

ABB BALDOR RELIANCE III

Customer information packet

ZDPM21050-BV

50HP, 1800, 460V, FL2168, TEBC, F3

Specifications

Enclosure	TEBC
Frame	FL2168Z
Frame Material	Exposed Laminations
Frequency	60.00 Hz
Output @ Frequency	50.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	1800 RPM @ 60 HZ
Voltage @ Frequency	460.0 V @ 60 HZ
Agency Approvals	CCSA US
Auxiliary Box	NO AUXILLARY BOX
Base Indicator	Rigid
Bearing Grease Type	Polyrex EM (-20F +300F)
Current @ Voltage	53.400 A @ 460.0 V
Duty Rating	CONT
Feedback Device	RESOLVER
Frame Prefix	FL
Heater Indicator	No Heater
High Voltage Full Load Amps	53.4 a
Insulation Class	H
IP Rating	NONE
Motor Standards	NEMA
Mounting Arrangement	F3
Overall Length	34.56 IN
Product Family	General Industrial
Pulley End Bearing Type	Ball
Pulley Face Code	Standard
Service Factor	1.00
Shaft Diameter	1.875 IN
Shaft Ground Indicator	Shaft Grounding
Shaft Rotation	Reversible
Speed	1800 rpm
Starting Method	Full Voltage

Part Detail

Revision	A
Type	AC
Mech. spec.	
Base	
Status	PRD/A
Elec. spec.	PM3928A
Layout	617521-335
Eff. date	01-19-2022
CD Diagram	422927-001
Poles	04
Leads	
Proprietary	False
Created date	11-10-2021

Thermal Device - Bearing	None
Thermal Device - Winding	Normally Closed Thermostat

Nameplate

000613006MY									
	DUTY	HP	RPM	AMPS	VOLTS	HZ			
	CONT	50	1800		53.4	460		60	
	CONT	50	3000		51.1	460		100	
CAT.NO.	ZDPM21050-BV			SPEC. NO.	F21-A000-0467				
SER.NO				FR	FL2168Z	INSUL	H		
PH.	3	MAX SAFE SPEED			5000	AMB.	40	MIN. AMB.	-25
DESIGN NO.	PM3928A			TYPE		ENCL.	TEAO-BC		
S.F.	1.00			D.E. BRG.	50BC03JPP30A				
ENCL MOD				O.D.E. BRG.	45BC02JPP30A				
	IP44								

000692000VY

MEAS OPEN CIRCUIT VOLTAGE

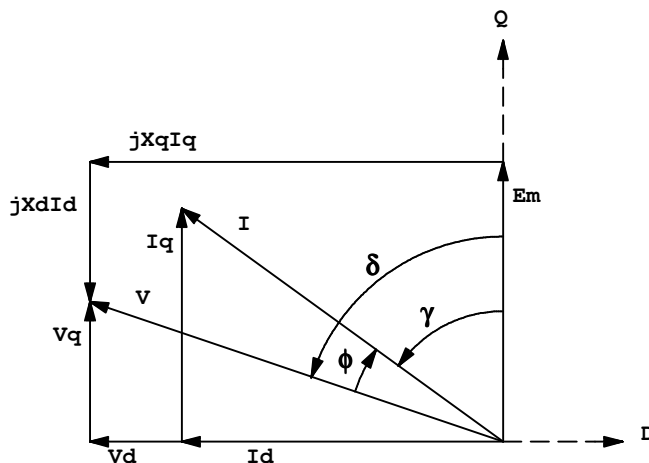
IS VOLTS AT RPM.

S.O. 0	VOLTS 460	TYPE IPM	STATOR RES. @ 25 °C .1747
FRAME FL2168	AMPS 53.7	ENCLOSURE TEBC	OHMS (BETWEEN LINES)
HP 50	DUTY CONT	MAX SAFE RPM 5000	
BASE SPEED 1800	S.F. 1.0	WK ² (Lb-Ft ²) 2.60	
PHASE/HERTZ 3/60	AMB °C/INSUL 40/H	MAX INSTANTANEOUS OVERLOAD AMPS 161.1	

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	162	N/A	N/A
10.6	13.4	1800	31.8	96.4	93.6	377	162	36.9	5.90
23.5	26.9	1800	40.1	95.0	94.7	419	162	26.3	5.70
36.5	40.3	1800	44.3	93.4	95.0	440	162	20.9	5.60
50.0	53.7	1800	48.5	92.0	94.8	460	162	18.4	5.40

