

# **ABB BALDOR RELIANCE III**

---

## **Customer information packet**

SUM72004-4

20HP, 1750RPM, 3PH, 60HZ, 210TY, XPNV, V1

Class - CLI GP C,D

Division - Not Applicable

**Specifications**

<b>Enclosure</b>	XPNV
<b>Frame</b>	210TY
<b>Frame Material</b>	Iron
<b>Frequency</b>	60.00 Hz
<b>Haz Area Class and Group</b>	CLI GP C,D
<b>Haz Area Division</b>	Not Applicable
<b>Motor Letter Type</b>	Three Phase
<b>Phase</b>	3
<b>Agency Approvals</b>	CCSA US
<b>Base Indicator</b>	Rigid
<b>Bearing Grease Type</b>	Polyrex EM (-20F +300F)
<b>Cable Length</b>	25 FOOT
<b>Design Code</b>	B
<b>Drip Cover</b>	No Drip Cover
<b>Duty Rating</b>	CONT
<b>Haz Area Temp Code</b>	T3C
<b>Heater Indicator</b>	No Heater
<b>Insulation Class</b>	F
<b>Inverter Code</b>	Not Inverter
<b>IP Rating</b>	IP68
<b>KVA Code</b>	H
<b>Lifting Lugs</b>	Standard Lifting Lugs
<b>Motor Standards</b>	NEMA
<b>Motor Type</b>	M
<b>Mounting Arrangement</b>	V1
<b>Number of Poles</b>	4
<b>Product Family</b>	Pump - Centrifugal
<b>Pulley End Bearing Type</b>	Ball
<b>Pulley Face Code</b>	Standard
<b>Service Factor</b>	1.15
<b>Shaft Diameter</b>	1.437 IN
<b>Shaft Rotation</b>	Reversible

**Part Detail**

<b>Revision</b>	B
<b>Type</b>	AC
<b>Mech. spec.</b>	
<b>Base</b>	
<b>Status</b>	PRD/A
<b>Elec. spec.</b>	78234
<b>Layout</b>	619738-019
<b>Eff. date</b>	12-16-2024
<b>CD Diagram</b>	
<b>Poles</b>	///
<b>Leads</b>	
<b>Proprietary</b>	False
<b>Created date</b>	07-12-2024

<b>Shaft Slinger Indicator</b>	No Slinger
<b>Speed Code</b>	Single Speed
<b>Starting Method</b>	Direct on line
<b>Thermal Device - Winding</b>	Normally Closed Thermostat

**Nameplate**

000613007MS									
<b>CAT.NO.</b>	SUM72004-4		<b>SPEC NO.</b>	S21-CWS0-0305					
<b>SER.NO.</b>			<b>FRAME SIZE</b>	210TY					
	<b>HP</b>	<b>RPM</b>	<b>VOLTS</b>	<b>AMPS</b>	<b>HZ</b>	<b>S.F.</b>			
	20	1750	230/460	54.2/27.09	6-60	1.00			
	20	1750	230/460	54.2/27.09	60	1.15			
<b>CONSTANT HP RPM</b>		@	<b>HZ</b>	<b>CODE</b>	H				
<b>TYPE</b>	P	<b>INSUL.CLASS</b>	F	<b>TORQUE</b>	10:1_VT		<b>DESIGN</b>	A	
<b>D.E. BRG.</b>	60BC02JPP30A		<b>ENCL</b>	TENV	<b>DUTY</b>	15 MIN	<b>PH</b>	3	
<b>O.D.E. BRG.</b>	30BC02JPG30A		<b>MOTOR WEIGHT</b>	485	<b>AMB</b>	40			
FINAL CONN VOLTAGE = 460 *15									
MIN IN AIR ;SUB. IN SEWAGE /									
WATER ONLY									

