

NNLTEL

TEST REPORT

Reference No.	: `	WTX21D12145972S
Applicant	in	Shenzhen Sunricher Technology Limited
Address		3F & 5F, Building E, Qihang Innovation Industrial Park, No. 1008 Songbai Road, Nanshan District, Shenzhen, Guangdong 518055 China
Manufacturer	n.	Shenzhen Sunricher Technology Limited
Address	Self-	3F & 5F, Building E, Qihang Innovation Industrial Park, No. 1008 Songbai Road, Nanshan District,Shenzhen, Guangdong 518055 China
Product Name	ç.	DALI+ Push AC Phase Cut Dimmer
Model No	:-14	See model list
Total pages.	: 3	67 pages and 5 pages of photo.
Standards	sylv strek syl	EN 60669-2-1:2004+A1:2009+A12:2010 Switches for household and similar fixed- Part 2-1: Particular requirements-Electronic switches EN 60669-1:2018 Switches for household and similar fixed- Part 1: Particular requirements
Date of Receipt sample	: 5	2021-09-29
Date of Test		2021-09-29 to 2021-10-25
Date of Issue	1	2022-01-04
Test Result	: ,8	Pass

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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Miffy Lin

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Approved by



Sam Qi / Designated Reviewer

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Test item description:	DALI+ Push AC Phase Cut Dimmer
Trade Mark(s):	N/A
Manufacturer:	See page1 of report
Model/Type reference:	See model list
Ratings:	100-240V~, 50/60Hz, Max 400W for Incandescent lamp.
Bemerky A	

Remark:

Whether parts of tests for the product have been subcontracted to other labs: \Box Yes \boxtimes No

If Yes, list the related test items and lab information: Test items:

Lab information:

Summary of testing:

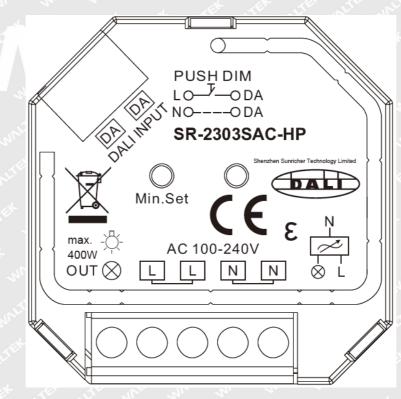
All tests had been assessed for safety with respect to the above test specifications and found to comply with the requirements of the standards.

This report based on Waltek test report no.WTX21D09103454S dated December 09, 2021, Change the model name, applicant and update the standard and also assesses European differences. After check the current new sample, it is the same as the original samples, the EUT is no need further test. Differences between EN 60669-1:2018 & EN 60669-2-1:2004+A1:2009+A12:2010 and IEC 60669-1:2017

& IEC 60669-2-1:2002+A1:2008+A2:2015 have been considered and passed.

Copy of marking plate:

For model SR-2303SAC-HP:



Remark:

1. Above label for reference only, final label marking on product shall contain the information at least. 2.Name and address of the Importer and Manufacturer must be affixed on the product when the product placed on the EU market.

3. The height of CE mark shall be at least 5mm, the height of WEEE mark shall be at least 7mm.

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Test item particulars:	
Type of electronic switch and its function (examples given in Annex AA) :	Electronically operated semiconductor switching device
Pattern number	1 when when when we are a set
Contact opening (gap) and switch performance:	normal gap / mini-gap / micro-gap / without contact gap (semiconductor switching device)
Degree of protection against access to hazardous parts and against harmful effects due to the ingress of solid foreign objects:	IP2X / IP4X / IP5X
Degree of protection against harmful effects due to the ingress of water:	IPX0 /IPX4/IPX5/IPX6
Method of actuating:	rotary / tumbler / rocker / push-button / cord-operated / momentary contact / touch / proximity / optical / acoustic / Electronic RCS / Electronic TDS / other external influences:
Method of mounting:	Built in
Method of installation:	design A /-design B
	<pre>screw-type (rigid) / screw-type (rigid and flexible) / screwless (rigid) / screwless (rigid and flexible)</pre>
Flexible cable outlet:	without / with
Rated current (A) / Rated load (VA or W):	Max 400W for Incandescent lamp.
Minimum current (A) / Minimum load (VA or	
W)	
Kind of load controlled by the switch:	
Type of switching mechanism:	
Kind of energization of the control circuit:	N/A
Type of control mechanism	N/A
Rated control voltage (V):	a.c. /d.c.
Rated control current (A):	a.c. /d.c.
Rated voltage (V):	100-240VAC
Rated frequency (Hz):	50/60Hz
Characteristic of fuses:	N/A
Electronics RCS or TDS having:	SELV parts / PELV parts

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Possible test case verdicts:

- test case does not apply to the test object: N/A

- test object does meet the requirement.....: P (Pass)

- test object does not meet the requirement...... F (Fail)

Testing.....:

Date of receipt of test item: 2021-09-29

Date (s) of performance of tests: 2021-09-29 to 2021-10-25

General remarks:

" (See Enclosure #)" refers to additional information appended to the report. " (See appended table)" refers to a table appended to the report.

Throughout this report a 🗌 comma / 🔀 point is used as the decimal separator.

General product information:

Products covered by this test report are DALI+ Push AC Phase Cut Dimmer. The product Rating(s) : 100-240V~, 50/60Hz, Max 400W for Incandescent lamp. Tests are conducted on model SR-2303SAC-HP to represent other model. All models included in this report are same rating, electrical, mechanical and physical constructions except with different model no. and appearance.

Model List:

Product name	Model name	Description
and my	SR-2303SAC-HP	
- sur-	SR-2303XAC-YYY- ZZZ	south with the second
	SR-2303XAC-YYY	100-240V~, 50/60Hz, Max 400W for Incandescent lamp.
DALI+ Push AC Phase Cut	SR-2303XX	
Dimmer	SR-2303AC	
	SR-2303SAC-HPW	
	SR-2303SAC-HPU	White white white white white
	SR-2303AC-4CH-DIN	a stat at a



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EN 60669-1& EN 60669-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

8	MARKING		. SР
8.1	General	her. m. m. n.	Р
(8.1)	Switches marked with:	et set set site	P
	- rated voltage (V):	100-240V	Р
WALT	- rated control voltage, if different from rated voltage (V)	MALIER MALIER MALIE M	N/A
JIE	- rated current (A) or rated load (VA or W):	400W	P
2012	- symbol for nature of supply:	1 - Mar Mar Mar	Р
NUTER N	- manufacturer's or responsible vendor's name, trade mark or identification mark:	Shenzhen Sunricher Technology Limited	P
Set is	- type reference:	See model list of page 4	P
2m	- symbol for mini-gap construction (m):	white white she is	N/A
+	- symbol for micro-gap construction (μ):	$\mu \rightarrow A \rightarrow A$	N/A
24	- symbol for semiconductor switching device (ε):	Entry in my	Р
WALTE .	- first IP characteristic numeral, if declared higher than 2, in which case the second characteristic numeral is also marked:	IP2X	N/A
	- second IP characteristic numeral, if declared higher than 0, in which case the first characteristic numeral is also marked:	IPX0	N/A
- In.	- rated frequency (Hz):	50/60	Р
STE	- rating and type of any fuse incorporated:	at at at a	N/A
200	- symbol for kind of load (see 8.2)	mer mer mer me	Р
WITE V	- the term "extension unit", if applicable, followed by the identifying reference	NITER WALTER WALTER WALTER	N/A
TEX WA	- the minimum height for mounting the switch indicated in the installation instruction if there is a restriction (see 10.1):	antiek antiek antiek	Р
WALT	Switches with screwless terminals: marked with an indication of the suitability to accept rigid conductors only (if any)	white white white w	N/A
WALLEY W	For electronic switches with included automatic function, number of operations shall be stated in the accompanying instruction sheet when number of operation is higher than the indicated in sub clause 19.101, 19.102 and 19.104 and 19.109	AND AND AND AND	P
white	- symbol for the adjustment of the delay time, if applicable:	A WALTER WALTER WALTER N	N/A
white	- symbol for the positions "Permanent on" and "Permanent off", if applicable:	MALTER MALTER MALTER MAN	N/A
. Alt	- symbol for "Delay time":	A at at a	N/A

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the sur	EN 60669	-1& EN 60669-2-1	20. 20.
Clause	Requirement + Test	Result - Remark	Verdict

8.2 (8.2)	Symbols		×Ρ
6. Y.	Symbols used: as required in the standard	up my me m	Р
tree wat	Marking for the nature of supply placed next to the marking for rated current and rated voltage	Tet white white white w	P
ex white	Other particular symbols used are explained in the installation instructions	t whitek whitek whitek whit	P
Whitek a	- for electronic RCS, Subclause 8.2 of IEC 60669-2-2 applies	Tet stret stret south	N/A
with the	- for electronic TDS, Subclause 8.2 of IEC 60669-2-3 applies	at let set set	N/A
8.3 (8.3)	Visibility of markings	up mu mu mu	Р
JER WALT	Markings are clearly visible with normal or corrected vision, without additional magnification	et mairet mairet maire an	P
t stek	Marking of electronic switch placed on the main part:	A 10 14 5	Р
whitek w	- the rated current or rated load, rated voltage, symbol for nature of supply, rated frequency (if required by 8.1), at least one type of load, the rating and type of any incorporated fuse (this shall be marked on the fuse-holder or in the proximity of the fuse),	WALL WALTER WALTER	unitet Lifet
et nute	- either the name, trade mark, or identification mark of the manufacturer or of the responsible vendor		P
	- length of insulation to be removed, if any	me me me	N/A
WALTE	- symbol for mini-gap construction, micro-gap construction or semiconductor switching device, if applicable	ENDING MULTER WATER WATER	P
ne m	- type reference	street and and and and a	и ^т Р <
iset whit	Information concerning more than one type of load not already marked on the electronic switch are stated in the accompanying instruction sheet	SEX WALLEX WALLEX WALLEX WA	N/A
Et WALTER	Minimum and maximum current/load are stated for each type of load	MUTER WAITER WAITER WAIT	P
whitek wh	If a dimmer is intended to be used together with an iron core transformer, information shall be given in the manufacturer's instructions that only a transformer intended to be used with a dimmer shall be used.	whitek whitek whitek whitek	N/A
ret white	Cover plates necessary for safety purposes and intended to be sold separately: marked with the manufacturer's or responsible vendor's name, trade mark or identification mark and type reference	WALTER WALTER WALTER WAL	N/A
WAL .	IP code, when applicable, marked so as to be easily discernible when the switch is mounted and wired as in normal use	white white white white	N/A

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EN 60669-1& EN 60669-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Marking clearly visible and easily legible	NUP NUP
11 J	Markings are placed on parts which cannot be removed without the use of a tool	J. J. P
8.4 (8.4)	Marking on terminals for phase conductors	P ^N
WALTER NUTER	Terminals for phase conductors (supply conductors): identified unless method of connection is of no importance, self-evident or indicated on a wiring diagram	P
	Indications not placed on screws or other easily removable part	P
int with	Terminals associated with any one pole for switches of pattern number 2, 3, 03 and 6/2: similar identification differing from that of terminals associated with other poles	N/A
whitek	Switches with more than two terminals: load terminal marked with an arrow pointing away from the terminal or with one of the symbol mentioned in 8.2	white white
WALTER W	Other terminals marked corresponding to the installation instructions	Main Main
NETER WAL	Installation not made clear by the markings: a wiring diagram is provided with each electronic switch	LIST N LIST PA
Tek WALTER	Terminals for the control circuit of a priority RCS with a current sensitive coil or voltage sensitive coil are marked with the appropriate symbol indicated in 8.2	N/A
WALTER	Terminals for the control circuit: marked according to IEC 60445 and/or with the symbols according to 8.2	N/A
8.5	Marking on terminals for neutral and earth conductors	J. P
the str	Neutral terminals: N	Р
inex whit	Earthing terminals: [earth symbol (IEC 60417- 5019:2006-08)]	N/A
et whitet	Markings not placed on screws or other easily removable parts	P
, t	Terminals for conductors not forming part of the main function of the switch:	N/A
which w	- clearly identified unless their purpose is self- evident, or	N/A
nute was	- indicated in a wiring diagram fixed to the accessory	N/A
Let Ste	Identification of switch terminals may be achieved by:	Ø P
+ whitek	- their marking with graphical symbols according to IEC 60417 or colours and/or alphanumeric system, or	WILL WP
A	- their physical dimension or relative location	P
8.6 (8.6)	Marking of the switch position	N/A

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EN 60669-1& EN 60669-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.8 (8.8)	Durability	P No.
white	Instruction sheets are written in the official language (s) of the country in which the switch is to be sold	N/A
FEK WALTEN	Special precautions necessary to take when installing the switch: details of these and clear information given in an instruction sheet which accompanies the switch	N/A
3.7	Additional requirements for marking	N/A
when w	it is possible for the installer to alter the lowest setting if indicated in an installation instruction	N/A
Jul -	the adjustment of lamp dimmers is made by the manufacturer	N/A
* ster	- for fluorescent lamps:	N/A
SEX WALT	not possible to reduce the lowest setting without a tool	N/A
inter vin	the adjustment of lamp dimmers is made by the manufacturer	N/A
4	- for incandescent lamps:	N/A
whitek	When the indication of the electronic switch state is given only by the lamp, adjustment of the lamp at the lowest control state is made as specified in the following:	e N/A
	- adjusting the lamp dimmer in the lowest control state and at rated voltage minus 10%: light still visible	N/A
	- indicator lamp	Р
INLIE W	- marking on the on-/off-state position	N/A
8.6.101)	Actual state of electronic switches intended to control the brightness of lamps is indicated	P
where the set	Off-state not marked with an "O" if the circuit on the load side is considered as live	N/A
ner uni	Symbols for "on" and "off" not used for indication of switch positions unless clearly indicate the direction of movement of the actuating members	N/A
we w	Not possible to fix cover, cover plate, or removable actuating members in an incorrect position	N/A
Let	Marking clearly visible on the front of the switch	N/A
et whitek	Switches having more than one actuating member: marking indicates the effect achieved by the operation	N/A
Inter M	Switches marked to indicate the switch position: they are so marked that the direction of movement of the actuating member to its different positions or the actual position is clearly indicated	N/A

white a

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EN 60669-1& EN 60669-2-1			
Clause	Requirement + Test	Result - Remark	Verdict

	Marking durable and easily legible. Test: 15 s with water and 15 s with 95 % n-hexane.	Liek Miller Miller
LITEX WALT	Electronic switch containing a viewing window (lens) intended to be mounted at a height greater 1,7 m: information stated in the instruction sheet	N/A
9 (9)	CHECKING OF DIMENSIONS	P ¹
NLTEK I	Switches and boxes comply with the appropriate standard sheets, if any	N/A
NUTEX WAL	Electronic switches with dimensions other than those specified in the standard sheets (if any) if they are supplied with suitable boxes	Set minet minet
10	PROTECTION AGAINST ELECTRIC SHOCK	P
10.1 (10.1)	Prevention of access to live parts	UNIT OF BIT
t st	Switches: live parts not accessible	F P
white w	Switches designed to be fitted with pilot lights supplied at voltage other than ELV have means to prevent direct contact with the lamp	N/A
and the set	Specimen is mounted as in normal use and fitted with conductors as specified	P
et white	Test probe B of IEC 61032 is applied in every possible position, an electrical indicator with a voltage between 40 V and 50 V being used to show contact with the relevant part	TATES THE P
WALTER WAL	Switches having enclosures or covers in thermoplastic or elastomeric material: additional test carried out at 35 °C \pm 2 °C. Switches are subjected for 1 min to a force of 75 N, applied through the tip of test probe 11 of IEC 61032	anisch anisch annisch State anische Biege
LIEK WALTE	Test finger applied to thin-walled knock-outs with a force of 10 N	et and the Post
et whitet	Viewing windows or the like on electronic switches intended to be mounted at a height greater than 1,7 m are subjected to a force of 30 N.	N/A
WALTER W	The test probe is not applied to membranes and the like. These parts are tested according to 13.15.1.	N/A
NUTER MALT	During the test: switches not deform and no live parts accessible with test probe 11 of IEC 61032	It with with
10.2 (10.2)	Requirements for operating parts	N/A
The working	Knobs, operating levers, push buttons, rockers and the like: of insulating material, unless:	N/A
WALTER W	 accessible metal parts separated from metal parts of mechanism by double or reinforced insulation, or 	N/A
mer we	- reliably connected to earth	5 N/A

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en an	EN 6066	9-1& EN 60669-2-1	an an
Clause	Requirement + Test	Result - Remark	Verdict

WALTER W	Requirement does not apply to removable keys or intermediate parts, such as chains or rods	N/A
ITEK WAT	For touch sensitive electronic switches the associated protective impedance does not have to comply with the requirements of clauses 16 and 23	N/A
white ret	Accessible parts (for example, sensing surface) of electronic switches with IPX0 are connected to live parts by means of a protective impedance that:	N/A
where w	consists of at least two independent resistors or independent capacitors in series of the same nominal value, or a combination of both	N/A
9 - See	- resistors comply with 102.3	N/A
Set NI	- capacitors comply with 102.2	N/A
* whitek	The removal of protective impedance is only possible by destruction of the electronic switch or by rendering it unusable	N/A
WALLEK W	Test carried out between accessible metal parts and earth, through a non-inductive resistor of 2 k Ω :	N/A
LIEX	current measured: ≤ 0,7 mA (peak value), for a.c. up to 1 kHz:	N/A
	current measured: ≤ 0,7 mA multiplied by the value of frequency in kHz, but not exceed 70 mA, for a.c. above 1 kHz	N/A
t st	current measured: ≤ 2 mA, for d.c	N/A
10.3	Requirements for accessible metal parts	⇒Ñ/A
10.3.1	Accessible parts of switches when in normal use are made of insulating material as specified.	N/A
10.3.2	Metal covers or cover plates are protected by supplementary insulation made by insulating linings or insulating barriers.	N/A
# _5F*	Insulating linings or insulating barriers:	N/A
ANI - CEN	- cannot be removed without being permanently damaged, or designed that	N/A
wine w nistek win set wints	 cannot be replaced in an incorrect position; if they are omitted, accessories are rendered inoperable or manifestly incomplete; there is no risk of accidental contact between live parts and metal covers or cover plates; precautions are taken to prevent creepage distances or clearances becoming less than the values specified in clause 23 	N/A
WALT	Linings or barrier comply with the tests of clauses 16 and 23	N/A

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EN 60669-1& EN 60669-2-1		
Clause Requirement + Test	Result - Remark	Verdict

