BALDOR • RELIANCE

Customer information packet

CDD1803R

3HP, 1750RPM, DC, 189ATCZ, DPG,

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Specifications

Armature Voltage	180 V
Base Speed	1750 rpm
Enclosure	DP
Field Voltage	200 V
Frame	DC0189ATCZ
Output Power	3.000 HP
Agency Approvals	CCSA US
Ambient Temperature	40 °C
Armature Current	14.8 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	21.82 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.	G4605A
Layout	609980-503
Eff. date	01-02-2020
CD Diagram	406770-007
Poles	00
Leads	
Proprietary	False
Created date	12-27-2019

Nameplate

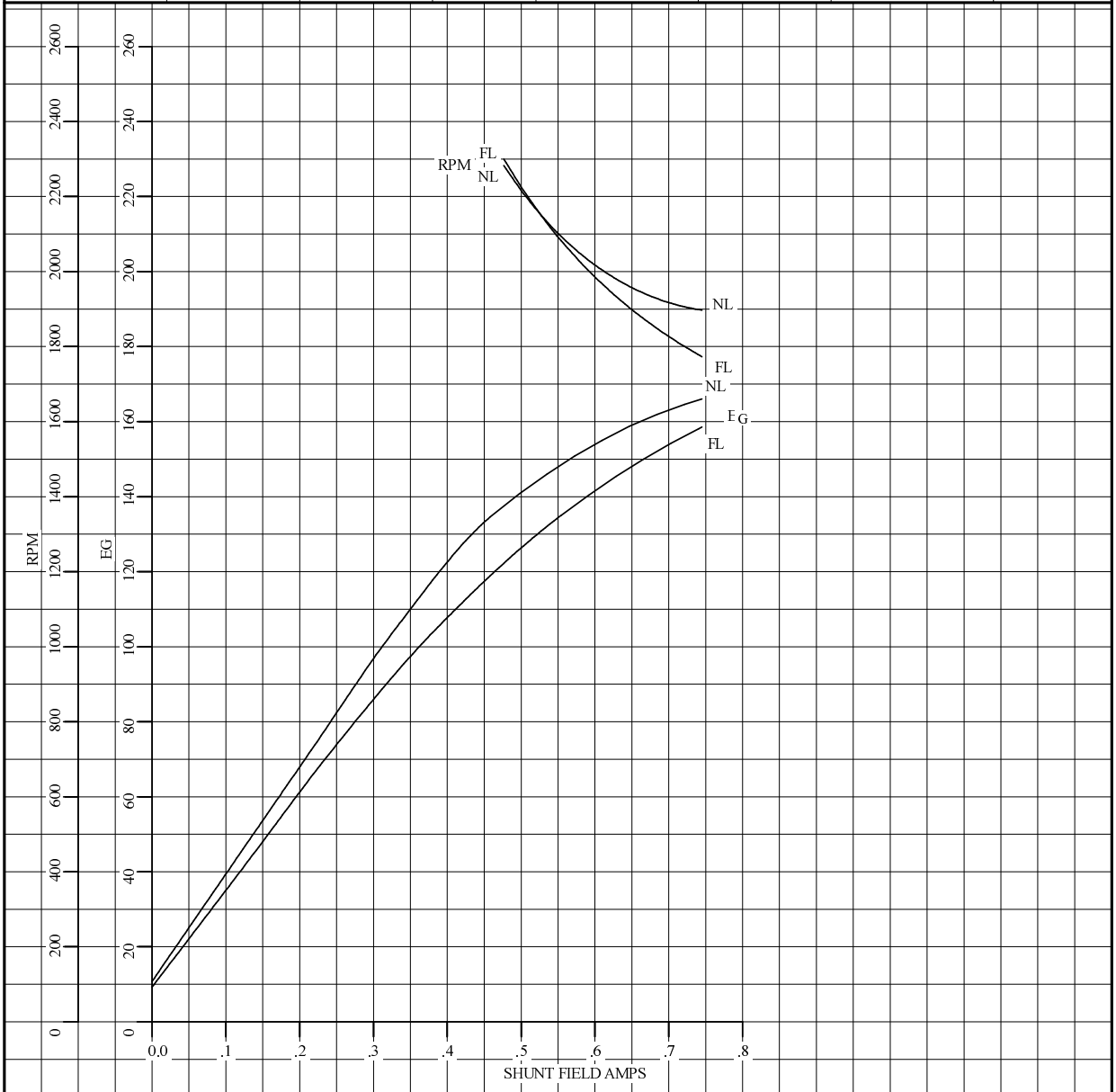
000613006HP							
CAT.NO.	CDD1803R	**SPEC NO.**	T18S1120				
FR	DC0189ATCZ	**HP**	3	**DUTY**	CONT		
ENCL.	DP	**RPM**	1750	**S.F.**	1.0		
ENCL MOD		**VOLTS**	180	**INSUL**	F		
MAX SAFE SPEED	04500	**AMPS**	14.80	**AMB.**	40		
	FIELD DATA	**SER.NO.**					
WINDING	STR. SHUNT	**POWER CODE**	2/2-230-60-0				
VOLTS	100/200	**D.E. BRG.**	30BC02JPP30A				
MAX AMPS @ 25 C	1.90/.95	**O.D.E. BRG.**	30BC02JPG30A				
HOT AMPS	1.46/.73	**MIN. AMB.**	0	**TYPE**	TR		
	BRUSH:419904050A						
	SPLASHPROOF						

