

ABB BALDOR RELIANCE III

Customer information packet

ZDVSM2334T

20HP, 1770RPM, 3PH, 60HZ, 256TC, 0960M, TEFC, F

Class - None

Division - Not Applicable

Specifications

Enclosure	TEFC
Frame	256TC
Frame Material	Iron
Frequency	60.00 Hz
Haz Area Class and Group	None
Haz Area Division	Not Applicable
Motor Letter Type	Three Phase
Output @ Frequency	20.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	1800 RPM @ 60 HZ
Voltage @ Frequency	230.0 V @ 60 HZ 460.0 V @ 60 HZ
Agency Approvals	CSA UR
Ambient Temperature	40 °C
Auxiliary Box	NO AUXILLARY BOX
Auxiliary Box Lead Termination	None
Base Indicator	Rigid
Bearing Grease Type	Polyrex EM (-20F +300F)
Blower	None
Current @ Voltage	52.000 A @ 208.0 V 48.000 A @ 230.0 V 24.000 A @ 460.0 V
Design Code	A
Drip Cover	No Drip Cover
Duty Rating	CONT
Efficiency @ 100% Load	93.0 %
Electrically Isolated Bearing	Not Electrically Isolated
Feedback Device	ENCODER
Front Face Code	Standard
Front Shaft Indicator	None
Heater Indicator	No Heater

Part Detail

Revision	Q
Type	AC
Mech. spec.	09K343
Base	
Status	PRD/A
Elec. spec.	09WGT459
Layout	09LYK343
Eff. date	08-28-2025
CD Diagram	CD0180
Poles	04
Leads	9#10
Proprietary	False
Created date	11-27-2017

High Voltage Full Load Amps	24.0 a
Insulation Class	F
Inverter Code	Inverter Duty
KVA Code	J
Lifting Lugs	Standard Lifting Lugs
Locked Bearing Indicator	Locked Bearing
Max Speed	2700 rpm
Motor Lead Exit	Ko Box
Motor Lead Quantity/Wire Size	9 @ 10 AWG
Motor Lead Termination	Flying Leads
Motor Standards	NEMA
Motor Type	0960M
Mounting Arrangement	F1
Number of Poles	4
Overall Length	26.83 IN
Power Factor	83
Product Family	General Purpose
Pulley End Bearing Type	Ball
Pulley Face Code	C-Face
Pulley Shaft Indicator	Standard
Rodent Screen	None
Service Factor	1.00
Shaft Diameter	1.625 IN
Shaft Extension Location	Pulley End
Shaft Ground Indicator	No Shaft Grounding
Shaft Rotation	Reversible
Shaft Slinger Indicator	Shaft Slinger
Speed	1770 rpm
Speed Code	Single Speed
Starting Method	Direct on line
Thermal Device - Bearing	None
Thermal Device - Winding	Normally Closed Thermostat
Vibration Sensor Indicator	No Vibration Sensor
Winding Thermal 1	None

Winding Thermal 2

None

Nameplate

NP3304L									
CAT NO	ZDVSM2334T								
SPEC.	09K343T459Z1								
FRAME	256TC			HP	20 TE				
VOLTS	230/460								
MAG CUR	20.8/10.4				FLA	48/24			
RPM	1770			RPM MAX	2700				
HZ	60	PH	3	CLASS	F				
SER.F.	1.00			SL HZ	1				
NEMA-NOM-EFF	93	WK2	2.62						
RATING	40C AMB-CONT								
DE BRG	6309	ODE BRG	6208						
CC	010A	SER.NO							
	1.5:1 CHP PWM								
	1000:1 CT, 1000:1 VT								