10.3.3	Earthing of metal covers or cover plates: connection of low resistance	N/A	
10.4	Requirements for insulation of the mechanism	_≪N/A	
et let	Metal parts of the mechanism which are not insulated from live parts: not protrude from enclosure	N/A	
whitek	Switches operated by means of a removable key or similar device: metal parts of mechanism insulated from live parts	N/A	
10.5	Requirements for insulation of the mechanism with respect to the surrounding environment	N/A	
nt m	Metal parts of mechanism not accessible and insulated from accessible metal parts, unless	N/A	
in white	- separated from live parts (creepage distances and clearances have at least twice the value specified in clause 23), or	N/A	
m	- reliably connected to earth	N/A	
WALTER WAL	Unenclosed stack-type switches having a metal spindle pivoting in a metal base plate: creepage distances and clearances between live parts and the spindle, and between metal parts of the mechanism and base plate, have at least twice the values specified in clause 23	N/A	
10.6	Requirements for switches operated indirectly		
Whitek.	Switches operated by means of a removable key or an intermediate part: key or an intermediate part can only touch parts which are insulated from live parts	N/A	
NALIEK NI	Key or intermediate part: insulated from metal parts of mechanism, unless	N/A	
LIEK WALL	Creepage distances and clearances between live parts and metal parts of mechanism have at least twice the values specified in clause 23	N/A	
10.7	Requirements for switches with replaceable pull cord	N/A	
Tet	Cord-operated switches: impossible to touch live parts when fitting or replacing the pull cord	N/A	
(10.101)	If a cover or cover-plate or a fuse can be removed without a tool or if the installation instructions for the user indicate that, for the purpose of maintenance, when replacing the fuse, covers and cover plates fastened by means of a tool have to be removed, the protection against contact with live parts is assured even after removal of cover or cover-plate (this requirement does not apply when the electronic switch must be dismounted from its supporting means for the replacement of the fuse-link)	MILTER P	
Whitek W	Compliance is checked with the test probe B of IEC 61032 (10 N); test probe does not touch live parts	s ^{mirit} P	

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Clause	Requirement + Test	Result - Remark	Verdict

(10.102)	Hole in electronic switches for adjusting the setting:	
50 - 50 50 - 50	The adjustment does not involve the risk of an electric shock	N/A
et untret	Compliance is checked by applying a test pin according to figure 101 through the hole; test pin does not touch live parts	N/A
(10.103)	Ventilation openings over live parts:	N/A
white 5	A foreign body introduced into these openings do not come into contact with any live parts	N/A
Intret win	Compliance is checked by applying the test probe 13 of IEC 61032 through the openings; pin of test probe does not touch live parts	N/A
11 (11)	PROVISION FOR EARTHING	N/A
at minet	This clause does not apply to SELV electronic switches.	N/A
11.1	General	N/A
NITEX WAL	Accessible metal parts: provided with, or permanently and reliably connected to, an earthing terminal (does not apply to the metal cover plates mentioned in 10.3.2)	N/A
iet white	Small screws and the like, isolated from live parts, are not considered as accessible parts which can become live in the event of an insulation fault	N/A
11.2 🖉	Earthing terminals	N/A
WIL .	Earthing terminals: with screw clamping or screwless terminals and comply with clause 12	N/A
11.3 🛷	Requirements for surface-type switches	N/A
LIEK WALT	Surface-type switches with an enclosure of insulating material, with IP > X0 and more than one cable inlet, are provided with:	N/A
st at	- an internal fixed earthing terminal, or	N/A
WAL	- adequate space for a floating terminal allowing the connection of an incoming and outgoing conductor	N/A
11.4	Test for earthing connection	N/A
NUTER WAT	Connection between earthing terminal and accessible metal parts: of low resistance	N/A
d .0	Test current equal to 1,5 In or 25 A (A)	<−N/A
min	Resistance $\leq 0,05 \Omega (\Omega)$	N/A
(11.101)	Printed circuit of printed circuit boards board may be used to provide protective earthing continuity if:	N/A

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	- a single track is used with two independent means of connection on each end which will withstand a single short circuit test similar to	t ret ret uret	mit ex mi
	withstand a single short circuit test similar to 101.3 and immediately after the switch shall fulfil the requirements of 11.4,	white white whe	N/A
m. m	In addition:	white white white w	N/A
INLIFEK WINL	 the laminated of the printed circuit board shall consist of epoxide glass fabric copper-clad laminated sheet, and 	strek whitek whitek whi	N/A
NULL WILL	- the printed circuit boards shall comply with the overload test of 101.1.1.2.	et while while white	N/A
12	TERMINALS	t the the state	P
12.1 (12.1)	General	mer mer m	Р
WALTE WA	Switches provided with screw-type terminals or with screwless terminals	INTER WAITER WAITER WA	P
NUTER WALTS	Clamping means of terminals: not serve to fix any other components	et united white	P
	All the test on terminals, with the exception of the test of 12.3 11, made after the test of 15.1	a the start mark	WIN P
whitek w	Rigid solid conductors shall be of class 1, rigid stranded conductors shall be of class 2 and flexible conductors shall be of class 5 according to IEC 60228	WALTER WALTER WALTER W	P
WALL WAL	Terminals having screw clamping which are in compliance with IEC 60998-2-1 can be used.	LIEK WALTE WALTE WAS	Р
et watter	Terminals having screw clamping complying with IEC 60998-2-1 are considered to be in compliance with the requirements and the tests of Subclause 12.2, except those of 12.2.6 and 12.2.7 and 12.2.8, provided they are chosen according Table 2.	whitet whitet white	N/A
12.2	Terminals with screw clamping for external coppe	er conductors	P.
12.2.1	Terminals with screw clamping having cross- sectional areas as shown in Table 4	unt when when we	dr SdP
er m	- for rigid copper conductors only, or	LIE WALL WALL WAL	N/A
JEK WALTER	- for both rigid and flexible copper conductors (tests carried out with rigid and then repeated with flexible conductors)	A WALTER WALTER WALTER	P
NINE TELE	Rated current (A)	1.67A	NUT IN
	Type of conductor (rigid / flexible):	Rigid	
5 3	Smallest / largest cross-sectional area (mm ²)::	0.5 / 1.0	5

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Clause Requirement + Test	Result - Remark	Verdict
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NUTER	Diameter of largest conductor (mm):		NITE .
20 0	Figure of terminal	1 /2/3/4/5	
LIER WILL	Minimum diameter D (minimum dimensions) of conductor space: required (mm); measured (mm) :	2.5 mm; 3.0mm	PN
12.2.2	Terminals allow the conductor to be connected without special preparation	t intret antret water any	Р
12.2.3	Terminals with screw clamping have adequate mechanical strength	stret surge minet and	P
NUTEK AN	Screws and nut for clamping the conductors have metric ISO thread or a comparable thread	and the state state	У Р
	Screws not of soft metal such as zinc or aluminium	it was sur an	Р
12.2.4	Terminals with screw clamping are resistant to corrosion	et white white white w	P
12.2.5	Terminals with screw clamping clamp the conductor (s) without undue damage to the conductor (s)	See appended table 12.2.5	NP
WALTER V	For screws having a hexagonal head with slot for tightening, test shall be made twice, first the torque applying to the hexagonal head and then applying the torque by means of a screwdriver	MUTER WALTER WALTER WALTER	SUD-CITE
in an	During the test: conductor not slip out, no break near clamping unit and no damage	The sunth sunt a	Р
12.2.6	Terminals with screw clamping clamp the conductor reliably between metal surfaces	See appended table 12.2.6	Р
MALLE	During the test: conductor not move noticeably	Tet with super with	P
12.2.7	Terminals with screw clamping are designed or placed that the conductor cannot slip out while the clamping screws or nuts are tightened	See appended table 12.2.7	P
er ret	After the test: no wire of the conductor escaped outside the clamping unit thus reducing creepage distances and clearances to values lower than those indicated in table 23	set whitet whitet whitet w	P
12.2.8	Terminals not work loose from their fixing to the switch	white white white wh	Р
which w	Movement of the terminal is allowed as long as it is sufficiently limited so as to prevent noncompliance with this document	united until white white	P
6 - 24	Use of sealing compound or resin is considered to be	sufficient, provided that:	N/A
TEX WALT	- the sealing compound or resin is not subject to stress during normal use, and	of antifet watter watter w	N/A
whitek	- the effectiveness of the sealing compound or resin is not impaired by temperatures attained by the terminal	watter water water water	N/A
10	Torque test:	at at at at	P

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Requirement + Test	Result - Remark	Verdict
		EN 60669-1& EN 60669-2-1 Requirement + Test Result - Remark

	- rated current (A):	1.67A	P
	- solid rigid copper conductor of the largest cross- sectional area (mm ²) (table 4)	1.0 mm ²	Р
at	- torque (Nm) (table 5 or appropriate figures 1, 2, 3, 4)	1.2 Nm	P
SUNC.	Screws and nuts tightened and loosened 5 times. During the test: terminals not work loose and show no damage	would would would	P
12.2.9	Clamping screws or nuts of earthing terminals: adequately locked against accidental loosening, not possible to loosen them without the aid of a tool	unti sunt sunt	N/A
12.2.10	Earthing terminals: no risk of corrosion	- m m	N/A
an white	Body of brass or other metal no less resistant to corrosion	et while white wh	N/A
white	If the body is a part of a frame or enclosure of aluminium alloy, precautions are taken to avoid the risk of corrosion	watter watter watte	N/A
12.2.11	Pillar terminals: distance g no less than the value specified in figure 1: required (mm); measured (mm):	UNITE SUMITE SUMITE	Р
NET WAS	Mantle terminals: distance g no less than the value specified in figure 5: required (mm); measured (mm):	att anute of	P
12.2.12	Lug terminals:		N/A
	- used only for switches having rated current \ge 40 A	me me m	N/A
white	- fitted with spring washers or equally effective locking means	Whitek whitek white	N/A
12.3	Screwless terminals for external copper conducto	rs the the	N/A
12.3.1	Screwless terminals of the type suitable for:	we we we	N/A
all and	- for rigid copper conductors only, or	at at at	N/A
et white	- for both rigid and flexible copper conductors (tests carried out with rigid and then repeated with flexible conductors)	white white white	N/A
de la	12.3 is not applicable to switches provided with	Shi shi sh	N/A
WAL A	- screwless terminals requiring the fixing of special devices to the conductors before clamping in the screwless terminal	NUTE WALTER WALTER	N/A
at at	- screwless terminals requiring twisting of the conductors	st white where we	N/A
t suret	- screwless terminals providing direct contact to the conductors by means of edges or points penetrating the insulation	WALL WALL WAL	N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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12.3.2	Screwless terminals provided with clamping units which allow the proper connection of rigid or of rigid and flexible conductors having nominal cross- sectional areas as shown in table 8		N/A
	Rated current (A):	me me m	
er nure	Type of conductor (rigid / flexible):	t the the state of	5 . 55
.te	Smallest / largest cross-sectional area (mm ²)::	my my my my	A
MALTE	Diameter of largest rigid conductor (mm)	State shall write white	we con
*	Diameter of largest flexible conductor (mm):	Mr. M. W.	
12.3.3	Screwless terminals allow the conductor to be connected without special preparation	HIER WAITER WALTER WALTER	N/A
12.3.4	Parts of screwless terminals intended for carrying current of materials as specified in 22.5	et whitet whitet white w	N/A
12.3.5	Screwless terminals clamp specified conductors with sufficient contact pressure without undue damage to the conductor	whitek whitek whitek why	N/A
NNUT V	Conductor clamped between metal surfaces	TEX NUTEX INLIEU MAIL	N/A
12.3.6	It is clear how the connection and disconnection of the conductors is to be made	at an area when	N/A
et white	Disconnection of a conductor require an operation, other than a pull, so that can be made manually with or without a general-purpose tool	and the second second second	N/A
- INLIEK	It is not possible to confuse the opening for the use of a tool with the opening intended for the conductor	the state with and	N/A
12.3.7	Screwless terminals intended for the interconnection c	f two or more conductors:	N/A
inter a	- the clamping of one of the conductors is independent of the clamping of the other conductor (s)	NITER WATER WATER WATER	N/A
et mires	- during the connection or disconnection the conductors can be connected or disconnected either at the same time or separately	the working work work w	N/A
. UEK	 each conductor introduced in a separate clamping unit 	white white white white	N/A
NUTER NI	It is possible clamp securely any number of conductors up to the maximum as designed. Number of conductors; Nominal cross-sectional area (mm ²):	unity white white white	N/A
12.3.8	Screwless terminals: adequate insertion obvious and over-insertion prevented	et millet multitet multer w	N/A
WALTER	Screwless terminals of switches: undue insertion of the conductor prevented by a stop if further insertion is liable to reduce creepage distances and/or clearances required in table 23, or to influence the	whitet whitet whitet whi	iet would
	mechanism		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

12.3.9	Screwless terminals properly fixed to the switch	let the state state	N/A
Set S	Not work loose when conductors are connected or disconnected	and when when the	N/A
et .et	Self-hardening resins used to fix terminals which are not subject to mechanical stress	at which which which we	N/A
12.3.10	Screwless terminals withstand mechanical stresses occurring in normal use	See appended table 12.3.10	N/A
White y	During application of the pull, conductor not come out of the terminal	watter watter watter watte	N/A
Soft of	Test with apparatus shown in figure 9	See appended table 12.3.10	N/A
1 S	During the test conductors not move noticeably in the clamping unit	at at at the	N/A
A NALTER	After these tests: neither terminals nor clamping means have worked loose and conductors show no deterioration	WALL WALL WALL WALL	N/A
12.3.11	Screwless terminals withstand electrical and thermal stresses occurring in normal use	See appended table 12.3.11	N/A
m a	After the test: inspection show no changes	untit wat was we	N/A
LITER WAL	Repetition of test according to 12.3.10: screwless terminals withstand mechanical stresses occurring in normal use	See appended table 12.3.11	N/A
white	During application of the pull conductor not come out of the terminal	white white white	N/A
MUTE	Test with apparatus shown in figure 10	See appended table 12.3.11	N/A
	- measured after 24 th and 192 th temperature cycle	m m m	N/A
write w	- measured after any three of 48 th , 72 th , 96 th , 120 th , 144 th or 168 th temperature cycle	NIET WALTER WAITE WALTER	N/A
LIEK WALT	During the test conductors not move noticeably in the clamping unit	NEX MALTER WALTER WALTER M	N/A
Whitek	After these tests: neither terminals nor clamping means have worked loose and conductors show no deterioration	Whitek whitek whitek white	N/A
12.3.12	Screwless terminals: connected rigid solid conductor remains clamped, even when deflected during normal installation	See appended table 12.3.12	N/A
13 📣	CONSTRUCTIONAL REQUIREMENTS	LIFE MUTE WALL WALL V	№ Р.
13.1 🧹	Mechanical requirements for insulating means	, s at the	🦽 P 🔬
whitek	Insulating lining, barriers and like: adequate mechanical strength and secured in a reliable manner	white white white wh	P.G
13.2	Installation requirements	white white white white	Р
. At	Switches constructed so as to permit:	a to the tot	Ξ

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Clause Requirement + Test	Result - Remark	Verdict
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NALIEK	- easy introduction into the terminal and reliable connection of the conductors in the terminals,	MULTER
d.	except for lead wires of pilot lights	Р
in we	- correct positioning of the conductors	P.V
* 1	- easy fixing of the switch to a wall or in a box	P
	 adequate space between the underside of the main part and the surface on which the main part is mounted or between the sides of the main part and the enclosure (cover or box) 	SUP P
NUTEX IN	Surface-type switches: fixing means do not damage insulation of the cable	N ¹ P
ret whit	Switches comprising screwless terminals: connecting and/or disconnecting means of the screwless terminals cannot be activated by the conductors during and after installation of the switch in a box or on a wall	N/A
Nº LET	Compliance is checked by inspection and in case of doubt by the following test	N/A
where we we	The test is carried out with a solid copper conductor having the smallest cross-sectional area, as specified in 12.3.2 (mm ²)	N/A
	If it is not possible to exert a force onto the connecting / disconnecting means, the product is deemed to comply with the requirements of this sub clause without further tests	N/A
WALTER	During the application of the pull, the conductor do not come out of the screwless terminal	N/A
Intret of	Switches classified as design A: permit easy positioning and removal of the cover or cover plate, without displacing the conductors or activating the connecting and/or disconnecting means of screwless terminals	N/A
3.3	Fixing of covers, cover plates and actuating members	P P
3.3.1	Covers, cover-plates and actuating members or parts of them intended to ensure protection against electric shock:	Р
White y	- held in place at two or more points by effective fixings	N/A
ETEK M	 fixed by means of a single fixing, e.g. by a screw, provided that they are located by another means (e.g. by a shoulder) 	N/A
WALT	Where the fixing of covers, cover plates or actuating members of switches of design A serves	in m
	to fix the main part there shall be means to maintain the main part in position, even after removal of the covers, cover plates or actuating members.	N/A
3.3.2	Covers, cover plates or actuating members whose fixing is of the screw-type:	N/A

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Clause	Requirement + Test	Result - Remark	Verdict	

WITE .	Compliance checked by inspection only	the set set with	N/A
13.3.3	Covers, cover plates or actuating members whose fi screws and whose removal is obtained by applying a approximately perpendicular to the mounting / suppo	a force in a direction	N/A
et intre	- when their removal may give access, with the test probe B of IEC 61032, to live parts:	by the tests of 20.5	N/A
WALTER.	- when their removal may give access, with the test probe B of IEC 61032, to non-earthed metal parts separated from live parts in such a way that creepage distances and clearances have the values at least equal to those shown in table 23:	by the tests of 20.6	N/A
at su	- when their removal may give access, with the test probe B of IEC 61032, only to	by the tests of 20.7	N/A
in me	- insulating parts, or	et miles mile main w	N/A
+ _d*	- earthed metal parts, or		N/A
whitek v	- metal parts separated from live parts in such a way that creepage distances and clearances have at least twice the values shown in table 23, or	White white white white	N/A
NITEX NO	- live parts of SELV circuits not greater than 25 V AC and 60 V DC:	tet autet mitet	N/A
13.3.4	Covers, cover-plates or actuating members whose find screws and whose removal is obtained by using a to manufacturer's instructions given in an instruction shows a structure of the structure of	ool, in accordance with the	N/A
WALTER W	By the same tests of 13.3.3 except that the covers, cover plates, actuating members or parts of them need not come out when applying a force not exceeding 120 N in directions perpendicular to the mounting / supporting surface	whitet whitet whitet white	N/A
13.4	Openings in normal use	the star start	P
ine whi	Switches: no free openings in their enclosures according to their IP classification	THE WALTER WALTER WALTER W	N/A
WALTE	Free openings according to 10.102 and 10.103 are accepted.	Whitek whitek whitek whi	N/A
(13.5)	Knobs of electronic switches are securely fixed in a reliable manner	what while while while	N/A
nitet w	knobs used to indicate the position of switches: not possible to fix them in a wrong position, if this may result in a hazard	and antifet antifet antifet	N/A
St 5	Pull and push tests:	a at at at	N/A
- MITEK	Where it is possible to apply an axial pull in normal use, an axial pull shall be applied for 1 min to try to pull off the knob:	white white white with	N/A
1000	- The pull force to be applied is normally 15 N	and the second s	N/A



