

# **BALDOR® • RELIANCE**

## **Product Information Packet**

### **CD2007R-2**

**7.50HP,1750RPM,DC,1812ATCZ,SPG,**

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| Part Detail       |            |                |             |
|-------------------|------------|----------------|-------------|
| Type:             | DC         | Prod. Type:    | TR          |
| Power Code:       | C          | Weight:        | 235         |
| Frame Group:      | C 1812ATCZ | Mounting Pos.: | F1          |
| HP:               | 7.5        | Enclosure:     | DPG         |
| RPM:              | 1750/2300  | Wound:         | STAB SHUNT  |
| Service Factor:   | 1.0        | Arm V:         | 240         |
| Arm A:            | 27.00      | Field V:       | 240         |
| Field A:          | 1.40       | Field A Hot:   | .99/.48     |
| Insulation Class: | F          | Ambient:       | 40          |
| Duty:             | CONT       | DE Bearing:    | 40BC02J30X  |
| ODE Bearing:      | 30BC02J30X | Brushes:       | 419904-51AD |
| Brush Qty.:       |            |                |             |

# INDUSTRIAL DIRECT CURRENT MOTORS AND GENERATORS - RPM III

ENCLOSURE: DRIP-PROOF FULLY-GUARDED  
SPLASHPROOF, TOTALLY ENCLOSED

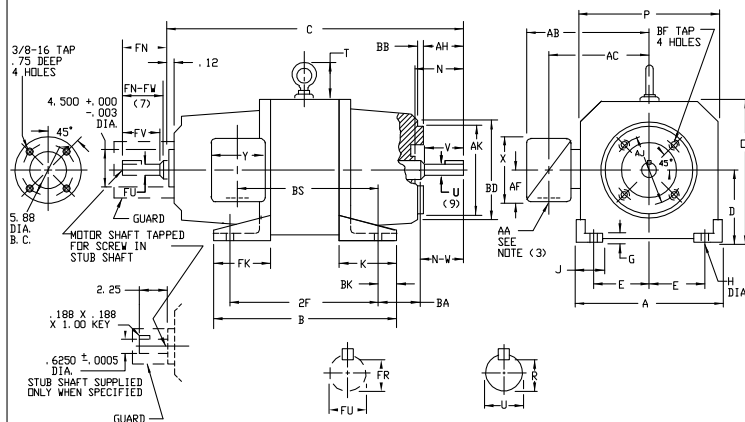
COOLING: SELF-VENTILATED  
NON-VENTILATED

MOUNTING: FOOT,NEMA AC "C" FACE  
METHOD OF DRIVE:COUPLED OR BELTED

ACCESSORIES: PROVISION FOR  
TACHOMETER MOUNTING  
ONLY WHEN SPECIFIED

FRAMES C180ATCZ

DRIVE END SHAFT PER NEMA AC MOTOR SHAFT



DIMENSIONS ARE IN INCHES

| FRAME               | A    | D(1) | E    | G   | H   | J    | D    | P    | T    | BA   | K    | FK   | BK  | BB  | BD   | BF     | TAP | BF TAP<br>"DEPTH" | AJ    | AK(B) |
|---------------------|------|------|------|-----|-----|------|------|------|------|------|------|------|-----|-----|------|--------|-----|-------------------|-------|-------|
| C1811ATCZ-C1812ATCZ | 9.00 | 4.50 | 3.75 | .31 | .44 | 1.50 | 8.88 | 8.75 | 1.88 | 2.75 | 4.38 | 4.38 | .50 | .25 | 8.75 | 1/2-13 | .88 | 7.25              | 8.500 |       |

