

# PRODUCT INFORMATION PACKET

Model No: LM20029

Catalog No: LM20029

Automotive Duty Motor, 20 HP, 3 Ph, 60 Hz, 460 V, 1800 RPM, 286U Frame, TEFC



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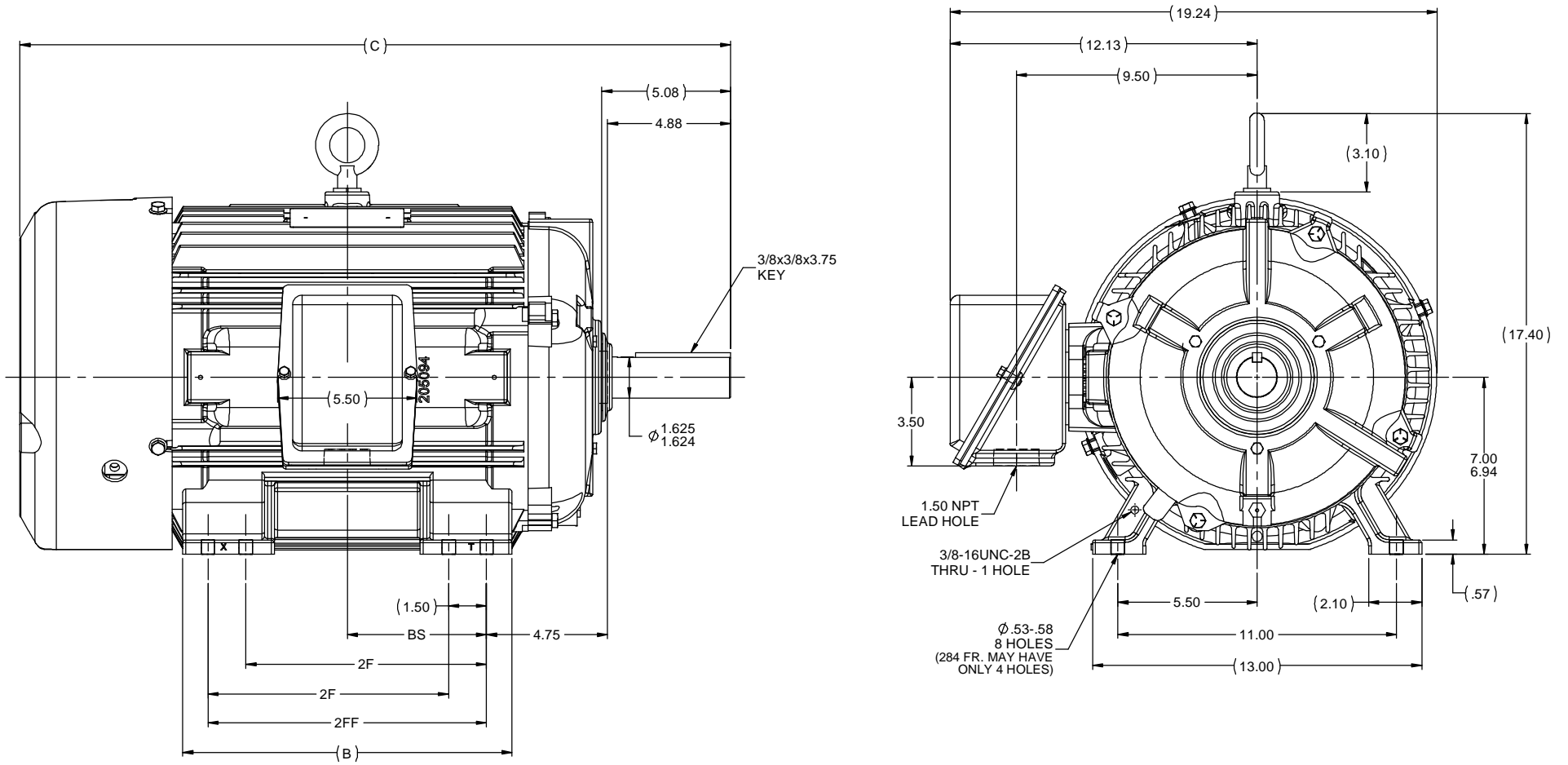
### Nameplate Specifications

