

PRODUCT INFORMATION PACKET

marathon®
Motors

Model No: 405TSTGS16531

Catalog No: U082A

Hazardous Duty® Explosion Proof Motor, 100 & 75 HP, 3 Ph, 60 & 50 Hz, 230/460 & 190/380 V,
1800 & 1500 RPM, 405TS Frame, EPFC



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RegalRexnord

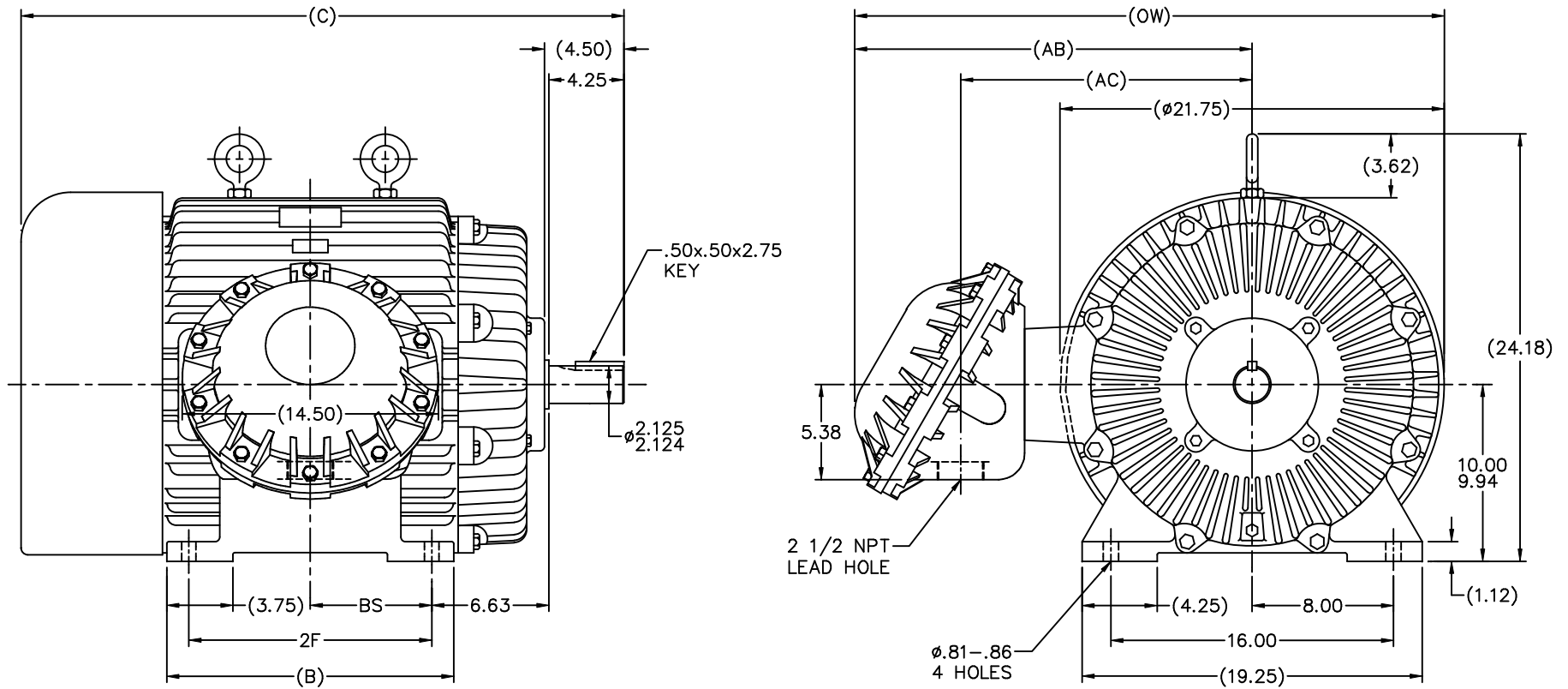
Nameplate Specifications

Phase	3	Output HP	100 & 75 Hp
Output KW	75.0 & 56.0 kW	Voltage	230/460 & 190/380 V
Speed	1780 & 1485 rpm	Service Factor	1.15 & 1.15
Frame	405TS	Enclosure	Explosion Proof Fan cooled
Thermal Protection	Thermostat	Efficiency	95.4 & 95.8 %
Ambient Temperature	40 °C	Frequency	60 & 50 Hz
Current	226/113 & 204/102 A	Power Factor	87
Duty	Continuous	Insulation Class	F
Design Code	B	KVA Code	G
Drive End Bearing Size	6316	Opp Drive End Bearing Size	6313
UL	UL Listed And CSA Certified	CSA	Y
CE	N	IP Code	54
Number of Speeds	1	Hazardous Location	DIV 1 EXP PROOF CL I GR CD CL II GR FG T3B

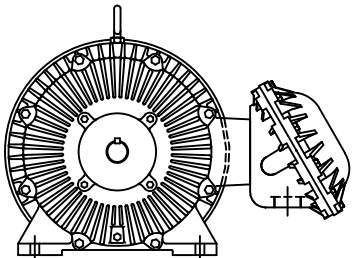