| FRAME     | C(10) | B     | BS    | 2F    | DRIVE END SHAFT AND KEY (9) |      |      |        |      |       |      |      | OPPOSITE DRIVE END SHAFT AND KEY (7) |       |        |      |       |      |       |     | WT.<br>LBS. |
|-----------|-------|-------|-------|-------|-----------------------------|------|------|--------|------|-------|------|------|--------------------------------------|-------|--------|------|-------|------|-------|-----|-------------|
|           |       |       |       |       | AH                          | N    | N-W  | UK(2)  | V    | RC(4) | SQ.  | LGTH | FN                                   | FN-FV | FUX(2) | FV   | FR(4) | SQ.  | LGTH. |     |             |
| C181ATC2  | 24.06 | 14.00 | 11.00 | 12.50 | 2.62                        | 3.12 | 2.88 | 1.1250 | 2.62 | .986  | .250 | 1.75 | 2.44                                 | 2.25  | 1.1250 | 2.00 | .986  | .250 | 1.38  | 180 |             |
| C1812ATC2 | 25.56 | 15.50 | 12.50 | 14.00 | 2.62                        | 3.12 | 2.88 | 1.1250 | 2.62 | .986  | .250 | 1.75 | 2.44                                 | 2.25  | 1.1250 | 2.00 | .986  | .250 | 1.38  | 215 |             |

| STEEL TERMINAL BOX DIMENSIONS |              |                 |      |      |      |      |      |                |                 |      |      |      |      |      |                |
|-------------------------------|--------------|-----------------|------|------|------|------|------|----------------|-----------------|------|------|------|------|------|----------------|
| FRAME                         | MAX.<br>AMPS | STANDARD SIZE   |      |      |      |      |      | PART<br>NUMBER | ONE SIZE LARGER |      |      |      |      |      | PART<br>NUMBER |
|                               |              | AA(S)           | AB   | AC   | AF   | X    | Y    |                | AA(S)           | AB   | AC   | AF   | X    | Y    |                |
| C180ATCZ                      | 40           | 3/4" - 1"       | 7.31 | 5.75 | 1.94 | 4.38 | 5.00 | 7050288-1-R    | 1-1/4" - 1-1/2" | 8.31 | 6.31 | 2.50 | 5.00 | 6.12 | 7050289-1-R    |
|                               | 96           | 1-1/4" & 1-1/2" | 8.31 | 6.31 | 2.50 | 5.50 | 6.12 | 7050289-1-R    | 2" - 2-1/2"     | 9.34 | 6.39 | 3.19 | 7.00 | 7.62 | 7050300-1-R    |

| CAST IRON TERMINAL BOX DIMENSIONS |             |               |      |      |      |      |                |                 |       |       |      |      |                |      |
|-----------------------------------|-------------|---------------|------|------|------|------|----------------|-----------------|-------|-------|------|------|----------------|------|
| FRAME                             | MAX<br>AMPS | STANDARD SIZE |      |      |      |      | PART<br>NUMBER | ONE SIZE LARGER |       |       |      |      | PART<br>NUMBER |      |
|                                   |             | AA(6)         | AB   | AC   | AF   | X    |                | Y               | AA(6) | AB    | AC   | AF   |                | X    |
| C180ATCZ                          | 18          | 3/4           | 9.38 | 7.38 | 5.50 | 5.00 | 5.75           | 705028B-2-S     |       |       |      |      |                |      |
|                                   | 24          |               | 9.38 | 7.38 | 5.50 | 5.00 | 5.75           | 705028B-2-S     |       |       |      |      |                |      |
|                                   | 40          | 1-1/2         | 9.38 | 7.38 | 5.50 | 5.00 | 5.75           | 705028B-2-S     | 1-1/2 | 10.31 | 7.88 | 3.00 | 6.00           | 7.00 |
|                                   | 46          | 1-1/2         | 9.38 | 7.88 | 3.00 | 6.00 | 7.00           | 705028B-2-S     | 2     | 10.31 | 7.88 | 3.00 | 6.00           | 7.00 |