REL S.O.	FRAME	RATING	BASE SPEED	WINDING TYPE
	DC189AT	3.00HP	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	.6247

COOLING AIR(CFM/IN H_2O)	$\bar{J}$ (sec)	$\bar{R}$ (hot)	T_E	T_M	BASIC RPM	MAX CONT RPM	WINDER RPM	MAX. SAFE
-/-	.394	.120	.00769	.0474	1950	2300	-	4500

WINDING	VOLTS	RESISTANCE		CURRENT		INDUCTANCE	TURNS PER COIL
		25°C	HOT	25°C	HOT		
ARM CIRCUIT	180	.875	1.17	-	14.8	10.0 mH	-
SERIES S1-S2	-	-	-	-	-	-	-
SHUNT F1-F2	200	211	268	.946	.745	36.3 H	2000



REMARKS: TYPICAL DATA SPEED REGULATOR REQUIRED FOR STABILITY
CURVES VALID FOR NAMEPLATE SPEED RANGE ONLY

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DR. BY J. MARTIN
CK. BY J. MARTIN
APP. BY T. EVON
DATE 7/11/88

D-C APPLICATION DATA

SG4605A

ISSUE DATE 7/11/88

BALDOR • RELIANCE CUSTOMER INFORMATION PACKET CDD1803R - 3HP, 1750RPM, DC, 189ATCZ, DPG,

REL S.O.	FRAME	RATING	RPM	ARM. VOLTS	ARM. AMPS
	DC189AT	3.00HP	1750	180	14.8

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

POWER CODE	TYPE	WK^2(LB-FT^2)	HOT ARM.CIR.RES.	FLD. AMPS@25 °C	HOT FIELD RES
2/2 230-60-0	TR	.6247	1.17	.946	268

ARM. CIR. IND. (mh)	FIELD IND. (H)	COOLING AIR(CFM/IN H_2O)	TURNS PER COIL SHUNT/SERIES	TEST DATE
10.0	36.3	-/-	2000/.00000	-

LOAD PERFORMANCE

LOAD	AMPERES	TORQUE IN LB.-FT.	OUTPUT IN HP	RPM	% EFFICIENCY
NO LOAD	.60	0	0	1881	0
1/4	3.7	2.06	.722	1844	62.9
2/4	7.4	4.47	1.54	1810	72.5
3/4	11	6.81	2.31	1783	74.4
4/4	15	8.99	3.03	1770	74.1
O.L.	22	12.9	4.32	1763	71.7

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
.745	1881	1770	166	158
.678	1932	1856	162	151
.610	2002	1965	157	143
.543	2114	2107	148	133
.476	2282	2300	138	122

