

ABB BALDOR RELIANCE III

Customer information packet

ZDPM18010C-BV

10HP, 1800RPM, 3PH, 60HZ, 1831C, TEBC, FOOT,

Specifications

Enclosure	TEAO
Frame	FL1831C
Frame Material	Aluminum
Frequency	60.00 Hz
Output @ Frequency	10.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	1800 RPM @ 60 HZ
Voltage @ Frequency	460.0 V @ 60 HZ
Auxiliary Box	NO AUXILLARY BOX
Base Indicator	Rigid
Bearing Grease Type	No Grease
Current @ Voltage	10.600 A @ 460.0 V
Duty Rating	CONT
Feedback Device	TACHOMETER
Frame Prefix	FL
Heater Indicator	No Heater
High Voltage Full Load Amps	10.6 a
Insulation Class	H
Motor Standards	NEMA
Mounting Arrangement	F3
Overall Length	22.08 IN
Product Family	General Industrial
Pulley End Bearing Type	Ball
Pulley Face Code	C-Face
Service Factor	1.00
Shaft Diameter	1.375 IN
Shaft Ground Indicator	No Shaft Grounding
Shaft Rotation	Reversible
Speed	1800 rpm
Thermal Device - Bearing	None
Thermal Device - Winding	Normally Closed Thermostat

Part Detail

Revision	F
Type	AC
Mech. spec.	
Base	
Status	PRD/A
Elec. spec.	PM3923A
Layout	617227-326
Eff. date	12-21-2021
CD Diagram	422927-001
Poles	04
Leads	
Proprietary	False
Created date	04-09-2015

Nameplate

000613006MY									
	DUTY	HP	RPM	AMPS	VOLTS	HZ			
	CONT	10	1800	10.6	460	60			
	CONT	10	3000	10.3	460	100			
	CONT	10	1800	21.2	230	60			
	CONT	10	3000	20.6	230	100			
CAT.NO.	ZDPM18010C-BV			SPEC. NO.	P18M0501				
SER.NO				FR	FL 1831C	INSUL	H		
PH.	3	MAX SAFE SPEED			7200	AMB.	40	MIN. AMB.	-25
DESIGN NO.	PM3923A			TYPE		ENCL.	TEAO-BC		
S.F.	1.0			D.E. BRG.	45BC02JPP30A				
ENCL MOD				O.D.E. BRG.	35BC02JPP30A				

000692000VY		
MEAS OPEN CIRCUIT VOLTAGE		
IS		VOLTS AT
		RPM.

Parts List

Part number	Description	Quantity
WS286794	WS P18M0501	1.000 ea
RA283002	RA P18M0501	1.000 ea
000692000NH	LABEL DIRECTION AIR FL	1.000 ea
411716004A	219P039 - 219P039 - LA	1.000 ea
033775004EA	DRSCR #6-1/4 304 S.S.	4.000 ea
000613006MY	NP-RPMAC INVERTER DUTY	1.000 ea
418056062A	NP AC BLOWER DATA	1.000 ea
LB1613	LABEL, QR CODE, ADHESIVE LABEL	1.000 ea
000692000XM	LABEL QR CODE	1.000 ea
000692000VY	PERMANENT MAGNET MOTOR NAMEPLATE	1.000 ea
422927001	C/D LABEL	1.000 ea
032003116CB	THRU BOLT	4.000 ea
BP5248	BP5248	1.000 ea
033102012AG	HXNUT LEAD CONN 1/4-20 GR5 ZP	4.000 ea
034017012AB	LCKW 1/4 STD. PLATED 034017012AF	4.000 ea
036000016DB	HHCS	2.000 ea
036000050JB	M8-1,25 X 50 MHHCS	2.000 ea
400638001D	WAVEN (Customer number 43699)	1.000 ea
411693051B	LUG, LIFTING	2.000 ea
HA4054	SHORT T-DRAIN FITTING, .125" N.P.T.	1.000 ea
HA4054	SHORT T-DRAIN FITTING, .125" N.P.T.	1.000 ea
807580002BAA	BRKT,DE,FL181 807580-1WCC	1.000 ea
BP5068BJ01	BRUSH, .187 X .187 X 1.00	1.000 ea
807580003AAB	BRKT,ODE180AC 807580-1WCC	1.000 ea
036000012HB	HHCS M6X12MM LONG PLATED	2.000 ea
036000040JB	HHCS,DE BRKT (M8-1.25X40MM PLTD.) AA	4.000 ea
418010006A	CAST,MPLATE,180-280,EX1,7BY	1.000 ea
036000012HB	HHCS M6X12MM LONG PLATED	3.000 ea
036620009AB	M8 EXTERNAL LK WASHER	1.000 ea
036310010FB	RHMS TERM/BLK MTG	2.000 ea
418057461B	PLATE, ENCODER	1.000 ea