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO 0.03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED GEARED DRIVES.</p> <p>(2) "U" AND "F" VARY +.0000 - .0005</p> <p>(3) TERMINAL BOX CAN BE ROTATED FOR LEAD OUT.</p> <p>(4) "B" TOP, "S" SIDES OR BOTTOM.</p> <p>(5) FOR "X/P" TERMINAL BOX DIMENSIONS SEE 609989-1.</p> <p>(6) FOR "W" TYPE TERMINAL BOX DIMENSIONS SEE 609989-2.</p> <p>(7) "R" AND "FR" VARY +.000 - .015</p> <p>(8) AA (CONDUIT), TERMINAL BOX PROVIDED WITH DOUBLE KNOCKOUT.</p> <p>(9) AA PIPE TOP</p> <p>(10) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.</p> <p>(11) "AC" VARIES +.000 - .004</p> <p>(12) FACE RUNOUT AND ECCENTRICITY .004 MAX. T. I. R.</p> <p>(13) DRIVE END SHAFT DIMENSIONS PER</p> <p>(14) SBT AC MOTOR SHAFT EXTENSION.</p> | <p>(15) WHEN THE MOTOR APPLICATION DOES NOT REQUIRE THE USE OF OPP. DRIVE END, ADD .25 TO "C" DIM. FOR BRACKET COVER.</p> <p>TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, A-4, W-5, W-7 OR C-1 MOUNTING IS SPECIFIED. BOX LOCATED ON DRIVE END WHEN SPECIFIED.</p> <p>MOTOR WEIGHT MAY VARY 15% FOR NON-STANDARD RATINGS AND/OR ACCESSORIES.</p> <p>IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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

|                          |                              |                   |
|--------------------------|------------------------------|-------------------|
| REV. DESC: LOADED TO BUS |                              |                   |
| REV. LTR: -              | VERSION: 00                  | TDR: 000000577407 |
| FILE: \RGG\00015\689     | REVISED: 01:55:14 01/26/2011 | BY: CONNAS        |
| MTL: -                   |                              |                   |

# BALDOR

DIMENSION DRAWING.C180ATCZ.TENV.DPP.FOOT MTG..NEMA AC C-FACE

SH 1 of 1

1  
<NOTE 7>  
D-C MOTOR - STAB. SHUNT

THREE WIRE RTD  
TD1  
TD2  
TD3  
<NOTE 6>

SHUNT FIELD

ARMATURE  
INTER-COIL  
AX2  
A2 S1  
S2 S3  
S4 F2 P1 P2  
H1 H2 F1 A1  
<NOTE 4> <CAUTION-SEE NOTE 1> <NOTE 2> <NOTE 5>

ARMATURE AND FIELD EXTERNAL CONNECTIONS

WARNING- SEE NOTE 8 FOR GROUNDING INSTRUCTIONS

CCW ROTATION

CW ROTATION

ROTATION FACING COMMUTATOR END

1. CAUTION — ARMATURE AND SERIES FIELD MAY HAVE MULTIPLE LEADS. CONNECT ALL LUGS WITH THE SAME MARKING TOGETHER.

2. OPTIONAL SERIES FIELD IS MARKED S3 AND S4. FOR CUMULATIVE SERIES FIELD, CONNECT S3 TO S2 AND CONNECT S4 TO NEGATIVE. FOR DIFFERENTIAL SERIES FIELD CONNECT S4 TO S2 AND S3 TO NEGATIVE.

3. OPTIONAL CONTROL SIGNAL LEAD IS MARKED AX2. ALWAYS TAKE INTERPOLE DROP BETWEEN A2 AND AX2. NOTE: NEMA DESIGNATION FOR AX2 IS LETTER C.