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2m	EN 60669-1& EN 60669-2-1		
Clause	Requirement + Test	Result - Remark	Verdict

	- if the knob is intended to be pulled in normal use this is increased to 30 N.	NUTEX MULTER MOUTER MULT	N/A
LIEX WA	- An axial push of 30 N for 1 min is then applied to all knobs.	Tet allet wiret wired	N/A
1 1	During and after these tests:	Shi wa at	N/A
m	- the electronic switch shows no damage	ALTER INTER WATER	N/A
INLIEK	- an knob have not moved so as to impair compliance with this standard	the state what we	N/A
13.6	Mounting means	and an an a	Р
INCTE W	Screws or other means for mounting the switch on a surface or in a box or enclosure: easily accessible from the front	street and the and and	Р
in mar	Fixing means not serve any other fixing purpose	et intre white white	M Ph
13.7	Combination of switches	i s it it	N/A
WAL	Combinations of switches, or of switches and socket-outlets, comprising separate bases: correct position of each main part is ensured	white white white a	N/A
, et	Fixing of each main part be independent of the fixing of the combination to the mounting surface	and survey and survey	N/A
13.8 🔊	Accessories combined with switches		N/A
Et whit	Accessories combined with switches: comply with their standard	a the surface market	N/A
13.9	Surface-type switches having an IP code higher	than IP20	N/A
	Surface-type switches with IP > 20 are in according to their classification when fitted with conduits or with sheathed cables	white white white on	N/A
ur u	Surface-type switches with IPX4, IPX5 and IPX6 have provisions for opening a drain hole	and white white white	N/A
ir yni it yr	Switches provided with a drain hole: it is not less than 5 mm in diameter, or 20 mm ² in area with a width and a length not less than 3 mm:	Ø mm / mm²	N/A
211-	Drain hole: effective	white white white a	N/A
WALLEY.	Lid springs (if any): of corrosion resistant material (bronze or stainless steel)	NUTER INLICE INNUTER IN	N/A
13.10	Installation in a box	in it at the	¢P
nt with	Switches to be installed in a box: conductor ends can be prepared after the box is mounted in position, but before the switch is fitted in the box	at the rest rest	Р
t set	Main part has adequate stability when mounted in the box	which which which	P
13.11	Connection of a second current-carrying conduc	tor Store Store	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

10	Surface-type switches with IP > IPX0, pattern	54
white wh	numbers 1, 5 and 6, with more than one inlet opening, provided with:	N/A
the work	- fixed additional terminal complying with the requirements of clause 12, or	N/A
	- adequate space for a floating terminal	N/A
13.12	Inlet openings	N/A
WALTE W	Inlet openings: allow the introduction of the conduit or the sheath of the cable	N/A
INLIEK WIN	Surface-type switches: intended conduit or the sheath of the cable can enter at least 1 mm into the enclosure	N/A
ATE WALTER	Inlet openings for conduit entries of surface-type switches: capable of accepting conduit sizes of 16, 20, 25 or 32 or a combination of at least two of these sizes not excluding two of the same size	N/A
	Inlet openings for cable entries of surface-type switches: capable of accepting cables having the dimensions specified in table 13 or be as specified by the manufacturer: rated current (A); limits of external diameter of cables min/max (mm)	N/A
13.13	Provision for back entry from a conduit	N/A
IEK WALTER	Surface-type switches: provision for back entry (if are intended)	N/A
13.14	Switch provided with membranes or the like for inlet openings	N/A
when y	Switch is provided with membranes or the like for inlet openings: replaceable	N/A
13.15	Requirements for membranes in inlet openings	N/A.
(13.15.1)	Membranes, lenses and the like reliably fixed and not displaced by the mechanical and thermal stresses occurring in normal use	N/A
ex whitek	Test on electronic switches fitted with membranes, lenses and the like subjected to the ageing treatment specified in 15.1:	N/A
	Electronic switches placed at 40 $^{\circ}$ C ± 2 $^{\circ}$ C for 2 h; force of 30 N applied for 5 s by means of the tip of test probe 11 of IEC 61032. During these tests: membranes, lenses and the like are not deformed, live parts not accessible	N/A
TEK WALTER	Membranes, lenses and the like likely to be subjected to an axial pull: - axial pull of 30 N applied for 5 s. During this test: membranes, lenses and the like not come out	N/A
Jun 1	Test repeated on membranes, lenses and the like not subjected to any treatment	N/A

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	EN 60669-1& EN 60669-	2-1 N N N	
Clause	Requirement + Test	Result - Remark	Verdic
20	I It for the the state must work	mer mer me	10 10
13.15.2	Membranes be so designed and made of such material that: Introduction of the cables into the switch is permitted when the ambient temperature is low.	and the month of the of	N/A
et white	Test on membranes not subjected to the ageing treatment, those without opening being suitably pierced:	et whe whe where	N/A
WALTER	Switches kept at a temperature of (-15 ± 2) °C for 2 h: possibility to introduce cables of the heaviest type through the membranes	whitek whitek whitek	N/A
INLIEK UN	After the test: no harmful deformation, cracks or similar damage	THEY MITEY MAILEY W	N/A
13.16	Pilot light units		N/A
er whitek	Pilot light units comply with IEC 60669-2-1:2002, IEC 60669-2-1:2002/AMD1:2008 and IEC 60669-2-1:2002/AMD2:2015, 101.1.1.1 and Clause 102, as far as applicable	- white white white	N/A
(13.101)	Cut-outs in electronic switches for motor speed control circuits: non-self-resetting	Tet stet with	N/A
(13.102)	Electronic switches for the control of the voltage of iron core transformers for extra low-voltage incandescent lamps (for example, halogen): maximum tolerance of the phase-control angle between the positive and negative half-wave of $\pm 2^{\circ}$:	and an an a	N/A
(13.103)	TDS shall be of the resetting type	i white when when	N/A
14 5	MECHANISM	- it it set	P
	Clause only applicable to electronic switches provided with mechanical switching devices	which which where	Р
14.1 🔊	Indication of the position	We first white white w	м
LIEK WALT	Actuating member of a switch, when released, automatically take up the position corresponding to that of moving contacts	Liet whilet whilet whi	P P
14.2	Rest and intermediate position	t at at at	N/A
240 C	Moving contact of switches can come to rest only in	mer and an	N/A

N/A

N/A

N/A

N/A

N/A

N/A

500 V / 750 V / 1250 V /

2000 V

-

14.3

"on" and "off" positions

Undue arcing

actuating member, and

Intermediate position permissible if:

No undue arcing in slowly operation

it corresponds to the intermediate position of the

the insulation between fixed and moving contacts is adequate. Electric strength test as specified in

16.3: test voltage a.c. for 1 min (V):

$\mathbf{\mathbf{W}}$

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an an	EN 60669-1& EN 60669-2-1		
Clause	Requirement + Test	Result - Remark	Verdict

unditer un	Test carried out at the end of the test of clause 19.1: breaking of the circuit 10 times, actuating member moved over a period of 2 s. During the test: no sustained arcing	N/A
14.4	Making and breaking	N/A
er white	Switches of pattern numbers 2, 3, 03 and 6/2 make and break all poles substantially simultaneously	N/A
WALLEY V	Neutral pole of switches of pattern number 03 not make after or break before the other poles	N/A
14.5	Action of the mechanism without cover or cover plate	N/A
ne m	Action of the mechanism: independent of the presence of cover or cover plate. Test: no flicker	N/A
14.6	Cord-operated switches: effecting a change by application and removal of a steady pull not exceeding:	N/A
S STER	- 45 N applied vertically, and	N/A
20	- 65 N applied at 45° ± 5°	N/A
(14.101)	Position indicator used in RCS equipped with an incorporated hand-operated device indicates the position of the switching circuit clearly and without ambiguity	N/A
et white	TDS equipped with an incorporated hand-operated device and a position indicator is used indicates the position of the switching circuit clearly and without ambiguity	N/A
15	RESISTANCE TO AGEING, PROTECTION PROVIDED BY ENCLOSURES OF SWITCHES, AND RESISTANCE TO HUMIDITY	UTE VUP
15.1	Resistance to ageing	¢P
me m	Switches are resistant to ageing	Р
ister whit	Parts intended for decorative purposes only, such as certain lids, are removed	Pos
et miret	Switches and boxes placed for 7 days (168 h) in a heating cabinet at 70 $^\circ\text{C}\pm$ 2 $^\circ\text{C}$, Stranger
	- no crack visible after test with normal or corrected vision without additional magnification	P
an a	- no sticky or greasy material as a result of heat	Ser P
Stell on	- no trace of cloth (forefinger pressed with 5 N)	P
20	- no damage	Р
15.2	Protection provided by enclosures of switches	P
15.2.1	General	Р
WALTER .	Enclosure of the switch provides protection against access to hazardous parts, against harmful effect due to ingress of solid foreign objects and against effects due to ingress of water in accordance with the IP classification of the switch	P P

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3	Clause	Requirement + Test	Result - Remark	Verdict

15.2.2	Protection against access to hazardous parts and ag ingress of solid foreign objects	painst harmful effects due to	N/A
15.2.2.1	General	a at at at	N/A
e an	Glands: torque (Nm) (2/3 of torque applied in 20.4) :	The write write write w	120
et Jet	Screws of the enclosure: torque (Nm) (2/3 table 5):	h at at at a	5 ⁶⁴ - 55
W.	Parts which can be removed without the aid of a tool are removed	would write write write	N/A
Junite 4	Glands are not filled with sealing compound or the like	WALLER WHITE WALL WALL	N/A
15.2.2.2	Protection against access to hazardous parts	wet wet wret whet	N/A
A	Appropriate test according to IEC 60529:	IP20	N/A
15.2.2.3	Protection against harmful effects due to ingress of s	olid foreign objects	N/A
L st	Appropriate test according to IEC 60529:	IP20	N/A
whitek w	For the test of the first characteristic numeral 5, enclosures of switches are considered to be of category 2 (see IEC 60529:1989 and IEC 60529:1989/AMD1:1999, 13.4); dust not penetrate in a quantity to interfere with satisfactory operation or impair safety	WALTER WALTER WALTER WALTER	N/A
	For the test of the first characteristic numeral 6, enclosures of switches are considered to be of category 1 (see IEC 60529:1989, 13.6); no dust penetrate	Antite write write wr	N/A
15.2.3	Protection against harmful effects due to ingress of water		N/A
WITEK NI	Enclosure of switches provide a degree of protection against harmful effects due to ingress of water in accordance with their IP classification	while while white while	N/A
d.	Appropriate test according to IEC 60529	IP 1	N/A
The Main	Flush-type and semi-flush-type switches fixed:	Tet the atter when a	N/A
A MUTER	 in a test wall using an appropriate box in accordance with the manufacturer's instructions 	- ret ret with a	N/A
4	- in a test wall according to figure 21	my my my m	N/A
MALTE A	Screws of the enclosure: torque (Nm) (2/3 table 5):	Set she when when	MALT
JEN IN	Glands: torque (Nm) (2/3 of torque applied in table 22)	at the test the	Just-
SEX MALTE	Specimens withstand an electric strength test specified in 16.3 which is started within 5 min of completion of the test to 15.2	et une and with	N/A
15.3	Resistance to humidity	The second second	Р
min	Switches proof against humidity which may occur in normal use	WALTER WALTER WALTER WALT	P

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Clause	Requirement + Test	Result - Remark	Verdict
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white whi	Compliance checked by a humidity treatment descril humidity cabinet containing air with relative humidity 95 %. Specimens kept in the cabinet for:		P
the water	- 2 days (48 h) for switches with IPX0	2 days (48 h)	P
st 15	- 7 days (168 h) for switches with IP>X0	and the state	N/A
me	After this treatment: specimens show no damage	MUTER INITE WALL WAL	P
16 🦽	INSULATION RESISTANCE AND ELECTRIC STRE	NGTH	P
16.1 (16)	General	NUTE WALT WALT WAL	JU. P
INTER WAL	One pole of any pilot lights (if available), are disconnected for this test	and the whet whet	N ^{SP} P
TEK NITEK	Insulation resistance and electric strength of switches be adequate	at lef lef ster	́Р
A MUTER	Insulation resistance and electric strength are measured with the protective impedances according to 10.2 disconnected.	white white white we	Р
16.2 (16.1)	Test for measuring the insulation resistance	with the the state	d.
where wh	The insulation resistance measured 1 min after application of 500 V_{DC}	See appended table 16.2	P
NUTER WALT	In addition, if electrically independent pattern numbers are combined in a common base, additional tests for each combination performed	att of multiple on the of	P
16.3 (16.2)) Electric strength test		P
t at	Electric strength: AC test voltage applied for 1 min	See appended table 16.3	Р
white w	In addition, if electrically independent pattern numbers are combined in a common base, additional tests for each combination performed	white white white white	JUNY JYP
17	TEMPERATURE RISE	NET WALT WALL WAT	Р
17.1	General	at at let state.	P
(17)	Switches so constructed that the temperature rise in normal use is not excessive	white white white we	Р
whe .	No oxidation or any other deterioration of contacts, if any	white white white white	Р
white w	Material and components of electronic switch are not adversely effected by the temperature rise in normal use	white white white white	P
Tet whitet	The electronic switches are loaded until steady- state temperature is reached at a voltage between 0,9 and 1,1 times rated voltage, whichever is the more unfavourable.	and white white white	P
* whitek w	Dimmers operating with leading and trailing edge shall be tested in both modes with the relevant load.	whitek whitek whitek white	Sun Life

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nut must	Mart with the	EN 60669-1& EN 60669-2-1	- Murry
Clause	Requirement + Test	Result - Remark	Verdict

	at the star strate	10 V	1
	In lamp dimmers and speed controllers, the setting is adjusted such that the highest temperature rise will occur.	MITER WATER WATER WATER	Р
ere we	For electronic TDS, Subclause 17.1 of IEC 60669- 2-3 is applicable.	Tet white white white w	N/A
et init	During the test:	t set set whet when all	P
1	- electronic switch state not change	me me m	Р
MALTE	- fuses and other protective devices not operate	Tet the street with	P
Jet	- permissible temperature rises determined in table 102, column concerning clause 17, not exceeded	See appended table 17	× P
n s A	After the test, electronic switch is in operating condition	the water water	, ⊳P
in whit	Sealing compounds, if any, have not flowed	Et white white white wh	N/A
18 🦽	MAKING AND BREAKING CAPACITY	in the the the the	≻ P.≪
18.1	General	white white white whe	-√ ^P P
(18)	Electronic switches have adequate making and breaking capacity	stret milet white white	N ^N P
NUTEX M	Test carried out only on electronic switches provided with mechanically or electromechanically operated contact mechanisms	at white white white w	PN
ex mus	Contact mechanisms have adequate making and breaking capacity	a state with white way	Р
- INLIEK	Test made on three new specimens of the complete contact mechanism	the state state with	Р
130°	Model/type reference:	See model list of page 4	
Inthe In	Pattern number:	1 st stat stat miles	
An	Rated current (A) / Rated load (W or VA):	1.67A	
The wind	Rated voltage (V):	100-240V	
+ 1	Test for electronics switches for the control of:	White the second second	Р
WALL	- fluorescent lamp loads, as specified in 18.2 (18.1) of part 1;	white white white white	N/A
WALTE.	- motor speed control circuits, as specified in 18.2 (18.1) of part 1 and, additionally, in 18.101;	and the postility water water	N/A
NITEK W	 voltage of iron core transformers for extra low-voltage incandescent lamps, as specified in 18.2 (18.1), 18.3 (18.2) of part 1 and, additionally, in 18.102; 	white white white	N/A
WILLEY	 voltage of electronic step-down converters for extra low-voltage incandescent lamps, as specified in 18.3 (18.2) of part 1; 	WALL WALL WALL WALL	N/A
	- other types of load, as specified in 18.2 (18.1) and 18.3 (18.2) of part 1.	when with all the	Р
1.5			2010



