



Customer information packet

D5020R

20HP, 1750RPM, DC, 2113ATZ, DPG,

Specifications

Enclosure	DP
Frame	MC2113ATZ
Frame Material	Steel
Output Power	20.000 HP
Agency Approvals	CCSA US
Ambient Temperature	40 °C
Bearing Grease Type	Polyrex EM (-20F +300F)
Drip Cover	No Drip Cover
Feedback Device	NO FEEDBACK
Field Winding Type	STAB SHUNT
Frame Prefix	MC
Heater Indicator	No Heater
Lifting Lugs	Standard Lifting Lugs
Motor Standards	NEMA
Mounting Arrangement	F1
Overall Length	29.62 IN
Shaft Extension Location	Pulley End
Shaft Ground Indicator	No Shaft Grounding
Shaft Slinger Indicator	No Slinger

Part detail

Revision	-
Type	DC
Mech. spec.	
Base	
Status	PRD/A
Elec. spec.	G6060B A
Layout	609950-001
Eff. date	04-13-2015
CD Diagram	406770-002
Poles	00
Leads	
Proprietary	False
Created date	04-09-2015

Nameplate

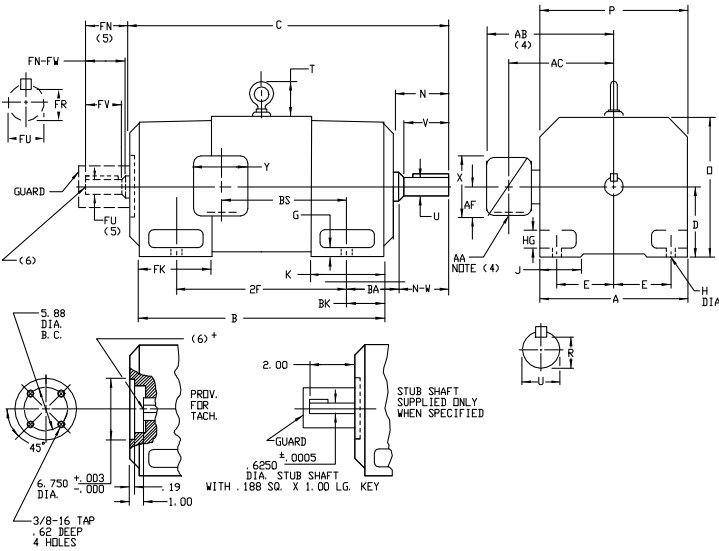
000613006HP									
CAT.NO.	D5020R	SPEC NO.		T21S1323					
FR	MC 2113ATZ	HP	20		DUTY		CONT		
ENCL.	DP	RPM	1750/ 2300		S.F.		1.0		
ENCL MOD	GUARDED	VOLTS		500		INSUL		F	
MAX SAFE SPEED	4500	AMPS	35.00		AMB.		40		
FIELD DATA		SER.NO.							
WINDING	STAB SHUNT	POWER CODE		C					
VOLTS	300	D.E. BRG.		50BC03J30X					
MAX AMPS @ 25 C	1.98	O.D.E. BRG.		45BC02J30X					
HOT AMPS	1.39/ .99	MIN. AMB.		0		TYPE		TR	
BRUSH:419904051AB; FLD. DATA									
FOR HIGH VOLTS; FIELD VOLTS						150/300			

609950-001

INDUSTRIAL DIRECT CURRENT MOTORS
AND GENERATORS - RPM III

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

FRAMES SC2113ATZ THRU LC2812ATZ



DIMENSIONS ARE IN INCHES; SEE 609950-1M FOR DIMENSIONS IN MILLIMETERS

FRAME	A	X(1)	E	G	H	HG	J	D	P	T	BA	K	FK	BK
SC2113ATZ-LC2113ATZ	10.25	5.25	4.25	44	44	1.38	1.75	10.44	10.31	2.56	3.50	5.19	6.81	2.38
SC2512ATZ-LC2512ATZ	12.31	6.25	5.00	50	56	1.62	2.00	12.50	12.44	3.06	4.25	6.06	8.00	3.00
MC2812ATZ-LC2812ATZ	13.78	7.00	5.50	62	56	1.88	2.75	14.00	13.94	3.38	4.75	6.75	9.19	3.50

FRAME	D(7)	B	BS	2F	DRIVE END SHAFT AND KEY							OPPOSITE DRIVE END SHAFT AND KEY(S)							WT.
					N	N-W	UK(2)	V	R(3)	SQ	LGTH.	FN	FN-FW	FK(2)	FV	FR(3)	SG	LGTH.	
SC2113ATZ	28.38	22.50	11.38	18.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	315
MC2113ATZ	29.62	23.75	12.62	18.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	340
LC2113ATZ	31.25	25.38	14.25	18.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	370
SC2512ATZ	31.69	25.06	13.56	20.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	505
MC2512ATZ	33.19	26.56	15.06	20.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	540
LC2512ATZ	34.69	28.06	16.56	20.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	580
MC2812ATZ	37.38	29.94	18.25	22.00	5.00	4.75	2.375	4.50	2.021	.625	3.50	4.50	4.25	2.125	4.00	1.845	.500	3.00	775
LC2812ATZ	39.62	32.19	19.50	22.00	5.00	4.75	2.375	4.50	2.021	.625	3.50	4.50	4.25	2.125	4.00	1.845	.500	3.00	850

- (1) "D" 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-----+ .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. 609959-1, "X/P" 609959-2, MILL. 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" DIM. FOR BRACKET COVER.
TERMINAL BOX CAN BE ROTATED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM. TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, V-1, W-4, V-5, W-7, OR C-1 MOUNTING IS SPECIFIED. BOX LOCATED ON TOP WHEN SPECIFIED. 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.

