# CERTIFICATE OF COMPLIANCE

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|---|---|
| Certificate Number | E98133 |
| Report Reference | E98133-20210302 |
| Date | 2021-March-18 |

Issued to: EVEREL GROUP SPA
Via Cavour 9
Valeggio Sul MincioVr 37067 IT

This is to certify that representative samples of: SWITCHES, APPLIANCE AND SPECIAL USE - COMPONENT

See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

**Standard(s) for Safety:** UL 61058-1 the standard for Switches for Appliances — Part 1: General Requirements
UL 61058-1-1 the standard for Switches for Appliances — Part 1-1: Requirements for mechanical switches
Switches for Appliances - Part 1: Requirements for Mechanical Switches CAN/CSA-C22.2 No. 61058-1:17
Switches for Appliances - Part 1-2: Requirements for Mechanical Switches CAN/CSA-C22.2 No. 61058-2:17

**Additional Information:** See the UL Online Certifications Directory at https://iq.ulprospector.com for additional information

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.

Bruce Mahrenholz, Director North American Certification Program

UL LLC

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| **Certificate Number** | E98133 |
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| **Date** | 2021-March-18 |

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, Appliance Switches: L4 – L5 (Mechanical switch)

L4 f/b 1, 2, 3, 4, 5, L f/b 1, 2, 4, A, B, D, X f/b 1, 2, 4, 5, 6, 7, 8, N, R f/b H, 9
L4 f/b 1, 2, 3, 4, 5, L f/b 1, 2, 4, A, B, D, X f/b 1, 2, 4, 5, 6, 7, 8, N, R f/b G
L4 f/b 1, 2, 3, 4, 5, L f/b 1, 2, 4, A, B, D, X f/b 1, 2, 4, 5, 6, 7, 8, N, R f/b H, 9, G
L5 f/b 1, 2, 3, 4 f/b 1, 2, 4, A, B, D, X f/b . f/b 1, 2, 4, 7 f/b H, 9

Bruce Mahrenholz, Director North American Certification Program

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DESCRIPTION
PRODUCT COVERED:
USR, CNR Component, Appliance Switches: L4 - L5 (Mechanical switch)

| Model | Load | Amp | Volt | Hz | Temp C | Pol/ Thr/ (Cir.) | Endurance | | IP | DIS | SPCA | ed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 30C | 55C | | | | |
| L4 f/b 1, 2, 3, 4, 5, L f/b 1, 2, 4, A, B, D, X f/b 1, 2, 4, 5, 6, 7, 8, N, R f/b H, 9 | RM | 16(4) | 125/250 | 50 | 125/55 | 1,2/1 (1.2, 1.3) | -- | 10K | 40 | Full | B | 2017 |
| L4 f/b 1, 2, 3, 4, 5, L f/b 1, 2, 4, A, B, D, X f/b 1, 2, 4, 5, 6, 7, 8, N, R f/b G | RM | 16(4) | 250 | 50 | 125/55 | 1,2/1 (1.2, 1.3) | -- | 10K | 40 | Full | B | 2017 |
| L4 f/b 1, 2, 3, 4, 5, L f/b 1, 2, 4, A, B, D, X f/b 1, 2, 4, 5, 6, 7, 8, N, R f/b H, 9 | RM | 12(10) | 125/250 | 50 | 125/55 | 1,2/1 (1.2, 1.3) | -- | 10K | 40 | Full | B | 2017 |

| Model | Load | Amp | Volt | Hz | Temp C | Pol/ Thr/ (Cir) | Endurance | IP | DIS | SPCA | ed |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L4 f/b 1, 2, 3, 4, 5, L f/b 1, 2, 4, A, B, D, X f/b 1, 2, 4, 5, 6, 7, 8, N, R f/b G | RM | 12(10) | 250 | 50 | 125/55 | 1,2/1 (1.2, 1.3) | -- | 10K | 40 | Full | B | 2017 |
| L4 f/b 1, 2, 3, 4, 5, L f/b 1, 2, 4, A, B, D, X f/b 1, 2, 4, 5, 6, 7, 8, N, R f/b H, 9 | HP | 1/2 | 125 | 50 | 125/55 | 1,2/1 (1.2, 1.3) | -- | 10K | 40 | Full | B | 2009 |
| L4 f/b 1, 2, 3, 4, 5, L f/b 1, 2, 4, A, B, D, X f/b 1, 2, 4, 5, 6, 7, 8, N, R f/b H, 9, G | HP | 3/4 | 250 | 50 | 125/55 | 1,2 / 1 (1.2, 1.3) | -- | 10K | 40 | Full | B | 2009 |
| L5 f/b 1, 2, 3, 4 f/b 1, 2, 4, A, B, D, X f/b . f/b 1, 2, 4, 7 f/b H, 9 | RM | 16(4) | 125/250 | 50 | 125/55 | 1,2 / 1 (1.2, 1.3) | -- | 10K | 40 | Full | B | 2017 |