Parts List

Part number	Description	Quantity
SA348222	SA 09K343T459Z1	1.000 ea
RA336774	RA 09K343T459Z1	1.000 ea
09FN3001D01SP	EXTERNAL FAN, PLASTIC (COMES W/SCREW FRO	1.000 ea
09CB3003	CB W/1.75" DIA LD HL - 37, 39, 307 & 309	1.000 ea
09GS1000	GASKET-CONDUIT BOX, 1/16 THICK LEXIDE	1.000 ea
51XW2520A12	.25-20 X .75, TAPTITE II, HEX WSHR SLTD	4.000 ea
HW1001A25	LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I	2.000 ea
WD1000B16	T&B CX70TN OR L70P TERMINAL LUG	1.000 ea
59XW2520G07	.25-20X.44,HEX SER WSHR,TAPTITE 2,GREEN	1.000 ea
09EP1100A14	FREP ASSM, (FOR INTRL ROUTING PURPOSE)	1.000 ea
HA3400A33	STUD- 3/8-16 X 4.96 HEX	4.000 ea
HW5100A08	W3118-035 WVY WSHR (WB)	1.000 ea
10XN2520K28	1/4-20 X 1.75" HX HD SCRWGRADE 5, ZINC P	2.000 ea
10XN2520K36	1/4-20 X 2.25" HX HD SCRWGRADE 5, ZINC P	4.000 ea
HW1001A25	LOCKWASHER 1/4, ZINC PLT .493 OD, .255 I	4.000 ea
09EP1300A12	ENDPLATE, MACH	1.000 ea
10XN3816K28	3/8-16 X 1.75 HEX HD CAP SCREW, GRADE 5	4.000 ea
HW1001A38	LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I	4.000 ea
HW4600B44	V-RING SLINGER 1.500 X 1.810 X .28 VITON	1.000 ea
HW1001A38	LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I	4.000 ea
XY3816A12	3/8-16 FINISHED NUT W/SERRATIONS	4.000 ea
09FH1000A38	FAN HSG, W/1.75 BORE & ENCODER CVR MTG	1.000 ea
HW1001A38	LOCKWASHER 3/8, ZINC PLT .688 OD, .382 I	4.000 ea
HA6881	BEI HS35 THRU SHAFT ENCODER PROTECTIVE C	1.000 ea
10XN1032K12	10-32 X .75 HD, GRADE 5	2.000 ea
HW1001A10	WASHER, #10 SPLT LK, ZN X	2.000 ea
HW1000A10	#10 FLAT WASHER (SAE)	2.000 ea
09CB3501SP	CONDUIT BOX LID FOR 09CB3001 & 09CB3002	1.000 ea
09GS1013SP	GS FOR 09CB3501, 12CB1500 & 12CB1503 LID	1.000 ea
51XW2520A12	.25-20 X .75, TAPTITE II, HEX WSHR SLTD	2.000 ea
HW2501G25	KEY, 3/8 SQ X 2.875	1.000 ea

HW4500A05	1669B ALEM/UNIV860 GR FTG X	1.000 ea
HW4500A17	317400 ALEMITE GREASE RELIEF	1.000 ea
HA4054	SHORT T-DRAIN FITTING, .125" N.P.T.	1.000 ea
HA4051A00	PLASTIC CAP FOR GREASE FITTING	1.000 ea
MJ1000A02	GREASE, POLYREX EM EXXON	0.080 lb
HW4500A03	GREASE FITTING, .125 NPT 1610(ALEMITE) 8	1.000 ea
HW4500A17	317400 ALEMITE GREASE RELIEF	1.000 ea
HA4054	SHORT T-DRAIN FITTING, .125" N.P.T.	1.000 ea
HA4051A00	PLASTIC CAP FOR GREASE FITTING	1.000 ea
HW2500A25	WOODRUFF KEY USA #1008 #BLOW CARBON STEE	1.000 ea
OE5001A80SP	ENCDR KIT TENV W/OEHS35A10 W/BLIND SHAFT	1.000 ea
MG1025N19	WILKOFAS, 778.50, RELIANCE BLUE-GREEN 8	0.050 ga
85XU0407S04	4X1/4 U DRIVE PIN STAINLESS	2.000 ea
LB1624	COMBINED WARNING LABEL, ISO/ANSI PICTOGR	1.000 ea
LC0181	CONNECTION LABEL	1.000 ea
NP3304L	ALUM VEC UL CSA CC (W/OUT DESIGN FIELD)	1.000 ea
40PA1005	PACKAGING GROUP, 09 STD	1.000 ea
LD7020E09	LEAD SET, 10AWG, 9 LEAD, 20" LONG LEADS	1.000 ea
MN416A01	TAG-INSTAL-MAINT no wire (2500 bx)11/25	1.000 ea

ABB BALDOR/460 RELIANCE III		CUSTOMER INFORMATION PACKET		MAX SAFE RPM 2700 Base Volt 460 NL AMPS 10.40 Slips(HZ) 0.94 WK2 () 0.000	WYE CONN, EQ. CKT, OHMS PER PHASE (BASE RATING, 20C) R1 0.167 X1 0.876 R2 0.159 X2 1.160 XM 30.000
HP 20 HP					
BASE SPEED 1772					
PHASE/HZ 3/60					