Technical Specifications

Electrical Type	Squirrel Cage Inverter Rated	Starting Method	Line Or Inverter
Poles	4	Rotation	Reversible
Resistance Main	.054 Ohms	Mounting	Rigid Base
Motor Orientation	Horizontal	Drive End Bearing	Ball
Opp Drive End Bearing	Ball	Frame Material	Cast Iron
Shaft Type	TS	Overall Length	34.12 in
Frame Length	16.75 in	Shaft Diameter	2.125 in
Shaft Extension	4.5 in	Assembly/Box Mounting	F1 ONLY
Inverter Load	CONSTANT 2:1/VARIABLE 10:1		
Outline Drawing	B-SS518935-1675	Connection Drawing	A-EE7308AD

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F2 VIEW

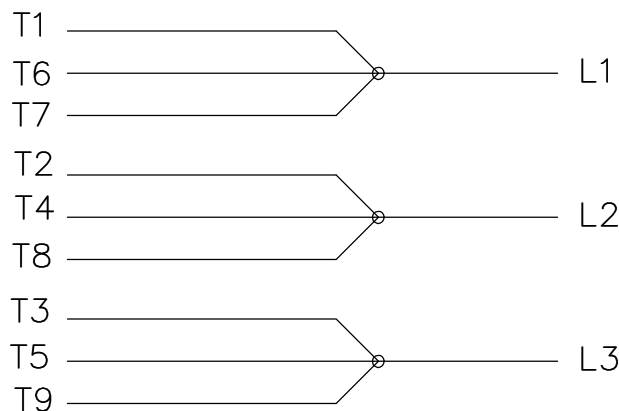


- NOTES:
 1. BOX CAN BE ROTATED IN 90° STEPS.
 2. NAMEPLATES TO BE READ FROM CONDUIT BOX SIDE OF MOTOR.

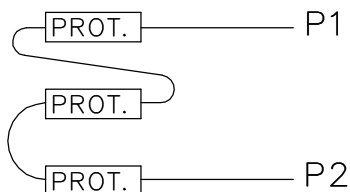
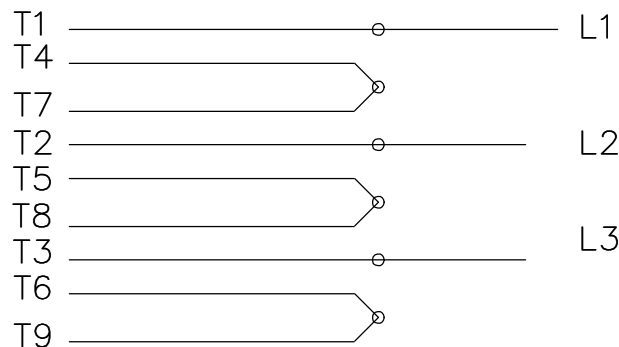
DASH	FRAME	B	C	2F	AB	AC	BS	OW
1525	404TS	14.75	32.62	12.25	21.50	15.50	6.12	32.38
1675	405TS	16.25	34.12	13.75	22.50	16.50	6.88	33.38

