

# **ABB BALDOR RELIANCE III**

---

## **Customer information packet** CD1805R

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

**Specifications**

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

**Part Detail**

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

**Nameplate**

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

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	WK <sup>2</sup> (LB-FT <sup>2</sup> )	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 <sub>2</sub> O)	TURNS PER COIL SHUNT/SERIES	TEST DATE
8.76	14.1	-/-	1600/0	-

**LOAD PERFORMANCE**

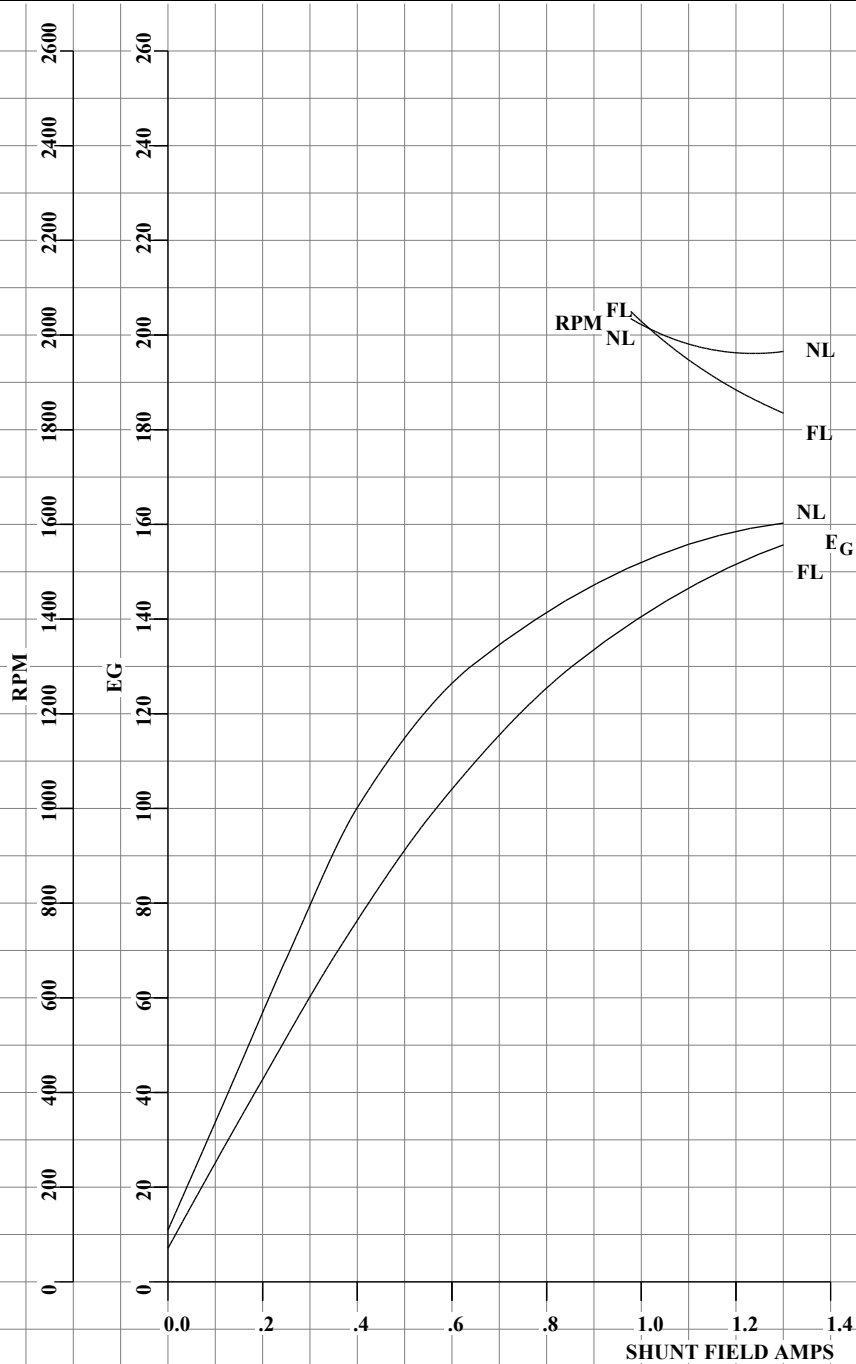
LOAD	AMPERES	TORQUE IN LB.-FT.	OUTPUT IN HP	RPM	PERCENT EFFICIENCY
NO LOAD	.77	0	0	1950	0
1/4	6.0	3.34	1.22	1921	65.6
2/4	12	7.13	2.56	1887	75.3
3/4	18	10.8	3.83	1860	77.5
4/4	24	14.4	5.03	1841	77.7
O.L.	36	20.6	7.22	1836	76.5