Output HP	<b>20 Hp</b>	Output KW	<b>14.9 kW</b>
Frequency	<b>60 Hz</b>	Voltage	<b>460 V</b>
Current	<b>24.1 A</b>	Speed	<b>1775 rpm</b>
Service Factor	<b>1</b>	Phase	<b>3</b>
Efficiency	<b>93 %</b>	Power Factor	<b>84</b>
Duty	<b>Continuous</b>	Insulation Class	<b>F</b>
Design Code	<b>B</b>	KVA Code	<b>G</b>
Frame	<b>286U</b>	Enclosure	<b>Totally Enclosed Fan Cooled</b>
Thermal Protection	<b>No Protection</b>	Ambient Temperature	<b>65 °C</b>
Drive End Bearing Size	<b>6311</b>	Opp Drive End Bearing Size	<b>6210</b>
UL	<b>Recognized</b>	CSA	<b>Y</b>
CE	<b>Y</b>	IP Code	<b>43</b>
Number of Speeds	<b>1</b>		

### Technical Specifications

Electrical Type	<b>Squirrel Cage Induction Run</b>	Starting Method	<b>Across The Line</b>
Poles	<b>4</b>	Rotation	<b>Reversible</b>
Resistance Main	<b>.474 Ohms</b>	Mounting	<b>Rigid Base</b>
Motor Orientation	<b>Horizontal</b>	Drive End Bearing	<b>Ball</b>
Opp Drive End Bearing	<b>Ball</b>	Frame Material	<b>Cast Iron</b>
Shaft Type	<b>U</b>	Overall Length	<b>28.06 in</b>
Frame Length	<b>14.25 in</b>	Shaft Diameter	<b>1.625 in</b>
Shaft Extension	<b>4.88 in</b>	Assembly/Box Mounting	<b>F1/F2 CAPABLE</b>
Outline Drawing	<b>B-SS311055LN-1425</b>	Connection Drawing	<b>EE7300</b>

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- NOTES:  
 1. CONDUIT BOX CAN BE ROTATED IN 90 ° STEPS.  
 2. CONDUIT BOX CAN BE MOUNTED ON OPPOSITE SIDE BY REMOVING BRACKETS AND TURNING FRAME 180 °.  
 3. NAMEPLATES TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.

1275	284U	26.56	11.50	9.50	---	4.75
1425	284/286U	28.06	13.00	9.50	11.00	5.50
<b>DASH</b>	<b>FRAME</b>	<b>C</b>	<b>B</b>	<b>2F</b>	<b>2FF</b>	<b>BS</b>

		TOLERANCES UNLESS SPECIFIED				Lincoln Motors		DRAWN HLB 10-10-2000	
		DEC	INCHES					CHK ML 10-16-2000	
		X	±.1					APPR TB 10-16-2000	
3	UPDATED TO NEW FRAME DESIGN MU109232	MSG 08-16-2012	TB XX ±.03	TITLE OUTLINE - TEFC - TFPA				SCALE 1:4	
2	286 FR. WAS 284 FR. (IN NOTE) CN 29200-1344	HLB 01-25-2001	ML XXX ±.005	280U FR. - STD. - 11.00 LAM. - CAST C' BOX				REF	
1	NEW DRAWING MU33973	HLB 10-16-2000	ML XXXX ±.0005	MATL				FMF MU33973	
NO	REVISION	BY & DATE	CHK LANG ±7'30"	FINISH				PAGE OF	
			RFP 10-16-2000	PREV				SIZE DRAWING NO	REV
			NETWORK FILE NAME SS311055LN					<b>B</b> <b>SS311055LN</b>	<b>3</b>