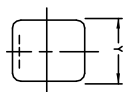
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REV. LTR: -	REVISED: 10:21:19 01/26/2011	BY: RGGBG
FILE: \RGG\00015\543		
MTL: -		

BALDOR
DIMENSION DRAWING, SC2113ATZ - LC2812ATZ, DPP, TENV, FOOT MTG
SH 1 of 1

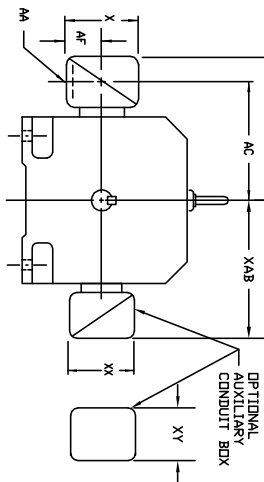
609950-001

609959-001

INDUSTRIAL DIRECT CURRENT MOTORS
AND GENERATORS - RPM III
TERMINAL BOX DIMENSIONS
STANDARD SIZE AND ONE SIZE LARGER
FRAMES C2113ATZ THRU C2815ATZ



DIMENSIONS ARE IN INCHES



STEEL TERMINAL BOX DIMENSIONS																	
FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER		ONE SIZE LARGER						PART NUMBER	
		AK(1)	AB	AC	AF	X	Y			AK(1)	AB	AC	AF	X	Y		
C2113ATZ	40	3/4 & 1"	8.97	7.47	1.94	4.38	5.00	705028-1-R		1-1/4 & 1-1/2	10.03	8.03	2.50	5.50	6.12	705029-1-R	
C2115ATZ	96	1-1/4 & 1-1/2	10.03	8.03	2.50	5.50	6.12	705029-1-R		2" & 2-1/2	11.16	8.41	3.19	7.00	7.62	705030-1-R	
(2)	208	2" & 2-1/2	11.16	8.41	3.19	7.00	7.62	705030-1-R		2" & 2-1/2	11.16	8.41	3.19	7.00	7.62	705030-1-R	
C2514ATZ	40	3/4 & 1"	8.03	6.53	1.94	4.38	5.00	705028-1-R		1-1/4 & 1-1/2	11.09	9.09	2.50	5.50	6.12	705029-1-R	
C2514ATZ	96	1-1/4 & 1-1/2	11.09	9.09	2.50	5.50	6.12	705029-1-R		2" & 2-1/2	12.22	9.47	3.19	7.00	7.62	705030-1-R	
(2)	208	2" & 2-1/2	12.22	9.47	3.19	7.00	7.62	705030-1-R		2" & 2-1/2	12.22	9.47	3.19	7.00	7.62	705030-1-R	
C2815ATZ	188	2"	14.03	10.53	4.25	8.44	7.25	74874-R		3"	14.47	11.22	4.25	8.44	7.25	74874-24-R	
C2815ATZ	188	3"	14.47	11.22	4.25	8.44	7.25	74874-24-R		4"	15.91	11.84	5.38	10.56	9.00	706308-3-R	
(2)	269	4"	15.91	11.84	5.38	10.56	9.00	706308-3-R		5" (4)	18.72	13.47	7.00	12.75	15.00	706308-1-C	

CAST IRON TERMINAL BOX DIMENSIONS															
FRAME SIZE	MAX. AMPS	AK(3)	STANDARD SIZE					PART NUMBER	ONE SIZE LARGER					PART NUMBER	
			AB	AC	AF	X	Y		AB	AC	AF	X	Y		
C2113ATZ	18	3/4	10.03	8.03	2.50	5.00	5.75	705028-2-S	1"	10.03	8.03	2.50	5.00	5.75	705028-2-T
C2115ATZ	40	1"	10.03	8.03	2.50	5.00	5.75	705028-2-T	1-1/2	10.97	8.53	3.00	6.00	7.00	705029-2-R
C2115ATZ	96	1-1/2	10.97	8.53	3.00	6.00	7.00	705029-2-R	2"	10.97	8.53	3.00	6.00	7.00	705029-2-S
(2)	208	2"	10.97	8.53	3.00	6.00	7.00	705029-2-S	2-1/2	12.66	8.91	3.62	7.88	9.25	705030-2-R
C2514ATZ	18	3/4	11.09	9.09	2.50	5.00	5.75	705028-2-S	1"	11.09	9.09	2.50	5.00	5.75	705028-2-T
C2514ATZ	40	1"	11.09	9.09	2.50	5.00	5.75	705028-2-T	1-1/2	12.03	9.59	3.00	6.00	7.00	705029-2-R
C2514ATZ	96	1-1/2	12.03	9.59	3.00	6.00	7.00	705029-2-R	2"	12.03	9.59	3.00	6.00	7.00	705029-2-S
C2514ATZ	208	2"	12.03	9.59	3.00	6.00	7.00	705029-2-S	2-1/2	13.72	9.97	3.62	7.88	9.25	705030-2-R
C2813ATZ	188	2"	12.78	10.34	3.00	6.00	7.00	75460-T	3"	14.47	10.72	3.62	7.88	9.25	76700-R
C2813ATZ	188	3"	14.47	10.72	3.62	7.88	9.25	76700-R	4"	15.78	11.59	4.12	9.50	10.50	76700-S
C2815ATZ	269	4"	15.78	11.59	4.12	9.50	10.50	76700-R	5" (4)	18.59	13.34	7.00	12.75	15.00	76700-S