| Model | Load | Amp | Volt | Hz | Temp C | Pol/ Thr/ (Cir) | Endurance | | IP | DIS | SPCA | ed |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L5 f/b 1, 2, 3, 4 f/b 1, 2, 4, A, B, D, X f/b . f/b 1, 2, 4, 7 f/b H, 9 | RM | 12(10) | 125/250 | 50 | 125/55 | 1,2/1 (1.2, 1.3) | -- | 10K | 40 | Full | B | 2017 |
| L5 f/b 1, 2, 3, 4 f/b 1, 2, 4, A, B, D, X f/b . f/b 1, 2, 4, 7 f/b H, 9 | HP | 3/4 | 250 | 50 | 125/55 | 1,2/1 (1.2, 1.3) | -- | 10K | 40 | Full | B | 2009 |
| L5 f/b 1, 2, 3, 4 f/b 1, 2, 4, A, B, D, X f/b . f/b 1, 2, 4, 7 f/b H, 9 | HP | 1/2 | 125 | 50 | 125/55 | 1,2/1 (1.2, 1.3) | -- | 10K | 40 | Full | B | 2009 |

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, 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 WOYR2 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 2009).

Products designated USR have been investigated using requirements contained in UL 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.

Switch Declaration: Use table for general and indicate differences below.

| | | | |
|---|---|---|---|
| Model | L4 and L5 series | | |
| Ambient Temp. C | 125/55 | Type Reference | UT |
| Total Cycles | 10E3 | Glow Wire Temp. C | 850 |
| IP rating | 40 | PTI | 250 IIIa |
| Electric shock Class | II | Over Voltage Category | II |
| Pollution degree Macro | 3 | Impulse withstand Volt | 2500 |
| Pollution degree Micro | 3 | Disconnect | Full |
| Actuation | Push | Test Circuit | 1.2 & 1.3 |

| Terminal | Type | Wire range | Flexible/ Rigid | Wire type | Prepared or Unprepared | Specific test amps |
|---|---|---|---|---|---|---|
| 1, 2, 4, 5, | Tab terminal 6.3x0.8 and/or Tab terminal 4.8x0.8 and solder terminal | 0.5-2.5mm² | Flexible | / | Prepared and/or unprepared | / |

NOMENCLATURE:

| SX | L4 | X | X | X | X | X | X | X | X | XXX | X |
|---|---|---|---|---|---|---|---|---|---|---|---|
| I | II | III | IV | V | VI | VII | VIII | IX | X | XI | XII |

| | |
|---|---|
| I | Prefix: SX |
| II | Series designation: L4 |
| III | Switch shape:<br>1: Body with fixing wings and flat lens / push button shape<br>2: Body with fixing wings and rounded lens / push button shape<br>3: Body with fixing wings and customizable push button shape<br>4: Body with fixing wings and rectangular lens with gasket<br>5: Body with fixing wings and oval lens with gasket<br>L: Body shape for rear panel fixing |
| IV | Terminals:<br>1: Axial tab terminals 6.3 x 0.8<br>2: Axial tab terminals 4.8 X 0.8<br>4: Axial solder double pin terminals<br>A: Orthogonal tab terminals 6.3 x 0.8<br>B: Orthogonal tab terminals 4.8 X 0.8<br>D: Orthogonal solder double pin terminals<br>X: Combination of above |
| V | Electrical scheme (with reference to Table 2 of UL61058-1):<br>1: 1.2<br>2: 1.3<br>4: 1.2 momentary NO<br>5: 1.2 with independent lamp<br>6: 1.2 with dependent lamp<br>7: 1.3 momentary NO<br>8: 1.3 with lamp<br>N: 1.2 momentary NO with independent lamp<br>R: 1.3 momentary NO with lamp |
| VI | Electrical ratings:<br>H and 9: 16(4)A 125/250Vac T 125/55<br>12(10)A 125/250Vac T 125/55<br>1/2HP 125Vac T 125/55<br>3/4HP 250Vac T 125/55<br><br>G: 16(4)A 250Vac T 125/55<br>12(10)A 250Vac T 125/55<br>3/4HP 250Vac T 125/55 |
| VII | Body color: Any letter or number |
| VIII | Button / lens color: Any letter or number |
| IX | Button / lens mark color: Any letter or number |
| X | Button / lens mark symbol: Any letter or number |
| XI | Customization: Any letters or numbers |
| XII | None: Standard plastic material<br>W or Y: GWIT 775 °C plastic material |