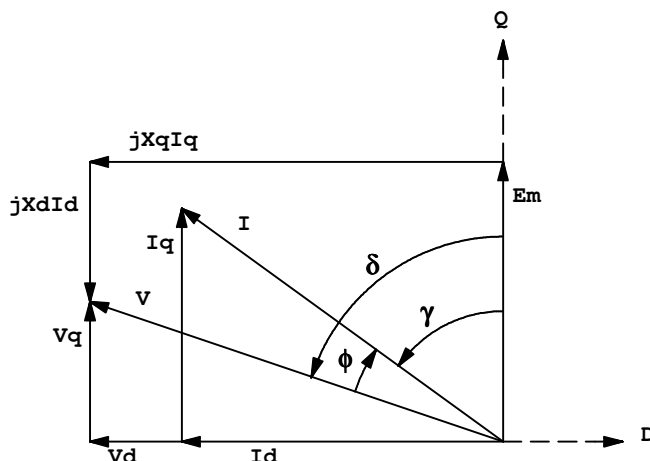
036320008CB	M2.5 SCREW	4.000 ea
418057056A	ADAPTER ENGLISH CAMER	1.000 ea
036500006AB	M4-0.7 METRIC HEX NUT	2.000 ea
065530000B	GASK	1.000 ea
075451000A	COVER, CONDUIT BOX	1.000 ea
406673002C	.75 CAP PLUG	2.000 ea
415000103G	TLUG	1.000 ea
422962051BW	STUB SHAFT	1.000 ea
800123015A	RESOLVER	1.000 ea
417733001A	GSK C/ BOX BASE	2.000 ea
418018074A	GROUND LABEL G100 METRIC 160 D.C.	1.000 ea
418057260A	SCREW PHILLIPS PAN HD	4.000 ea
418057373A	SCREW SHEET METAL	3.000 ea
613450001G	BLMTR EBM	1.000 ea
706320003A	CONDUIT BOX	1.000 ea
807505050B	SHROUD, FAN/BLOWER	1.000 ea
807505051A	GRILL, FAN COVER	1.000 ea
418057243A	GROOVE PIN	1.000 ea
807504052A	FL180 FRAME	1.000 ea
000640000P	TAG WINDING THERMOST	1.000 ea
004824007CQR	C2 PAINT SYSTEM MEDIUM GRAY CHARCOAL MET	0.100 ea
034180020EA	KEY 5/16X5/16X2-1/2 L	1.000 ea
LB1549	LABEL, BLANK 1.375 X 2.250 IMPRINTABLE	1.000 ea
004824007AB	PAINT,XT	0.100 ea

S.O. 0	VOLTS 460	TYPE IPM	STATOR RES.@ 25 °C 1.303
FRAME FL1831	AMPS 10.3	ENCLOSURE TEBC	OHMS (BETWEEN LINES)
HP 10	DUTY CONT	MAX SAFE RPM 7200	
BASE SPEED 1800	S.F. 1.0	WK ² (Lb-Ft ²) .46	
PHASE/HERTZ 3/60	AMB °C/INSUL 40/H	MAX INSTANTANEOUS OVERLOAD AMPS 30.9	

VARIABLE SPEED PERFORMANCE

HP	AMPS (rms)	RPM	GAMMA*	POWER FACT.	EFF.	VOLTS (L-L) (rms)	Em (L-N) (rms)	Lq (mH)	Ld (mH)
OpenCkt**	N/A	1800	5.0	N/A	N/A	N/A	196	N/A	N/A
OpenCkt, hot	N/A	1800	5.0	N/A	N/A	N/A	179	N/A	N/A
2.03	2.6	1800	28.5	98.1	90.5	382	179	164	23.8
4.57	5.2	1800	39.0	97.9	92.8	420	179	123	23.3
7.20	7.7	1800	44.2	97.4	93.8	439	179	100	22.7
10.0	10.3	1800	49.5	97.1	94.0	458	179	91.1	22.1

Remarks: TYPICAL DATA
 CONSTANT TORQUE 0-1800 RPM, CONSTANT POWER 1800-3000 RPM
 200% OVERLOAD BELOW BASE SPEED TAPERED TO 100% AT 3000 RPM



*Gamma is the current angle relative to counter emf, defined to be positive when current leads counter emf.

