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# Product Information Packet

# D50100RS-BV

## 100HP,1750RPM,DC,3212ATZ,DPG-FV,

| Part Detail | | | |
|---|---|---|---|
| **Type:** | DC | **Prod. Type:** | TR |
| **Power Code:** | C | **Weight:** | 1270 |
| **Frame Group:** | MC 3212ATZ | **Mounting Pos.:** | F2 |
| **HP:** | 100 | **Enclosure:** | DPFV |
| **RPM:** | 1750/2000 | **Wound:** | STAB SHUNT |
| **Service Factor:** | 1.0 | **Arm V:** | 500 |
| **Arm A:** | 162.00 | **Field V:** | 300 |
| **Field A:** | 3.34 | **Field A Hot:** | 2.44/1.91 |
| **Insulation Class:** | F | **Ambient:** | 40 |
| **Duty:** | CONT | **DE Bearing:** | 70BC03J30X |
| **ODE Bearing:** | 60BC02J30X | **Brushes:** | 419904-52AB |
| **Brush Qty.:** | | | |

609972-049

# INDUSTRIAL DIRECT CURRENT MOTORS AND GENERATORS – RPM III

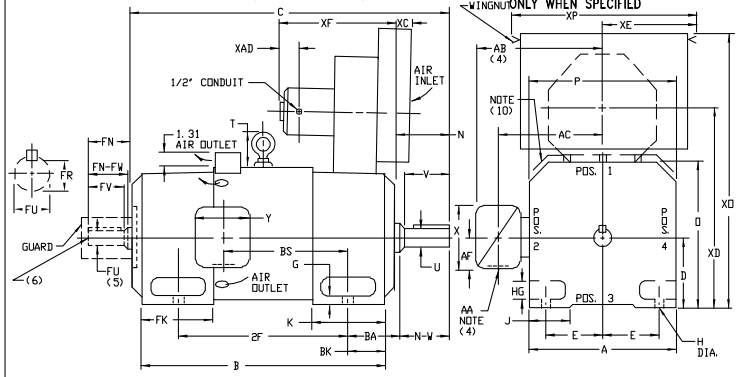
ENCLOSURE: DRIP-PROOF FULLY-GUARDED, SPLASHPROOF

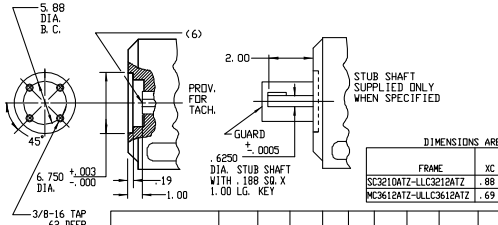
MOUNTING:FOOT

COOLING: FORCE VENTILATED WITH INTEGRAL BLOWER AND MOTOR AIR FILTERED– SPECIAL BAFFLE

ACCESSORIES: PROVISION FOR TACHOMETER MOUNTING ONLY WHEN SPECIFIED

FRAMES SC3210ATZ THRU ULLC3612ATZ




DIMENSIONS ARE IN INCHES

| FRAME | XC | XB | XE | XF | XD | XP | XAD |
|---|---|---|---|---|---|---|---|
| SC3210ATZ-LLC3212ATZ | .88 | 23.44 | 11.25 | 17.69 | 38.63 | 22.50 | 3.06 |
| MC3612ATZ-ULLC3612ATZ | .69 | 23.94 | 9.83 | 18.81 | 38.25 | 22.50 | (11) |

| FRAME | A | D(1) | E | G | H | HG | J | O | P | T | BA | K | FK STD. | FK LG(8) | BK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SC3210ATZ-LLC3212ATZ | 15.50 | 8.00 | 6.25 | .75 | 6.9 | 2.25 | 3.00 | 15.81 | 15.62 | 4.25 | 5.25 | 6.75 | 7.94 | 10.44 | 4.00 |
| MC3612ATZ-ULLC3612ATZ | 17.50 | 9.00 | 7.00 | .88 | 8.1 | 2.62 | 3.50 | 17.81 | 17.62 | 4.25 | 5.88 | 7.25 | 8.56 | 10.31 | 4.62 |