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Clause	Requirement + Test	Result - Remark	Verdict

white whi	- self-ballasted lamps, as specified in 18.2 (18.1) of part 1.	NUTER MALIER MALIER MALIE	N/A
1th 50	Rate of operation (operation per minute)	30 operations per minute	
et whitet	Electronic switches whose cycle of operation limited by their application: rate of operation specified by the manufacturer (operation per minute):	LE WALL WALL WALLEY WALL	
WINLIEK WI	Electronic switches fitted with conductors having nominal cross-sectional area as for the test of clause 17 (mm ²)	1.0 VILLEY VILLEY VILLEY	
18.2 (18.1)	Overload	all all all the states	P
4	Test with $\cos \phi$ 0,3 alternating current	in the con so	
TE MUT	- test voltage (1,1 Vn) (V):	264V	in Th
1 A	- test current (1,25 ln) (cos φ 0,3) (A):	2.25A	€ <i>- 1</i>
white y	- 200 operations; rate (operations per minute):	30 operations per minute	Wer.
(18.1)	- electronic switches whose rate of operation is limited by their application (for example, heat and light sensors): electronic switch is set to the shortest cycle time possible and re-activated at the end of each cycle within a time of (2 ± 0,5) s :	Notet water water water	wouldet
i st	- samples number:	3	
in white	During the test: copper wire F not melt, specimens function correctly, no sustained arcing or welding of contacts	WALTER WALTER WALTER WAS	Per
me n	After the test: specimens show no damage	NUTER INTE WALT WALT	√ [™] P
to a	During the test: specimens are not lubricated	a at at	1. Art
(18.1)	Test with $\cos \varphi$ 0,3 alternating current for electronics	TDS	N/A
the set	- test voltage (1,1 Vn) (V):	a at at at	
241-	- test current (1,25 ln) (cos φ 0,3) (A):	it while white white wh	N/A
the state	- 200 operations; rate (operations per minute):	and the state of	N/A
suntret sur	- electronic TDS whose rate of operation is limited by their application (for example, heat and light sensors): electronic TDS is set to the shortest cycle time possible and re-activated at the end of each cycle within a time of (2 ± 0.5) s	WALTER WALTER WALTER WALTER	N/A
ner which	- samples number:	LIES MITE MAIL MALL	N/A
at at	During the test: no sustained arcing		⊘ [_] N/A
- wais	After the test: specimens show no damage	INTE WATE WATE WAT	N/A
18.3 (18.2)	Overload test with filament lamps	a de de de	N/A
whitek wh	Test with a number of tungsten filament lamps or a nu (switches with In \leq 16 A / Vn \leq 250 V and switches of Vn $>$ 250 V)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
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	at at let the one of the	The second second	
WITER IN	- test voltage (Vn) (V)	at all all all when	NITE .
50 - 41	- test current (≥ 1,2 ln) (A)	up mu mu m	
LIE MLI	- number of 200 W tungsten filament lamps:	12 Jet with with a	- n
d. A	- 200 operations; rate (operations per minute):	30 operations per minute	
MALIN	- samples number:	3 51 51 51 51	Str. C
WALTER N	During the test: copper wire F not melt, specimens function correctly, no sustained arcing or welding of contacts	White white white white	N/A
Alt .	After the test: specimens show no damage	to at let let	N/A
(18.101)	Additional test for electronic switches for the control of	of motor speed control circuits:	N/A
1 th . 5 th	Rated current In (A) of electronic switch ($\cos \phi 0.6$) :	a at at at	
t set	Making: 50 cycles with: test current: 9 In (A); test voltage: Vn (V); $cos\phi$ 0.8 \pm 0.05	which which which whe	N/A
when.	Breaking: 50 cycles with: test current: 6 In (A); test voltage: Vn (V); $cos\phi$ 0.6 \pm 0.05	WALTER WALTE WALT WALT	N/A
NALL W	During the test: no sustained arcing	white white white	N/A
at i	After the test: specimens show no damage	In M She at	N/A
(18.102)	Additional test for electronic switches for the control of the voltage of iron core transformers for extra low-voltage incandescent lamps (for example, halogen):	ATT WITH WATE	EK WAL
- 1t	- test voltage (Vn) (V):	the second second	
WALL N	- 50 making operations in a test circuit adjusted to a test current 10 times In (A) for one half-cycle of the power supply frequency	white white white white	
n. n.	During the test: no sustained arcing	the white white white	N/A
10 M	After the test: specimens show no damage	at at let slit	N/A
19 (19)	NORMAL OPERATION	in min men men we	Р
WALTER	Electronic switches withstand the mechanical, electrical and thermal stresses occurring in normal use	watter watter watter watter	Py
WINCLE W	Electronic switches whose cycle of operation is limited by their application: rate of operation specified by the manufacturer (operation per minute)	whitet whitet white white	
ret white	For electronic switches with included automatic function the number of operations for tests of sub- clauses 19.101, 19.102, 19.104, and 19.109 is that specified in the relevant sub-clause.	at monthet monthet monthet was	
Whitek w	If a manufacturer declares a number of operation higher than those indicated in the relevant sub- clause, the tests shall be made according to declared value.	water water water water	

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Clause	Requirement + Test	Result - Remark	Verdict
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NUTE	Sticking of the contacts, which does not prevent the next operation, is not considered as welding.	ARE MALIFER MALIFER MALIFE	WALLY
stert W	Sticking of the contacts is permitted if the contacts can be separated with a force applied to the actuator of a value which does not damage the switch mechanically	whitek whitek whitek w	1768 W
MALTE	Electronic switches including electronic circuits which close the contact of the contact mechanism always at zero-crossing $\pm 20^{\circ}$ phase angle, shall be tested together with their electronic circuit	and white white white	WALTER .
LTEX.	Electronic RCS withstand without excessive wear or other harmful effect, the mechanical, electrical and thermal stresses occurring in normal use	et whitet whitet whitet	N/A
() 	- model/type reference:	Tet Jet with a	
	- pattern number:	m. m. m	
Maria	- nominal cross-sectional area per clause 18 (mm ²)	MUTER WAITER WAITE WATE	
NUT BER	- test voltage (Vn) (V):	let let the ster ster	
	- test current (In) (cos φ 0,6) (A)	- MUT MUT MU	
Ser .	- number of operations per table 17	the state street	
	- rate (operations per minute):	2 M. m. n	
11.	- samples number	and the state of	
	Reduced electric strength per clause 16 Se	ee appended table 19.1	N/A
MULT	Temperature rise test per clause 17 after normal operation Se	ee appended table 19.1	N/A
J.E.S.	After the tests the specimens not show:	at not not what	. SP
	- wear impairing their further use;	me me m	Р
	- discrepancy between the position of the actuating member (if indicated) and that of the moving contacts	whitet whitet whitet wh	
whit	- deterioration of enclosures, insulating lining or barriers;	white white white white	Р
NUTE	- seepage of sealing compound	ret ster ster with	N/A
	- loosening of electrical or mechanical connections;	m m m	Р
550 3	- displacement of moving contacts of switches pattern number 2, 3, 03 or 6/2	et watter wanter watter v	P
it with	No sustained arcing in slowly operation (sub-clause 14.3)	NUTER INTER MALIER WAY	P
MILI	RCS equipped with an incorporated hand-operated devi switching circuit:	ice acting directly on the	N/A
	- 10 % of operations indicated in table 17 made by	to the the second	

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Clause	Requirement + Test	Result - Remark	Verdict		

	- no sustained arcing in slowly operation (sub- clause 14.3 for a.c. only)	NUTEX WALTER WALTER WALTER	N/A
Set W	 control circuit supplied as specified in clause 18 for the remaining 90 % of the operations	Tet wiret whitet whitet all	N/A
t whit	During normal operation test: failures allowed within 1 %; no more than three consecutive failures allowed	" watter watter watter wate	N/A
NINLTEN	Electronics TDS withstand without excessive wear or other harmful effect, the mechanical, electrical and thermal stresses occurring in normal use	WALTER WALTER WALTER WALTER	N/A
51 S	- model/type reference:	The state with matters	
	- pattern number:	when we we	
. un	- nominal cross-sectional area per clause 18 (mm ²)	et white white white wh	
. Net	- test voltage (Vn) (V):	- let the state with	
Set	 test voltage applied to control circuit (rated control voltage) (V) 		
h.	- test current (In) (cos φ 0,6) (A):	inthe water water with	
Set .	- adjustable TDS: adjusted delay time (s)	at a set set	
ţ.	- adjusted switching time interval between off and on (s):	a contraction of	
where where	 number of operations indicated in table 17 (maximum test duration for adjustable and non- adjustable TDS: 1000 h)	40000 / 20000 / 10000 / 5000	N/A
STEK.	TDS equipped with an incorporated hand-operated c switching circuit:	levice acting directly on the	N/A
÷	- 10 % of operations indicated in table 17 made by hand or in an equivalent manner:	the white white with	N/A
- m	- no sustained arcing in slowly operation (sub- clause 14.3 for a.c. only):	and white white whe wh	N/A
WALL TEX	During normal operation test: failures allowed within 1 %; no more than three consecutive failures allowed	while while while whi	N/A
her	- samples number:	intre main wat wat	m-
Set	Reduced electric strength per clause 16	See appended table 19.1	Ň/A
*	Temperature rise test per clause 17 after normal operation	See appended table 19.1	N/A
-m	After the tests the specimens not show:	at miller miller while whi	N/A
4	- wear impairing their further use;	a state of	N/A
m	 discrepancy between the position of the actuating member (if indicated) and that of the moving contacts 	white white white such	N/A



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Clause	Requirement + Test	Result - Remark	Verdict			

WALTER WI	- deterioration of enclosures, insulating lining or barriers;	inter miner miner annihil	N/A
it i	- seepage of sealing compound	i i st st	
in me	 loosening of electrical or mechanical connections; 	Tex Intite WALL WALL W	N/A
EK WALTER	- displacement of moving contacts of switches pattern number 2, 3, 03 or 6/2	+ MITER MITER MAILER MAIL	N/A
INLIEK .	No sustained arcing in slowly operation (sub-clause 14.3)	the state with mited	N/A
(19.101)	Contact mechanisms intended for incandescent lam down converters and dimmers for step-down conver 40.000:		NUT P V
18 18	Rate of operation (operation per minute):	30 operations per minute	
- with	Rated current (A) / Rated load (W or VA):	1.67A	
the set	Rated voltage (V)	240V	
m	During the test: specimens function correctly	white white white white	×Р
WINE TEX W	No sustained arcing in slowly operation (sub-clause 14.3)	stret milet whitet whitet	P
NUTEX AND	Contact mechanism intended for motor speed control circuits; number of operations 40000:	40000	J.J. P.J
et set	Making: test current: 6 In (A); test voltage: Vn (V); $\cos \varphi 0.65 \pm 0.05$:	and the set	¢ P_S
sur t set	Breaking: test current In (A); test voltage Vn (V); $\cos \varphi \ 0.65 \pm 0.05$	while white white white	Р
where a	During the test: specimens function correctly	intife white white white	ψP
19.102	Contact mechanisms incorporated in electronic switches, intended for externally ballasted lamps (e.g. fluorescent lamps, CFL, LED) are checked by the test circuit indicated in Figure 103 Load A.		
LIEK WALT	- rate of operation (operation per minute):	30 (up to and including 10 A) / 15 (10 A to 16 A)	
WALTER	 test voltage (Vn); test current (In) (cos φ 0,9); number of operations with load A 	- V; - A; 10000 (up to and including 10 A) / 5000 (10 A to 16 A)	
NUTER	Rated voltage (V)	240	
neret uni	During the test: copper wire F not melt, specimens function correctly, no sustained arcing or welding of contacts	and whe want we	N/A
19.103	Semiconductor switching devices and/or electronic relectronic switches:	egulating units incorporated in	PN
	Rated current (A) / Rated load (W or VA):	1.67A	
NUTE	Rated voltage (V):	240	
	Test voltage: 1.1 Vn (V)	264	

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Clause	Requirement + Test	Result - Remark	Verdict		

NALIEK W	Switch state changed 10 times by means of the sensing surface or unit, or/and	LIFE MITEL MUTEL MAILE	P
Lifek and	Setting value altered 10 times from min to max and back to min by means of the sensing surface or unit	The state winter winter an	LTEK POI
1	Additional test, where appropriate:	When we have	N/A
white	Switch state changed 10 times by means of an electronic extension unit, and/or	white white white white	N/A
WALTER	Setting value altered 10 times from min to max and back to min by means of an electronic extension unit	whitek whitek whitek white	N/A
ner wi	During the test: specimens operate correctly	the atter mile white	N/As
19.104	Mechanical control units incorporate in electronic sw	itches:	
st unit	Type of mechanical control unit	push button / potentiometer / other requiring manual operation	
m	Rated current (A) / Rated load (W or VA):	White white white whe	
Set	Rated voltage (V):	at let set set	
	Test voltage: 1.1 Vn (V)	untit marts war war	-
	Setting altered 10000 times from min to max and back to min by means of its control unit; rate of operation between 10 and 15 operations per minute		
24	During the test: specimens function correctly	white white where white	N/A
19.105	Electronic switches for which a minimum load or curr manufacturer:	rent is specified by the	N/A
INLIEK AI	Test current: rated minimum current (A) / rated minimum load (W or VA):	and the state with	
	Test voltage: 0,9 Vn (V):	198	
TE WAL	Switch state changed 10 times over the whole range from min to max and back to min, and/or	LEX WALTER WALTER WALTER WA	N/A
A WALTER	Setting value altered 10 times over the whole range from min to max and back to min	MITER MITER WAITER WAIT	N/A
de	Additional test, where appropriate:	s at at at	N/A
WAL S	Switch state changed 10 times over the whole range from min to max and back to min by means of an electronic extension unit, and/or	Mailer while while while	N/A
EX UNLIF	Setting value altered 10 times over the whole range from min to max and back to min by means of an electronic extension unit	et the state with a	N/A
1. See	During the test: electronic switch functions correctly	mer me m m	N/A
NUT	Reduced electric strength per clause 16	See appended table 19	N/A
	Temperature rise test after normal operation per claus	se 17:	N/A
NITE A	- electronic switch state not change	At At all all	N/A

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s		V	
		-	

in sur	EN 60669-1& EN 60669-2-1					
Clause	Requirement + Test	Result - Remark	Verdict			

and all	- fuses and other protective devices not operate	set set set after	N/A
at a	- permissible temperature rises determined in table 102, column concerning clause 17, not exceeded	See appended table 19	_<́N/A
st set	After the test, electronic switch is in operating condition	The works work with w	N/A
me	Sealing compounds, if any, have not flowed	A NUTER MUTER MALITE WAL	N/A
WALTER D	Evaluation of compliance after the normal operation: after the tests the specimens shall not show:	water waiter water waited	N/A
JEt N	- wear impairing their further use;	at at set set	N/A
TEX WALTE	- discrepancy between the position of the actuating member (if indicated) and that of the moving contacts;	et the states and and an	N/A
t stat	 deterioration of enclosures, insulating lining or barriers; 	with set that with	N/A
24	- loosening of electrical or mechanical connections;	white whe we will	N/A
STER S	- seepage of sealing compound;	let the state state	N/A
At 5	- displacement of the moving contacts of electronic switches of pattern number 2	when when you want	N/A
19.106	Test for electronic RCS energized by impulses (under no-load conditions):		N/A
et white	RCS operate as intended at a control voltage between 0,9 and 1,1 times the rated value	See appended table 19.106	N/A
MITEK	Electronic TDS operate as intended at the control voltage between 0,9 and 1,1 times the rated value	Tet Jet with with	N/A
4	Test (under no-load conditions):	me me me	N/A
NUTE NO	- rated control voltage (V):	tet the street miller	
set an	- 20 operations with a control voltage of 0,9 times the rated value (V):	at the late late	
t set	- 20 operations with a control voltage of 1,1 times the rated value (V):	which we will be	
MA	TDS operated as intended (differences in delay time permitted according to 19.102)	wait wat wat at	N/A
19.107 📣	Electronic TDS have an adequate repetitive accuracy of delay time		_∿ [©] Ň/A
dt .	Test (under no-load conditions):		N/A
the all	- rated control voltage (applied ten times) (V):	LIE INTE WAT WAT V	
IEX WALTE	- adjustable TDS: delay time set 2,5 min approximately if possible, otherwise, test made with the delay time specified by the manufacturer (s)	et wattet wattet wattet	
			1
WALTE	Mean value of delay times measured (s):	- S. L. M. M. M. M.	

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Un nur	EN 60669	-1& EN 60669-2-1	me m
Clause	Requirement + Test	Result - Remark	Verdict

	Maximum / minimum values of delay time do not deviate by more than 15 % from the mean value:	- % / - %	
19.108	Electronic TDS revert to the full delay time when the operating means is actuated during the delay time period		
ex unite	Adjustable TDS: three specimens initiated at rated co initiated again at rated control voltage:	ntrol voltage and after 1 min	N/A
. t	- rated control voltage (V):	Mr. M. M. A.	-,
where	- delay time adjusted between 2 min and 3 min (s) . (V)	WALTER WALTER WALTER WALTER	white .
INLIER WI	Total delay time resulting for each specimens is between 3 min and 4 min (min)	LIFE WAITER WAITER WAITER	N/A
Tet whit	Non-adjustable TDS: three specimens initiated at rated control voltage and after 1 min initiated again at rated control voltage:	EX JUNITER WAITER WAITER WA	N/A
NNLTH-	- rated control voltage (V):	- Tet stret stret with	and the second
. t	- delay time (declared by the manufacturer) (min) :	Mr. M. M. M.	74
WALTE V	Total delay time is the delay time (declared by the manufacturer) ±5 % plus 1 min (min)	UNITER WATER WATER WATER	N/A
NUTER WINN	Non-adjustable TDS when the delay time is less than 1 min: three specimens initiated at rated control voltage and after half the delay time declared by the manufacturer initiated again at rated control voltage:	at antice while white whe	N/A
- 5 ⁶⁴	- rated control voltage (V):	at at at 5th	5
m	- delay time (declared by the manufacturer) (min) :	while while while while	-100-
WALTER ON	Total delay time is 1,5 times the delay time (declared by the manufacturer) ±5 % (min):	NUTER AND A MALTER MALTER.	N/A
19.109	Contact mechanisms incorporated in electronic switc lamps (e.g. fluorescent lamps, CFL, LED) are tested requirements related to the power supply which are g	as 19.102 except for the	N/A
sundre sundre harde sun	Compliance is checked by connecting the load B as given in figure 103 via the electronic switch under test to a power supply.	would would would would would	white The
	Rated Power (W)	0.2W	ma
	Rated voltage (V):	240	dit.
	The values for the maximum peak value and the max are given in Table 108 when the switching contact clo		·
Star Instit	Maximum peak of the inrush current I _{peak} (A):	108	an an
	Maximum I ² t of the inrush current (A ² s)	2,8	,
WALTE	- rate of operation (operation per minute)	30 (up to and including 250 W) / 15 (higher than 250 W)	Junit.