---

**000613007RC**

---

<b>CLASS I GROUP</b>	C D X	<b>NO.</b>	
<b>CLASS II GROUP</b>	X X X		
<b>OPERATING TEMP CODE</b>	T3C		

---

---

**000692000MB**

---

SUITABLE FOR OPERATION ON PWM
INVERTER EQUIPPED WITH IGBT
DEVICES AND CAPABLE OF
CARRIER
FREQUENCY OF 2 KHZ MINIMUM

**000613007MS**

<b>CAT.NO.</b>	SUM72004-4	<b>SPEC NO.</b>	S21-CWS0-0305			
<b>SER.NO.</b>		<b>FRAME SIZE</b>	210TY			
	<b>HP</b>	<b>RPM</b>	<b>VOLTS</b>	<b>AMPS</b>	<b>HZ</b>	<b>S.F.</b>
	20	1750	230/460	54.2/27.09	6-60	1.00
	20	1750	230/460	54.2/27.09	60	1.15
<b>CONSTANT HP RPM</b>		@	<b>HZ</b>	<b>CODE</b>	H	
<b>TYPE</b>	P	<b>INSUL.CLASS</b>	F	<b>TORQUE</b>	10:1_VT	<b>DESIGN</b> A
<b>D.E. BRG.</b>	60BC02JPP30A	<b>ENCL</b>	TENV	<b>DUTY</b>	15 MIN	<b>PH</b> 3
<b>O.D.E. BRG.</b>	30BC02JPG30A	<b>MOTOR WEIGHT</b>	485	<b>AMB</b>	40	
	FINAL CONN VOLTAGE = 460 *15					
	MIN IN AIR ;SUB. IN SEWAGE /					
	WATER ONLY					

**AC Induction Motor performance data**

Record #78234 - Typical performance - not guaranteed values