| FRAME | METHOD OF DRIVE | C(7) STD. | C(7) LG(8) | B STD. | B LG(8) | BS | 2F | DRIVE END SHAFT AND KEY N | N-W | U(2) | V | R(3) | SQ. | LGTH. | OPPOSITE DRIVE END SHAFT AND KEY (5) FN | FN-FW | FU(2) | FV | FR(3) | SQ. | LGTH | WT. LBS. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SC3210ATZ- LSC3210ATZ | (9) | 36.25 | 38.75 | 28.31 | 30.81 | 13.38 | 20.00 | 5.50 | 5.25 | 2.625 | 5.00 | 2.275 | .625 | 4.00 | 4.75 | 4.50 | 2.250 | 4.25 | 1.972 | .500 | 3.25 | 1115 |
| MC3212ATZ- LMC3212ATZ | (9) | 39.25 | 41.75 | 31.31 | 33.81 | 16.38 | 25.00 | 5.50 | 5.25 | 2.625 | 5.00 | 2.275 | .625 | 4.00 | 4.75 | 4.50 | 2.250 | 4.25 | 1.972 | .500 | 3.25 | 1210 |
| LC3212ATZ- LLC3212ATZ | (9) | 41.25 | 43.75 | 33.31 | 35.81 | 18.38 | 25.00 | 5.50 | 5.25 | 2.625 | 5.00 | 2.275 | .625 | 4.00 | 4.75 | 4.50 | 2.250 | 4.25 | 1.972 | .500 | 3.25 | 1290 |
| UMC3212ATZ-ULMC3212ATZ | BELTED | 39.75 | 42.25 | 31.31 | 33.81 | 16.38 | 25.00 | 6.00 | 5.75 | 2.875 | 5.50 | 2.450 | .750 | 4.25 | 4.75 | 4.50 | 2.250 | 4.25 | 1.972 | .500 | 3.25 | 1180 |
| MC3612ATZ- LMC3612ATZ | COUPLED | 42.88 | 44.62 | 34.44 | 36.19 | 18.12 | 28.00 | 6.00 | 5.75 | 2.875 | 5.50 | 2.450 | .750 | 4.25 | 6.00 | 5.75 | 2.875 | 5.50 | 2.450 | .750 | 4.25 | 1685 |
| UMC3612ATZ-ULMC3612ATZ | BELTED | 43.62 | 45.38 | 34.44 | 36.19 | 18.12 | 28.00 | 6.75 | 6.50 | 3.250 | 6.25 | 2.831 | .750 | 5.00 | 6.00 | 5.75 | 2.875 | 5.50 | 2.450 | .750 | 4.25 | 1695 |
| LC3612ATZ- LLC3612ATZ | COUPLED | 46.62 | 48.38 | 38.19 | 39.94 | 21.88 | 28.00 | 6.00 | 5.75 | 2.875 | 5.50 | 2.450 | .750 | 4.25 | 6.00 | 5.75 | 2.875 | 5.50 | 2.450 | .750 | 4.25 | 1850 |
| ULC3612ATZ-ULLC3612ATZ | BELTED | 47.38 | 49.12 | 38.19 | 39.94 | 21.88 | 28.00 | 6.75 | 6.50 | 3.250 | 6.25 | 2.831 | .750 | 5.00 | 6.00 | 5.75 | 2.875 | 5.50 | 2.450 | .750 | 4.25 | 1860 |