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

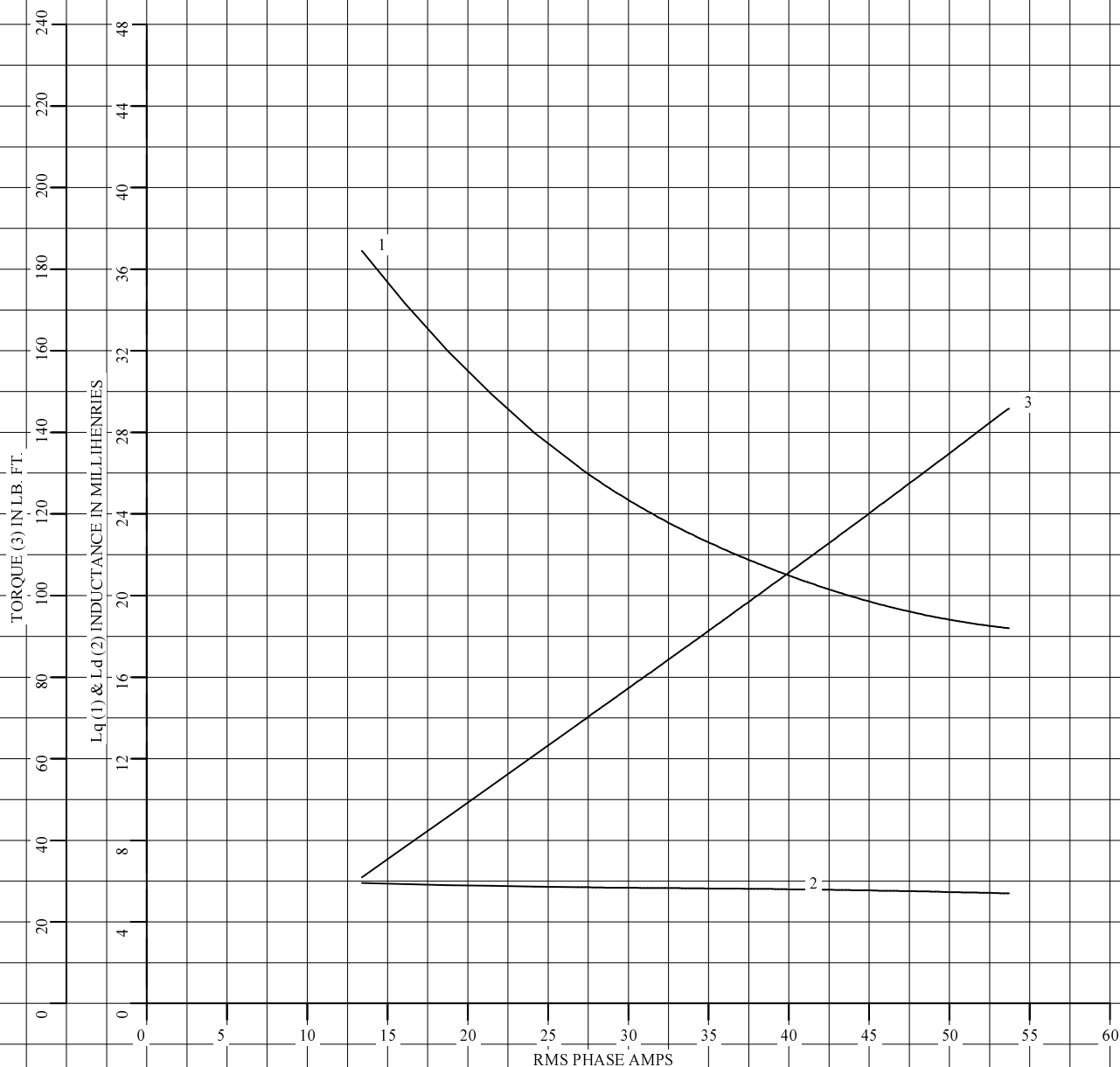
**IPM MOTOR
 PERFORMANCE DATA** PM3928A

ISSUE DATE 11/23/09

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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