		TOLERANCES UNLESS SPECIFIED		MARATHON ELECTRIC		DRAWN MSG 03-08-2002	
		DEC.	INCHES			CHK	JHL 03-19-2002
		.X	±.1			APPD	JES 03-20-2002
3	ADDED F2 VIEW	RWR	08-07-2007	ML	.XX ±.03	TITLE OUTLINE	
2	UPPDATED DRAWING	RJW	05-08-2007	ML	.XXX ±.005	400TS FR. - EXP. PROOF - (STD)	
1	NEW DRAWING CN34593	MSG	03-20-2002	JHL	.XXXX ±.0005	MATL	
NO.	REVISION	BY & DATE		CHK	ANG	FINISH	
THIS DRAWING IN DESIGN AND DETAIL IS OUR PROPERTY AND MUST NOT BE USED EXCEPT IN CONNECTION WITH OUR WORK ALL RIGHTS OF DESIGN AND INVENTION ARE RESERVED THIS IS AN ELECTRONICALLY GENERATED DOCUMENT - DO NOT SCALE THIS PRINT				RFP	±7'30"	CAD FILE SS518935	
						SIZE	DRAWING NO. PAGE OF REV.
						B	SS518935 3

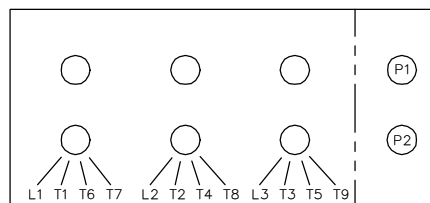
LOW VOLTAGE



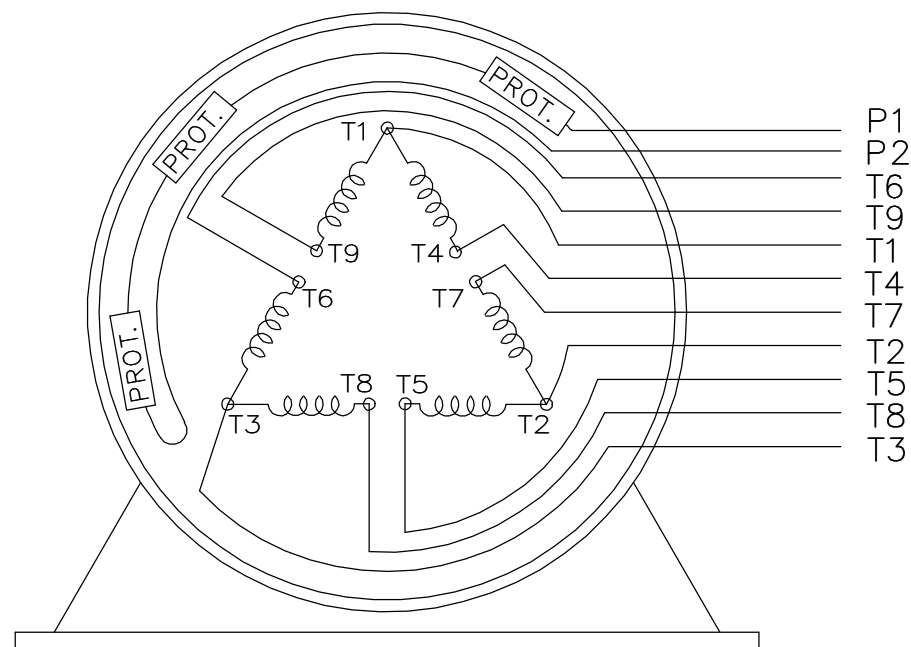
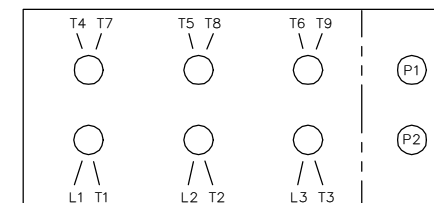
HIGH VOLTAGE