REMARKS: TYPICAL DATA

MAXIMUM SAFE SPEED = 4500 RPM
SPEED REGULATOR REQUIRED FOR STABILITY

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DR. BY J. MARTIN
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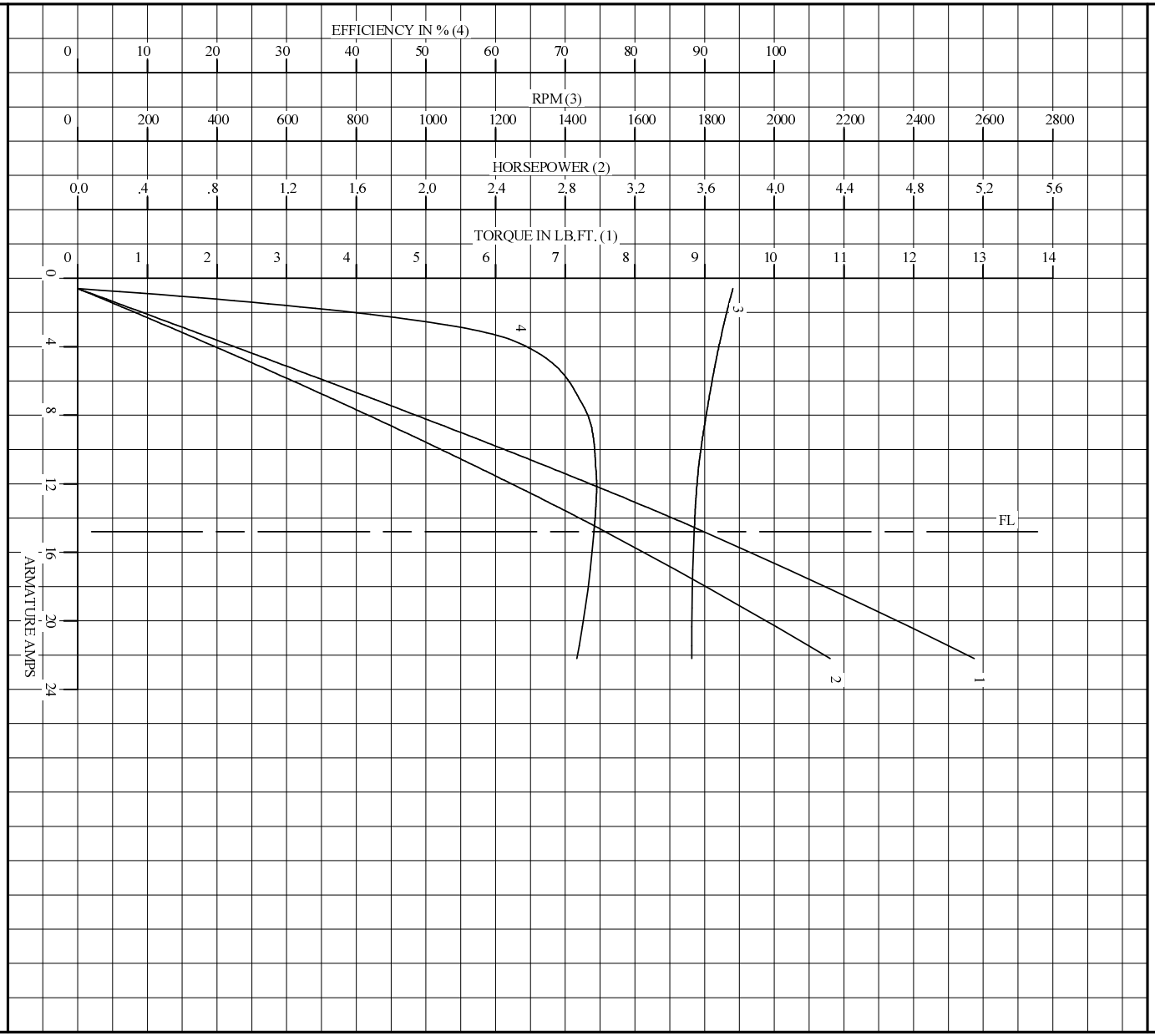
DATE 7/11/88

D-C MOTOR PERFORMANCE DATA

DG4605A

ISSUE DATE 7/11/88

REL. S.O.		DUTY CONT	TYPE TR	S.F. 1.0	
FRAME DC189AT		ENCL. DPG	WK²(LB-FT²) .6247	FLD.AMPS@25°C .946	
HP/KW 3.00HP		AMB°C INSL. 40/F	HOT ARM. CIR. RES. 1.17	FIELD IND (H) 36.3	
RPM 1750		ARM. AMPS 14.8	ARM. CIRCUIT IND(mh) 10.0	CFM/IN. H_2O -/-	
ARM. VOLTS 180		FIELD VOLTS 200	HOT FIELD RES. 268	TEST S.O. -	
WDG. TYPE STRAIGHT SHUNT			POWER CODE 2/2 230-60-0	TEST DATE -	



REMARKS: TYPICAL DATA SPEED REGULATOR REQUIRED FOR STABILITY

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APP. BY	T. EVON	
DATE	7/11/88	