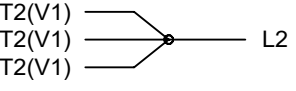
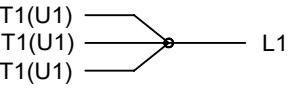
THREE PHASE - SINGLE VOLTAGE  
MOTOR - CONDUIT BOX @ 'A'

TERMINAL BLOCK WHEN SPECIFIED

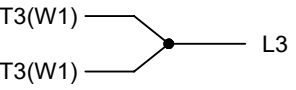
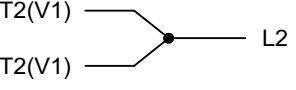
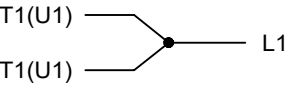
TO REVERSE ROTATION:  
INTERCHANGE ANY TWO LINE  
LEAD CONNECTIONS



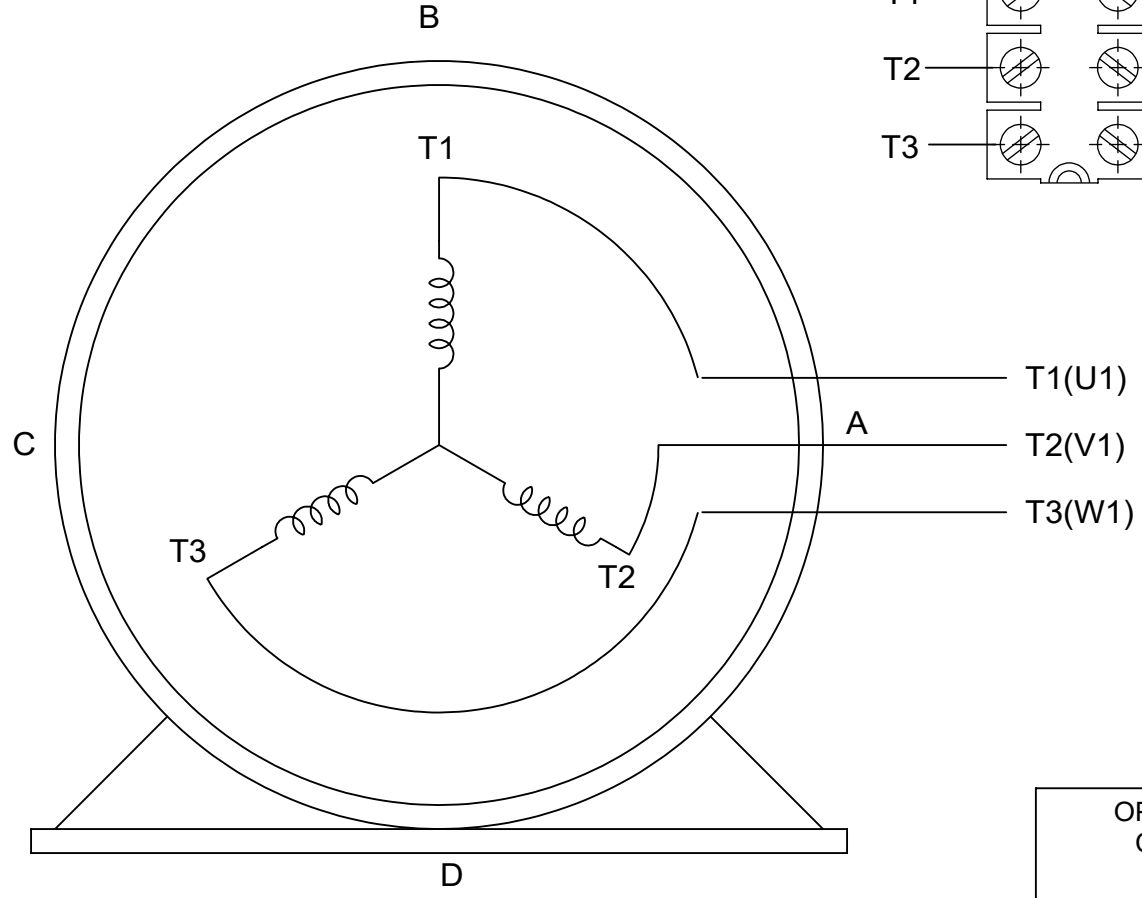
IF MOTOR HAS  
9 LEADS



IF MOTOR HAS  
6 LEADS



A-9806 DECAL



VIEW OF TERMINAL END

OPTIONAL CORD  
CONNECTION

- L1 \_\_\_\_\_ WHITE
- L2 \_\_\_\_\_ RED
- L3 \_\_\_\_\_ BLACK

DRAWING REVISION AC	REVISION BY BS	REV DATE/© DATE 26/07/2022
REQUEST NUMBER CR-0010402	APPROVED BY SN	DATE 26/07/2022
REQUEST NUMBER DESCRIPTION DRAWING UPDATED		
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PRIMARY DIMENSIONS ARE INCH  
mm DIMENSIONS IN [BRACKETS]  
ARE FOR REFERENCE ONLY

DRAWN BY DA
DATE 03-26-1993
APPROVED BY TB
DATE 03-26-1993
REFERENCE
THIRD ANGLE PROJECTION

Regal Beloit America, Inc.		
		DESCRIPTION <b>CONNECTION DIAGRAM</b> EXTERNAL - SINGLE VOLTAGE - 3Ø MOTOR
MATERIAL	PROCESS/FINISH	
SIZE A	DRAWING NUMBER EE7300	SHEET 1 OF 1



CERTIFICATION DATA SHEET

2100 WASHINGTON ST.  
GRAFTON, WI  
PH. 262-277-8810

CONN. DIAGRAM: A-EE7300-LN

OUTLINE: B-SS311055LN-1425

CATALOG #: LM20029

WINDING #: K2564164 R15 2