Equivalently, Gamma is positive when Id is negative.

**Data at 25°C - all other data at rated temperature

BALDOR

DR. BY	CD
CK. BY	RM
APP. BY	RM
DATE	11/23/09

IPM MOTOR
PERFORMANCE PM3923A
DATA

ISSUE DATE 11/23/09

S.O. 0	VOLTS 460	TYPE IPM	STATOR RES.@ 25 °C 1.303
FRAME FL1831	AMPS 10.3	ENCLOSURE TEBC	OHMS (BETWEEN LINES)
HP 10	DUTY CONT	MAX SAFE RPM 7200	
BASE SPEED 1800	S.F. 1.0	WK ² (Lb-Ft ²) .46	
PHASE/HERTZ 3/60	AMB °C/INSUL 40/H	MAX INSTANTANEOUS OVERLOAD AMPS 30.9	

CUSTOM MOTOR BLOCK PARAMETERS

Parameter Name	Value	Units	Description
Motor Rated HP	10.0	HP	Horsepower rating of the motor
Motor Rated Volt	460.0	V	Motor rated volts at full speed and load
Motor Rated Spd	1800.	RPM	Motor rated speed at full load
Motor Rated Freq	60.00	Hz	Motor rated speed frequency
Motor Rated Amps	10.3	A	Motor rated amps at full load and speed
Motor Peak Amps	30.9	A	Maximum current level that can be applied to motor
Stator R	.651	Ohms	Line-to-Neutral stator resistance
Voltage Constant	172.1	V/KRPM	RMS line-to-line EMF at 1000 RPM
Stator Ld	22.100	mH	D-axis stator inductance
Stator Lq	91.100	mH	Q-axis stator inductance
Lq @ 2.0 Hp	164.100	mH	Q-axis inductance at lowest partial load
Lq @ 4.6 Hp	122.600	mH	Q-axis inductance at mid partial load
Lq @ 7.2 Hp	100.100	mH	Q-axis inductance at highest partial load
Iq @ 2.0 Hp	2.3	A	Optimum Q-axis current at lowest partial load
Iq @ 4.6 Hp	4.0	A	Optimum Q-axis current at mid partial load
Iq @ 7.2 Hp	5.5	A	Optimum Q-axis current at highest partial load
Iq @ 10.0 Hp	6.7	A	Optimum Q-axis current at rated load