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Clause Requirement + Test	Result - Remark	Verdict
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WALTER W	During the test: copper wire F not melt, specimens function correctly, no sustained arcing or welding of contacts	MITER MATTER MATTER MATTER	N/A
20 🔊	MECHANICAL STRENGTH	rich outer on the owner of	S P√
20.1	General	w t at	Р
whitek	Accessories, surface mounting boxes, screwed glands and shrouds have adequate mechanical strength so as to withstand the stresses imposed during installation and use	WALTER WALTER WALTER WALTER	N/A
20.2	Pendulum hammer test	Mar & At At	P
yner yn	For all types of switches and for boxes: impact test (9 blows)	See appended table 20.2	Р
LIE WAL	After the test: no damage, live parts no become accessible	et anitet antifet anite an	Р
20.3	Test on the main parts of surface-type switches	t at all all all	N/A
MALTER	Main parts of surface-type switches are first fixed to a cylinder of rigid steel sheet of radius equal to 4,5 times the distance between fixing holes (mm)	white whe with we	N/A
atter of	Main parts are then fixed in a similar manner to a flat steel sheet	at an sur	N/A
1	Torque applied to fixing screws (Nm):	0,5 Nm / 1,2 Nm	
SEL WALTE	During and after the test: main parts show no damage	MALE WALLS WALLES WAL	N/A
20.4	Screwed glands	A 15 5th 5th	N/A
where .	Screwed glands of switches with that have IP code higher than IP20: torque test	White white white white	N/A
Were all	- diameter of cylindrical metal test rod (mm)::	NUEL INUE MALTE MALTE	m
st i	- type of material:	metal / moulded material	det -
in ann	- torque for 1 min (table 22) (Nm):	let intre white white wh	-11
EX WALTEN	After the test: no damage of glands and enclosure of the specimens	The super muser while	N/A
20.5	Covers, cover plates or actuating members – accessibility to live parts		N/A
20.5.1	General		N/A
NUTER UN	Force necessary for covers, cover-plates or actuating members to come off or not to come off (accessibility with the test finger to live parts)		N/A
20.5.2	Verification of the non-removal of covers, cover- plates or actuating member	a start of the	√ N/A
t at	Force applied for 1 min in direction perpendicular to the mounting surface	40 N / 80 N	
man	Covers, cover-plates or actuating members not come off	white white white one	N/A

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15 18	and the second second		50
a ma	EN 60	669-1& EN 60669-2-1	and a
Clause	Requirement + Test	Result - Remark Ve	erdict

	I I I I I I I I I	19. 19. 1 A.	
WALTER W	Test repeated on new specimens with a sheet of hard material, 1 mm \pm 0,1 mm thick, fitted around the supporting frame (fig. 13)	MITER WAITER WAITER WAITER	N/A
itit whit	Covers, cover-plates or actuating members not come off	AFR WALTER WALTE WALTE W	N/A
iet mure	After the test: no damage	t set set allet all	N/A
20.5.3	Verification of the removal of covers, cover plates or	actuating members	N/A
WALTE V	Force not exceeding 120 N applied 10 times in direction perpendicular to the mounting / supporting surface: covers, cover-plates or actuating members come off	WALTER WALTER WALTER WALTER	N/A
LIEK WALT	Test repeated on new specimens with a sheet of hard material, 1 mm \pm 0,1 mm thick, fitted around the supporting frame (fig. 13)	et wiret whitet whitet	N/A
ek wherek	Covers, cover-plates or actuating members come off	Tet with which must	N/A
At	After the test: no damage	me m m t	N/A
20.6	Covers, cover plates or actuating members – acc metal parts separated from live parts	essibility to non-earthed	N/A
MITER WAL	Test is made as described in 20.5, but applying, for 20.5.2, the following forces:	10 N ./ 20 N	LIER_W
20.7	20.7 Covers, cover plates or actuating members – accessibility to insulating part earthed metal parts, the live parts of SELV ≤ 25 V AC or metal parts separate from live parts		P
WALTER	Test is made as described in 20.5, but applying, for 20.5.2, the force of 10 N for all covers, cover plates, or actuating members	MALTER MALTER MALTER MALTER	P
20.8	Covers, cover plates or actuating members – application of gauges		
EFEK WAIT	Test with gauge of figure 14 applied according to figure 15 for verification of the outline of covers, cover-plates or actuating members: distances between face C of gauge and outline of side under test, not decrease	complying / not complying	
20.9	Grooves, holes and reverse tapers		
WALTE W	Test with gauge according to figure 17 applied as shown in figure 18 (1 N): gauge not enter more than 1 mm	complying / not complying	
20.10	Additional test for cord-operated switch		
JEX WALTE	Operating members of cord-operated switch have adequate strength	et the the milet and	N/A
+ stek	Pull test: pull 100 N for 1 min (normal use); pull of 50 I direction). After the test:	N for 1 min (unfavourable	N/A
24.	- switch show no damage	while white where where	N/A
			12 A 12



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Verdict

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Clause	Requirement + Test
Clause	itequilement i rest

Result -

Remark	

21	RESISTANCE TO HEAT	all all aller aller	P
21.1	General	ner mer mer w	Р
LITER WA	Switches and boxes are sufficiently resistant to heat	Tex waiter waiter waiter w	PN
et st	Decorative parts are not subjected to the test	e at at set is	P
21.2	Basic heating test	Muri Muri Mur M.	Р
MALTER	Switches kept for 1 h in a heating cabinet at a temperature of 100 $^{\circ}$ C ± 2 $^{\circ}$ C	NUTER AND AND MALTER MAILE	JUN P
WEITER IN	During the test: no change impairing their further use and sealing compound, if any, not flow	and anot anot maret	MITTER P
inter al	After the test: no access to live parts, markings still legible	at the test that a	с ^ф Р
21.3	Ball-pressure test on parts of insulating material carrying parts and parts of the earthing circuit in		⊢ P<
WAL	Parts of insulating material necessary to retain current-carrying parts and parts of the earthing circuit in position: ball-pressure test (1 h, 125 °C)	See appended table 21.3	Ρ
21.4	Ball-pressure test on parts of insulating material current-carrying parts and parts of the earthing of		P
nt on	Parts of insulating material not necessary to retain current-carrying parts and parts of the earthing circuit in position, even though in contact with them: ball-pressure test (1 h)	See appended table 21.4	P
22 🖉	SCREWS, CURRENT-CARRYING PARTS AND CONNECTIONS		
22.1	General		
. Alt	Connections withstand mechanical stresses	a at at at	. ŚP
NI V	Thread-forming or thread-cutting screws used only if supplied together with the piece in which they are intended to be inserted	and and and and an	N/A
EX WALTE	Thread-cutting screws intended to be used during installation are captive with the relevant part of the accessory	where white white white	N/A
MALTER	Screws and nuts which transmit contact pressure are of metal and are in engagement with a metal thread	maret united united united	P
STER .	Threaded part torque test	See appended table 22.1	<u>_</u> S ^C Р
22.2	Correct insertion of screws	ner when when when w	Р
Ter wint	Screws in engagement with a thread of insulating material: correct introduction into the screw hole or nut ensured	of water water water wat	N P
22.3	Contact pressure of electrical connections	- 10 10 5th 35	Р

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Clause Requirement + Test	Result - Remark	Verdict
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WALTER D	 (2/3/4); IP (X0/X4/X5/X6); thickness (μm)	N/A N/A
sek _{se} nti Virek	 service condition ISO no. (1/2/3); IP	N/A
MILEX JU	stainless steel with at least 13 % chromium and not more than 0,09 % carbon steel with electroplated coating of zinc (ISO 2081):	N/A
whitek	 alloy with at least 58 % copper for parts made from cold-rolled sheet or with at least 50 % copper for other parts 	Р
eitek _{vunt}	Requirement of 22.5 does not apply to screws, nuts, washers, clamping plates and similar parts of terminals - copper	P N/A
MUTER S	Current-carrying parts of metal having mechanical strength, electrical conductivity and resistance to corrosion adequate:	N ^I P
22.5	Screws and rivets which serve as electrical as well as mechanical connections shall be locked against loosening and/or turning Image: Connection of the serve as electrical as well as mechanical connections shall be locked against loosening and/or turning Material of current-carrying parts	P /
22.4	Contact pressure: not transmitted through insulating material other than ceramic, pure mica or other material no less suitable unless there is sufficient resiliency in metallic parts Screws and rivets, used both as electrical and mechanical connections	P

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Clause	Requirement + Test	Result - Remark	Verdict

	Parts of insulating material retaining live parts in position of switches with IP>X0: of material resistant to tracking	N/A
24.2	Resistance to abnormal heat and to fire	N/A
TE WALTE	Glow-wire test according to IEC 60695-2-10 and IEC60695-2-11See appended table 24.1	P
nitek wai	Parts of insulating material which might be exposed to thermal stresses due to electric effects and the deterioration of which might impair the safety are not unduly affected by abnormal heat and fire	P
24.1	Resistance to abnormal heat and to fire	P
24	RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT, TO FIRE AND TO TRACKING	Р
(23.102)	Wire enamel at least grade 1 according to IEC 60317: clearances between the wire of the control coil, live parts of different polarity and exposed conductive parts may be reduced to a value equal to two-thirds the clearances required in absence of enamel	N/A
whitek	In case of electronic RCS and electronic TDS classified according to 7.103, see the relevant requirements in IEC 60669-2-2 and IEC 60669-2-3 for clearance and creepage between SELV and mains. (mm)	N/A
23.101)	Electronic switches having control circuit suitable for connection to a SELV supply, the switching circuit being supplied with a voltage greater than the SELV: creepage distances and clearances between the control and switching circuits are not less than 5,5 mm (mm)	N/A
WALTE	Insulating compound: not protrude above the edge of the cavity in which it is contained	N/A
23.2	Insulating compound	N/A
TEX NIT	Sub clause 23.1 does not apply to pilot light units. Requirements for pilot light units are given in 13.16	.et
MITEX WA	Creepage distances, clearances and distances through sealing compound no less than the values shown in table 23 See appended table 23.1	NUT P S
23.1	General	P
white	Electronic switches without directly associated fuse or other current-limiting means: comply with table 20	N/A
(23)	Values of items 1, 2, 6 and 7 of table 20 applied to terminals for external wiring and not applied to other live parts which are protected by a directly associated fuse with adequate breaking capacity or other current-limiting means, under the provision that the requirements of 101 are fulfilled	

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Ś	Clause	Requirement + Test	Result - Remark	Verdict

MILE N	Tracking test with solution A of IEC 60112	See appended table 24.2	N/A
25	RESISTANCE TO RUSTING	when when when we	N/A
LIER WIL	Ferrous parts protected against rusting	alt and all other all	N/A
et would	Test: 10 min in a 10 % solution of ammonium chlorid (+20 \pm 5) °C., 10 min in a box containing air saturate temperature of (+20 \pm 5) °C., 10 min in a heating ca (+100 \pm 5) °C	ed with moisture at a	N/A
MALTE	No signs of rust	. THE STREE NUMBER WALTE	N/A
(26)	EMC REQUIREMENTS	when we we start	Р
net or	Electronic switches designed to operate correctly under the conditions of electromagnetic environment in which they are intended to be used	See waltek EMC test report: WTX21X09103369E for details	P
(26.1)	Immunity	the wate walk wat was	P
WALTER	Electronic switches designed so that the switch state (ON or OFF) and/or the setting value are protected against interference	whitet whitek whitek white	P
STE .	Type of load	at all all all	
54. ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Test current: In (A) / Rated load (W or VA):	mr. mer mi m	
in the	Test voltage: Vn (V)	after all the suffer	
	Variation of less than \pm 10 % of the value of the output power (rms) is not considered to be a change of setting	a state white white whe	P
MITER	Electronic switches shall be tested according to Tab as specified in the relevant paragraph.	ble 104 with or without operation	Р
	If the load connected to the electronic switch is controlled by mechanical switching devices and no semiconductor devices are present in the load circuit, test is conducted with resistive load only	white white white white	Р
ister whi	For test without operation the electronic switch is tested in the following states:	white white white white w	P
* JIE	a) in the ON state	a set set set as	P
2h	b) in the ON state	white white white white	Р
WALTER D	For electronic switches whose cycle of operation is limited by their application, the rate of operation during the test shall be specified by the manufacturer.	white white white white	UNLIE LIFP
(26.1.1)	Voltage dips and short interruptions	we we we we a	Р
VET WALT	Electronic switch tested using the equipment specifi accordance with table 105: sequence: 3 dips/interru rated frequency) with interval of 10 s minimum betw	ptions (duration: 10 cycles at	P
white	The test shall be done on the power supply lines of the electronic switch.	white white white white	P
WALLEN W	During the test, the electronic switch is not operated	milet whilet while while	MULTER P

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20.	EN 60669	-1& EN 60669-2-1	
Clause	Requirement + Test	Result - Remark	Verdict

WALTER W	During the test, the state and setting of electronic switch may alter, flickering is neglected.	M ^{LTE} P
	Test level: 0 % U _T	<u>к</u> Р
2 Min	Test level: 40 % U _T	P
et jut	Test level: 70 % U _T	P
WILL STEK	After the test: electronic switch is in the original state and the setting is unchanged	P
	After the test, the electronic switch shall be in the original state and setting and shall operate as intended.	JUN JIP
(26.1.2)	Surge immunity test for 1,2/50 µs wave impulses	Р
TEK WALT	Test carried out according to IEC 61000-4-5 applying two positive discharges and two negative discharges at each of the following angles 0°, 90°, 270°, at a repetition rate of (60 ± 5) s, with an open-circuit test voltage of 1 kV (level 2).	P
white	with an open-circuit test voltage of 1 kV (level 2).	P
	If the product has a metallic mounting surface when mounted as in normal use, the test is repeated between line and earth with a test voltage of 2 kV.	PL
NETEX MIL	During the test, the electronic switch is not operated	LIFE P
et nue	During the test, the state and setting of electronic switch may alter, flickering is neglected.	et P
Whitek.	After the test, the electronic switch shall be in the original state and setting and shall operate as intended.	P
(26.1.3)	Electrical fast transient/burst test	P
walt we	Test carried out according to IEC 61000-4-4 in accordance with table 106, duration of the test 1 min +5/0 s for each positive and negative polarities: open-circuit output test voltage (\pm 10 %):	v P
the set	During the test, the electronic switch is not operated	P
with	Supply terminals/terminations: 1 kV	_∖P
de-	Control terminals/terminations: 0,5 kV	P
white w	During the test, the state and setting of the electronic switch may alter, flickering caused by the electronic switch is allowed.	NULLER
ret untre	After the test: the electronic switch shall be in the original state and setting and shall operate as intended.	P
(26.1.4)	Electrostatic discharge test	Р
WALTE.	Electronic switch not intended to operate resistive load: test carried out with only one load of the loads specified within the manufacturer's instructions:	P



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EN 60669-1& EN 60669-2-1				
Clause	Requirement + Test	Result - Remark	Verdict	

	Test carried out according to EN 61000-4-2 applying 10 positive and 10 negative discharge:	P
de 1	A test with lower voltages is not required	P
1 11 N	During the test, the electronic switch is not operated	Р
white	During the test, the state and setting of electronic switch may alter, flickering is neglected.	Р
WALTER	- contact discharge to the conductive surface and to coupling planes (test voltage: 4 kV)	AND PS
INLIEK WA	- air discharge at insulating surfaces (test voltage: 8 kV)	NUT P
itet white	After the test: the electronic switch shall be in the original state and setting and shall operate as intended.	Set P
* wonther	Electronic switches with an adjustable time delay devices shall be adjusted in such way that the time delay is higher than the testing time	Pre W ^N L
(26.1.5)	Radiated electromagnetic field test	, P
NLIEX whi	Test applicable only to electronic switches containing infra-red (IR) receivers, radio frequency receivers, passive infra-red (PIR) devices, devices containing microprocessors or similar	P
IEL WALTE	Test carried out according to IEC 61000-4-3 applying a field strength of 3 V/m in the frequency range 80 MHz to 1000 MHz and 1400 MHz to 2000 MHz:	Ρ
WALTER	Electronic switch shall be loaded with resistive load only.	PE
WALTER ON	During the test, the electronic switch is operated, if it contains automatics functions or can be remotely controlled	P
isex whit	During the test, the electronic switch shall operate as intended, flickering is not allowed.	TE P
et whitet	Flickering of lamps or irregular running of motors due to the switching transient caused by frequency changes of the test equipment during the test procedure is neglected.	P Maria
(26.1.6)	Radio-frequency voltage test	₩ P
NITEK WN	Test applicable only to electronic switches containing infra-red (IR) receivers, radio frequency receivers, passive infra-red (PIR) devices, devices containing microprocessors or similar	
win-	Electronic switch shall be loaded with resistive load only.	Р
white	Test carried out according to IEC 61000-4-6 applying a conducted radio-frequency voltage of 3 V rms on supply lines and control lines:	NUNLI VP-

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EN 60669-1& EN 60669-2-1				
Clause	Requirement + Test	Result - Remark	Verdict	

15		10
white whi	During the test, the electronic is operated, if it contains automatics functions or can be remotely controlled	Р
the work	During and after the test, the electronic switch shall operate as intended, flickering is not allowed.	P
et would	Flickering of lamps or irregular running of motors due to the switching transient caused by frequency changes of the test equipment during the test procedure is neglected.	P
(26.1.7)	Power-frequency magnetic field test	N/A
Intro-water	Test applicable only to electronic switches containing devices susceptible to magnetic fields, for example, Hall elements, electrodynamic microphones, etc.	N/A
t stat	Test carried out according to IEC 61000-4-8 applying a magnetic field of 3 A/m, 50 Hz:	N/A
all a	Electronic switch shall be loaded with resistive load only.	N/A
whi wh states sh	During the test, the electronic is operated, if it contains automatics functions or can be remotely controlled	N/A
et set	During and after the test, the electronic switch shall operate as intended, flickering is not allowed.	N/A
whitek w	Flickering of lamps or irregular running of motors due to the switching transient caused by frequency changes of the test equipment during the test procedure is neglected.	N/A
(26.2)	Emission	Р
(26.2.1)	Low-frequency emission	№ Р <
LIEK WALTE	Electronic switches designed that they do not cause excessive disturbances in the network	JET RIN
et aufet	Electronic switch complies with IEC 61000-3-2 and IEC 61000-3-3	P
	This requirements applies to each channel of a multichannel dimmer provided that the channel are independent from each other	P
ALTER WALTER	Load terminals/terminations of electronic switches with electromechanically operated contact mechanism (for example, a relay), do not cause harmonic current emissions and are deemed to meet the requirements of IEC 61000-3-2 without need for testing. Therefore only the mains supply terminal/terminations of those products shall be tested.	P



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EN 60669-1& EN 60669-2-1				
Clause	Requirement + Test	Result - Remark	Verdict	

	of all all all all all all all	<u></u>	
WALTER WAL	Electronic switches designed that they do not cause excessive radio interference	NUTER WALTER WALTER	P
LIFEK WALTE	The electronic switch shall comply with the requirements of EN 55014 or EN 55015 (CISPR 14 or CISPR 15)	The wanter wanter wanter w	P
Et WALTER	For electronic switches used for electrical lighting application, EN 55015 (CISPR 15) applies.	· WALFER WALFER WALFER WALF	P
. Set	Compliance is checked as follows:	at the left of	P
me m	a) At the main terminals (8.1.3.1 of CISPR 15)	water water water water	-100 P
INCIEK WILL	b) At the load and/or control terminals (8.1.3.2 of CISPR 15).	and manet sources sources	N ^{LTER} P 3
(101)	ABNORMAL CONDITIONS	the state	s Р
" white	Electronic switches do not create hazard under abnormal conditions	and white white white wh	P
WALTER WA	If in case of failure the maximum power taken by the electronic switches is less than 0,5 W, the requirements of the abnormal condition are deemed to be met	white white white white	Junia Juni P
(101.1)	electronic switches are operate under abnormal conditions no part reach such a temperature that there is danger of fire to the surroundings of the electronic switches.	att and an and an and the set	LTEL N
it. white	Temperature rises not exceed the values given in table 102, column concerning clause 101	white while white whi	Ρ
(101.1.1)	The tests are made on electronic switches while they loaded as specified in clause 17. Each of the abnormal conditions indicated in 101.1.1 turn.	mile white white where	Survice SP
(101.1.1.1)	The following fault conditions shall be simulated:	and man me	Р
	- short circuit across creepage distances and clearances, other than those complying with the requirements in clause 23, if they are less than the values given in Figure 10 of IEC 60065.	See appended table 101.1.1.1	P.1
	- short circuit across insulating coating	See appended table 101.1.1.1	N/A
	 short circuit or interruption of semiconductor devices; 	See appended table 101.1.1.1	P
	- short circuit of electrolytic capacitors;	See appended table 101.1.1.1	P کې
	 short circuit or interruption of capacitors or resistors which do not comply with the requirements of clause 102; 	See appended table 101.1.1.1	R
	- short circuit of the terminals on the load side.	See appended table 101.1.1.1	Р
whitek whi	If the temperature is limited by the operation of automatic protective devices (including fuses), the temperature is measured 2 min after the operation of the device.	white white white white	N/A