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

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

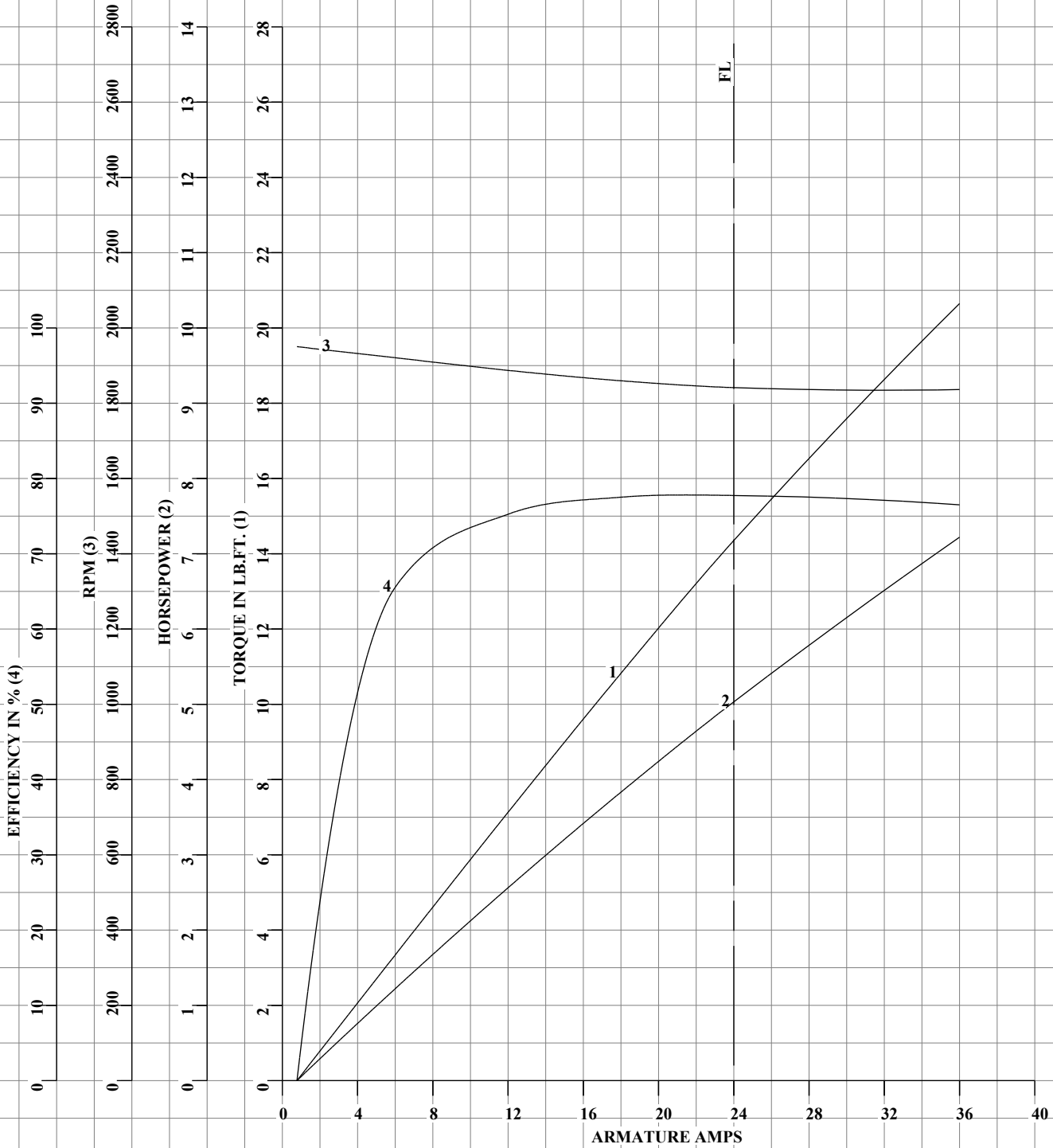
<b>ABB BALDOR RELIANCE III</b>		CUSTOMER INFORMATION DC1810ATZ		PACKET RATING 5.00HP		BASE SPEED 1750		WINDING TYPE STRAIGHT SHUNT		
S.F. 1.0	ENCL. DPG	AMB°C/INSUL 40/F		DUTY CONT		POWER CODE/FORM FACTOR 2/2 230-60-0		TYPE TR	WK <sup>2</sup> (LB-FT <sup>2</sup> ) .6800	
COOLING AIR (CFM/IN H <sub>2</sub> O) -/-		J (sec) .257	R (hot) .102	T E .0125	T M .0264	BASIC RPM 1950	MAX CONT 2050	WINDER RPM -	MAX. SAFE SPEED 4500	
WINDING		VOLTS		RESISTANCE		CURRENT		INDUCTANCE		URNS 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