MOUNTING: F1/F2 CAPABLE

TYPICAL MOTOR PERFORMANCE DATA

HP	kW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
20	14.9	1800	1775	286U	TEFC	G	B

PH	Hz	VOLTS	AMPS	START TYPE	DUTY	INSL	S.F.	AMB°C
3	60	460	24.1	ACROSS THE LINE	CONTINUOUS	F3	1.0	65

FULL LOAD EFF:	93	3/4 LOAD EFF:	93.6	1/2 LOAD EFF:	93	GTD. EFF		ELEC. TYPE	
FULL LOAD PF:	84	3/4 LOAD PF:	81	1/2 LOAD PF:	72	91.7	SQ CAGE IND RUN		

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
59.2 LB-FT	138	104 LB-FT 176 %	146 LB-FT 247 %	55

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS / HOUR	APPROX. MOTOR WGT
65 dBA	75 dBA	3.2 LB-FT^2	125 LB-FT^2	25 SEC.	2	525 LBS.

\*\*\* SUPPLEMENTAL INFORMATION \*\*\*

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
STANDARD	STANDARD	RIGID	HORIZONTAL	FALSE	NONE	FALSE	NONE	GRAY - LINCOLN

BEARINGS		GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
DE	ODE						
BALL	BALL	POLYREX EM	U	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON
311	210						

THERMO-PROTECTORS				THERMISTORS	CONTROL	SPACE HEATERS
THERMOSTATS	PROTECTORS	WDG RTDs	BRG RTDs			
NONE	NOT	NONE	NONE	NONE	FALSE	NONE VOLTS

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<b>INVERTER TORQUE:</b> NONE
<b>INV. HP SPEED RANGE:</b> NONE
<b>ENCODER:</b> NONE
NONE NONE
NONE NONE PPR
<b>BRAKE:</b> NONE NONE
NONE P/N NONE
NONE NONE
NONE FT-LB NONE V NONE Hz