Rated Full Load Data

	RPM	HP	Torque	Volts	Freq-Hz	Amps
Base Speed	1771.9	20.0	59.3	460	60	24.0
Max Speed	2657	20.0	39.5	460	90	23.1
Min Speed	0	0.0	59.3	17.91	0.94	24.0

Load Performance at Base Speed

	RPM	HP	Torque	Volts	Freq-Hz	Amps
No Load	1798.9	0.0	0.0	460	60	10.4
1/4	1793.2	5.0	14.7	460	60	11.8
1/2	1786.4	10.0	29.4	460	60	15.0
3/4	1779.1	15.0	44.3	460	60	19.2
Full Load	1771.9	20.0	59.3	460	60	24.0
O/L	1741	40.1	121.0	460	60	48.7

Blower Data	Volts	Ph/Hz	FL Amps	LR Amps	Frame	CFM

Remarks: Calculated Data
Vector PWM Inverter Duty

BALDOR
A MEMBER OF THE ABB GROUP

DR BY USBRRAN1
CK BY
APP BY USBRRAN1
DATE 11/27/2017

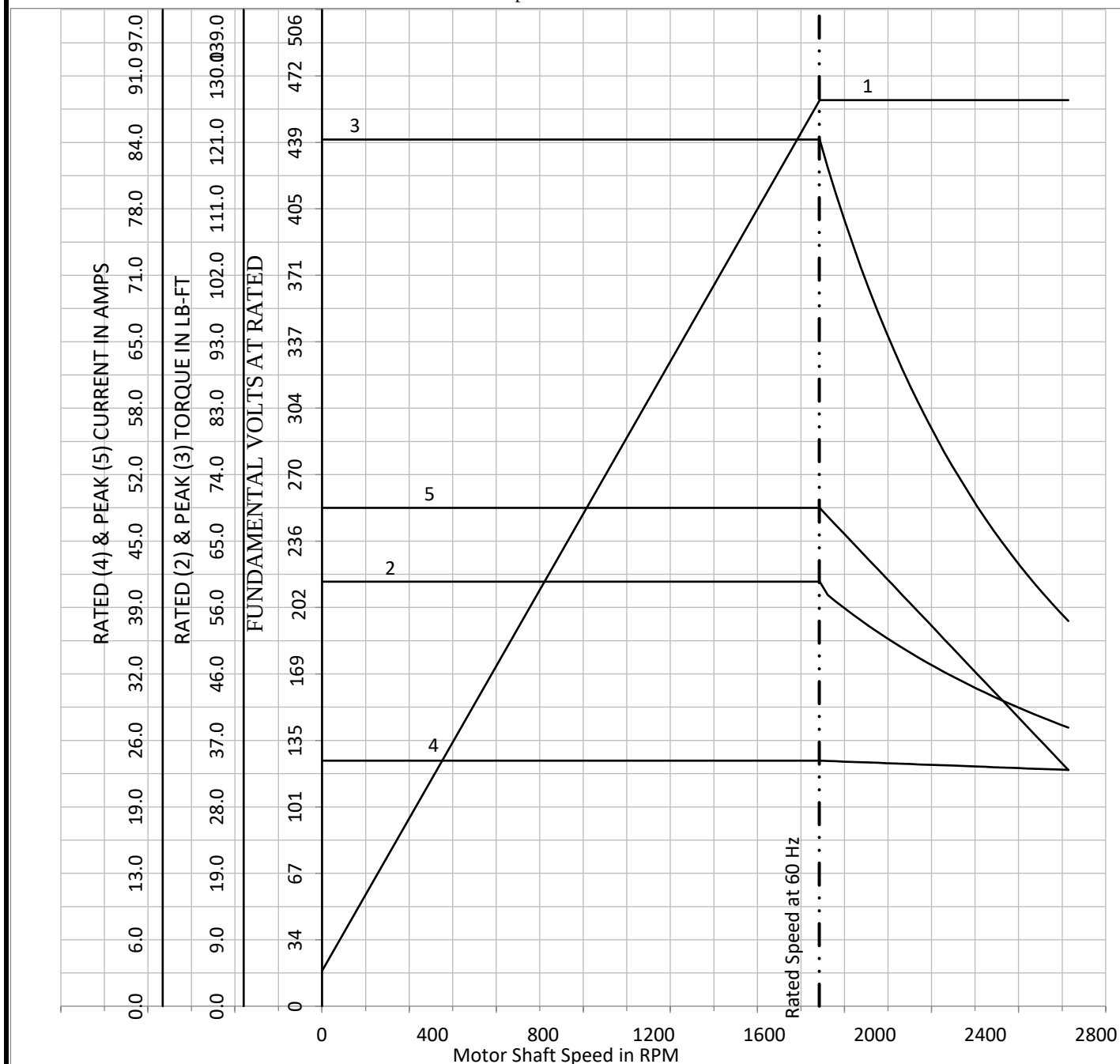
**A-C MOTOR
PERFORMANCE
CURVES**
09WGT459
Record: 67965

