

# **BALDOR**® • *RELIANCE*

## **Product Information Packet**

# **D2010R-2**

**10HP, 1750RPM, DC, SC2113ATCZ, SPG**

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Part Detail			
Type:	DC	Prod. Type:	TR
Power Code:	C	Weight:	346
Frame Group:	SC 2113ATCZ	Mounting Pos.:	F1
HP:	10	Enclosure:	DPG
RPM:	1750/2300	Wound:	STAB SHUNT
Service Factor:	1.0	Arm V:	240
Arm A:	37.00	Field V:	240
Field A:	2.20	Field A Hot:	1.56/1.08
Insulation Class:	F	Ambient:	40
Duty:	CONT	DE Bearing:	50BC03J30X
ODE Bearing:	45BC02J30X	Brushes:	419904-51AB
Brush Qty.:			

**INDUSTRIAL DIRECT CURRENT MOTORS  
AND GENERATORS - RPM III**

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

**FRAMES SC2113ATCZ THRU LC2812ATCZ  
DRIVE END SHAFT PER NEMA AC MOTOR SHAFT**

DIMENSIONS ARE IN INCHES

FRAME	BB	BD	BF	BF TAP	AJ	AK(8)
SC2113ATCZ-LC2113ATCZ	.25	8.75	1/2-13	.75	7.25	8.500
SC2512ATCZ-LC2512ATCZ	.25	10.88	1/2-13	.75	7.25	8.500
MC2812ATCZ-LC2812ATCZ	.25	12.75	1/2-13	.75	9.00	10.500

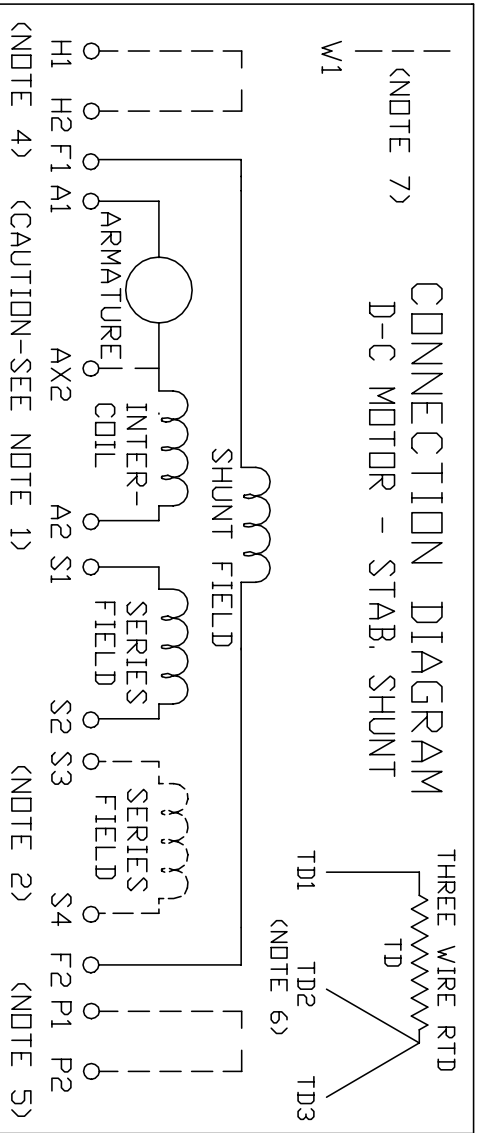
FRAME	A	DK(1)	E	G	H	HG	J	D	P	T	BA	K	FK	BK
SC2113ATCZ-LC2113ATCZ	10.25	5.25	4.25	.44	1.38	1.75	10.44	10.31	2.56	3.50	5.19	6.81	2.38	
SC2512ATCZ-LC2512ATCZ	12.31	6.25	5.00	.50	1.62	2.00	12.50	12.44	3.06	4.25	6.06	8.00	3.00	
MC2812ATCZ-LC2812ATCZ	13.78	7.00	5.50	.62	1.88	2.75	14.00	13.94	3.38	4.75	6.75	9.19	3.50	