DR. BY	CD
CK. BY	RM
APP. BY	RM
DATE	11/23/09

**IPM MOTOR
PARAMETERS
DATA**

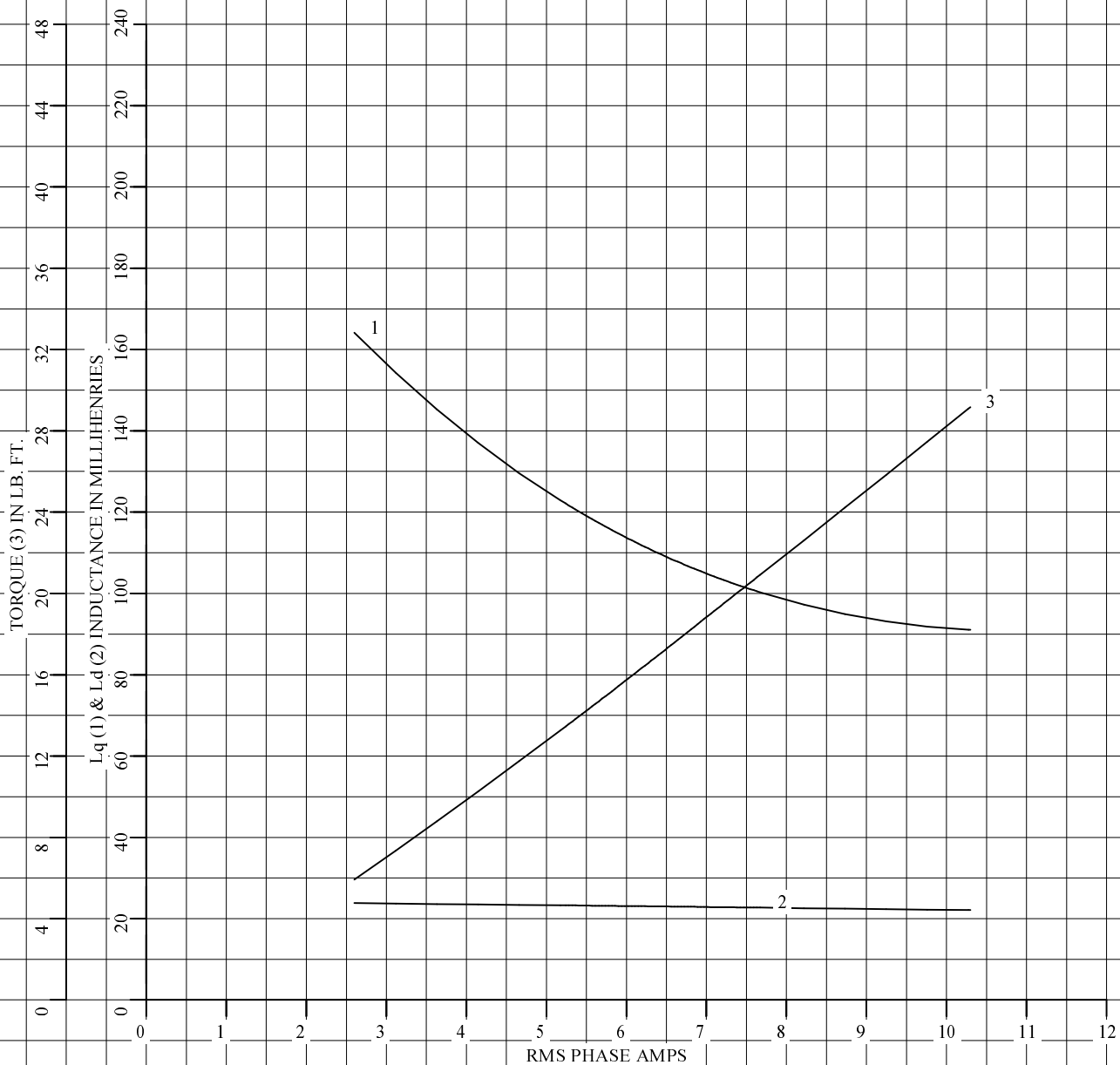
PM3923A

ISSUE DATE 11/23/09

S.O. 0	VOLTS 460	TYPE IPM	STATOR RES.@ 25 °C 1.303
FRAME FL1831	AMPS 10.3	ENCLOSURE TEBC	OHMS (BETWEEN LINES)
HP 10	DUTY CONT	MAX SAFE RPM 7200	
BASE SPEED 1800	S.F. 1.0	WK ² (Lb-Ft ²) .46	
PHASE/HERTZ 3/60	AMB °C/INSUL 40/H	MAX INSTANTANEOUS OVERLOAD AMPS 30.9	