4. SPACE HEATERS, WHEN PROVIDED, WILL HAVE LEADS MARKED H1 AND H2, H3, H4, ETC.

5. THERMAL PROTECTOR, WHEN PROVIDED, WILL HAVE LEADS MARKED P1 AND P2, P3, P4, ETC.

6. WINDING RTDS, WHEN PROVIDED, WILL HAVE LEADS MARKED TD1, TD2, &TD3.

7. BRUSH WEAR SENSOR, WHEN PROVIDED, WILL HAVE LEAD MARKED W1.

8. 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 \_\_\_\_\_

CUSTOMER \_\_\_\_\_

ORDER NO. \_\_\_\_\_

S.D. NO. \_\_\_\_\_

RELIANCE  
ELECTRIC

DR. BY N.L. EVANS  
CHK. BY N. JESCHKE  
APP. BY E. J. HINER  
DATE 5-5-69

CONNECTION  
DIAGRAM

406770-1

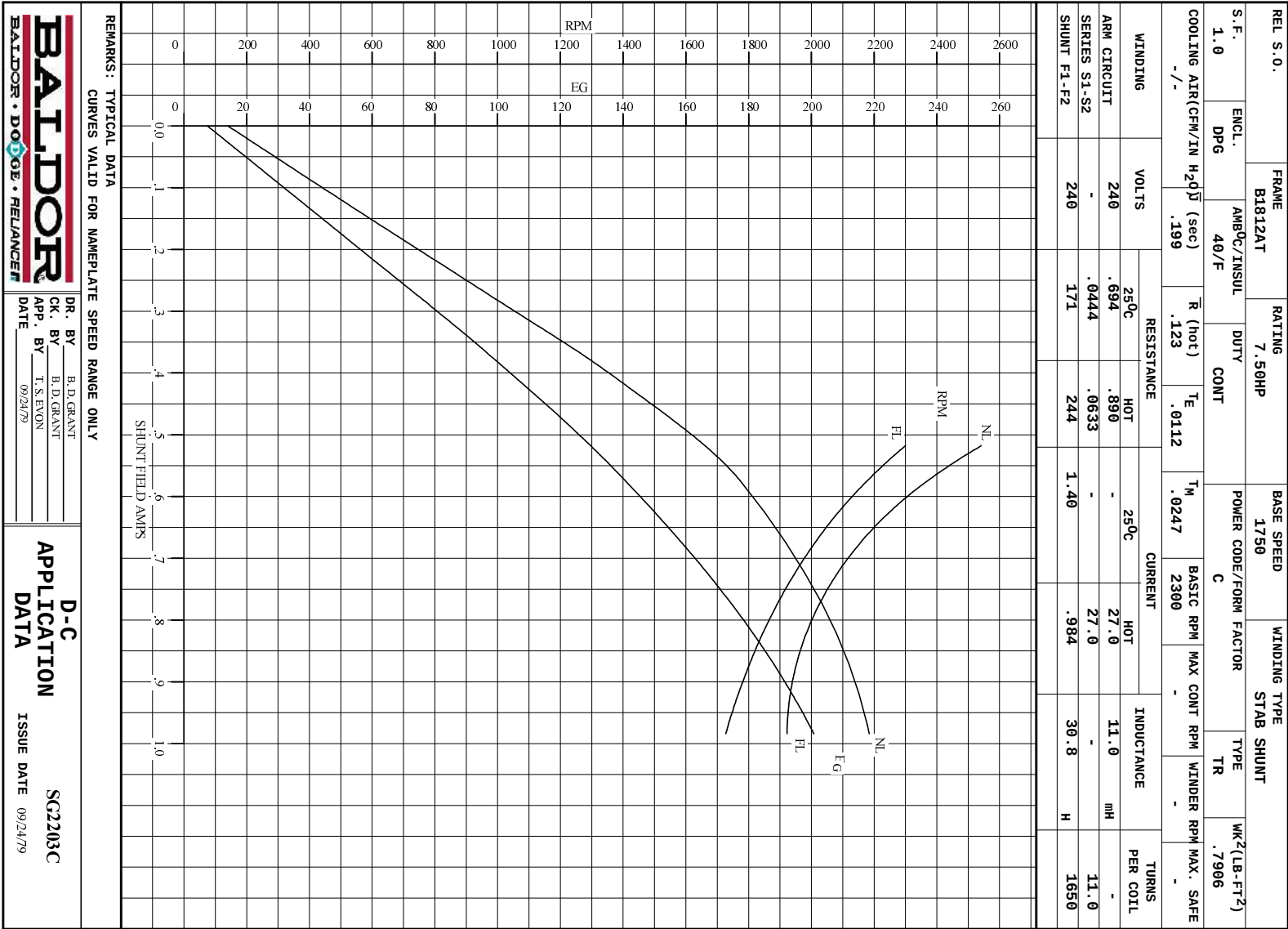
ORIGINAL AT RCC

C/R 290048, 354478, 354480

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BALDOR  
A MEMBER OF THE ABB GROUP