CONDUIT BOX DIMENSIONS WITH TERMINAL BOARDS (IEC TYPE BOX)											
STANDARD SIZE											
FRAME SIZE	AMPS	AB	AC	AF	X	AA	Y	PART NUMBER			
C210	100	10.71	8.98	2.72	7.48	--	7.48	706310-56-A			
	200	11.66	9.23	3.33	8.82	--	8.82	706310-56-B			
	100	11.30	9.57	2.72	7.48	--	7.48	706310-56-A			
C250	200	11.85	9.84	3.35	8.82	--	8.82	706310-56-B			
	400	17.48	12.75	6.20	14.39	--	14.39	706310-63-B & 706310-63G			
	800	17.48	12.75	6.20	14.39	--	14.39	706310-63-B & 706310-63G			
	200	12.60	10.59	3.76	8.82	--	8.82	706310-56-B			
C280	400	18.27	13.54	6.20	14.39	--	14.39	706310-63-B & 706310-63G			
	800	18.27	13.54	6.20	14.39	--	14.39	706310-63-B & 706310-63G			
	1600	18.27	13.54	7.68	15.35	--	15.35	706310-63-C			

OPTIONAL AUXILIARY CONDUIT BOX DIMENSIONS (MAXIMUM)							
FRAME SIZE	XAB	XY	PART NUMBER	FRAME SIZE	XAB	XY	PART NUMBER
C210	7.38	4.25	602007-26-A	C210	10.88	8.00	706310-3-B
C250	8.44	4.25	602007-26-A	C250	11.88	8.00	706310-3-B
C280	9.12	4.25	602007-26-A	C280	12.62	8.00	706310-3-B

(1) 1/4" CONDUIT.
(2) FRAMES PROVIDED WITH DOUBLE KNUCKLE.
(3) 1/4" PIPE CAP.

(4) TERMINAL BOX 76870-S AND 76870-98 EXTENDS BELOW MOTOR FEET.
TERMINAL BOX 76870-S AND 76870-98 EXTENDS BELOW MOTOR FEET.
DR - C-1 MOUNTING IS SPECIFIED. BOX LOCATED ON TOP WHEN SPECIFIED.
FOR "X"/TERMINAL BOX DIMENSIONS SEE 609959-2.
FOR MILL TYPE TERMINAL BOX DIMENSIONS SEE 609959-3.

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

REV. DESC: ADD 706310-63G C/BOX TO C250 AND C280 FRAMES

REV. LTR: A

VERSION: 01

TDR: 000000816512

FILE: \RGG\00021\153

REVISED: 03: 09: 09 09/06/2013

MTL: -

BY: RGGWT

BALDOR

DIMENSION SHEET

SH 1 of 1

609959-001

406770-002

406770-002

CONNECTION DIAGRAM
D-C MOTOR - STAB. SHUNT
DUAL VOLTAGE FIELD

W1

(NOTE 7)

SHUNT FIELD

F2

INTER-COIL

ARMATURE

AX2

A2 S1

FIELD

S2 S3

FIELD

S4 F22 P1 P2

TD1

TD2

TD3

(NOTE 6)

THREE WIRE RTD

TD

(NOTE 4)

(CAUTION-SEE NOTE 1)

(NOTE 2)

(NOTE 5)

ARMATURE AND FIELD EXTERNAL CONNECTIONS

WARNING- SEE NOTE 8 FOR GROUNDING INSTRUCTIONS

CCW ROTATION

LOW VOLTAGE FIELD CONNECTION

CW ROTATION

CCW ROTATION

HIGH VOLTAGE FIELD CONNECTION

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 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 BDX FOR FOR MOTOR GROUNDING. GROUND LEAD, WHEN PROVIDED, WILL BE GREEN.

CUSTOMER

CUSTOMER

ORDER NO.

S.D. NO.

RELIANCE

REV. DESC: UPDATE LOGO AND TITLEBLOCK: LOADED TO BUS

REV. LTR: -

VERSION: 00

TDR: 000000781086

FILE: \RSN\00026\434

REVISED: 02: 35: 07 02/01/2013

MTL: -

BY: MGHPC

BALDOR

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

SH 1 of 1

G6060B A: Electrical Design

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