D-C PERFORMANCE CURVES **PG4605A**

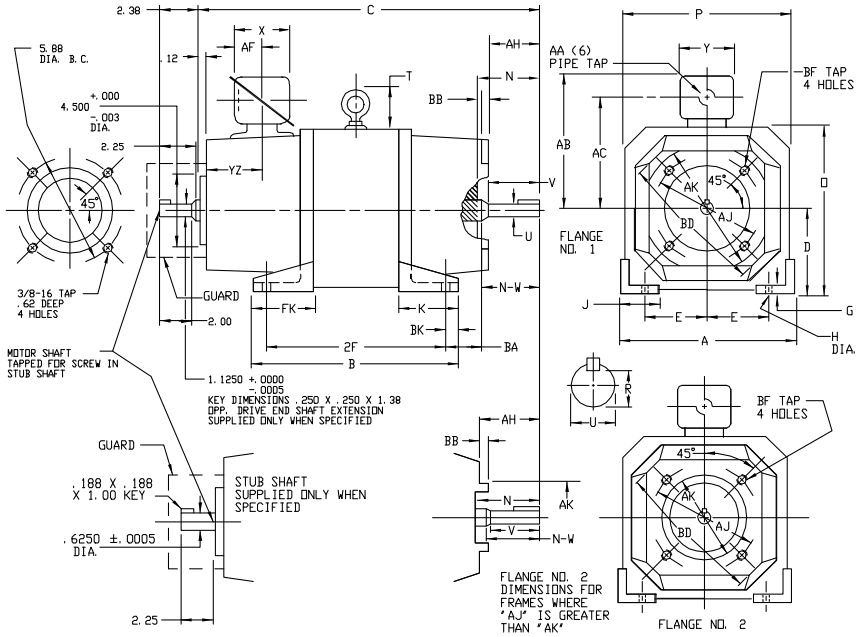
ISSUE DATE 7/11/88

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 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.

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.

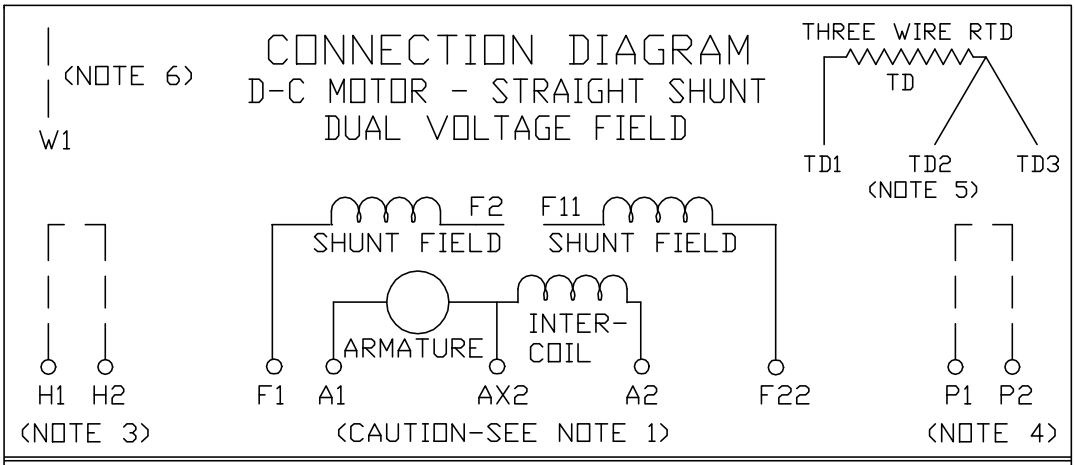
SH 1 of 1

609980-503

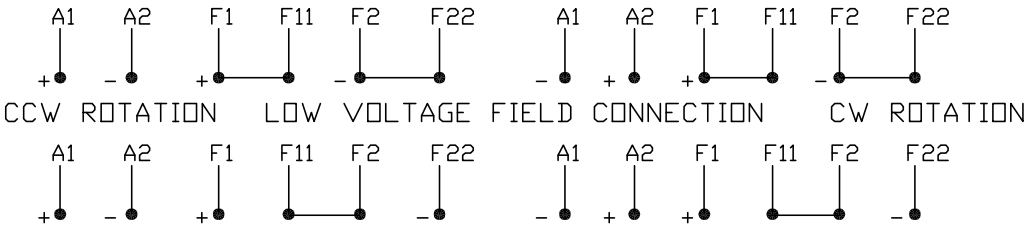
406770-007

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

BALDOR

D-C MOTOR CONNECTION DIAGRAM, STR. SHUNT, DUAL VOLTAGE FIELD
SH 1 of 1

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