HP 20 HP
 BASE SPEED 1771.90002
 PHASE/HZ 3/60

MAX SAFE RPM 2700
 VSM2334T - 20HP, 1770RPM, 3PH, 60HZ, 256TC, 0960M, TEFC, F
 Base Volt 460
 NL AMPS 10.40
 Slips(HZ) 0.94
 WK2 () 0.000

WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)
 R1 0.167 X1 0.876
 R2 0.159 X2 1.160
 XM 30.000

Vector PWM Inverter Duty
 Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only



DR BY USBRRAN1
 CK BY
 APP BY USBRRAN1
 DATE 11/27/2017

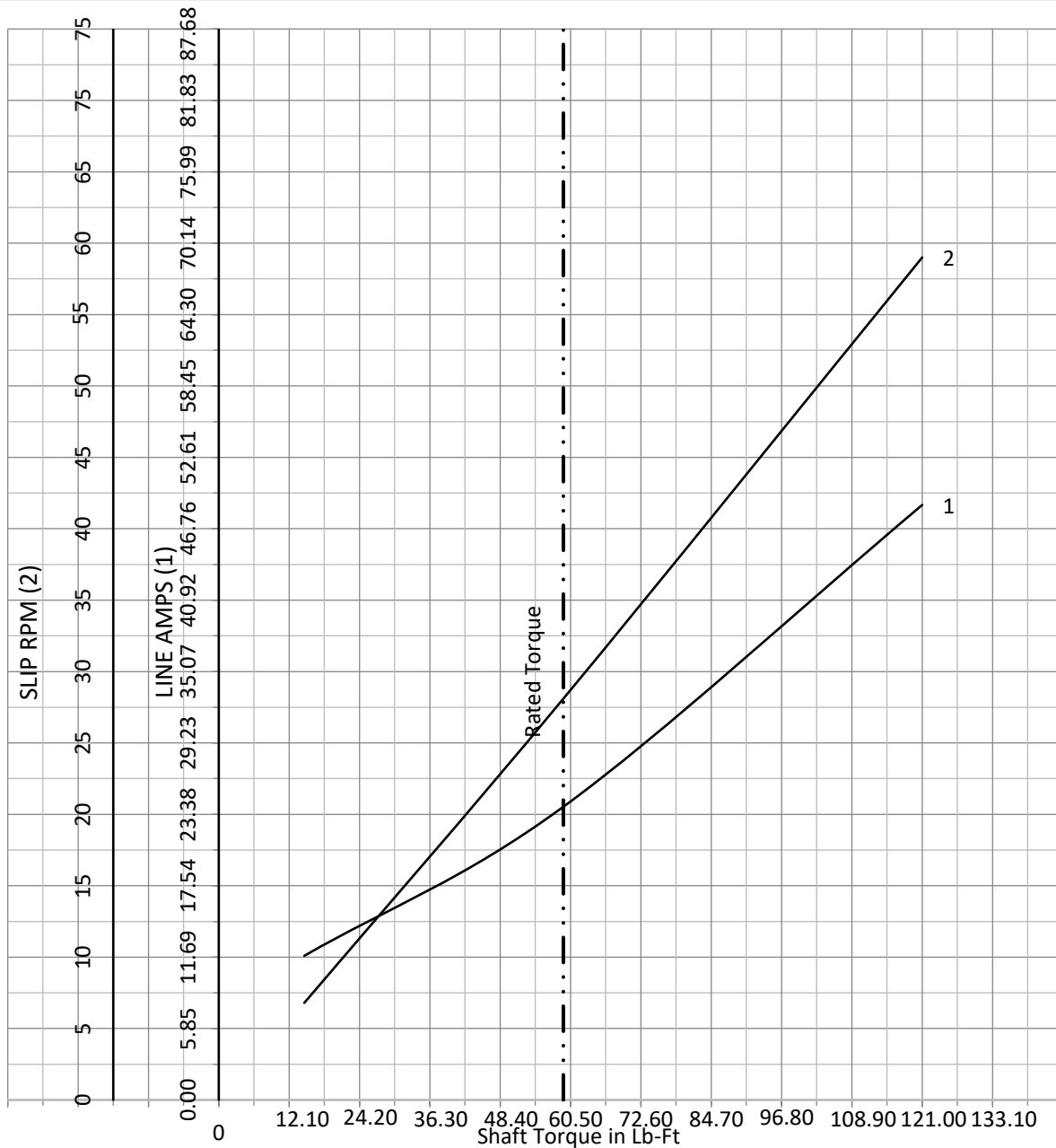
**A-C MOTOR
 PERFORMANCE
 CURVES**

09WGT459

Record: 67965

ABB BALDOR RELIANCE		333/460 20 HP		CUSTOMER INFORMATION PACKET		MAX SAFE RPM 2700		WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)			
HP 20 HP		BASE SPEED 1771.900024		PHASE/HZ 3/60		Base Volt 460		R1	0.167	X1	0.876
						NL AMPS 10.40		R2	0.159	X2	1.160
						Slips(HZ) 0.94				XM	30.000
						WK2 () 0.000					

Vector PWM Inverer Duty