Winding	07WGA0004
Type	0750M
Enclosure	XPNV

Nameplate data

Rated Output			20
Volts			230/460
Full Load Amps			54.2/27.1
R.P.M.			1750
Hz	60	Phase	3
KVA Code			H
S.F.			1.15
NEMA Nom. Eff.	91	Power Factor	76
Duty			15 MIN
S.F. Amps			

460 V, 60 Hz:

High Voltage Connection

Full Load Torque	59.8 LB-FT
Start Configuration	direct on line
Breakdown Torque	147 LB-FT
Pull-up Torque	95.75 LB-FT
Locked-rotor Torque	106 LB-FT
Starting Current	168 A
No-load Current	13.63
Line-line Res. @ 25°C	0.614 Ω
Temp. Rise @ Rated Load	40°C
Temp. Rise @ S.F. Load	52°C
Locked-rotor Power Factor	38
Rotor inertia	1.23 lb-ft <sup>2</sup>

Load Characteristics 460 V, 60 Hz, 20 HP

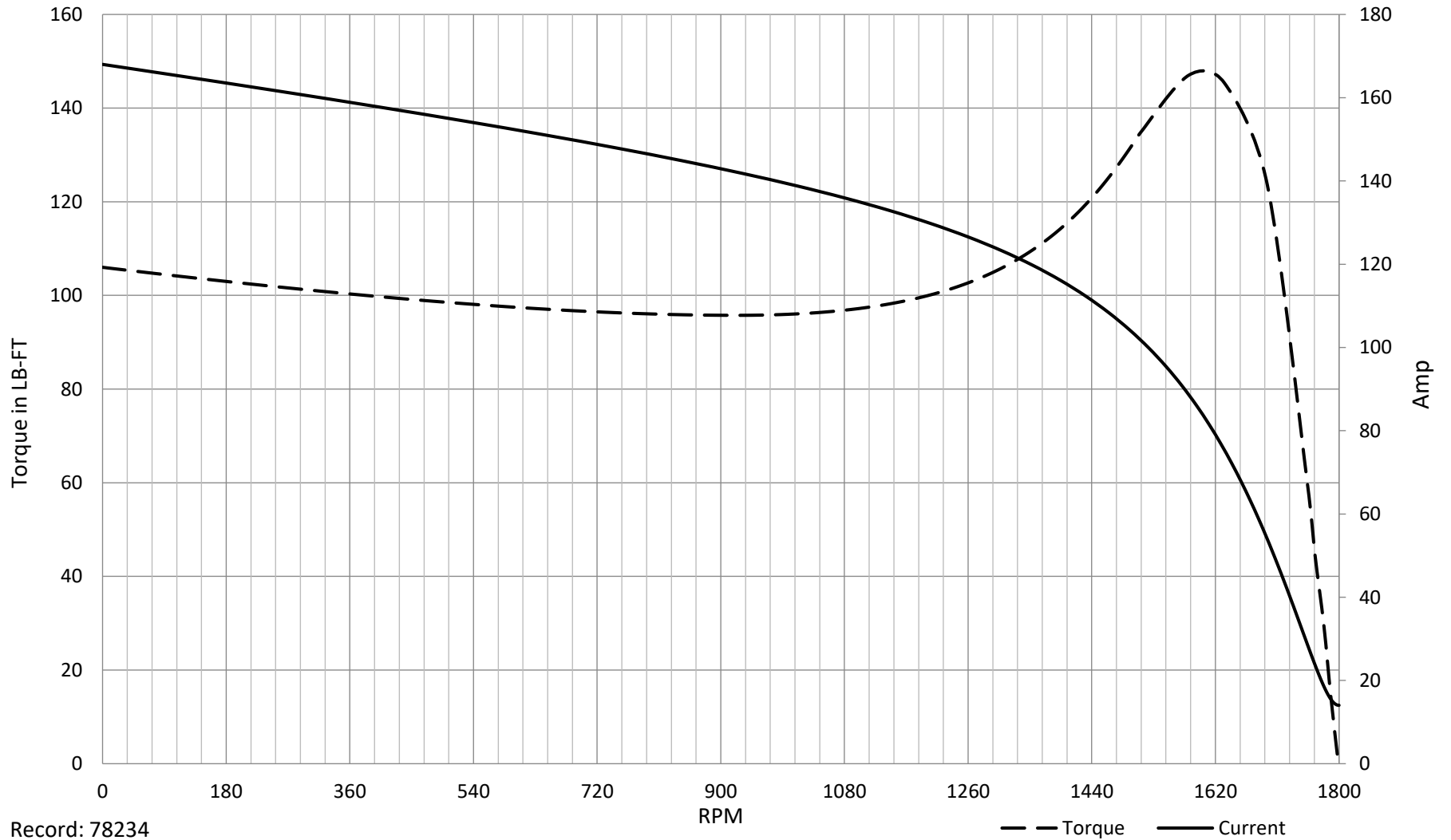
% of Rated Load	NL	25	50	75	100	125	150	SF
Power Factor	3	35	57	69	76	79	80	78
Efficiency	0	89.3	92.5	92.1	91.2	89.5	88.2	90.2
Speed	1799	1788	1778	1765	1754	1738	1724	1744
Line amperes	13.63	14.74	17.69	21.99	27.09	33.1	39.7	30.7