LOW VOLTAGE



HIGH VOLTAGE



VIEW OF TERMINAL END

WHEN MORE THAN ONE PROT. IS USED; PROT. ARE CONNECTED IN SERIES

DRAWING REVISION L	REVISION BY JP	REV DATE/© DATE 06-21-2019	TOLERANCES (EXCEPT AS NOTED): DEC. INCH mm ANGLE .X ±0.1 [±3] ±7° 30" .XX ±0.02 [±0.5] .XXX ±0.005 [±0.13] .XXXX ±0.0005 [±0.013]	DRAWN BY MJD	Regal Beloit America, Inc.	
ECO ECO-0168744	APPROVED BY MH	DATE 06-21-2019		DATE 12-19-1997		
ECO DESCRIPTION UPDATED TO CURRENT STANDARDS			REMOVE BURRS & BREAK SHARP EDGES: .003/.015 [.08/.38] X 45° CORNER FILLETS: R.02 [.5] MACHINED SURFACES: 200/ mm 5.1 INCH mm	APPROVED BY GK	DESCRIPTION CONN DIAGRAM-EXTERNAL	
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			mm DIMENSIONS IN [BRACKETS] ARE FOR REFERENCE ONLY	SIZE A	DRAWING NUMBER EE7308AD	SHEET 1 OF 1

CERTIFICATION DATA SHEET

Model#: 405TSTGS16531 AN **WINDING#:** T405472 NONE 1
CONN. DIAGRAM: A-EE7308AD **ASSEMBLY:** F1 ONLY
OUTLINE: B-SS518935-1675

TYPICAL MOTOR PERFORMANCE DATA

HP	KW	SYNC. RPM	F.L. RPM	FRAME	ENCLOSURE	KVA CODE	DESIGN
100&75	75&56	1800	1780&1485	405TS	EPFC	F	B

PH	Hz	VOLTS	FL AMPS	START TYPE	DUTY	INSL	S.F	AMB°C	ELEVATION
3	60/50	230/460#190/ 380	226/113&204/ 102	LINE OR INVERTER	CONTINUOU S	F1	1.15/1.15	40	3300

FULL LOAD EFF: 95.4&95.8	3/4 LOAD EFF: 95.8	1/2 LOAD EFF: 95.8	GTD. EFF	ELEC. TYPE	NO LOAD AMPS
FULL LOAD PF: 87&87	3/4 LOAD PF: 86	1/2 LOAD PF: 81.5	95	SQ CAGE INV RATED	56 / 28

F.L. TORQUE	LOCKED ROTOR AMPS	L.R. TORQUE	B.D. TORQUE	F.L. RISE°C
295 LB-FT	1350 / 675	445 LB-FT 151	715 LB-FT 242	75

SOUND PRESSURE @ 3 FT.	SOUND POWER	ROTOR WK^2	MAX. WK^2	SAFE STALL TIME	STARTS /HOUR	APPROX. MOTOR WGT
72 dBA	82 dBA	27 LB-FT^2	550 LB-FT^2	25 SEC.	2	1400 LBS.

***** SUPPLEMENTAL INFORMATION *****

DE BRACKET TYPE	ODE BRACKET TYPE	MOUNT TYPE	ORIENTATION	SEVERE DUTY	HAZARDOUS LOCATION	DRIP COVER	SCREENS	PAINT
STANDARD	STANDARD	RIGID	HORIZONTAL	PREMIUM SEVERE DUTY	EXP PROOF CL I GR C&D CL II GR F&G T3B	FALSE	NONE	BLUE (EPOXY)

BEARINGS		GREASE	SHAFT TYPE	SPECIAL DE	SPECIAL ODE	SHAFT MATERIAL	FRAME MATERIAL
DE	OPE						
BALL	BALL	POLYREX EM	TS	NONE	NONE	1045 HOT ROLLED (C-204)	CAST IRON
6316	6313						