Vaiable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only

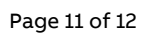


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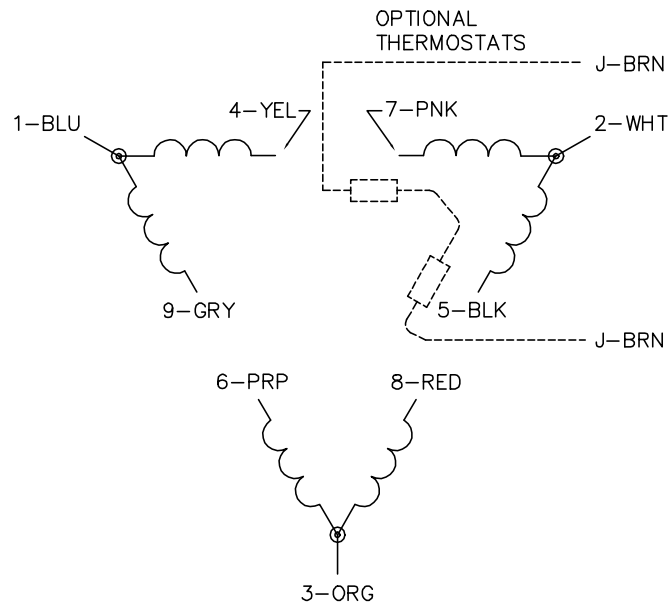
**A-C MOTOR
PERFORMANCE
CURVES**

09WGT459

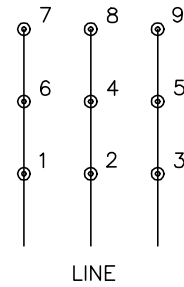
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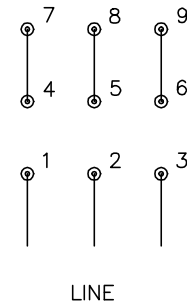
CD0180



LOW VOLTAGE
(2D)



HIGH VOLTAGE
(1D)



NOTES:

1. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
2. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
3. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY BE A MULTIPLE OF THOSE SHOWN ABOVE.
4. LEAD COLORS ARE OPTIONAL. LEADS MUST ALWAYS BE NUMBERED AS SHOWN.

REV. DESC: ADD CLASS CONN00000007

REV. LTR: D

VERSION: 01

TDR: 000001099922

FILE: \AAA\00005\148

REVISED: 10: 25: 29 02/19/2019

BY: ENBRIRO

MTL: -



BALDOR - RELIANCE®

3PH, DV, 9 LEADS, DELTA CONNECTION

SH 1 of 1

CD0180