**SPEED TORQUE / SPEED CURRENT CURVES**

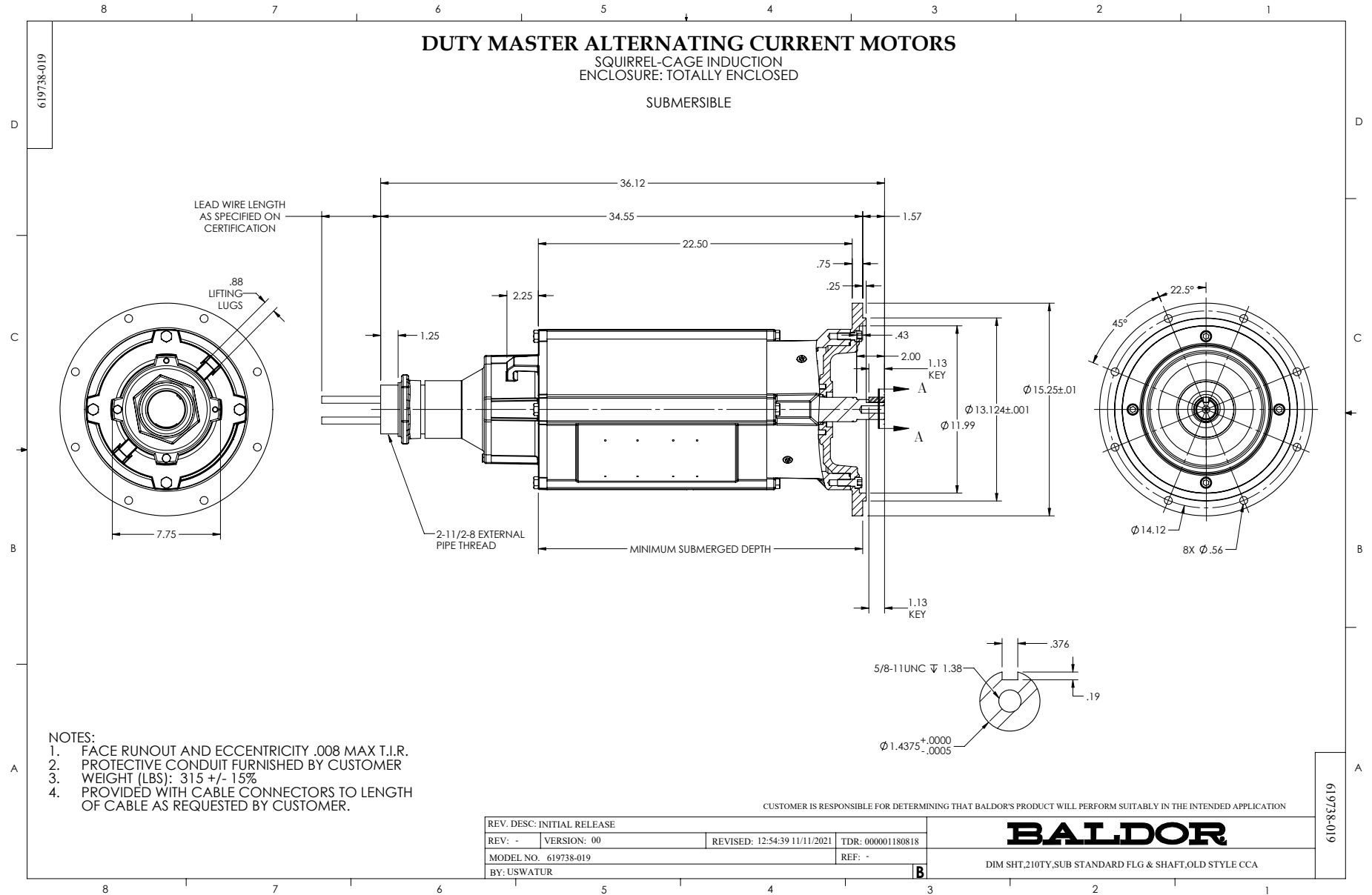


07WGA0004

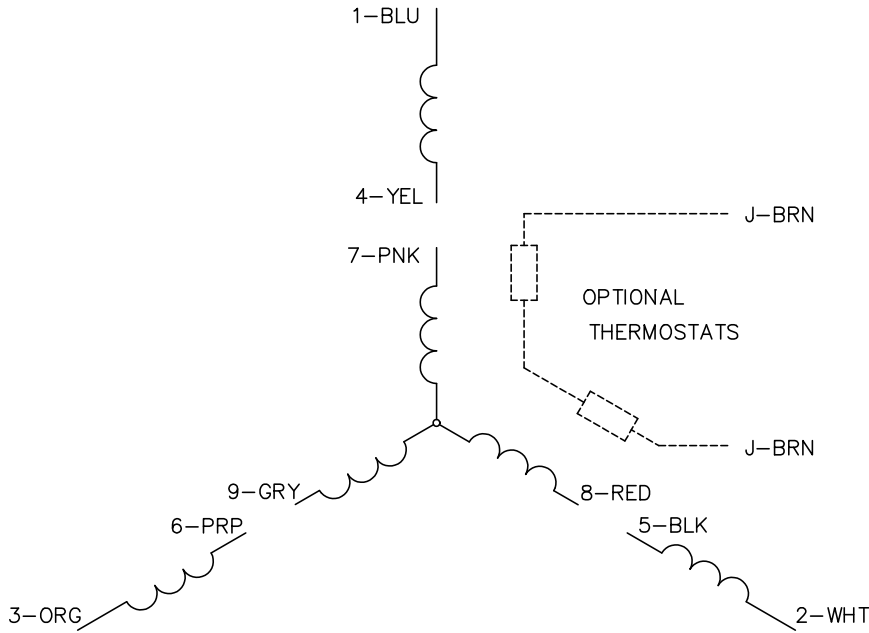
20HP 460V 60HZ



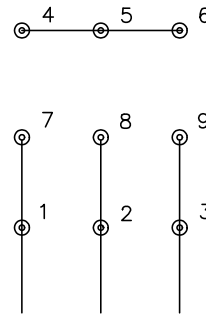
Record: 78234



CD0005

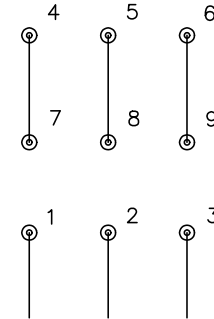


LOW VOLTAGE  
(2Y)



LINE

HIGH VOLTAGE  
(1Y)



LINE

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.

CD0005

REV. DESC: REVISE TO SHOW OPTIONAL COLORS

REV. LTR: E BY: JLP REVISED: 01/19/99 10:15 TDR: 0171435

500000

FILE: AAA00005140

MDL: -

MTL: -

**BALDOR ELECTRIC Co.**

3PH, DV, 9 LEADS