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Project 01ME04165

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REPORT

on

COMPONENT - MOTORS

Berger Lahr GmbH & Co KG  
Lahr, Germany

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## DESCRIPTION

## PRODUCT COVERED:

USR, CNR - AC Servomotors, Series SER36, SER39, SER311, RIG39 and RIG311.

Note - Type designation maybe followed by suffixes as indicated in the designation key.

## GENERAL:

These products are grounded, continuous-duty, permanently connected, indoor use inverter duty/servomotors. The motors are totally enclosed and provided with supply connector(s). The motors may be provided with internal or external magnetic brakes, resolvers/encoders and/or thermal sensors, all electrically located in Extra Low Voltage circuits (ELV), which are isolated from the primary circuit by basic insulation. All models are similar in construction with the differences detailed under the model designation key.

## ELECTRICAL RATINGS:

All models are rated maximum 480 V ac and have maximum nominal values for power and current as described below:

Series	Max. Power (W)	Max. Nominal Current (A)
SER36	630	2.3
SER39	1000	2.9
RIG39	1000	2.9
SER311	2200	4.2
RIG311	1800	3.6

## ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE'S USE):

USR - Indicates investigation to U.S. National Standard for Electric Motors, UL 1004 (5th Edition) with revisions through and including February 7<sup>th</sup>, 2001.

CNR - Indicates investigation to Canadian National standards for "Motors and Generators", C22.2 No. 100 - 95, dated January 1995.

## Note:

USR = United States Standards - Recognized.

CNR = Canadian National Standards - Recognized.

## CONDITIONS OF ACCEPTABILITY:

Conditions of Acceptability - These motors are for use in applications where Underwriters Laboratories Inc. has determined the acceptability of the combination. The features, which should be considered in determining the acceptability of these motors, are indicated below.

- \*1. This Report covers the general construction features on the motors and a evaluation of the performance characteristics.
2. The motor is based upon the assurance that the motor model will change for significant construction variations. The complete motor Model (i.e. SER..../....) shall be included in the end-product Report, nameplate ratings, and significant construction features.
3. This report does not cover the investigation of any motor-protector combination. Details of such a protector and its wiring must be described in the end-product.
4. These motors are evaluated for factory wiring only.
5. These motors are provided with Class 155(F) insulating system.
6. The suitability of or need for an enclosure, shall be determined in the end product.
- \*7. The R/C connectors as described on page 4, item 6, shall have adequate electrical ratings for use in the end product. The insulating material may be different how described in the Connector Report. It shall be used, as temperature rated in the Connector Reports for the UL recognition, and a temperature rise of 30°C under CN conditions. This need to be verified and determined in the end product evaluation.

## CONSTRUCTION DETAILS:

See Section General for general construction features employed on the product described in this report.

## MARKINGS:

See Section General for required markings.

## MODEL DESIGNATION KEY:

## Motor Model Numbers

SER	3	9	13	/	4	L	3	S	XX	C	B
1	2	3	4		5	6	7	8	9	10	11

1.            - Indicates Series  
  
SER = Servo Motors  
RIG = SER motor with integral gear box construction
2.            - Indicates No. of phases  
  
3      = Three-phase
3.            - Indicates Flange size (similar to motor size)  
  
6      = 60 mm (approx. 57 mm sq.) Not for series RIG.  
9      = 90 mm (approx. 85 mm sq.)  
11     = 110 mm (approx. 110 mm sq.)
4.            - Indicates approx. length of motor  
  

SER36	SER39	SER311
4    = 126 mm	7    = 140 mm	12 = 130 mm
6    = 145 mm	10 = 170 mm	17 = 180 mm
8    = 163 mm	13 = 200 mm	22 = 230 mm
10   = 182 mm	16 = 230 mm	27 = 280 mm
	RIG39	RIG311
	7    = 147 mm	12 = 145 mm
	10 = 177 mm	17 = 193 mm
	13 = 207 mm	22 = 241 mm

5. - Indicates Number of pole pairs

3 = 6 poles

4 = 8 poles

## MODEL DESIGNATION KEY (CONT'D):

6.            - Indicates inertia of rotor  
              L     = Low Inertia
7.            - Indicates number of turns  
              May be number 1 to 9
8.            - Indicates supply connection method  
              S     = Star  
              D     = Triangle
9.            - Indicates Signal method and measure units
10.           - Indicates Motor and sensor connection  
              C     = Straight Connector  
              T     = Elbow connector
11.           - Indicates presence of brake  
              B     = with brake  
              O     = without brake