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Clause Requirement + Test	Result - Remark	Verdict
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WILLE WILL	If no temperature-limiting device operates, the temperature is measured after a steady state or after 4 h, whichever is the shorter time.	MITER WAITER WAITER	N/A
Et white	If the temperature is limited by a fuse, in case of doubt, the following additional test is carried out: the fuse is short-circuited and the current under the relevant fault conditions is measured	Tet wonter wonter wonter w	N/A
	The electronic switch is then switched on for a duration corresponding to the maximum fusing time of the type of fuse as specified by IEC 60127 corresponding to the current measured above:	antifet antifet antifet antifet	N/A
Inter white	The temperature is measured 2 min after the end of the period.	tite white white white	N/A
101.1.1.2)	The following overload tests are carried out, where ap	oplicable.	P
t whitet	Electronic switches without incorporated temperature- incorporated fuses are loaded for 1 h with the conven fuse which, in the installation, will protect the electronic	tional tripping current for the	P
	The tripping current of the protective devices (e.g. fus devices, etc.) to be used for the verification of electror incorporated temperature-limiting devices and without relation with the rated current of protective device, spe intended to protect the electronic switch.	nic switches without t incorporated fuses shall be in	
	Type of the protective device which protect the electronic switch		
	Tripping current of the protective devices (A)	white white where whe	
	Test current: (A):	at all all all	
24 24	Temperature rise measured 1 h	See appended table 101.1.1.2	Р
	Electronic switches protected by automatic protective loaded in such a way that the current through the elec current with which the protecting device releases after	ctronic switch is 0,95 times the	N/A
	Current with which the protecting device releases after 1 h (A):	The water waite waite wa	
	Test current: 0,95 In (A)	- the state state with	
Jet .	Temperature rise measured after steady state or after 4 h	See appended table 101.1.1.2	N/A
When white	Electronic switches protected by incorporated fuses c have those fuses replaced by links of negligible imped such a manner that the current through the links shall of the fuse.	dance and shall be loaded in	N/A
	Rated current of incorporated fuse (A):	to the state is	
	Test current: 2,1 In (A):		
	Temperature rise measured after 30 min :	See appended table 101.1.1.2	N/A
	Electronic switches protected both by enclosed fuses devices are loaded either as described above with inc automatic protective device, choosing the test requirir	corporated fuses or with another	N/A

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Clause	Requirement + Test	Result - Remark	Verdict	

	Test current: (A)	ret ret wret wret	
	Temperature rise measured after	See appended table 101.1.1.2	N/A
LIET WAY	Electronic switches protected by automatic protective only in case of overload shall be tested both as electron protective devices and as electronic switches without a	onic switches with automatic	N/A
	Current with which the protecting device releases after 1 h (A):	white white white white	
	Test current: 0,95 In (A):	they when when white	
	Temperature rise measured after steady state or after 4 h	See appended table 101.1.1.2	Ń/A
	Type of the protective device which protect the electronic switch	sti white white white a	
	Tripping current of the protective devices (A)	et while while whi wh	
	Test current: (A):	a de de de	
	Temperature rise measured 1 h:	See appended table 101.1.1.2	N/A
WALLER V	Additional test on new set specimens shall be carried test the electronic switch turn off before the temperat		N/A
LIEK IN	The electronic switch shall be loaded to 1,1 times the rated current (A)	at an other states	
et	The current is then increased by 10 % and then the temperature is allowed to stabilize	t for so i	
whitek	The above test is repeated by 10 % until the conventional tripping current of the protective device is reached or the electronic switch is destroyed	white white white white	
WALLEK W	This is repeated until the conventional tripping current of the protective device is reached (A)	and minet manet would	N/A
to a	or the electronic switch is destroyed:	i i stat	N/A
(101.2)	Protection against electric shock even during fault conditions	TEX WALTER WALTE WALT WI	P
MULT	Electronic switches tested according to clause 10 immediately following the test of 101.1	WALTER WALTER WALTER WALT	P
(101.3)	 Electronic switches shall, without endangering their su circuit currents they may be subjected to in the load cire. The electronic switch is mounted as in normal use. Tested in a substantially non-inductive circuit in serie device for limiting the let-through l²t. The prospective short-circuit current of the supply sh voltage equal to the rated voltage of the electronic switch is mounted as limited as a substantially and the electronic series. The prospective let-through l²t minimum value shall The impedance Z₁ (short-circuit impedance) shall be specified prospective short-circuit current. The impedance Z₂ (load impedance) shall be adjusted loaded with its minimum load or with approximately series. 	rcuit. es with a load impedance and a nall be 1500 A (RMS) at a witch under test. be 15000 A ² s. e adjusted to satisfy the ed that the electronic switch is	

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Clause	Requirement + Test	Result - Remark	Verdict
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NN ^{LTER} W	The automatic overcurrent protective device, incorporated or not incorporated in the electronic switch, is inserted into the circuit:	Type C circuit breaker, 16A according to IEC/EN 60898-1 shall be installed in the fixed wiring for protection	
in alle	Test voltage Vn (V)	240	Р
et white	The variable control, if any, is set at the position of maximum output.	t minet minet waited wat	Р
WALTER	The short circuit is applied six times without any synchronization with respect to the voltage.	6 Type c circuit breaker protecti on	P
	During the test, emission of flames or burning particles to the environment.The above requirement is fulfilled if:	s, if any, shall not be dangerous	P
in main	- no emissions of flames	et allet alle and and	R∿,
- Milet	 no burning particles visible with normal or corrected vision without additional magnification 	- ret ret and with	Р
WALTER W	- If there is a visible emission of flames or burning particles, the test is repeated on new specimens with a clear polyethylene film in each direction than the area where the flames or burning particles were seen.	won whitek whitek whitek	antiet T ^{el} P
2 m	After the test:	a sunti sunt si	Р
1	- accessible metal parts shall not be live (Clause 10)		P
- NA	 emissions of flames or burning particles have not visibly perforated the polyethylene film 	white white white white	P
	 The conductors, the flush mounting box and the mounting surface don't show traces of burns. Traces which do not prevent the further use of the cables or housing are ignored. 	WALTER WALTER WALTER WALTER	NUT P -
JEX WALT	 the contacts of any incorporated automatic protective device are not welded, unless the electronic switch is obviously useless. 	LEX WALTER WALTER WALTER W	P
* WALTER	The specimen is re-energized in its normal operating position, for 4 hours.	Whitek whitek whitek whit	N/A
NUNLIFEK N	- The specimen no shows dangerous behaviour during this period (smoke or excessive heat)	the state autor and	N/A
ant in	- In case of doubt the maximum temperature rise values given in table 102 shall not be exceeded	at the set set	N/A
EX MALTE	- Electronic switch shall withstand the dielectric strength test according to Clause 16 at the voltages prescribed in Clause 19 (item 3 of Table 14 not applied).	See appended table 101.3	N/A
101.4)	Abnormal operation of the control circuit (only for electimpulses)	tronic RCS energized by	N/A
SUFEK I	Behaviour of electronic RCS during abnormal operation of the control circuit is not dangerous	at not not work	N/A

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EN 60669-1& EN 60669-2-1				
Clause	Requirement + Test	Result - Remark	Verdict	

W.C.	Test made on three additional specimens of electronic RCS meeting with requirements of clauses 15 and 16:	N/A
et.	Control circuit continuously energized at its rated voltage (V):	
-	Switching circuit loaded for 1 h with rated current (A) at rated voltage (V): - A; - V	
20.	After this test:	N/A
120	- RCS still operate	N/A
in est in est	 temperature rise of any part of the electronic RCS enclosure and plywood support, which may be touched by the standard test finger, test probe B of IEC 61032, ≤ 75 K (K)	N/A
- 1	 temperature rise of the plywood support which cannot be touched by the standard test finger, test probe B of IEC 61032, ≤ 100 K (K)	N/A
.wn	electronic RCS did not emit flames, melted material, glowing particles or burning drops of insulating material	N/A
	After cooling down to ambient temperature:	N/A
Ser.	Electronic RCS withstand a dielectric test (sub-clause 16.2), test voltage (a.c., for 1 min), between switching and control circuits:	N/A
le-	- test voltage (V)	
-21	During the test: no flashover or breakdown	N/A
	Electronic RCS still meet the requirements of 10.1	N/A
NI- LIEN	Electronic RCS coil is then intermittently energized for 1 h using a voltage equal to its rated control voltage, the switching circuit being supplied with rated current at rated voltage:	N/A
.L	class of insulating material	
	temperature-rise limit (IEC 60085) (K):	
	temperature-rise measured (K):	N/A
m	Behaviour of electronic TDS during abnormal operation of the control circuit is not dangerous	N/A
Inter	Test made on three additional specimens of electronic TDS meeting with requirements of clauses 15 and 16:	N/A
Jet	Control circuit continuously energized at its rated voltage (V):	
*	Switching circuit loaded for 6 h with rated current (A) at rated voltage (V): - A; - V	
	Adjustable electronic TDS: adjusted to the shortest delay time (s)	
2m	After this test:	N/A
, Al	- electronic TDS still operate	N/A

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Requirement + Test	Result - Remark	Verdict		
		the state of the s		

	Components which, if they fail, may impair the safety of the electronic switch comply with the relevant IEC standards, as far as applicable	See appended table 102	P
(102)	COMPONENTS	at at all all	P
Tet white	 contacts of any incorporated automatic protective device not welded, unless the electronic switch is obviously useless 	et anitet anitet anitet ani	N/A
ne sur	- accessible metal parts shall not be live	LIER WITE WITE WALTE	N/A
,st-	After this test:	she she at	N/A
whitek a	- temperature rises shall not exceed the values in Table 102, column concerning Clause 101.	See appended table 101.1.1.2	N/A
WALTER	- emission of flames or burning particles shall not occur	whitek whitek whitek white	N/A
20	During the test:	The main wat wat we	N/A
1 .S	- test voltage (V):	240	Ń/A
	Dimmer not classified for self-ballasted lamps the dimmer is loaded with a number of lamp simulation circuit as Figure 103 Load B having a total power equivalent to 1/5 th of the declared incandescent lamp load (W):	Martinet martinet martinet martinet	N/A
et white	The dimmer is loaded with a number of lamp simulation circuit as Figure 103 Load B (25 W non dimmable self-ballasted lamp)	water water water water	N/A
LIER WAY	Tests made on dimmers mounted and connected as specified in clause 17.	and white white w	N/A
101.5)	Dimmers for incandescent and/or self-ballasted lamps shall reach such a temperature that there is danger of dimmer when non-dimmable self-ballasted lamps are	fire to the surrounding of the	N/A
- an	Electronic TDS still meet the requirements of 10.1	white white white white	N/A
t set	During the test: no flashover or breakdown	the state	N/A
witter weit	- test voltage (V):	et intre white white wh	-24
	Electronic TDS withstand a dielectric test (sub-clause min), between switching and control circuits:	e 16.2), test voltage (a.c., for 1	N/A
	After cooling down to ambient temperature:	a at at at	N/A
WALTER	 electronic TDS did not emit flames, melted material, glowing particles or burning drops of insulating material 	NUTER WITH WATER WAITER	N/A
et white	 temperature rise of the plywood support which cannot be touched by the standard test finger, test probe B of IEC 61032, ≤ 100 K (K): 	t suret maret united while	N/A
untres wi	 temperature rise of any part of the electronic TDS enclosure and plywood support, which may be touched by the standard test finger, test probe B of IEC 61032, ≤ 75 K (K) 	ALTER WALTER WALTER	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

	Components marked with their operating characteristics used in accordance with these markings	Milet Moutet Moutet Mutter	Р
(102.1)	Fuses comply with:	JER NIER INTE WALTE W	N/A
1 1	- IEC 60127	w t At	N/A
me	- other relevant IEC publications	t white white white white	N/A
de	Rated breaking capacity (A): 1500 A or 35 A:	35A	N/A
102.2)	Capacitors the short-circuiting or disconnection of whether the requirements under fault conditions with regard to		Р
NUTE M	Capacitor complies with IEC 60384-14	ster strer miller while s	у ^{су} Р ,
TEX WALT	Capacitor passing the damp heat steady-state test specified in 4.12 of IEC 60384-14 with a duration of not less than 21 days are considered acceptable:	et miret sourcet sourcet son	P
+ _5 ^{et}	Capacitor in accordance with table 107	See appended table 107	► P<
July V	Trade mark; article of capacitor	white white where where	Р
Set	Capacitor marked with:	at at set set	P
m. a	- rated voltage (V):	See appended table 107	° [™] P
UTER N	- rated capacitance (μF):	See appended table 107	J ^{er} P
24	- reference temperature (°C):		Р
et while	Capacitors the short-circuiting of which cause a current = 0,5 A through the terminals of the capacitor:		N/A
- Set	Capacitor complies with IEC 60384-14	the state of	N/A
	Capacitor passing the damp heat steady-state test specified in 4.12 of IEC 60384-14 with a duration of not less than 21 days are considered acceptable:	white white white whee	N/A
	Capacitor in accordance with table 107	See appended table 107	N/A
1 Martin	Trade mark; article of capacitor:	let the street with all	N/A
L	Capacitor marked with:	when when we	N/A
WILLIAM	- rated voltage (V):	- with a liter white white	N/A
de	- rated capacitance (μF):	Jun Jun The At	N/A
when y	- reference temperature (°C):	atter with white white	_√N/A
di-	Capacitors for suppression of electromagnetic interfe	AL AN AL	N/A
n n	Capacitor complies with IEC 60384-14:	LIER MUTER WALT WALL V	N/A
EX WALT	Capacitor passing the damp heat steady-state test specified in 4.12 of IEC 60384-14 with a duration of not less than 21 days are considered acceptable:	of white white white whi	N/A
. STER	Capacitor in accordance with table 107	See appended table 107	N/A
20.	Trade mark; article of capacitor:	white when when we	N/A
55	Capacitor marked with:	at at at 5th	N/A

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Requirement + Test	Result - Remark	Verdict
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mile with	- rated voltage (V)	N/A
San an	- rated capacitance (μF)	N/A
LIFE MALIE	- reference temperature (°C)	N/A
(102.3)	Resistors: the short-circuiting or interruption of which cause an infringement of the requirements with regard to the protection against fire and electric shock in case of a defect:	N/A
- Let	Manufacturer / characteristics of resistor: / Ω	
we way	- constant value under overload conditions	⊲ [∿] N/A
UNLIFEK WAL	reference temperature of the resistor according to clause 17 (°C)	
A A	- comply with sub-clause 14.1 of IEC 60065	N/A
(102.4)	Automatic protective devices (other than fuses)	N/A
et untitet	Automatic protective devices comply with IEC 60730 as far as applicable	N/A
(102.4.1)	Automatic protective devices which switch off the current (cut-outs):	N/A
UNLIE M	Adequate making and breaking capacity	N/A
MITEK MALTY	Reference temperature above 55 °C: specimens tested at reference temperature according to clause 17 (°C):	N/A
(102.4.1.1)	Non-self-resetting cut-outs in the load circuit of the electronic switch:	⊘ [_] N/A
m	Test voltage: 1.1 Vn (V)	
t set	Cut-outs in electronic switches for incandescent or fluorescent lamps:	N/A
WIN W	10 cycles; test current: 2,1 In (A) of the protecting fuse (IEC 60127) or the conventional fusing current (other fuses):	
54 - 4 54 - 4	During the test: no sustained arcing	N/A
LIER NALTE	After the test: specimens show no damage	N/A
et stet	Electric strength between open contacts: test voltage 500 V a.c. for 1 min	N/A
20.	Cut-outs in electronic switches for speed control circuits:	N/A
SUTER IS	In (A) of electronic switch (cosφ 0.6)	
10 m		
In with	Breaking: 10 operations with: test current: 6 In (A); $\cos \phi 0.6 \pm 0.05$:	
an water	During the test: no sustained arcing	N/A
t st	After the test: specimens show no damage	N/A
when w	Electric strength between open contacts: test voltage (V): 1200 V a.c. ($Vn \le 130 V$) or 2000 V ($Vn \ge 130 V$) for 1 min:	N/A

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			Δ	
		V		
			Ζ.	