| SX | L5 | X | X | X | X | X | XXX | X |
|---|---|---|---|---|---|---|---|---|
| I | II | III | IV | V | VI | VII | VIII | IX |

| | |
|---|---|
| I | Prefix: SX |
| II | Series designation: L5 |
| III | Switch shape:<br>1: Body with large lateral grooves<br>2: Cover with panel fixing wings<br>3: Body with narrow lateral grooves<br>4: Body with narrow lateral grooves |
| IV | Terminals:<br>1: Axial tab terminals 6.3 x 0.8<br>2: Axial tab terminals 4.8 X 0.8<br>4: Axial solder double pin terminals<br>A: Orthogonal tab terminals 6.3 x 0.8<br>B: Orthogonal tab terminals 4.8 X 0.8<br>D: Orthogonal solder double pin terminals<br>X: Combination of above |
| V | Shaft external shape: Any letter or number |
| VI | Electrical scheme (with reference to Table 2 of UL61058-1):<br>1: 1.2<br>2: 1.3<br>4: 1.2 momentary NO<br>7: 1.3 momentary NO |
| VII | Electrical ratings:<br>H and 9: 16(4)A 125/250Vac T 125/55<br>12(10)A 125/250Vac T 125/55<br>1/2HP 125Vac T 125/55<br>3/4HP 250Vac T 125/55 |
| VIII | Customization |
| IX | None: Standard plastic material<br>W or Y: GWIT 775 °C plastic material |

FIGURE & ILLUSTRATIONS:

The following Figures & Illustrations are included in this Report.

| Figure and Illustration Index | | |
|---|---|---|
| Figure | 1 | Overall views of L4 and L5 Series |
| Illustration | 1 | Dimensional and electrical details of L4 Series |
| Illustration | 2 | Dimensional and electrical details of L5 Series |

TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - The switches covered by this Report are for use only in complete equipment where the suitability of the combination is determined by UL.

**STANDARD** CONDITIONS OF ACCEPTABILITY: (See Section General or LIS guide Page)

**SPECIAL** CONDITIONS OF ACCEPTABILITY: (See section General or LIS guide Page)

Specific Conditions of Acceptability should be identified in page 1 column SPCA. Below are the conditions that apply to this description, items 1 to 8 or unique conditions are identified by a alphabetical letter.

A. IP 40 - for accessible parts and enclosure of the end product enclosure when mounted or installed according to the manufacturers directions. Test material thickness 0.5-2.3__ mm. Internal parts were not evaluated for IP ratings and must be considered in the end product.

B. The tests were conducted with wire size 14AWG stranded only.

CONSTRUCTION DETAILS:
Corrosion Protection - All ferrous metal parts are protected against corrosion by plating, painting, galvanizing or equivalent.

Spacing - Spacing between uninsulated live-metal parts of opposite polarity and also those parts and dead-metal parts, including openings for mounting screws have been evaluated to the requirements of the standard.
Spacing - Spacing between uninsulated live-metal parts of opposite polarity and also those parts and dead-metal parts, including openings for mounting screws have been evaluated to the requirements of the standard.

Clearance - These spacings have been judged on the basis of the required clearances in Table 22. The clearance requirements are based on the following parameters.

TABLE: Clearance Measurements

| distance under consideration | Insulation Type | Phase-to-Ground System Voltage | Overvoltage Category | Pollution Degree | Rated Impulse Voltage (V) | Clearance (mm) |
|---|---|---|---|---|---|---|
| Between Live Parts and User-Accessible Parts | Reinforced | 250 | 2 | 3 | 2.5 (declared) | Req: 3.0 Meas: > 3.0 |
| Between Live Parts Separated by the opening of the Contacts | Full disconnection | 250 | 2 | 3 | 2.5 (declared) | Req: 1.5 Meas: > 3.0 |
| Between Live Parts of opposite polarity | Functional | 250 | 2 | 3 | 2.5 (declared) | Req: 1.5 Meas: > 1.5 |

Spacings were measured at the following locations:
C: Between Live parts (Terminals) and Accessible part (Push Button)
D: Between contacts

| Table 22 - 24 | Creepage distance Cd and clearance Cl across: | MIN Required Cd (mm) | MIN required Cl (mm) |
|---|---|---|---|
| Locations | Functional, sealed or encapsulated | X | X |
| A | Functional, | 3.2 | 1.5 |
| B | Basic | 4.0 | 1.5 |
| - | Supplementary | 4.0 | 1.5 |
| C | Reinforced | 8.0 | 3.0 |
| - | Full disconnection | 3.2 | 1.5 |
| D | Micro disconnection | 3.2 | N.A. |