For Baldor Sales and Support, Please Contact: Walker EMD • <http://www.walkeremd.com> • Toll-Free: (800) 876-4444 • Phone: (203) 426-7700 • Fax: (203) 426-7800



|                       |                |                                       |                             |                      |               |
|-----------------------|----------------|---------------------------------------|-----------------------------|----------------------|---------------|
| REL S. O.             | FRAME          | RATING                                | RPM                         | ARM. VOLTS           | ARM. AMPS     |
|                       | B1812AT        | 7.50HP                                | 1750                        | 240                  | 27.0          |
| WINDING TYPE          |                |                                       |                             |                      |               |
|                       | S. F.          | ENCL.                                 | AMB °C/INSUL                | DUTY                 | FIELD VOLTS   |
| STAB. SHUNT           | 1.0            | DRG                                   | 40/F                        | CONT                 | 240           |
| POWER CODE            |                |                                       |                             |                      |               |
|                       | TYPE           | WK <sup>2</sup> (LB-FT <sup>2</sup> ) | HOT ARM. CIR. RES.          | FLD. AMPS@25 °C      | HOT FIELD RES |
| C                     | TR             | .7906                                 | .890                        | 1.40                 | 243           |
| ARM. CIR. IND. (mh)   |                |                                       |                             |                      |               |
|                       | FIELD IND. (H) | COOLING AIR(CFM/IN H 20)              | TURNS PER COIL SHUNT/SERIES | TEST DATE            |               |
| 11.0                  | 30.8           | -/-                                   | 1650/11                     |                      | -             |
| LOAD PERFORMANCE      |                |                                       |                             |                      |               |
| LOAD                  | AMPERES        | TORQUE IN LB.-FT.                     | OUTPUT IN HP                | RPM                  | % EFFICIENCY  |
| NO LOAD               | .66            | 0                                     | 0                           | 1906                 | 0             |
| 1/4                   | 6.8            | 5.39                                  | 1.90                        | 1849                 | 75.9          |
| 2/4                   | 14             | 11.3                                  | 3.88                        | 1799                 | 83.1          |
| 3/4                   | 20             | 17.2                                  | 5.74                        | 1758                 | 83.9          |
| 4/4                   | 27             | 22.8                                  | 7.48                        | 1726                 | 82.9          |
| 0.L.                  | 41             | 33.2                                  | 10.6                        | 1675                 | 79.2          |
| RPM VS. FIELD AMPS    |                |                                       |                             |                      |               |
| FIELD AMPS            | RPM N.L.       | RPM F.L.                              | Eg N.L. @ BASE SPEED        | Eg F.L. @ BASE SPEED |               |
| .984                  | 1906           | 1725                                  | 218                         | 200                  |               |
| .867                  | 1953           | 1805                                  | 213                         | 187                  |               |
| .750                  | 2050           | 1916                                  | 204                         | 171                  |               |
| .634                  | 2230           | 2072                                  | 188                         | 151                  |               |
| .517                  | 2541           | 2300                                  | 165                         | 129                  |               |
| REMARKS: TYPICAL DATA |                |                                       |                             |                      |               |

**BALDOR**  
BALDOR • DOODGE • RELIANCE

DR. BY B. D. GRANT  
CK. BY B. D. GRANT  
APP. BY T. S. EVON  
DATE 09/24/79

D-C MOTOR  
PERFORMANCE  
DATA  
D62203C  
ISSUE DATE 09/24/79