Data Sheet

Date: 1/19/2018

LM20029



Data @ **460 V**

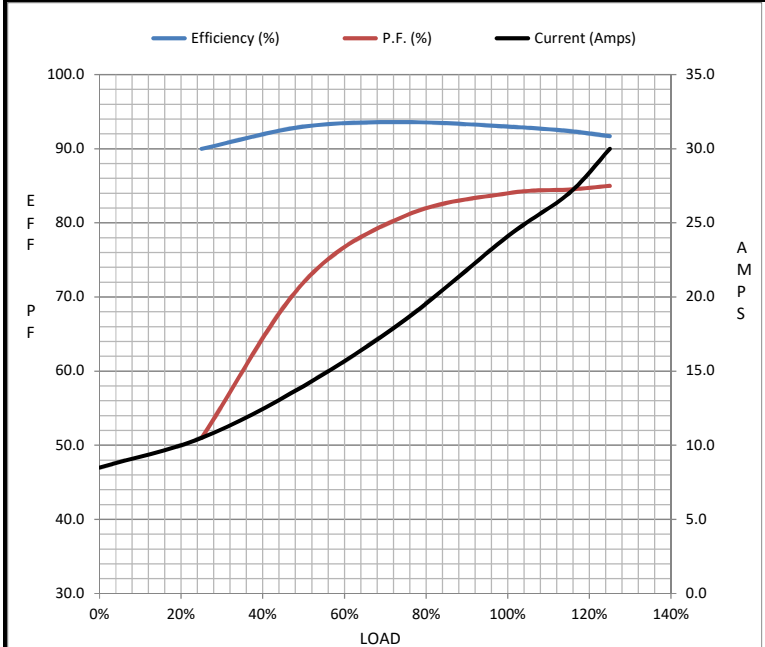
Motor Load Data

Load	0%	25%	50%	75%	100%	115%	125%	LR
Current (Amps)	8.5	10.5	14.0	18.5	24.1	27.0	30.0	138
Torque (ft-lb)	0.00	14.5	29.5	44.5	59.2	68.0	74.5	104
RPM	1800	1795	1785	1780	1775	1770	1760	0
Efficiency (%)		90.0	93.0	93.6	93.0	92.4	91.7	
P.F. (%)	8.5	51.0	72.0	81.0	84.0	84.5	85.0	40.0