FRAME	CK(7)	DRIVE END SHAFT AND KEY (9)													OPPOSITE DRIVE END SHAFT AND KEY (5)		WT. LBS			
		B	BS	2F	N	N-W	UK(2)	AH	V	RC(3)	SQ	LGTH	FN	FN-FW	FV(2)	FV		FR(3)	SQ	LGTH
SC2113ATCZ	28.00	22.50	11.38	18.00	3.62	3.38	1.3750	3.12	3.12	1.201	.312	2.38	3.50	3.25	1.625	3.00	1.416	375	2.25	325
MC2113ATCZ	29.25	23.75	12.62	18.00	3.62	3.38	1.3750	3.12	3.12	1.201	.312	2.38	3.50	3.25	1.625	3.00	1.416	375	2.25	350
LC2113ATCZ	30.88	25.38	14.25	18.00	3.62	3.38	1.3750	3.12	3.12	1.201	.312	2.38	3.50	3.25	1.625	3.00	1.416	375	2.25	380
SC2512ATCZ	31.44	25.06	12.06	20.00	4.25	4.00	1.625	3.75	3.75	1.416	.375	2.88	4.00	3.75	1.875	3.50	1.591	500	2.50	515
MC2512ATCZ	32.94	26.56	13.56	20.00	4.25	4.00	1.625	3.75	3.75	1.416	.375	2.88	4.00	3.75	1.875	3.50	1.591	500	2.50	550
LC2512ATCZ	34.44	28.06	15.06	20.00	4.25	4.00	1.625	3.75	3.75	1.416	.375	2.88	4.00	3.75	1.875	3.50	1.591	500	2.50	590
MC2812ATCZ	37.25	29.94	14.25	22.00	4.88	4.62	1.875	4.38	4.38	1.591	.500	3.25	4.50	4.25	2.125	4.00	1.845	500	3.00	785
LC2812ATCZ	39.50	32.19	16.50	22.00	4.88	4.62	1.875	4.38	4.38	1.591	.500	3.25	4.50	4.25	2.125	4.00	1.845	500	3.00	860

(1) "P" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.  
 (2) "U" AND "FU" VARY --- 1.625 AND LARGER +.000, -.0005.  
 (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. 609959-1, "Y" 609959-3 WILL 609959-3  
 (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 DFP, DRIVE END, ADD .25 TO "C" DIA. FOR BRACKET COVER.  
 (8) "AK" VARIES +.000, -.003 --- FACE ROUNDOFF AND ECCENTRICITY .004 MAX. T. I. R.  
 (9) DRIVE END SHAFT DIMENSIONS PER SAME FRAME SIZE NEMA "AC" MOTOR SHAFT. 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-5, V-7, OR C-1 MOUNTING IS SPECIFIED. MOTOR WEIGHT MAY VARY 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	VERSION: 00	TDR: 000000577407	<b>BALDOR</b> DIMENSION DRAWING, SC2113ATCZ - LC2812ATCZ, DPP, TEN, FOOT MTG SH 1 of 1
REV. LTR: -	REVISED: 10:50:08 01/26/2011	BY: CONNAS	
FILE: \RGG\00015\549	MTL: -		



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 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.

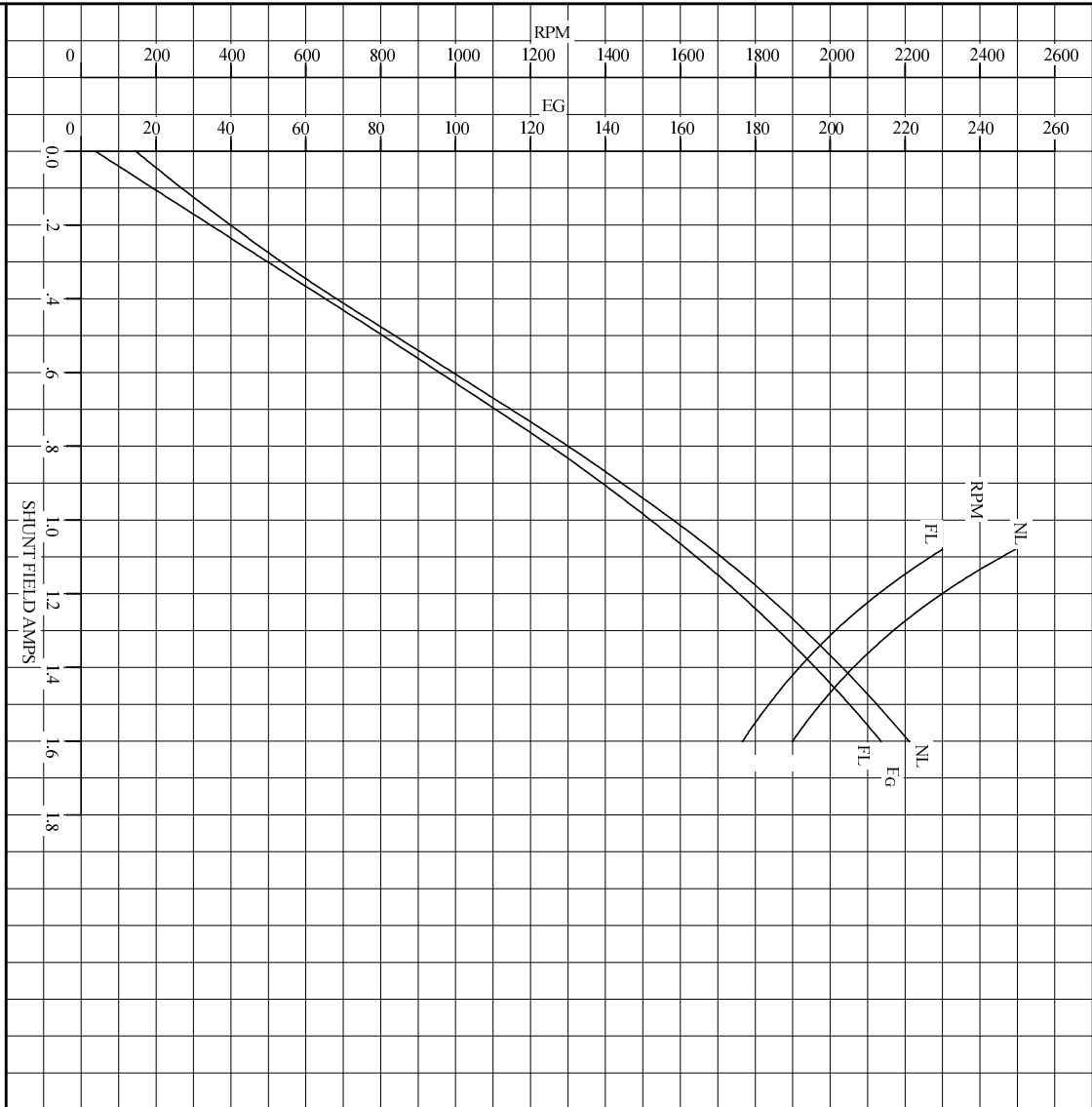
CUSTOMER \_\_\_\_\_ RELIANCE  
ORDER NO. \_\_\_\_\_ S.D. NO. \_\_\_\_\_

