

CERTIFICATE OF COMPLIANCE

Certificate Number 20160229-E177511
Report Reference E177511-20120914
Issue Date 2016-FEBRUARY-29

Issued to: WON WOO PRECISION CO LTD
175-3 KALGOT-DONG
OSAN-SHI KYONGGI-DO 447-310 KOREA

**This is to certify that
representative samples of**

COMPONENT - SWITCHES, APPLIANCE AND SPECIAL
USE
See addendum page

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

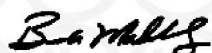
Standard(s) for Safety: UL 61058-1- Switches for Appliances
CSA C22.2 No. 61058-1-09- Switches for Appliances

Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance
capabilities and are intended for use as components of complete equipment submitted for investigation rather
than for direct separate installation in the field. The final acceptance of the component is dependent upon its
installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

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This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

MODELS

USR, CNR - Component, Switches for Appliances: Push-button Switch

*SZM-V1 f/b suffix,

f/b numbers or blank, f/b F, f/b A, C or D, f/b 1, 3, 5, 6, 8 or 9, f/b 1, 2 or 3

Model - Cat. No. – Identifier used by the manufacturer for a specific switch Model or Catalog number.

f/b – followed by, ww/o - With or without,

Load - identify the load according the Testing. R= resistive, RM= resistive and motor, RC= resistive and capacitive, L=tungsten lamp load, Spc= specific load, mA =load below 20mA, SpcL, SpcT = specific lamp load such as US L or T, I= inductive, SpcM= specific motor rating, Rhp= resistive and horse power, TV= television, GP= general purpose, GPM= general purpose and motor, GPhp= general purpose and horse power.

Amps – the steady state amp value of the switch. Per pole value may be marked “PP” and is verified by the circuit connection.

Volt – the Voltage (RMS) value.

Hz – the Frequency or range such as (50-60).

Temp – The declared operating temperature of the switch.

Pol/Thr/Cir – The number of Poles (Pol) and Throws (Thr) represented by the switch construction (where “M” indicates multiple poles (more than 2). The circuit (Cir) is identified by a code explained in the standard and appendix pages (Table 2 of 61058-1).

IP – Degree of protection against ingress of solid objects and dust, and harmful ingress of water.

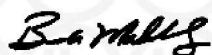
DIS – Disconnect air gap across open contact, electronic is indicated by “e”, micro indicated “micro”, FULL indicated with a measurement in mm.

30C cycle – the number of Endurance cycles completed with a temperature rise less than 30C (on terminals).

55C cycle – the number of Endurance cycles completed with a temperature rise less than 55C (on terminals).

SPCA – Identifies Special Conditions of Acceptability that must be considered in the end product. A list of typical SPCOAs (represented with a number) are found in the WKKY2 guide card. Conditions other than the typical are represented with a letter and described in the specific volume and section follow-up procedure description.

ed – The switch evaluation was completed to the indicated UL standard revision date (such as 20050930).



Bruce Mahrenholz, Director North American Certification Program

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DESCRIPTION

PRODUCT COVERED:

USR, CNR - Component, Switches for Appliances: Push-button Switch.

Products designated USR have been investigated using requirements contained in Underwriters Laboratories Standard for Switches for Appliance, UL 61058-1 edition 4.

Products designated CNR have been investigated using requirements contained in Canadian Standard CAN/CSA-C22.2 No. 61058-1-09.

Model	Load	Amp	Volt	Hz	Temp °C	Pol/Thr / Cir	Endurance		IP	DIS	SPCA	Ed
							30 C	55C				
*SZM- V1 f/b suffix	R	1 A	125/ 250 V ac	50 /6 0	130	1/1 or 2 /1.2 or 2.2	6E 3	1E4	IP40	Micro	1A, 1B	2009 0810
	R	0.1 A	30 V dc	DC	130	1/1 or 2 /1.2 or 2.2	6E 3	1E4	IP40	Micro	1A, 1B	2009 0810

EXPLANATION OF COLUMN HEADINGS

Model - Cat. No. - Identifier used by the manufacturer for a specific switch Model or Catalog number.

f/b - followed by, ww/o - With or without,

Load - identify the load according the Testing. R= resistive, RM= resistive and motor, RC= resistive and capacitive, L=tungsten lamp load, Spc= specific load, mA =load below 20mA, SpcL, SpcT = specific lamp load such as US L or T, I= inductive, SpcM= specific motor rating, Rhp= resistive and horse power, TV= television, GP= general purpose, GPM= general purpose and motor, GPhp= general purpose and horse power.

Amps - the steady state amp value of the switch. Per pole value may be marked "PP" and is verified by the circuit connection.

Volt - the Voltage (RMS) value.

Hz - the Frequency or range such as (50-60).

Temp - The declared operating temperature of the switch.

Pol/Thr/Cir - The number of Poles (Pol) and Throws (Thr) represented by the switch construction (where "M" indicates multiple poles (more than 2). The circuit (Cir) is identified by a code explained in the standard and appendix pages (Table 2 of 61058-1).

IP - Degree of protection against ingress of solid objects and dust, and harmful ingress of water.

DIS - Disconnect air gap across open contact, electronic is indicated by "e", micro indicated "micro", FULL indicated with a measurement in mm.

30C cycle - the number of Endurance cycles completed with a temperature rise less than 30C (on terminals).

55C cycle - the number of Endurance cycles completed with a temperature rise less than 55C (on terminals).

SPCA - Identifies Special Conditions of Acceptability that must be considered in the end product. A list of typical SPCOAs (represented with a number) are found in the WKY2 guide card. Conditions other than the typical are represented with a letter and described in the specific volume and section follow-up procedure description.

ed - The switch evaluation was completed to the indicated UL standard revision date (such as 20050930).

TEST RECORD NO. 3

SAMPLES:

Representative samples of the switch SZM-V1 f/b suffix were submitted by the manufacturer for review and testing. They were found to be constructed as described in the preceding section of this Report.

The request is to change the temperature rating from 105 °C to 130 °C.

Model	Load	Amp	Volt	Hz	Temp °C	Pol/Thr / Cir	Endurance		IP	DIS
							30C	55C		
SZM-V1 f/b suffix	R	1 A	125/250 V ac	50/ 60	130	1/1 or 2 /1.2 or 2.2	6E3	1E4	IP40	Micro
	R	0.1 A	30 V dc	DC	130	1/1 or 2 /1.2 or 2.2	6E3	1E4	IP40	Micro

General:

Test results relate only to the items tested.

The Model No. SZM-V1-2FD-11 was used for test purposes and considered representative of the entire series.

The following tests conducted in accordance with UL 61058-1 were considered representative of the same tests required by Canadian National Standard, CAN/CSA C22.2 No. 61058-1.

Test Name	Clauses
HEATING - CONTACTS AND TERMINALS/OTHER PARTS:	16.2, 16.3
ENDURANCE TEST - MECHANICAL SWITCH:	17
EVALUATION OF COMPLIANCE (TE2/TE3):	17.2.5
BALL PRESSURE TEST:	21.1

The test methods and results of the above tests have been reviewed and found in accordance with the requirements in the Standard for Appliance Switches, UL61058-1, 4th edition and Switches for Appliances, CSA 22.2 No. 61058-1-09, 2nd Edition.

Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in Switches for Appliances, UL 61058-1, 4th Edition, Revision dated 2013-02-15 and Switches for Appliances, CSA C22.2 No. 61058-1-09, 2nd Edition, Revision dated 2013-02-01 and therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report. Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Test Record by:

JooHong Yum
Project Engineer

Reviewed by:

Web Huang
Engineer

Nick Tu
Project Engineer