOR - STRAIGHT SHUNT
## DUAL VOLTAGE FIELD




ARMATURE AND FIELD EXTERNAL CONNECTIONS
WARNING- SEE NOTE 7 FOR GROUNDING INSTRUCTIONS




ROTATION FACING COMMUTATOR END

1. CAUTION — ARMATURE MAY HAVE MULTIPLE LEADS. CONNECT ALL LUGS WITH THE SAME MARKING TOGETHER.
2. OPTIONAL CONTROL SIGNAL LEAD IS MARKED AX2. ALWAYS TAKE INTERPOLE DROP BETWEEN A2 AND AX2. NOTE: NEMA DESIGNATION FOR AX2 IS LETTER C.
3. SPACE HEATERS, WHEN PROVIDED, WILL HAVE LEADS MARKED H1 AND H2, H3, H4, ETC.
4. THERMAL PROTECTOR, WHEN PROVIDED, WILL HAVE LEADS MARKED P1 AND P2, P3, P4, ETC.
5. WINDING RTD'S, WHEN PROVIDED, WILL HAVE LEADS MARKED TD1, TD2, &TD3.
6. BRUSH WEAR SENSOR, WHEN PROVIDED, WILL HAVE LEAD MARKED W1.
7. WARNING — MOTOR MUST BE GROUNDED TO PREVENT SERIOUS INJURIES TO PERSONNEL. GROUND THE MOTOR PER IEC, NATIONAL ELECTRICAL CODE AND ANY APPLICABLE LOCAL ELECTRICAL CODES. A TAPPED HOLE IS PROVIDED IN THE CONDUIT BOX, ON THE FOOT. FRAME BRACE OR OPPOSITE OPPOSITE DRIVE END BRACKET, ADJACENT TO THE TERMINAL BOX FOR FOR MOTOR GROUNDING. GROUND LEAD, WHEN PROVIDED, WILL BE GREEN.

CUSTOMER _____ RELIANCE
ORDER NO. _____ S.O. NO. _____

| | | |
|---|---|---|
| REV. DESC: UPDATE LOGO AND TITLEBLOCK: LOADED TO BUS | | |
| REV. LTR: - | VERSION: 00 | TDR: 000000784225 |
| FILE: \MGA\00001\391 | | REVISED: 02:50:46 02/01/2013 |
| MTL: - | | BY: MGHPC |

BALDOR

D-C MOTOR CONNECTION DIAGRAM, STR. SHUNT, DUAL VOLTAGE FIELD

SH 1 of 1