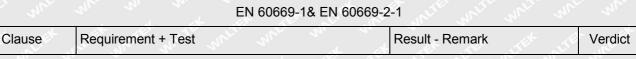
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20	EN 60669	0-1& EN 60669-2-1	
Clause	Requirement + Test	Result - Remark	Verdict

(102.4.1.2)	Self-resetting cut-outs in the load circuit of the electronic switch:	N/A
10. 4. A.	Test voltage: 1.1 Vn (V)	
LIFET WALLE	Cut-outs in electronic switches for incandescent lamps:	N/A
et whitet	200 cycles; test current: 2.1 In (A) of the protecting fuse (IEC 60127) or conventional fusing current (other fuses)	
White ou	During the test: no sustained arcing	N/A
A.	After the test: specimens show no damage	N/A
ner whi ret ret	Test voltage (V) for cuts-out in electronic switches for speed control circuit: 1200 V a.c. (Vn \leq 130 V) or 2000 V (Vn > 130 V) for 1 min::	N/A
e white	Test voltage (V) for cuts-out in electronic switches for lighting circuit: 500 V a.c. for 1 min	N/A
(102.4.2)	Automatic protective devices which only decrease current to the electronic switch (10 cycles):	N/A
MUTER WA	Test current per clause 17 for 4 h (A)	
	Test current increased to 2.1 In (A) of the protecting fuse (IEC 60127) or the conventional fusing current (other fuses) for 30 min	
at at	After the test: specimens function correctly	o⊱N/A
Mr	Temperature rise test per clause 17:	N/A
- At	- electronic switch state not change	N/A
and a	- fuses and other protective devices not operate	≪Ñ/A
UNITEK WALT	 permissible temperature rises determined in table 102, column concerning clause 17, not exceeded See appended table 102.4.2 	N/A
Lifet NLIFE	After the test, electronic switch is in operating condition	N/A
	Sealing compounds, if any, have not flowed	N/A
(102.5)	Transformer	N/A
watter wa	Transformers intended for SELV circuits shall be of the safety isolating type and shall comply with the relevant requirements of IEC 61558-2-6.	N/A
ANNEX A (ANNEX B)	ADDITIONAL REQUIREMENTS FOR SWITCHES HAVING FACILITIES FOR THE OUTLET AND RETENTION OF FLEXIBLE CABLES	N/A
10.1	Prevention of access to live parts	N/A
IE WALT	For flexible cable outlet switches the test is carried out without the flexible cable fitted.	N/A
12	Terminals	N/A
12.2.5	For flexible cable outlet switches, the test is repeated with flexible cables of the appropriate size (see 13.15) following the same procedure.	N/A

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13	Constructional requirements	N/A
13.17	Flexible cable outlet switches shall be so designed that an appropriate flexible cable, complying with IEC 60245-4, code designation 60245 IEC 66 or IEC 60227-5, code designation 60227 IEC 53, or as specified by the manufacturer, may enter the switch through a suitable hole, groove or gland	N/A
WALTER WA	The entry shall accept the maximum dimensions (outer sheath) of the appropriate flexible cable, having conductors of the cross-sectional area specified in Table A.1, according to the current rating of the switch, but with a minimum of 1,5 mm ² and the entry shall be so shaped as to prevent damage to the flexible cable.	N/A
(13.16)	The cross-sectional area of external flexible cables connected between electronic switches and its associated control units and the like can be less if the current in the unit is limited by current limiting means. The minimum cross-sectional area is shown in Table B.1. Flexible cables shall comply with IEC 60245-4, code designation 60245 IEC 66, or IEC 60227-5, code designation 60227 IEC 53:	N/A
13.17	A cable anchorage for the flexible cable shall be provided such that the conductors are relieved from strain, including twisting, where they are connected to the terminals or terminations.	N/A
WALTER	The cable anchorage shall contain the sheath and shall be either of insulating material or, if of metal, shall be provided with an insulating lining fixed to the metal parts.	N/A
In The M	The design shall ensure that	N/A
Lift and	- the cable anchorage cannot be released from the outside	N/A
17 - 5 Et	- clamping the cable does not require the use of a special purpose tool.	N/A
when	Screws which are used when clamping the flexible cable shall not serve to fix any other component	N/A
WALK V	Switches are fitted with a flexible cable complying with IEC 60227-5, code designation 60227 IEC 53, having a nominal conductor cross-sectional area of 1,5 mm ² and the number of cores corresponding to the number of poles of the switch.	N/A
	The flexible cable is then subjected 25 times to a pull force of 30 N	N/A
WALA	Immediately afterwards, the flexible cable is subjected for 1 min to a torque of 0,15 Nm	N/A
WALTE	The above test is then repeated, the switch being fitted with the appropriate largest diameter flexible cable complying with IEC 60245-4, code designation 60245 IEC66.	N/A
Nº 3	The pull is increased to 60 N	N/A

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Clause	Requirement + Test	Result - Remark	Verdict

NUTERIA	The torque is increased to 0,35 Nm.	N/A
	After the test the flexible cable not have displaced by more than 2 mm	N/A
er wit	AC voltage of 2000 V is applied for 1 min between the conductors and the cord anchorage.	N/A
where .	During the test, the insulation of the flexible cable not damaged	N/A
(ANNEX CC)	ADDITION REQUIREMENTS FOR ELECTRONIC SWITCHES USING DLT- TECNOLOGY ACCORDING TO IEC 62756-1	N/A
(CC.8)	MARKING	N/A
(CC.8.1)	Switches marked with:	N/A
Jet Jiet	- the symbol for DLT control device(DLT):	N/A
(CC.8.2)	Symbols used:	N/A
A NUTER	DLT control device(DLT):	N/A
	Supported telegram types for DLT control devices (TPX)	N/A
m. m.	DLT controlled load	N/A
NUTER WOULD	The maximum cable length between DLT control device and DLT load shall also be given in the instruction sheet.	N/A
(CC.17)	TEMPERATURE RISE	N/A
whitek w	In lamp dimmer, DLT control devices and speed controllers, the setting is adjusted such that the highest temperature will occur.	N/A
(CC.19)	NORMAL OPERATION	N/A
(CC.19.103)	Semiconductor switching devices and/or electronic regulating devices including DLT control devices incorporated in electronic switches are subjected to the following test.	N/A
et whitet	For DLT control devices, a cable , having the maximum cable length, as declared in 8.3, is installed between the control device and the loads.	N/A
CC.26	EMC REQUIREMENTS	N/A
(CC.26.2)	Emission	N/A
(CC.26.2.1)	Low-frequency emission	N/A
to the	DLT control devices shall be tested with maximum resistive load	⊘ N/A.

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Clause	Requirement + Test	Result - Remark	Verdict		

12.2.5	TABLE	: Test with apparatus s	crew terminals)	Et JIE NY	
Rated current (A):				1.67A	
JET JIE	Type of conductors			rigid solid	
*		t/largest cross-sectional		≥0.5 and ≤1.0 mm ²	2
m	Number	r of conductors	· · · ·	1 NIT MAIL	we we
UNLIEK		I diameter of thread (mm	· · ·	2.40mm 0.4Nm	Jet mile
Cross-se area (r		Diameter of bushing hole per table 6 (mm)	Height H per table 6 (mm)	Mass (kg)	Remarks
0.8	5 MULTER	6.5	260	0.3	Not slip out, no damage.
1.(ົຼ	6.5	260	0.4	Not slip out, no damage.

Supplementary information:

12.2.6	TABLE:	Pull test (screw ter	minals)		ER NIE NP
Rated current (A):				1.67A	
LIL WAL		t/largest cross-sectio	nal area per table 4	≥0.5 and ≤1.0 mm	2
et white	Nominal	diameter of thread (2.40mm 0.27Nm	INTER MAN
Cross-s area (Number of conductors	Type of conductors (rigid solid / rigid stranded / flexible)	Pull per table 7 applied for 1 min (N)	Remarks
N ¹⁵⁶ 30.	5 5	wint 1	flexible	30	No obvious removal
1. 1.	0 NUTER	white white w	flexible	30 5	No obvious removal

er whe		EN 60669-1& EN 60669-2-1	Jun.
Clause	Requirement + Test	Result - Remark	Verdict

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12.2.7	TABLE: Tightening test (screw terminals)				et allet white
Rated current (A):		1.67A			
LIE WALL		l diameter of thread (mi Nm)		2.29mm 0.27Nm	watter W
Largest sectional a table 4	area per	Permissible number of conductors	Type of conductors (rigid solid / rigid stranded / flexible)	Number of wires and nominal diameter of wires	Remarks
1.() Fre nist	white an inter	flexible	1*1.13	No wire of the conductor escaped outside.
1. 2		1 - A A	+ NIE- NIE N	min mer me	24. 320

Supplementary information:

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20.	EN 60669	-1& EN 60669-2-1	In in
Clause	Requirement + Test	Result - Remark	Verdict

2.3.10	TABLE: Mechanical stresses occurring in normal use (screwless terminals)					N/A	
4	Rated current (A)				The me me	20	
Largest/smallest cr (mm ²)				Tex white white white a		8	
Number of connection (after that conductor subjected to a pull of 30 N for 1 min) / disconnection			onductor (solid / rigid nded / flexible)	Cross-sectional Rema area (mm ²)		arks	
to a		L St	det d	ret mite white	mer and me	10.	
LIER MUS	- Julie	when a	n. m.	- + +	let tot se	- Julier -	JULIE.
TABLE: Test with apparatus shown in figure 9			own in figure 9	· · · · · · · · · · · · · · · · · · ·			
MALTE	Rated cu	urrent (A)		:	of the the	MILLEN NN	
	Type of	conductors		:	rigid solid / rigid stra flexible	nded /	
Smallest/largest cro (mm ²)			ss-sectional	l area per table 8	- white white white	at let	
w. m				·······	THE WALL WAL	with	
area (mm ²) hole pe		hole per	of bushing table 6 m)	Height H per table 6 (mm)	Mass (kg)	Rem	arks
NUT	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					NUTER IN	
1 A- A		<u>-</u> 1	ment when whe	m m a	-	-	

Supplementary information:

12.3.11	TABLE: Electrical and	thermal stresses occurring	g in normal use	N/A
Test a)	Test carried out for 1 h c	connecting rigid solid conduct	tors:	
JE. MUT	test current per table 9 (A):	at the state state of	
e de	nominal cross-sectional	area (mm²):	- 24, 24, 27,	
Screw	less terminal number Voltage drop		nber Voltage drop (mV) Required voltage dro	
at at 1 at 5th		The main were an	≤ 15 mV	Å
2 3		≤ 15 mV		winter
		a white where where	≤ 15 mV	1th
in the	4	s 15- 15-	≤ 15 mV	ptr v
st d	6 55 56t 50°	water water - water wi	≤ 15 mV	st
Test b)	Temperature cycles test) carried out on terminals sub	pjected to Test a):	
· At	test current per table 9 (A):		
me -	nominal cross-sectional	area (mm²):	- mile white white white	
UNLIEK W	allowed voltage drop (m	V):	≤ 22,5 mV or 2 times 24 th : cycle value (mV)	

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Clause	se Requirement + Test			LS	Result - Remark			Verdic	
200 1		t it.	let .	JEX WILL	MALA	me	m n	1 - 1n	
Screwless	terminal n	umber	100	2	3	4	5	Rema	arks
voltage dro	op after 24	^h cycle	ىمى بۈ	the state	Mrs.	n- in			Ser.
voltage dro	op after 48	^h cycle	20.	-20	Æ	10 1	et - 5 ^{el}	MUTER I	STE N
voltage dro	op after 72 ¹	^h cycle	500	11 ¹¹ 11	10- N	-m-	20	111 1	
voltage dro	p after 96	^h cycle	24-		d - 1	st 50		Marten Mart	NN'
voltage dro	p after 12	0 th cycle	50 <u>0</u> - 10	15 m	Aller.	100	-24	4. 7	. A
voltage dro	p after 14	4 th cycle	_ ~ ~	A			11 ¹¹	The Martin	when
voltage dro	p after 16	8 th cycle	19 - 18 - 18 - 18 - 18 - 18 - 18 - 18 -	44	m	- ·		1 st-	. it
voltage dro	p after 19	2 th cycle			State -	50 <u>-</u>	aller - put	men -	and a
12.3.10	TABLE:	mechanical str	esses oc	curring in n	ormal us	e			N/A
Sur	Rated c	urrent (A)				: 🗠 🚬	NINLI	mr. m	
MALTER	Largest	/smallest cross-	sectiona	l area per ta	ble 8		MUTER N	NITER WALT	
conductor	subjected	on (after that to a pull of 30 connection	(so	of conductor Ilid / rigid ed / flexible)	Cros	s-sectional (mm ²)	area	Remark	S
5 ⁶⁴	1. J. 1.	104	1. 100	-2			1.1	+ 50+	S.C.
24	-				S.C.		100	m_n	
A NUM	TABLE:	Test with appa	ratus sho	own in figure	9				
44	Rated c	urrent (A)				-ne me			
white v	1	conductors				rigid solid / rigid stranded /			
INLIEK WIN	Smalles (mm ²)	t/largest cross-	sectional	area per ta	ble 8	Jek .	LIEK MALI	ex whiter	
de de		of conductors.				: -	4	. A	
Cross-se area (i		Diameter of b hole per tab (mm)		Height H table 6 (Mas	Mass (kg) Remarks		arks
	dt -	et de	Lifet a	NUTE WAY	Mur	m	711. 1		
S	Sec. 12	an <u>n</u>				15 - 15 15		ST . 5	Ser.

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<u></u>	
Result - Remark	Verdict
	Result - Remark

12.3.12	TABLE: Deflection test	(principl	apparatu	is show	n in figu	re 10a)	JIE .	N/A	
1. A.	Test carried out for 1 h c	Test carried out for 1 h connecting rigid solid conductors:							
LIER WAL	test current (A) (equal ra	ted currer	nt)	:		Alt .	J ^{et} N	State State	
d. A	required voltage drop (mV)			≤ 25 m	iV 🔊	20			
Type of co	onductor	1 24	Smallest	d is	+ 3	Largest	at in the	Rem	narks
cross-sect (mm ²)	tional area per table 10	L'ER WALT	in Thur	where	white the second		Jet	-	
force per t	able 11 (N)	* 556	NIT-LIVE	white	m	2m	24		
screwless	terminal number	1	2	3-	_1	2	3		
starting po (X = defleo	oint ction original point)	x	X+10°	X+20°	x	X+10°	X+20°		
voltage dr	op 1 st deflection (mV)		Set-	mi	-2n	-4m		24.	-
voltage dr	op 2 nd deflection (mV)	L -24		1	~	y{ll		NUTE	
voltage dr	op 3 rd deflection (mV)	et	5 . J. C.	14 N	m	2h	20		-
voltage dr	op 4 th deflection (mV)	-20-	,+	7.0		.54	14 C	NUTE	antre
voltage dr	op 5 th deflection (mV)	- <u>_</u>	June 1	Sec.	n.			4	- ,+
voltage dr	op 6 th deflection (mV)	-24	10	10-	<u></u>			ine m	<u> </u>
voltage dr	op 7 th deflection (mV)	S 1	1 N	1	3			÷ .	<i>*</i>
voltage dr	op 8 th deflection (mV)		, di	\$-3	-3	in se	N JUL	- ann	m
voltage dr	op 9 th deflection (mV)	12 M	·	$\overline{z_n}$,	di-	- 3
voltage dr	op 10 th deflection (mV)				NT-TE	- MAIN	44	m	-m
voltage dr	op 11 th deflection (mV)	"The	200	20		7.	77	At	- 5 ^{et}
voltage dr	op 12 th deflection (mV)	70	J.	<u></u>	NU-	2 N ² - 3	r s	1. 1	<u>.</u>
Suppleme	ntary information:	m	20 S			Ar	de la	dt .	(III

16.2 🦽	TABLE: Insulation resistance		PS
ltem per table 15	Test voltage applied between:	Measured (M Ω)	Required (MΩ)
onen on	all poles connected together and the body, with the switch in the "on" position	>500	≥5
LIC 2 NIC	each pole in turn and all other poles connected to the body, with the switch in the "on" position	>500	≥2
at 3	the terminals which are electrically connected together when the switch is in the "on" position, the switch being in the "off" position	et set stat	NUTER WILLIER WAY

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- Mr.	EN 60669-1& EN 60669-2-1				
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16.3	TABLE: electric strength		The Market	
4	Rated voltage (V)	240		
ltem per table 15	Test voltage applied between:	Test voltage (V)	Flashover / breakdown (yes/no)	
	all poles connected together and the body, with the switch in the "on" position	2000	No	
2	each pole in turn and all other poles connected to the body, with the switch in the "on" position	2000	No	
Street spic	the terminals which are electrically connected together when the switch is in the "on" position, the switch being in the "off" position	the states white	E MALTER MALTE	
d 8 50	live parts and metal knobs, push-buttons and the like	4000	No	

17.	TABLE: Temperature rise measurements		er me	Р
WALTER W	Cross-sectional area of conductor not less than 1,5 mm ² :	1.0 mm ²	et whitet	
de la	Terminal screws: torque (Nm) (2/3 table 5):			
in my	Type of load:			
at al	Rated current (A) / rated load (W or VA): 400W		it .	
m	Rated voltage (V):	100-240V	we we	
MALTER	Test voltage between 0,9 and 1,1 Vn (V), whichever is the more unfavourable:	2011/1		
At	Samples number:	es number: 3		
Parts of the electronic switch		Max. Measured temperature rise (K)	Allov temperatur	
Terminal	L on the the state	9.8	55	
Terminal	N is at at the strength of	9.7	55	5
Terminal	J2	0.8	55	it di
MOV1	when when we we st set set	10.8	60) and
X-capacit	or C12	11.2	75	5
C25 body	the star with which we are a	14.1 80)
L10 windi		13.9 110		0,0
PCB near	Q12 J J Charles All All All All All All All All All Al	15.2 95		5
PCB near	Q13	15.9 95		
PCB near	· U3	14.9	95	5 - 191
Plastic en	closure inside	6.9	Re	ef
Plastic en	closure outside	.6.1	70	1
Ambient	the state of the state of	24.0℃	n n $-$	
Suppleme	entary information:			

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EN 60669-1& EN 60669-2-1					
Clause	Requirement + Test	Result - Remark	Verdict		

19	TABLE: reduced electric strength after normal op	eration	P N	
	Rated voltage (V)	240		
ltem per table 15	Test voltage applied between:	Test voltage (V)	Flashover / breakdown (yes/no)	
1	all poles connected together and the body, with the switch in the "on" position	1500	No	
	each pole in turn and all other poles connected to the body, with the switch in the "on" position	1500	No shi	
3	the terminals which are electrically connected together when the switch is in the "on" position, the switch being in the "off" position	Thet wanted wanted	No	
8	Between live parts and accessible surfaces of parts of insulating material	3000	No No	
- Ster	TABLE: temperature rise measurements after nor	rmal operation	At St BS	
Set 5	Cross-sectional area of conductor not less than 1,5 mm ²	1.0 mm ²		
and an	Terminal screws: torque (Nm) (2/3 table 5)	0.27Nm	wini	
	Type of load	Incandescent lamp		
in an	Rated current (A) / rated load (W or VA):	400W		
at Set	Rated voltage (V):	: 100-240V		
- Let	Test voltage between 0,9 and 1,1 Vn (V), whichever is the more unfavourable:	264V		
mr n	Samples number	3,		
Parts of the	electronic switch	Max. Measured temperature rise (K)	Allowed temperature rise (k	
Terminal L	- the state state will write a	16.7	55	
Terminal N	white white white the state	16.2	55	
Terminal J2		0.9	55	
MOV1	the star strength with the second	17.4	60	
X-capacitor	C12	18.5	75	
C25 body	the state state while while while	22.1	80	
L10 winding		22.8 25.1	110 95	
PCB near (PCB near (25.1	95	
PCB near l		23.4	95	
	losure inside	11.7	Ref	
	losure outside	9.8	70	
Ambient		24.3℃		
	tary information:	27.00	and the second	

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20.	EN 60669-1& EN 60669-2-1					
Clause	Requirement + Test	Result - Remark	Verdict			

(19.106)	TABLE: Test for RCS energized by impulses (under no-load conditions):						
	Impulse duration	n declared by the n	nanufacturer:	he me m			
N. Specimen	Rated control voltage (V)	Control voltage of 0,9 times the rated value (V)	20 operations: RCS operates as intended (yes/no)	Control voltage of 1,1 times the rated value (V)	20 operations: RCS operates as intended (yes/no)		
	at -at	TEL NEAR MUS	mut- punt	an -in a	s to the		
m - m	m- m		18- 58t	white mitter and	white-white		
1- 1	\$. A . S	- ALTE- MITE	mm.	, , , ,			

20.2	TABLE: Impa	act resistance		Р
	closure tested 1 (A, B, C, D)	Blows per part	Height of fall (mm)	Comments
NUTER IN	A Star	5 - 5 - 5	80	No damage
a a	С	A 14 10 5	120	No damage

21.3	TABLE: Ball pres	ABLE: Ball pressure test of thermoplastic materials				
	Allowed impression diameter (mm):		: ≤ 2 mm			
Part under	test	Material designation	Test temperature (°C)	Impression diameter (mm)		
PCB		SHENZHEN HONGMY PRECISION CIRCUIT CO LTD	125	0.7		
Terminal block J1		Degson Electronics Co. Ltd.	125	0.9		
Terminal block J2		Degson Electronics Co. Ltd.	125	0.9		
Supplemer	ntary information:	the water with the the	s at at	Tet Jet Je		

pression diameter (mm)	: < 2 mm		
	$\cdots \cdot \geq \mathbb{Z}$ [11][1]	20.	
Material designation	Test temperature (°C) ⁽¹⁾		
thermoplastic	70	0.	8
7		Material designation (°C) ⁽¹⁾ thermoplastic 70	Material designation(°C) (1)diameterthermoplastic700.