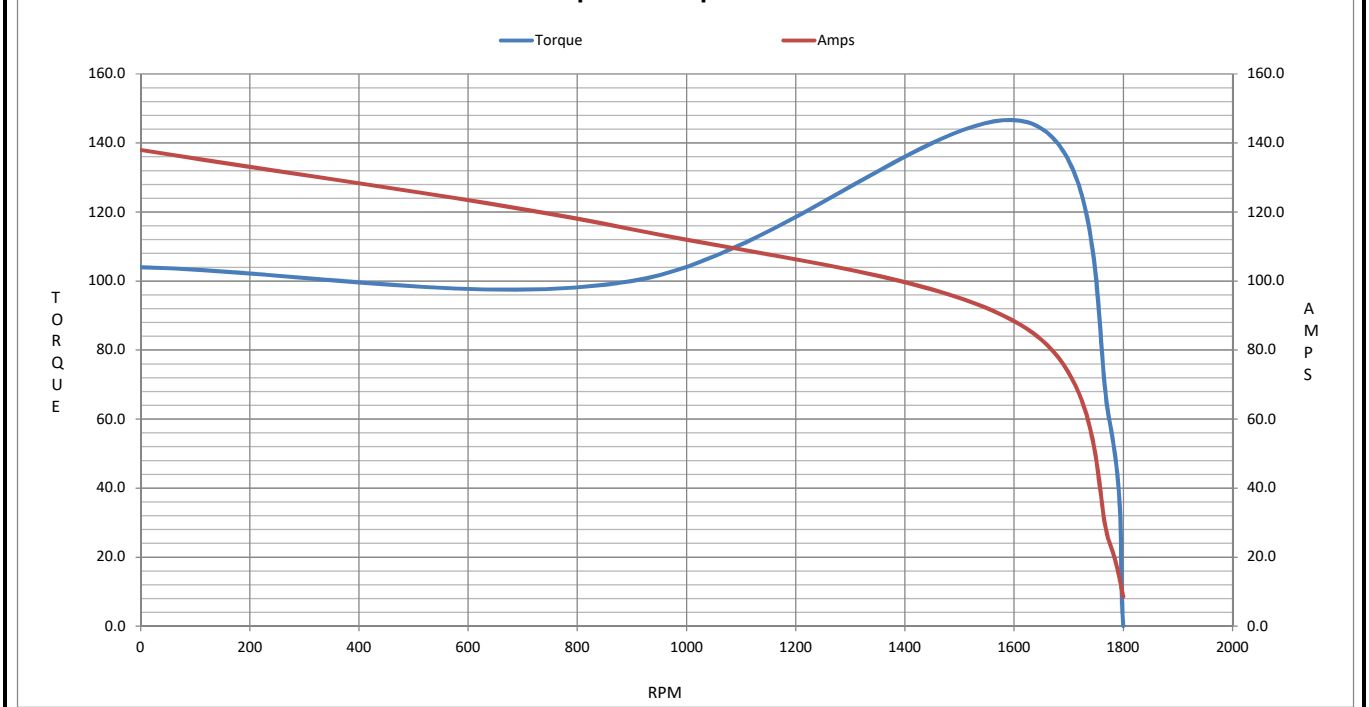
Motor Speed Data

	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	900	1625	1775	1800
Current (Amps)	138	115	86.0	24.1	8.5
Torque (ft-lb)	104	100	146	59.2	0.00

Information Block				
HP	20.0			
Sync. RPM	1800			
Frame	286			
Enclosure	TEFC			
Construction	TFP			
Voltage	460 V			
Frequency	60 Hz			
Design	B			
LR Code letter	G			
Service Factor	1.15			
Temp Rise @ FL	55 °C			
Duty	CONT			
Ambient	40 °C			
Elevation	1,000 feet			
Rotor/Shaft wk <sup>2</sup>	3.2 Lb-Ft <sup>2</sup>			
Ref Wdg	K2564164 R15			
Sound Pressure @ 1M	65 dBA			
VFD Rating	NONE			
Outline Dwg	B-SS311055LN-1425			
Conn. Diag	A-EE7300-LN			
Additional Specifications:				
0				
0				
EQUIV CKT (OHMS / PHASE)				
R1	R2	X1	X2	Xm
0.2670	0.2070	0.9900	1.4910	28.4000



Speed - Torque Curve



## EC Declaration of Conformity

The undersigned representing  
the manufacturer:

Regal Beloit America  
100 East Randolph St.  
Wausau, WI 54401

and the authorized representative  
established within the Community:

Marathon Electric UK  
6F Thistleton Road Ind. Estate  
Market Overton  
Oakham, Rutland LE15 7PP UK

are committed to providing customers with products that comply with applicable regulations and international protocols to which they are subject, including the requirements of the European Parliament Directive on the Harmonization of the laws relating to electrical equipment designed for use within certain voltage limits (2014/35/EU).

Regal Beloit America declares that the following product(s), to which this declaration relates, are in conformity with the relevant sections of the EC standards listed below.

This statement supersedes any statements previously issued pertaining to the product(s) listed below and is subject to change without notice.

Model No : LM20029

(Model No. may contain prefix and/or suffix characters)

Catalog No : LM20029

Rework No : N/A

Directives :

Low Voltage Directive 2014/35/EU

Harmonized Standards Used :

EN 60034-1: 2010 (IEC 60034-1: 2010)

EN 60034-5: 2001/A1:2007 (IEC 60034-5: 2000/A1:2006)

Authorized Representative:



Michael A. Logsdon  
Vice President, Technology

Authorized Representative in the Community:



Julian Clark  
Marketing Engineer

Created on 09/01/2022

**CE 22**