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

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



REMARKS: TYPICAL DATA CURVES VALID FOR NAMEPLATE SPEED RANGE ONLY



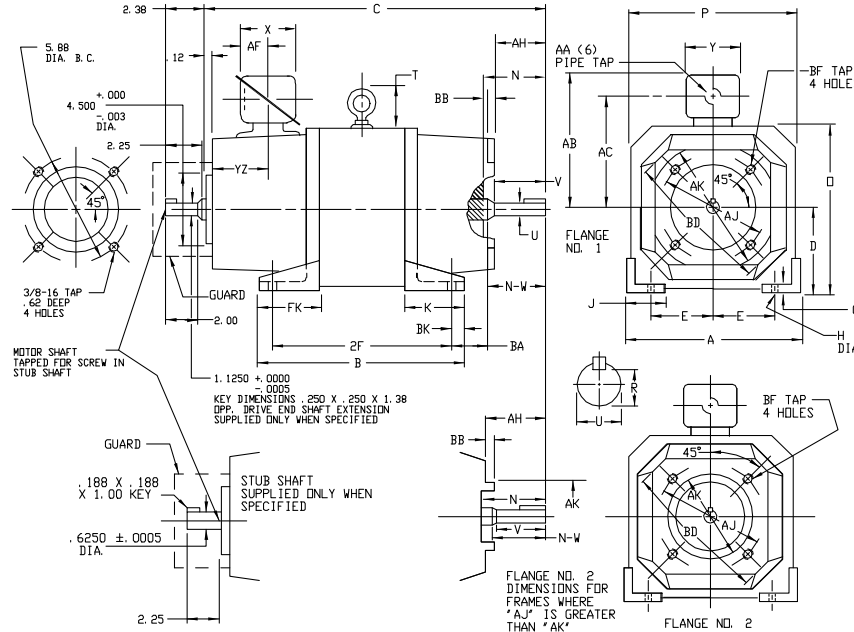
DRAWN BY: R.ERLACHER  
 CHECKED BY: R.ERLACHER  
 APPROVED BY: T.S.EVON  
 DATE: 08-05-88

DC MOTOR  
 PERFORMANCE  
 DATA

**G4611A**  
 DATE ISSUED 03-10-92

609980-503

**INDUSTRIAL DIRECT CURRENT MOTORS AND GENERATORS - RPM III**  
 ENCLOSURE: DRIP-PROOF FULLY-GUARDED MOUNTING: FOOT, "C" FACE COOLING: SELF-VENTILATED ACCESSORIES: PROVISIONS FOR TACHOMETER MOUNTING ONLY WHEN SPECIFIED  
 SPLASHPROOF, TOTALLY ENCLOSED METHOD OF DRIVE: COUPLED OR BELTED NON-VENTILATED  
**DC180ATY-DC180ATCZ**



DIMENSIONS ARE IN INCHES

FRAME	FLANGE	A	DC(D)	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	ND. 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	ND. 1	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	1/2-13	.88	7.25	8.500	180TC EXT.
DC181DATY	ND. 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.
DC181DATCZ	ND. 1	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	1/2-13	.88	7.25	8.500	180TC EXT.
DC1811ATY	ND. 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	ND. 1	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	1/2-13	.88	7.25	8.500	180TC EXT.