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP .06 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" AND "FU" VARY----+.000 -.001
(3) "R" AND "FR" VARY----+.000 -.015
(4) TERMINAL BOX VARIES WITH H.P. FOR DIMENSIONS "AA", "AB", "AC", "AF", "X" AND "Y". REFER TO BOX D/S. (STD. 609979-1, "X/P" 609979-2, WILL 609979-3)
(5) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.
(6) MOTOR SHAFT TAPPED FOR SCREW IN STUB SHAFT.
(7) WHEN THE MOTOR APPLICATION DOES NOT REQUIRE THE USE OF OPP. DRIVE END, ADD .25 TO "C" DIM. FOR BRACKET COVER.
(8) DIMENSION FOR FRAMES WITH PREFIX LSC, LMC, LLC, ULMC, OR ULLC.
(9) METHOD OF DRIVE: COUPLED OR BELTED.
(10) FOR HORIZONTAL APPLICATIONS ONLY.
(11) "XAD" DIMENSION IS NOT APPLICABLE TO C360 FRAMES. (BLOWER MOTOR HAS CONDUIT BOX.)
TERMINAL BOX CAN BE ROTATED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-3, W-7, OR C-1 MOUNTING IS SPECIFIED.
BOX LOCATED ON TOP WHEN SPECIFIED.
BLOWER ASSEMBLY CAN BE LOCATED AT POSITIONS 1, 2, OR 4
MOTOR WEIGHT MAY VARY 15% FOR NON-STANDARD RATINGS AND/OR ACCESSORIES.
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

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\628 | REVISED: 01:15:54 01/26/2011 | BY: CONNAS |
| MTL: – | | |

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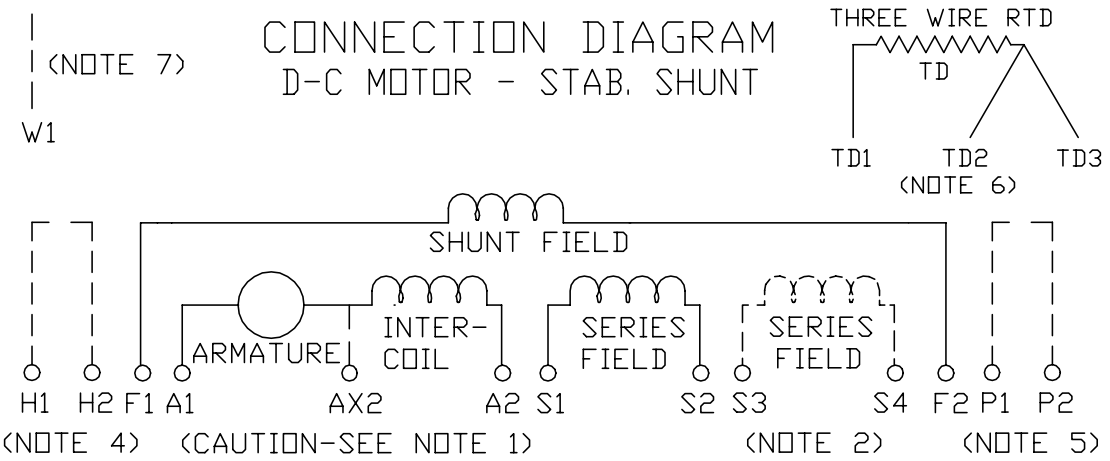
DIMENSION DRAWING,SC3210ATZ – ULLC3612ATZ,DPP,FOOT MTG.

SH 1 of 1

609972-049

# CONNECTION DIAGRAM
## D-C MOTOR - STAB. SHUNT




ARMATURE AND FIELD EXTERNAL CONNECTIONS
WARNING- SEE NOTE 8 FOR GROUNDING INSTRUCTIONS


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 RTD'S, 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. _____ RELIANCE S.O. NO. _____

RELIANCE ELECTRIC
CLEVELAND, OHIO 44117 U. S. A.