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sv.	211		EN 60669-1& EN 60669-2	1-1 mer when when when	20.
5	Clause	Requirement + Test	it's wat we want	Result - Remark	Verdict

22.1 TA	BLE: Threaded	part torque tes	t 🖈	at the set	NIP NIP
Threaded part identification	Diameter of thread (mm)	Column number (I, II, or III)	Applied torque (Nm)	Times (5/10)	No damage
Terminal screw	2.40	e mi mi	0.4	5	YES
Terminal screw	2.40	NUT MILIE	0.4	5	YES
Supplementary	information:	26. 26.	the state	St 55 5	NET ME

23.1	TABLE: Creepage distances, clearances and distances through sealing compound						
10 . 50 ⁰	Rated voltage (V)	:	100-24	0	it i	et 5	Ø
Item per table 23	Creepage distance dcr, clearance cl and distance through sealing compound dtsc at/of:	requir ed cl (mm)	cl (mm)	requir ed dcr (mm)	dcr (mm)	requir ed dtsc (mm)	dtsc (mm)
1,6	Between live parts which are separated when the contacts are open (apply to terminals for external wiring)	MUTTY .	UNLIGH .	≥ 3	3.1	MITTER V	MUTER.
2,7	Between live parts of different polarity including all terminals for external wiring.	≥ 3	3.1	≥ 3	3.1	re-m	
3,8	Between live parts and accessible surfaces of parts of insulating material	≥ 3	>5.0	≥ 3	>5.0	r which	A WILL
3,8	Between live parts and screws or devices for fixing bases, covers, or cover-plates	≥ 3	>4.0	≥ 3	>4.0	. N. Telk	NUTER

wire test		P
Material designation	Test temperature (°C)	Remarks
white white and when the ret ret		No flame and glowing.
thermoplastic	850	No flame and glowing.
thermoplastic	850	No flame and glowing.
thermoplastic	650	No flame and glowing.
		Material designationTest temperature (°C)850thermoplastic850thermoplastic850

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EN 60669-1& EN 60669-2-1					
Clause	Requirement + Test	in which we we we	Result - Remark	Verdict	

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24.2	TABLE: Resista	TABLE: Resistance to tracking			N/A
4	Number of drops	3	: 50		
Par	rt under test	Material designation	Test voltage (V)	Flash break (Yes	down
m	m. m.	· · · · ·	175	per an	- su

she sh	A A A A	alle mer and	- sh	211- 1
(101.1.1.1)	TABLE: fault conditions test			P
unt white	Cross-sectional area of conductor not less than 1,5 mm ²	1.0 mm ²	when y	
LIE WALLE	Terminal screws: torque (Nm) (2/3 table 5)	0.27 Nm	UNLIE MN	
t st	Type of load	Incandescent lamp	A A	
mer n	Rated current (A) / rated load (W or VA)	400W	the work	
dt .	Rated voltage (V)	100-240V	x st	
white wh	Test voltage between 0,9 and 1,1 Vn (V), whichever is the more unfavourable	264V		
NET WALL	Samples number	: 3/2		
Fault conditions simulated Remarks			Verdict	
C25 short circuit F1 open immediately, no hazards.		/, no 💦	Р	
Q12 pin G- pin S short circuit		Unit worked normally, No hazards.		Р
Q12 pin G- pin D short circuit		F1 open immediately, no hazards.		P
Q12 pin D- p	pin S short circuit	Unit worked normally, No hazards.		Р
D3 Pin2-7 sl	hort circuit	F1 open immediately, no hazards.		ST RUS
Output short	t circuit	Air switch opened, No damage, no hazard		e Pset
1311 1	TABLE: temperature rise measurements	white white we	in alle	Р
STREE N	temperature measured after (min):	74	et stet	
Parts of the electronic switch		Max. Measured Permi temperature rise (K) temperatu		
Terminal L	N A A A	13.7	JN 11	0 0
Terminal N	at the star will work which we	13.3	11	0
PCB near Q	13	21.9	12	20
Plastic enclo	osure outside	8.1	1 ¹⁷ - 1 ¹ 7	5
Ambient	the state with white white white we	24.0 ℃	R	ef 🦽

Supplementary information:

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EN 60669-1& EN 60669-2-1					
Clause	Requirement + Test	Result - Remark	Verdict		

	TABLE: additional temperature rise measurements in case of temperaturelimited by a fuse				
LIEK WALT	Current under the relevant fault conditions measured with the fuse short-circuited (A)			UTEX UNI	
a de	Type of fuse as specified by IEC 60127				
white	Test duration corresponding to the maximum fusing time corresponding to the current measured (min).:	- whitek whitek w	vntr		
Parts of the electronic switch		Max. Measured temperature rise (K)		issible ıre rise (K)	
- 1	ret are write with white wat with		. A	- 15	
the me	when when we are the test	aller and and a	when	an m	
supplement	tary information:	i in i	, etc.	the state	

(101.1.1.2)	TABLE: temperature rise measurements during overload tests				
white y	Cross-sectional area of conductor not less than 1,5 mm ²	al screws: torque (Nm) (2/3 table 5): 0.27Nm			
Str. S	Terminal screws: torque (Nm) (2/3 table 5):				
m. w	Type of load				
St 5	Rated current (A) / rated load (W or VA): 264V		, et		
w. m.	Rated voltage (V)	1.0 mm ²			
ret wallet	Test voltage between 0,9 and 1,1 Vn (V), whichever is the more unfavourable:	0.27Nm			
L .*	Samples number:	: 3			
Parts of the	electronic switch	Max. Measured temperature rise (K)	Permis temperatur		
Terminal L		43.1	11		
Terminal N		40.3	11	ئى 10	
PCB near Q13		105.7	12	0	
Plastic enclosure outside		36.8	75	i nur	
Ambient	a st at alt alter with white	23.3℃		1	
Supplement	ary information:	it at a	1 N	. 5 ⁶	

(101.3)	TABLE: electric strength	P		
ltem per table 15	Test voltage applied between:	Test voltage (V)	Flashover / breakdown (Yes/No)	
1	all poles connected together and the body, with the switch in the "on" position	1500	P	
2	each pole in turn and all other poles connected to the body, with the switch in the "on" position	1500	Р	

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Verdict

EN 60669-1& EN 60669-2-1

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Clause	Requirement + Test

Result - Remark

90. 1 - O. L -	BLE: Critical compo	- 15- 10	NUT INT	Compliance to	Mark(s) of
Object/part No.	trademark	Type/model	Technical data	standard	conformity ⁽¹⁾
Cover	Covestro Deutschland AG [PC Resins]	2805 + (z)(f1)	V-2, 115℃, Min. thickness: 1.3mm	UL 94, UL 746	Tested with appliance UL E41613
Enclosure (base)	Covestro Deutschland AG [PC Resins]	2805 + (z)(f1)	V-2, 115℃, Min. thickness: 1.3mm	UL 94, UL 746	Tested with appliance UL E41613
Terminal block(J1, J2)	Degson Electronics Co. Ltd.	DG503-5.08	450V, 20A, 0.2-2.5mm²	EN 60998-1, EN 60998-2-1	VDE 40038293
Fuse (F1)	Dongguan Better Electronics Technology Co., Ltd.	932	T5AL 250V	IEC 60127-1, IEC 60127-3	VDE 40033369
PCB	SHENZHEN HONGMY PRECISION CIRCUIT CO LTD	HMY-D	V-0, 130°C	UL 94, UL 746	UL E320045
Alternative	SHENZHEN SHAN XU ELECTRONIC CO LTD	SX-M1	V-0, 130°C	UL 94, UL 746	UL E360487
Alternative	HUIZHOU HUAGAO ELECTRIC CIRCUIT CO LTD	HG-D	V-0, 130°C	UL 94, UL 746	UL E483905
Alternative	Various	Various	V-0, 130°C	UL 94, UL 746	UL
Varistor (C33)	Brightking (Shenzhen) Co., Ltd.	471KD07	300VAC, V-0, 105℃	IEC 61051-1, IEC 61051-2, IEC 61051-2-2	VDE 40027827
X-capacitor (C12)	Dongguan Weiqing Electronic Co., Ltd.	MPX	0.22uF, Min.275Vac, X2 type, 40/110/56	IEC/EN 60384- 14	VDE 40040406
Inductor (L10)	Shenzhen COIL- RIDA Electronic Co, Ltd.	CPK06082	85°C,1mh	AS/NZS 60669.1	Test with appliance
Heat shrinkable tube for Inductor	SHENZHEN XINGQI PLASTIC PRODUCTS CO LTD	X-2	600V,125°C, VW-1	UL 224	UL E350991

) an asterisk indicates a mark which assures the agreed level of surveillance

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2 m	EN 60669-1& EN 60669-2-1					
Clause	Requirement + Test	Result - Remark	Verdict			

(102.4.2)	TABLE: temperature rise measurements after test for automatic protective devices which only decrease current to the electronic switch			N/A	
NETEX WALT	Cross-sectional area of conductor not less than 1,5 mm ²	set wiret whitet	Whitek W		
8 .A	Terminal screws: torque (Nm) (2/3 table 5):		it i		
mer	Type of load	- INTE WALT W	in me		
- Jet	Rated current (A) / rated load (W or VA):	This which which which			
m. n	Rated voltage (V):				
WALTER WAI	Test voltage between 0,9 and 1,1 Vn (V), whichever is the more unfavourable				
1 1	Samples number		dt .		
Parts of the	electronic switch	Max. Measured temperature rise (K)	Permi temperatu		
- me	and an an an an and the	- JIEL MITE M	The Main	me	
- 15	ret ret stret sure south with the	-20 - 2	t it	. At	
-mer m	with some the state state	THE MUTE WALT	white -	an a	
-15 1		- 1.		de la	
supplement	ary information:	AST CURLEY	me m	~ m	

(107)	Table: Capacitors				and.	Р	
t united wo	Approved type(s) of capacitor according t IEC 60384-14						
	Application of capacitor	till while while	m. m.		125 V < l	J _n ≤ 2	250 V
Application of capacitor			Un ≤ 125 V	Without overcurrent protection		With overcurrent protection (a)	
Betwe	en live conductors (L or N) and	d earth (PE)	🗆 Y4		Y2		Y2
Between live	- without impedance in serie	SLIEK MITER WA	□ _ X2 √		X1		X2
(L and N or L1 and L2):	 with impedance in series, which, when capacitor(s) is (are) short-circuited, limits the current to a value of 	0,5 A and higher	□ X3		X2		Х3
		below 0,5 A	Any type	2	Any type		Any type





Page 1 of 5 **Photo Documentation** Reference No.: WTX21D12145972S

Model: SR-2303SAC-HP

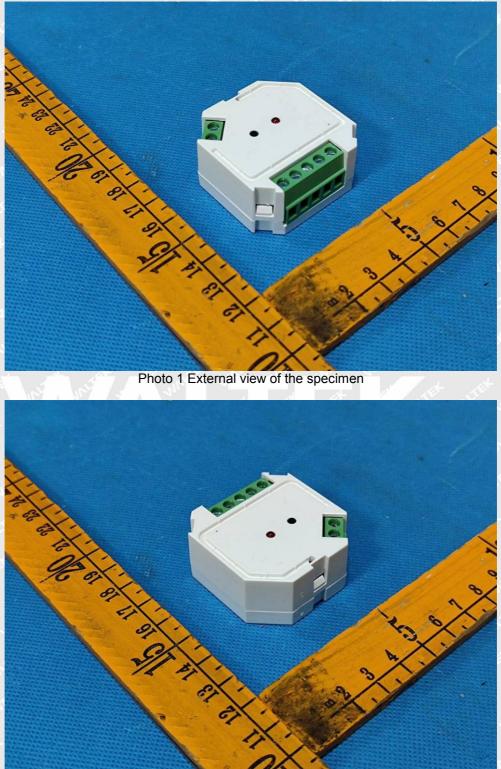


Photo 2 External view of the specimen



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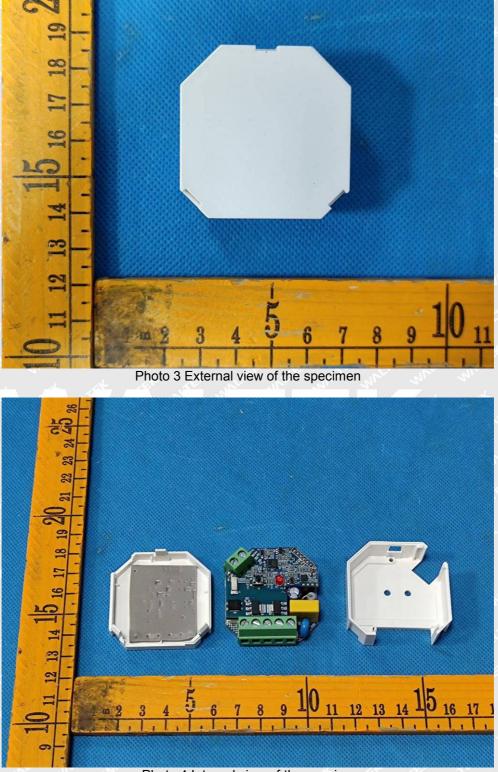


Photo 4 Internal view of the specimen



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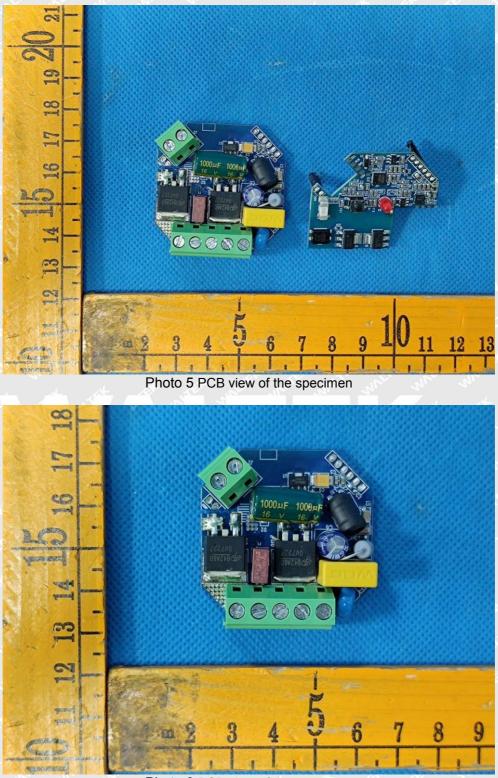


Photo 6 PCB view of the specimen



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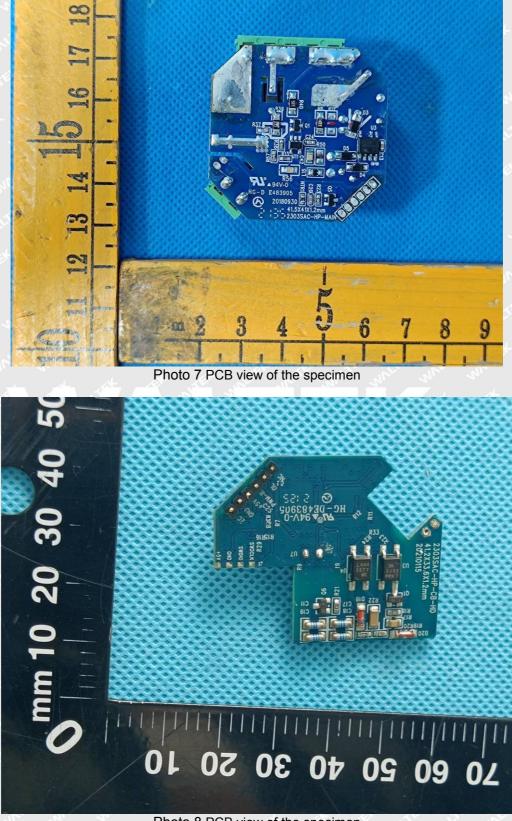


Photo 8 PCB view of the specimen



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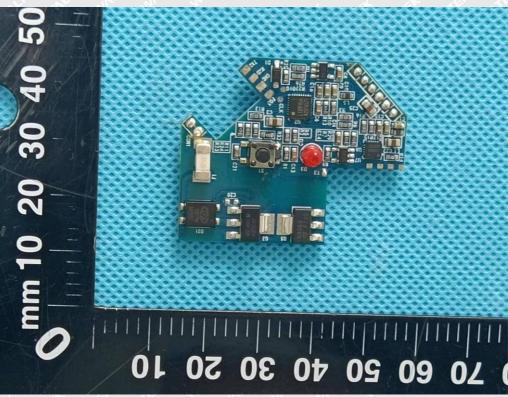


Photo 9 PCB view of the specimen

===== End of Report ======