FRAME	FLANGE	C(5)	B	2F	N	N-W	UK(2)	V	AH	R(3)	SD	LGTH	AA	AB	AC	AF	X	Y	YZ	WT. LBS.
DC189ATY	ND. 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	ND. 1	19.44	11.62	10.00	3.06	2.88	1.250	2.62	2.62	.986	250	1.81	1.00	7.30	6.11	2.19	4.38	3.75	3.25	155
DC181DATY	ND. 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	130
DC181DATCZ	ND. 1	20.19	12.38	11.00	3.06	2.88	1.250	2.62	2.62	.986	250	1.81	1.00	7.30	6.11	2.19	4.38	3.75	3.25	155
DC1811ATY	ND. 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	130
DC1811ATCZ	ND. 1	21.69	13.88	12.50	3.06	2.88	1.250	2.62	2.62	.986	250	1.81	1.00	7.30	6.11	2.19	4.38	3.75	3.25	155

- (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 RUNDUT AND ECCENTRICITY .004 MAX. T. I. R.
- (5) WHEN THE MOTOR APPLICATION DOES NOT REQUIRE THE USE OF DPP, 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.

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

REV. DESC: REVISE "D" DIM TOLERANCE			BALDOR - RELIANCE®		
REV. LTR: D	VERSION: 04	TDR: 000001148815	DIMENSION DRAWING, DC180ATY - DC180ATCZ, DPP, TENV, FOOT MTG.		
FILE: \RGG\00030\373	REVISED: 03:18:10 09/15/2020	BY: RGNAS			
MTL: -					

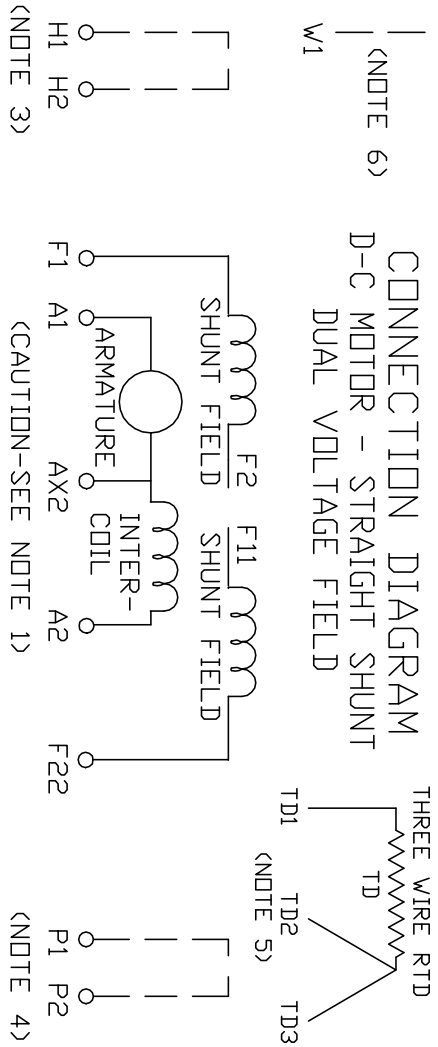
SH 1 of 1

609980-503

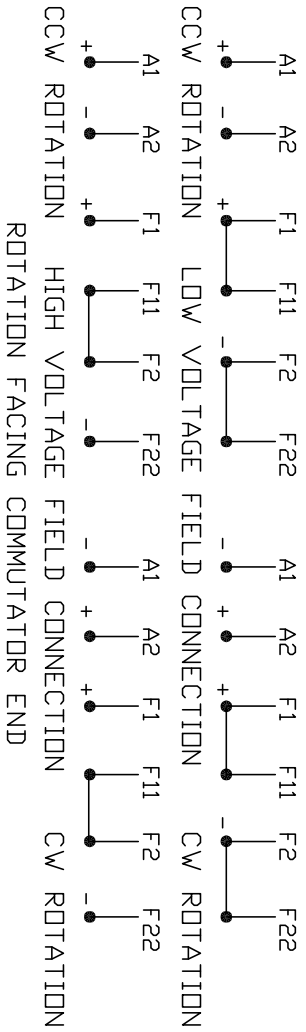
406770-007

406770-007

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



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



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.D. 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	BY: MGHPC
MTL: -		

**BALDOR**

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

SH 1 of 1