DR. BY N. L. EVANS
CK. BY N. JUESCHKE
APP. BY E. J. HINGER
DATE 5-5-69

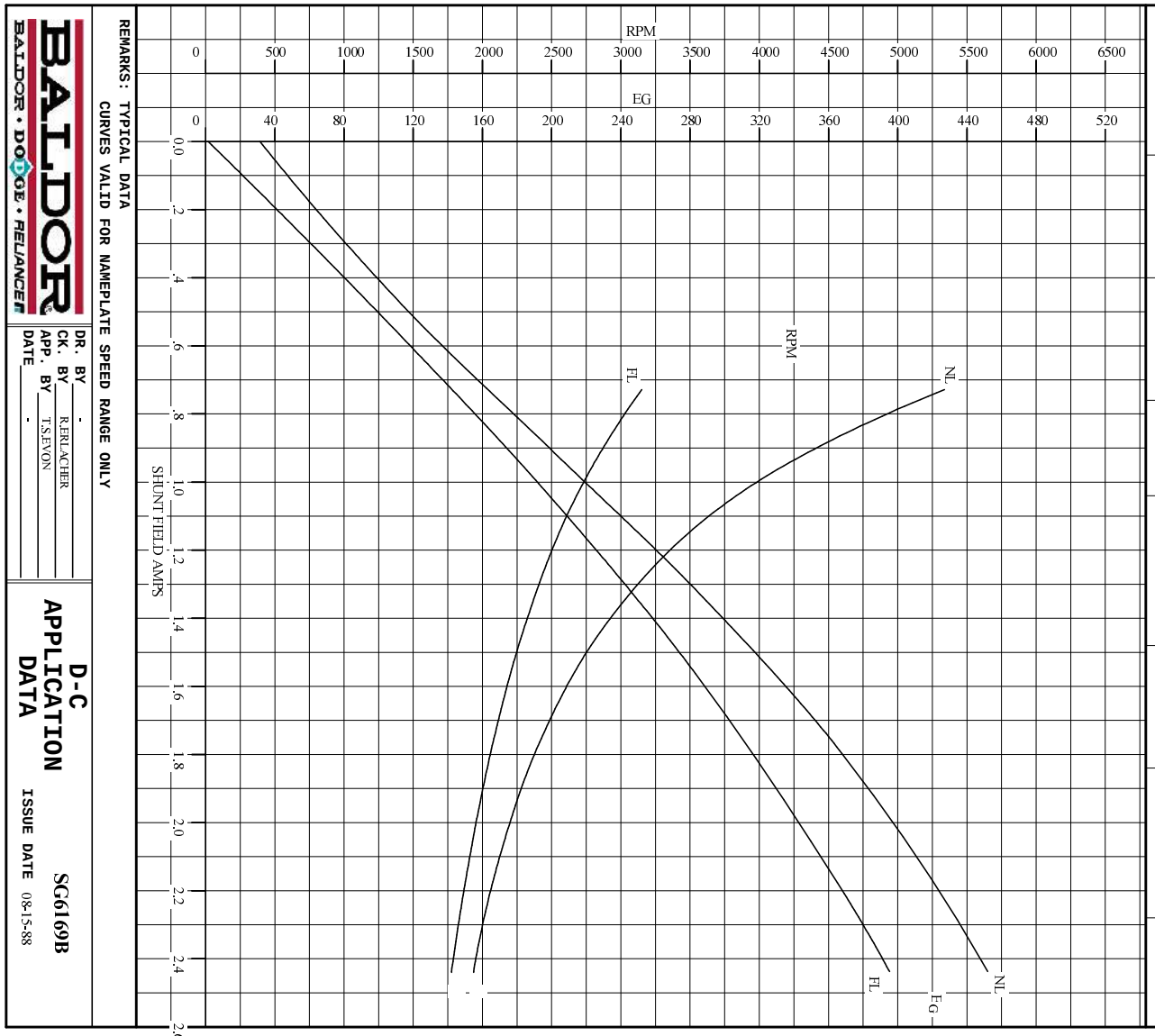
CONNECTION DIAGRAM

406770-1
ORIGINAL AT RRC

C/R 290048, 354478, 354480

| REL S.O. | | FRAME | RATING | BASE SPEED | WINDING TYPE | | | |
|---|---|---|---|---|---|---|---|---|
| | | MC3212AT | 100HP | 1750 | STAB SHUNT | | | |
| S.F. | ENCL. | AMB°C/INSUL | DUTY | POWER CODE/FORM FACTOR | | TYPE | WK²(LB-FT²) | |
| 1.0 | DPFV | 40/F | CONT | C | | TR | 17.08 | |
| COOLING AIR(CFM/IN $H_2O$) | $\bar{\tau}$ (sec) | $\bar{R}$ (hot) | $T_E$ | $T_M$ | BASIC RPM | MAX CONT RPM | WINDER RPM | MAX. SAFE |
| 800/3.50 | .323 | .0576 | .0236 | .0186 | 2000 | 3150 | - | 3600 |

| WINDING | VOLTS | RESISTANCE | | CURRENT | | INDUCTANCE | TURNS |
|---|---|---|---|---|---|---|---|
| | | 25°C | HOT | 25°C | HOT | | PER COIL |
| ARM CIRCUIT | 500 | .114 | .152 | - | 162 | 3.98 | - |
| SERIES S1-S2 | - | .00917 | .0125 | - | - | - | 4.00 |
| SHUNT F1-F2 | 300 | 90.1 | 123 | 3.33 | 2.44 | 30.4 | 925 |
| | | | | | | mH | H |




REMARKS: TYPICAL DATA

CURVES VALID FOR NAMEPLATE SPEED RANGE ONLY

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DR. BY -
CK. BY R.ERLACHER
APP. BY T.S.EVON
DATE -

D-C APPLICATION DATA

SG6169B

ISSUE DATE 08-15-88

C/R -

| REL S.O. | FRAME | RATING | RPM | ARM. VOLTS | ARM. AMPS |
|---|---|---|---|---|---|