THERMO-PROTECTORS				THERMISTORS	CONTROL	SPACE /n HEATERS
THERMOSTATS	PROTECTORS	WDG RTDs	BRG RTDs			
TSTATS (N/C)	NOT	NONE	NONE	NONE	FALSE	NONE VOLTS

If Inverter equals NONE, contact factory for further information

INVERTER TORQUE: CONSTANT 2:1
INV. HP SPEED RANGE: NONE
ENCODER: NONE
NONE NONE
NONE NONE PPR
BRAKE: NONE NONE
NONE P/N NONE
NONE NONE
- FT-LB NONE V NONE Hz

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DATE: 06/22/2017 12:12:20 AM
 FORM 3531 REV.3 02/07/99
 ** Subject to change without notice.

Data Sheet

Date: 6/19/2017

Customer: _____

Attention: _____

Submitted by: FAREEDA DUDEKULA



405TSTGS16531

Submittal

Data @ 460 V

Motor Load Data

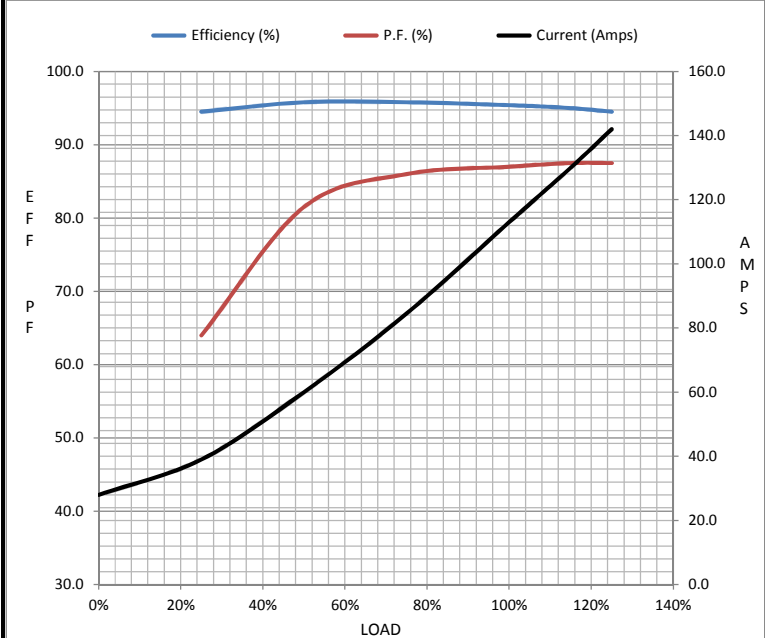
Load	0%	25%	50%	75%	100%	115%	125%	LR
Current (Amps)	28.0	39.0	60.0	84.5	113	130	142	675
Torque (ft-lb)	0.00	73.0	147	221	295	341	370	445
RPM	1800	1795	1790	1785	1780	1,775	1770	0
Efficiency (%)		94.5	95.8	95.8	95.4	95.0	94.5	
P.F. (%)	4.5	64.0	81.5	86.0	87.0	87.5	87.5	28.0