Lq, Ld, & Torque vs. RMS Phase Amps

CONSTANT TORQUE 0-1800 RPM, CONSTANT POWER 1800-3000 RPM
200% OVERLOAD BELOW BASE SPEED TAPERED TO 100% AT 3000 RPM



REMARKS: TYPICAL DATA

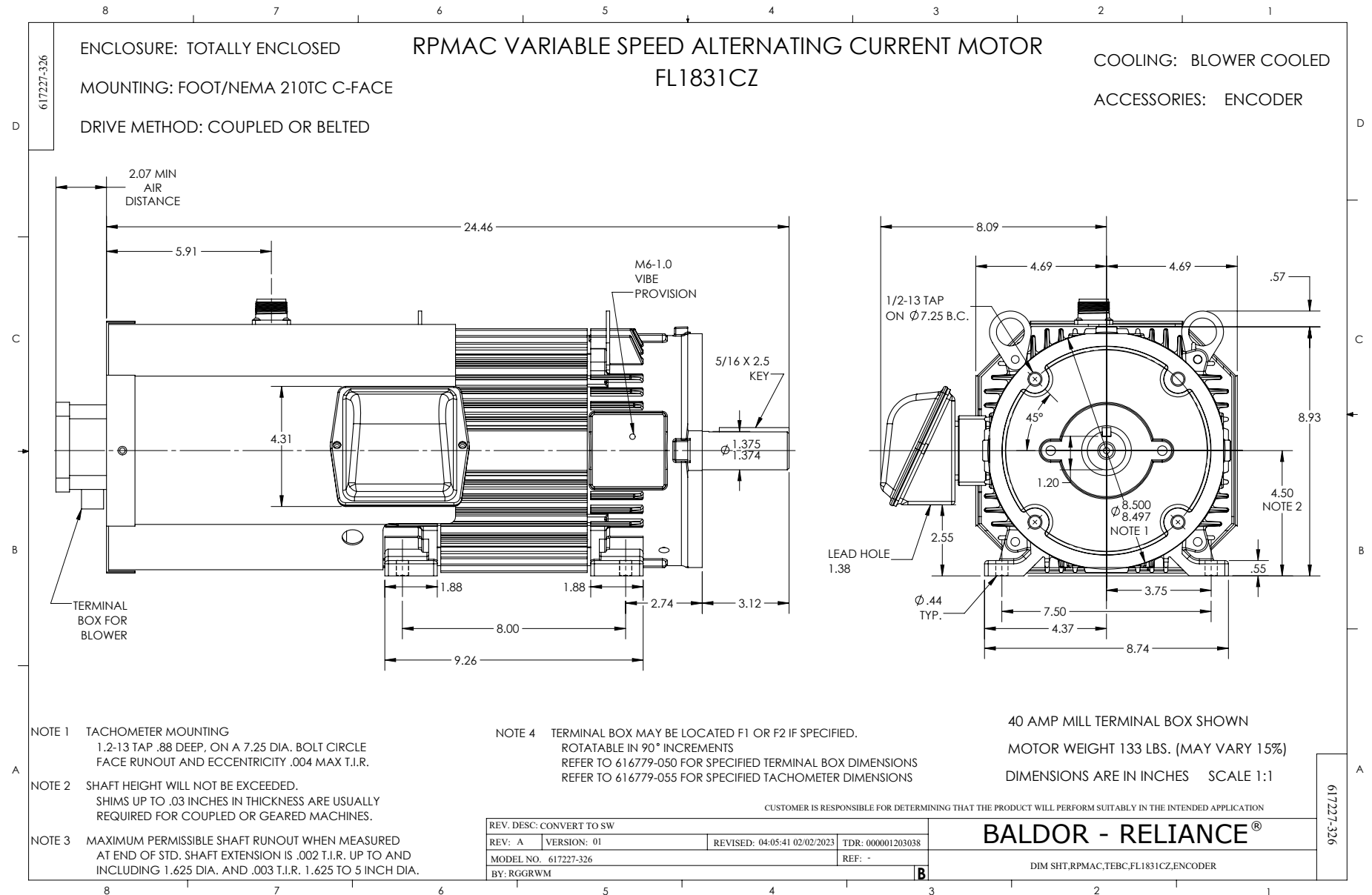
BALDOR

DR. BY	CD
CK. BY	RM
APP. BY	RM
DATE	11/23/09

**IPM MOTOR
PERFORMANCE
DATA**

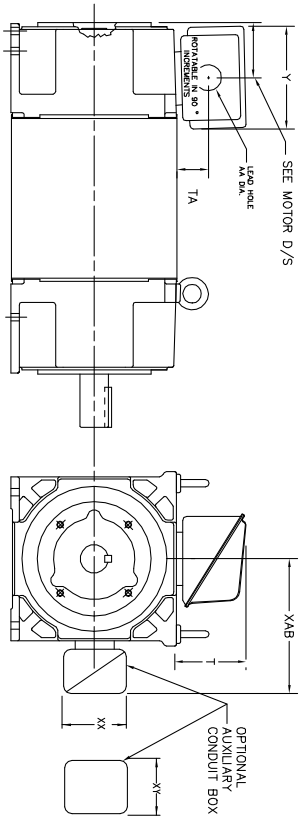
PM3923A

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INDUSTRIAL ALTERNATING CURRENT MOTORS
RPM AC

STEEL, CAST IRON, MILL AND TERMINAL BOARD CONDUIT BOX DIMENSIONS
NEMA FRAMES RL210 thru RL280 and IEC FRAMES RDL132 thru RDL180
NEMA FRAMES FL180 thru FL280 and IEC FRAMES FDL112 thru FDL180