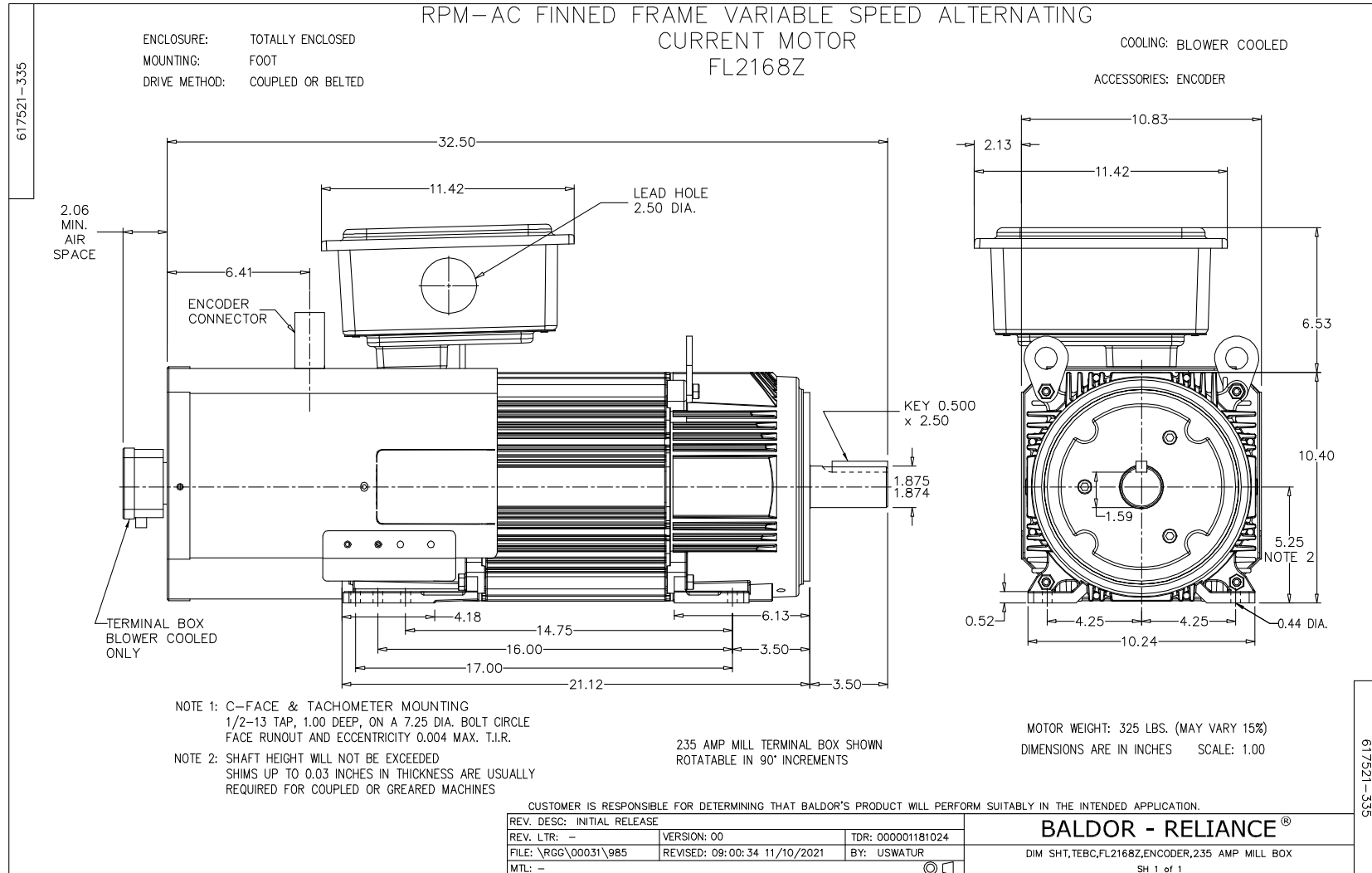
BALDOR

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

**IPM MOTOR
PERFORMANCE
DATA**

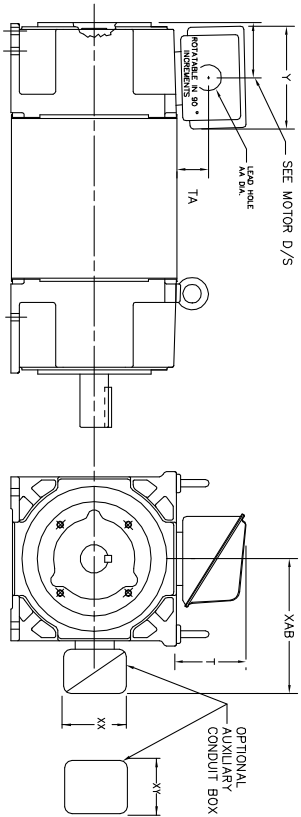
PM3928A

ISSUE DATE 11/23/09



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	100	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	XAB	XX	XY	PART NUMBER	FRAME SIZE	XAB	XX	XY	PART NUMBER
FL210/FL180/RL210/RL182	7.38	4.25	4.25	602007-26-A	FL210/FL180/RL210/RL132	10.88	8.00	8.00	706310-3-B
FL250/FL160/RL250/RL160	8.44	4.25	4.25	602007-26-A	FL250/FL160/RL250/RL160	11.88	8.00	8.00	706310-3-B