Motor Speed Data

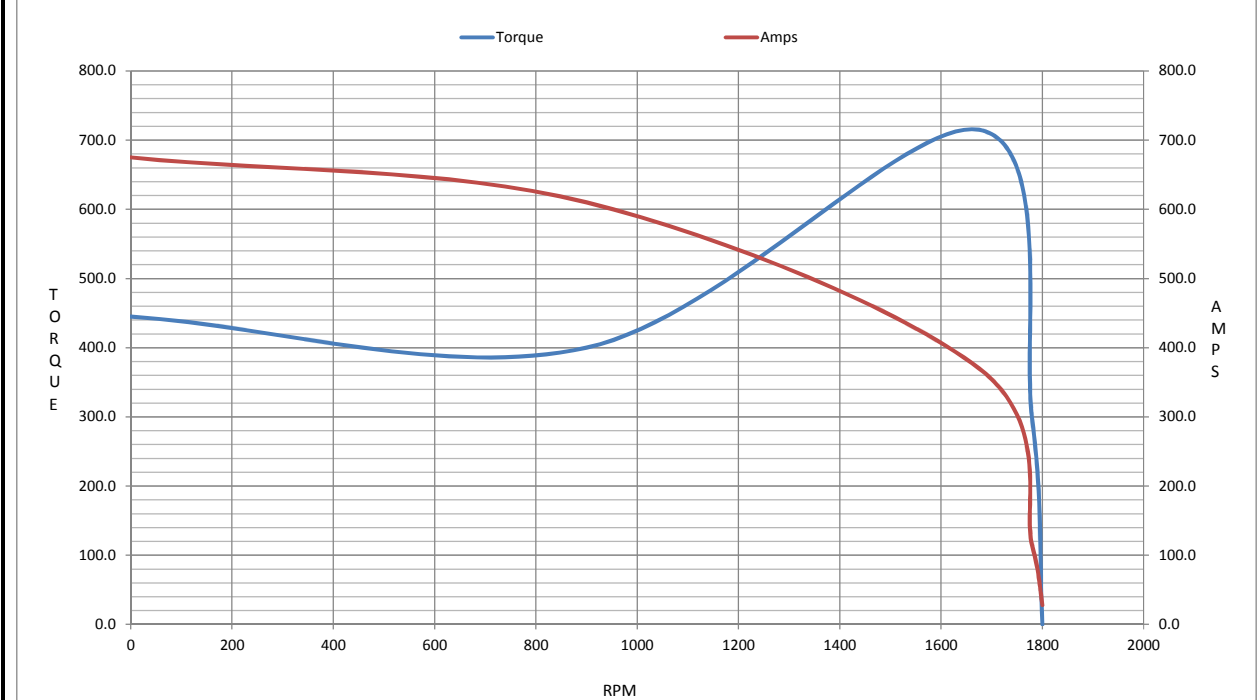
	LR	Pull-Up	BD	Rated	Idle
Speed (RPM)	0	900	1675	1780	1800
Current (Amps)	675	610	370	113	28.0
Torque (ft-lb)	445	400	715	295	0.00

Information Block

HP	100.0			
Sync. RPM	1800			
Frame	405			
Enclosure	TEFC			
Construction	TFS			
Voltage	30/460#190/381V			
Frequency	60 Hz			
Design	B			
LR Code letter	F			
Service Factor	1.15			
Temp Rise @ FL	75 °C			
Duty	CONT			
Ambient	40 °C			
Elevation	1,000 feet			
Rotor/Shaft wk ²	27.0 Lb-Ft ²			
Ref Wdg	T405472 NONE			
Sound Pressure @ 1M	72 dBA			
VFD Rating	CONSTANT 2:1			
Outline Dwg	B-SS518935-1675			
Conn. Diag	A-EE7308AD			
Additional Specifications:				
0				
0				
EQUIV CKT (OHMS / PHASE)				
R1	R2	X1	X2	Xm
0.0430	0.0280	0.2980	0.2780	9.2020



Speed - Torque Curve



CERTIFICATE OF COMPLIANCE

Certificate Number 20220524- E12044
Report Reference E12044-19750529
Issue Date 2022-MAY-24

Issued to: REGAL BELOIT AMERICA INC
1946 W COOK RD
FORT WAYNE IN 46818

Tradename: Marathon

**This certificate confirms that
representative samples of**

MOTORS FOR USE IN HAZARDOUS LOCATIONS
Electric motors for use in hazardous locations; Class I,
Groups C and D; Class II, Groups F and G; Inclusive of
Model Number 405TSTGS16531 (may have prefix and/or
suffix characters).

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 674 - Electric Motors and Generators for Use in Division
1 Hazardous (Classified) Locations,
CSA C22.2 No. 145, Electric Motors and Generators for
Use in Hazardous (Classified) Locations

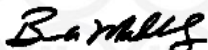
Additional Information: See the UL Online Certifications Directory at
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Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's
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Look for the UL Certification Mark on the product.

This is to certify that representative samples of the product as specified on this certificate were tested
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Bruce Mahrenholz, Director North American Certification Program

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