FRAME	TYPE	TERMINAL STRIP	AMPS	C/BOX	Y	TA	T	AA
FL180	STEEL	N	40	706320003A	5.00	1.62	3.00	1.12
FL180	STEEL	Y/N	75	706320003A	6.12	2.36	4.38	1.75/2.00
FL180	STEEL	N	208	706320007A	6.62	2.00	7.00	2.50/2.00
FL180	CAST IRON	Y/N	208	706320004C	6.75	2.50	4.38	1.0/1.75
FL180 & FDL11	MILL	Y	100	706310056A	7.75	2.30	4.40	PG29/PG16

FL210 & RL210	STEEL	N	61	075452000B	6.34	2.00	4.12	1.75
FL210 & RL210	STEEL	N	121	075452001A	7.69	2.38	5.25	1.94
FL210 & RL210	STEEL	N	306	706320016A	9.00	4.12	8.44	4.59
FL210 & RL210	CAST IRON	N	110	075460062B	7.25	2.50	5.25	1.5 TAP
FL210 & RL210	MILL	Y	100	706310229A	7.75	2.30	4.40	PG29/PG16
FL210 & RL210	MILL	Y	160	706310056A	9.00	3.06	5.40	PG36/PG16
FL210 & RL210	MILL	Y/N	235	706310056B	11.42	4.00	6.72	2.50

FL250 & RL250	STEEL	N	61	075452000B	6.34	2.00	4.12	1.75
FL250 & RL250	STEEL	N	121	075452001A	7.69	2.38	5.25	1.94
FL250 & RL250	STEEL	N	306	706320016A	9.00	4.12	8.44	4.59
FL250 & RL250	CAST IRON	N	110	075460062B	7.25	2.50	5.25	1.5 TAP
FL250 & RL250	CAST IRON	N	210	706320013A	10.50	4.88	9.00	4.0 TAP
FL250 & RL250	MILL	Y	100	706310229A	7.75	2.30	4.40	PG29/PG16
FL250 & RL250	MILL	Y	160	706310056B	9.00	3.06	5.40	PG36/PG16
FL250 & RL250	MILL	Y/N	235	706310057A	11.42	4.00	6.72	2.50
FL250 & RL250	MILL	Y	235	706310063B	14.39	7.43	12.15	BLANK

FL280 & RL280	STEEL	N	160	706320029A	7.25	3.50	7.06	2.50
FL280 & RL280	STEEL	N	306	706320016A	9.00	4.12	8.44	4.59
FL280 & RL280	STEEL	N	500	702658001C	14.62	7.56	12.70	5.00
FL280 & RL280	CAST IRON	N	140	706320012B	9.25	4.81	8.56	3.0 TAP
FL280 & RL280	CAST IRON	N	210	706320013A	10.50	4.88	9.00	4.0 TAP
FL280 & RL280	CAST IRON	N	510	706320014D	15.00	7.56	12.81	5.0 TAP
FL280 & RL280	MILL	Y	100	706310056A	7.75	2.30	4.40	PG29/PG16
FL280 & RL280	MILL	Y	160	706310056B	9.00	3.06	5.40	PG36/PG16
FL280 & RL280	MILL	Y/N	235	706310057A	11.42	4.00	6.72	2.50
FL280 & RL280	MILL	Y	400	706310063B	14.39	7.43	12.15	BLANK

FRAME SIZE	YAB	XA	XY	PART NUMBER	FRAME SIZE	YAB	XA	XY	PART NUMBER
FL210/RL210/FL112	7.38	4.25	4.25	602007-26-A	FL210/RL210/FL112	10.88	8.00	8.00	706310-3-B
FL250/RL250/FL160	8.44	4.25	4.25	602007-26-A	FL250/RL250/FL160	11.88	8.00	8.00	706310-3-B
FL280/RL280/FL280/180	9.12	4.25	4.25	602007-26-A	FL280/RL280/FL280/180	12.62	8.00	8.00	706310-3-B

(1) 1" MIN. CONDUIT.
(2) 1/2" MIN. PIPE TAP.
(3) CUSTOMER TO PROVIDE HOLE PER CONDUIT.
(4) 2" DIA. DIA. OR 1" DIA. DIA. DIA.