| | MC3212AT | 100HP | 1750 | 500 | 162 |

| WINDING TYPE | S.F. | ENCL. | AMB °C/INSUL | DUTY | FIELD VOLTS |
|---|---|---|---|---|---|
| STAB. SHUNT | 1.0 | DPFV | 40/F | CONT | 300 |

| POWER CODE | TYPE | $WK^2$(LB-$FT^2$) | HOT ARM.CIR.RES. | FLD. AMPS@25 °C | HOT FIELD RES |
|---|---|---|---|---|---|
| C | TR | 17.08 | .152 | 3.33 | 123 |

| ARM. CIR. IND. (mh) | FIELD IND. (H) | COOLING AIR(CFM/IN $H_2O$) | TURNS PER COIL SHUNT/SERIES | TEST DATE |
|---|---|---|---|---|
| 3.98 | 30.4 | 800/3.50 | 925/4 | - |

LOAD PERFORMANCE

| LOAD | AMPERES | TORQUE IN LB.-FT. | OUTPUT IN HP | RPM | % EFFICIENCY |
|---|---|---|---|---|---|
| NO LOAD | 2.9 | 0 | 0 | 1921 | 0 |
| 1/4 | 41 | 70.3 | 24.8 | 1854 | 84.4 |
| 2/4 | 81 | 147 | 50.7 | 1811 | 89.6 |
| 3/4 | 122 | 222 | 75.7 | 1789 | 90.5 |
| 4/4 | 162 | 295 | 99.9 | 1777 | 90.1 |
| O.L. | 243 | 432 | 146 | 1772 | 88.3 |
| | | | | | |

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 |
|---|---|---|---|---|
| 2.43 | 1921 | 1777 | 452 | 395 |
| 2.01 | 2190 | 1949 | 399 | 344 |
| 1.58 | 2632 | 2189 | 332 | 286 |
| 1.15 | 3475 | 2548 | 251 | 218 |
| .728 | 5338 | 3150 | 162 | 142 |

MAXIMUM SAFE SPEED = 3600 RPM

REMARKS: TYPICAL DATA

BALDOR • DODGE • RELIANCE

DR. BY -
CK. BY R.ERLACHER
APP. BY T.S.EVON
DATE -

D-C MOTOR PERFORMANCE DATA

DG6169B

ISSUE DATE 08-15-88

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