<p><b>RELIANCE ELECTRIC</b> CLEVELAND, OHIO 44117 U.S.A.</p>	<p>Rev. by N.L. EVANS Chk. by N. JESCHKE App. by E. J. HINER DATE 5-5-69</p>
<p><b>CONNECTION DIAGRAM</b></p>	<p><b>406770-1</b></p>
<p>ORIGINAL AT RCC</p>	

C/R 290048, 354478, 354480

REL. S.O.	FRAME	RATING	RPM	ARM. VOLTS	ARM. AMPS
	SC2113AT	10.0HP	1750	240	37.0
WINDING TYPE					
S.F.	ENCL.	AMB °C/INSUL	DUTY	FIELD VOLTS	
STAB. SHUNT	1.0	D93	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	2.329	.520	2.18	149
ARM. CIR. IND. (mh)					
5.67	FIELD IND. (H)	COOLING AIR (CFM/IN H 20)	TURNS PER COIL SHUNT/SERIES	1050/1	TEST DATE
	18.0	-/-			-
LOAD PERFORMANCE					
LOAD	AMPERES	TORQUE IN LB.-FT.	OUTPUT IN HP	RPM	% EFFICIENCY
NO LOAD	1.4	0	0	1887	0
1/4	9.2	6.95	2.45	1850	69.0
2/4	19	15.1	5.22	1818	79.9
3/4	28	23.0	7.84	1790	82.5
4/4	37	30.7	10.3	1765	82.8
O.L.	56	45.2	14.9	1730	80.8
RPM VS. FIELD AMPS					
FIELD AMPS	RPM N.L.	RPM F.L.	Eg N.L. @ BASE SPEED	Eg F.L. @ BASE SPEED	
1.60	1886	1765	221	213	
1.47	1997	1858	210	202	
1.34	2123	1973	197	190	
1.21	2284	2116	183	176	
1.07	2494	2300	168	161	
REMARKS: TYPICAL DATA					
MAXIMUM SAFE SPEED = 4500 RPM					
			DR. BY B. D. GRANT CK. BY R. D. GRANT APP. BY T. S. EVON DATE 03/14/85		
			D-C MOTOR PERFORMANCE DATA D66190A ISSUE DATE 03/11/85		

REL. S. O.	FRAME SC2113AT	RATING 10.0HP	BASE SPEED 1750	WINDING TYPE STAB SHUNT
S. F. ENCL. DPG	AMB°C/INSUL 40/F	DUTY CONT	POWER CODE/FORM FACTOR C	TYPE TR
1.0				WK <sup>2</sup> (LB-FT <sup>2</sup> ) 2.329
COOLING AIR (CFM/IN H <sup>2</sup> O) -/-	$\bar{R}$ (sec) .441	$T_R$ .00973	$T_M$ .0435	BASIC RPM 2030
				MAX CONT RPM 2300
				WINDER RPM -
				MAX. SAFE 4500
WINDING	VOLTS	RESISTANCE		INDUCTANCE
		25°C	HOT	PER COIL
ARM CIRCUIT	240	.410	.521	5.67 mH
SERIES S1-S2	-	.00309	.00416	-
SHUNT F1-F2	240	110	150	18.0 H
			2.19	1.60
				1.050



REMARKS: TYPICAL DATA  
CURVES VALID FOR NAMEPLATE SPEED RANGE ONLY



DR. BY B. D. GRANT  
CK. BY B. D. GRANT  
APP. BY T. S. EVONN  
DATE 03/14/85

D-C APPLICATION DATA

SC6190A  
ISSUE DATE 03/11/85