TERMINAL BOX CAN BE ROTATED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, V-1, V-4, V-5, V-7,
OR C-1 MOUNTING IS SPECIFIED. BOX LOCATED ON TOP WHEN SPECIFIED.

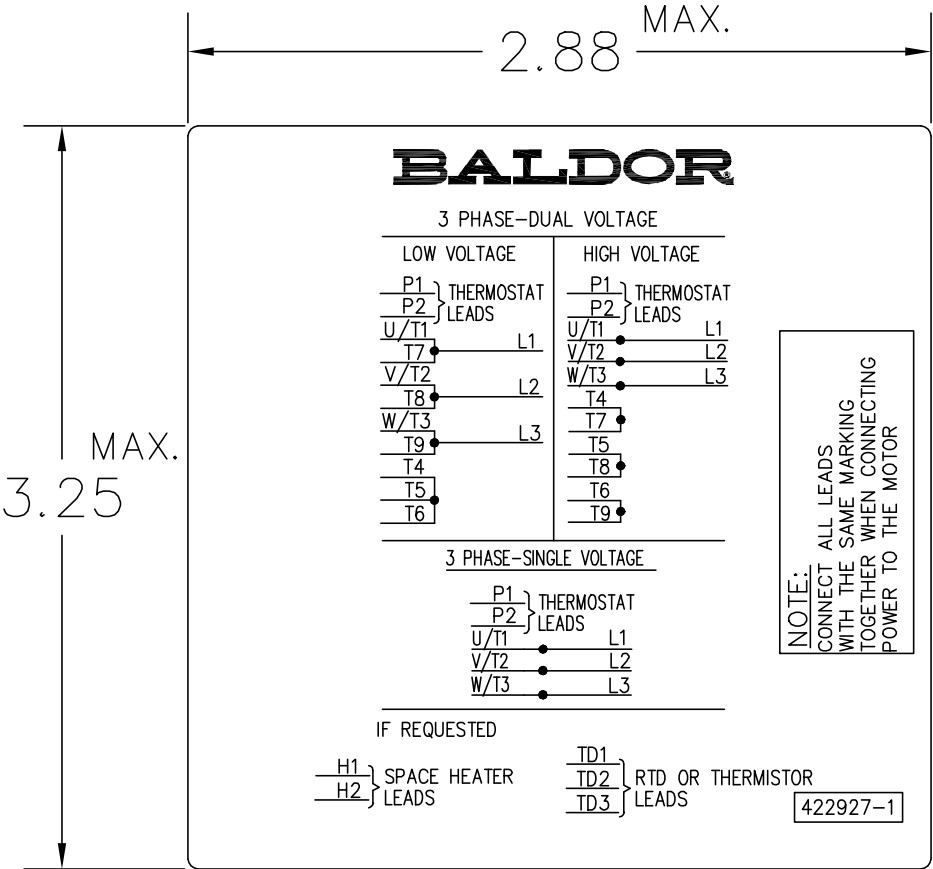
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION.

REV. DESC: ADD 706310-637 & 639 BOX	VERSION: 06	TDR: 000001180260
REV. LTR: F	REVISED: 11:08:56 10/26/2021	BY: RCGRWM
FILE: \\RGG\00003\692		
MTL: -		

BALDOR - RELIANCE®

DIM SHT NEMA RL210-RL280 FL180-FL280 IEC RDL132-RDL180

422927-001



NOTE:
DATA TO BE SIZED
SO THAT IT FITS INTO
MATERIAL DECAL
DIMENSIONS. MAKE
LETTERS & NUMBERS
AS LARGE AS POSSIBLE.

MATERIAL: CERAMATIC DGF-P4
PERMA GRIP ADHESIVE

ALL LETTERS, NUMBERS
AND LINES TO BE BLACK
ON WHITE BACKGROUND.

422927-001

REV. DESC: CHANGE BACKGROUND COLOR FROM GOLD TO WHITE		
REV. LTR: B	VERSION: 02	TDR: 000000788708
FILE: \RGG\00000\203		REVISED: 08:09:29 03/04/2013
MTL: -		BY: RGGWT

BALDOR
EXTERNAL CONNECTION LABEL
SH 1 of 1