FL280/FL180/RL280/RL180	9.12	4.25	4.25	602007-26-A	FL280/FL180/RL280/RL180	12.62	8.00	8.00	706310-3-B

(1) 1"AW CONDUIT.
(2) 1"AW PIPE TAP.
(3) CUSTOMER TO PROVIDE HOLE PER CONDUIT.
(4) E-ON-5A OR 1" TAP ON-4C

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.

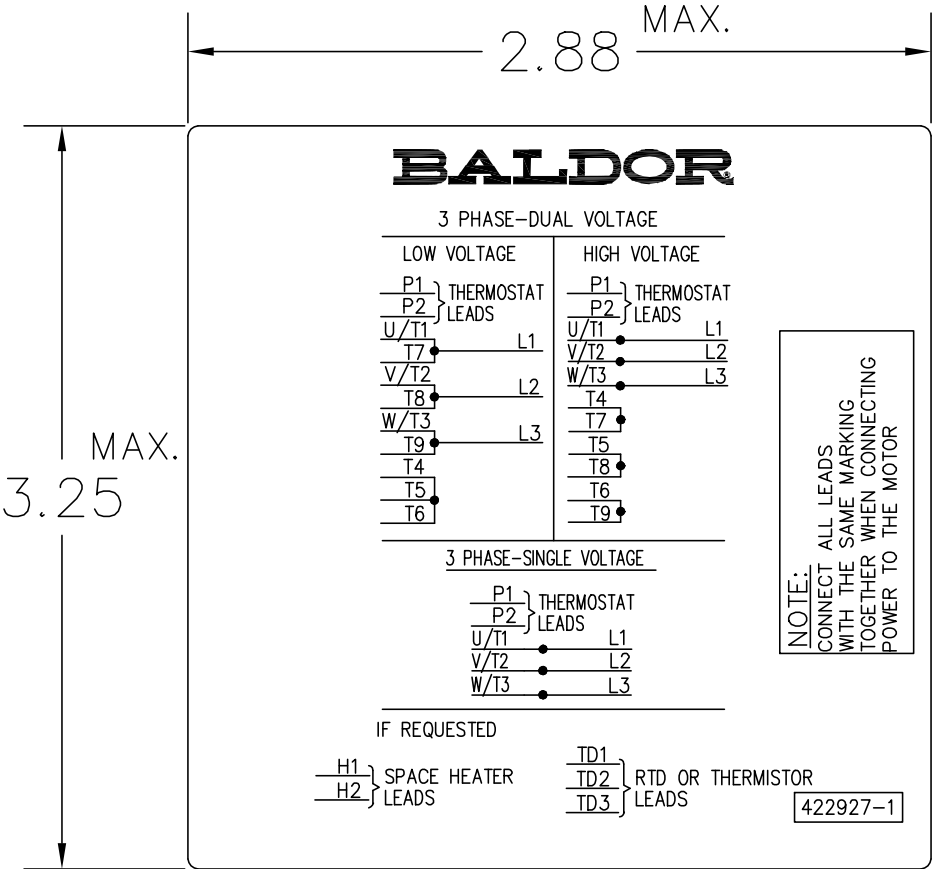
REV. DESC: ADD 706310-637 & 639 BOX	VERSION: 06	TDR: 000001180260
REV. LTR: F	REVISED: 11:08:56 10/26/2021	BY: RCGRWM
FILE: \\RGG\00003\692		
MTL: -		

BALDOR - RELIANCE®

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

SH 1 of 1

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