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LP-009

Test report

Number:	**T211-0360/15**	Project file:	C20151400
		Date:	2015-06-15
		Pages:	5
Product:	**Surface Mounted Installation Boxes**		
Type reference:	**N4D, N8D, N12D, N24D and N36D**		
Ratings:	IP65; Rated insulation voltage: 1000 V d.c.		
Trademark:	TEHNOPLAST		
Applicant:	**Tehnoplast d.o.o.** **Zdravka Jekića 119, RS-22305 Stari Banovci, Serbia**		
Manufacturer:	Tehnoplast d.o.o. Zdravka Jekića 119, RS-22305 Stari Banovci, Serbia		
Place of manufacture:	Tehnoplast d.o.o. Zdravka Jekića 119, RS-22305 Stari Banovci, Serbia		

Summary of testing

Testing method:	IEC 60670-24:2011 (2nd Ed.) (Clause 8, 14 and 17)
Testing location:	SIQ Ljubljana, Tržaška cesta 2, SI-1000 Ljubljana, Slovenia
Remarks:	Date of receipt of test items: (2015-03-17) Number of items tested: 1 Date of performance of tests: 2015-03-20 to 2015-04-01 The test results presented in this report relate only to the items tested. The product complies with the requirements of the testing methods. This test report is to be used as appendix to test report number T212-0023/09

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Copy of marking plate

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

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)

IEC 60670-24			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	MARKING		**P**
8.1	Enclosures shall be marked with:		P
	a) name, trade mark or identification mark of the manufacturer or the responsible vendor ..... :	TEHNOPLAST	P
	b) IP > 3X and/or IP > X0 ..... :	IP65	P
	The IP code, if applicable, shall be marked on the outside of the enclosure so as to be easily discernible when the enclosure is mounted and wired as for normal use.		P
	The visibility of the marking is also allowed after opening the door or the lid if a minimum degree of IP20 is maintained after opening.		N/A
	c) symbol for total insulation, if applicable ..... :		P
	d) type designation, reference number or catalogue number ..... :		P
	e) letter N for terminals intended exclusively for the neutral conductor ..... :	On terminals	P
	f) symbol for earthing terminals for the connection of the protective conductor ..... :	On terminals	P
	Markings of neutral terminals and earthing terminals not placed on screws, or any other easily removable parts		P
	g) rated voltage ..... :	Rated voltage: 400 V a.c. Rated insulation voltage: 1000 V d.c.	P
	h) rated current (enclosures 7.101.2 and 7.102.2) ... :	63 A	P
	i) standard reference number ..... :	In instruction sheet	P
	j) maximum temperature during the building processif 90 °C ..... :		N/A
	k) information concerning the openings that can bemade during installation for enclosures without inlets (7.3.7) ..... :		P
	l) maximum capability to dissipate power (*P*de) for GP enclosures (7.101.1 and 7.102.1) ..... :	In instruction sheet	P
	m) usability for hollow wall installation (7.7) ..... :		N/A
	n) corresponding dimension sheet ..... :		N/A
	p) for enclosures classified according to:	-	
	- "GP" (7.101.1 and 7.102.1) ..... :		P
	- "PD" (7.101.2 and 7.102.2) ..... :		N/A

8.2	Marking is durable and easily legible		P
	Rubbing test 15 s with water and 15 s with petroleum spirit		P

IEC 60670-24			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
	After the test: marking still legible		P
8.101	Required data for instruction sheet and/or documentation		P
	provide appropriate instructions regarding the means to be used to obtain the intended degree of protection		P
	give information concerning the verification of the electrical continuity of the protective circuit		N/A
	give to the installer the necessary instructions:		—
	- manufacturer includes in the documentation accompanying the enclosure the necessary instructions for installation and how to integrate accessories (7.101.1 and 7.102.1)		P
	- manufacturer includes in the documentation accompanying the enclosure the necessary instructions for installation according to the appropriate mounting environment (7.101.2 and 7.102.2)		N/A
14	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		**P**
14.1	Insulation resistance and electric strength of enclosures classified according to 7.1.1 and 7.1.3 is adequate		P
	Specimens placed in a humidity cabinet containing air with relative humidity between 91 % and 95 % and air temperature between 20 °C and 30 °C for:		P
	- 2 days (48 h) for enclosures classified IPX0		N/A
	- 7 days (168 h) for enclosures classified IP>X0		P
	After this treatment: no damage		P
14.2	Insulation resistance measured 1 min after application of 500 V d.c.	See appended table 14.2	P
14.3	Electric strength: a.c. test voltage applied for 1 min	See appended table 14.3	P
17	**CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH SEALING COMPOUND**		**P**
	Creepage distances, clearances and distances through sealing compound no less than the values shown in table	See appended table 17	P

14.2	**TABLE: Insulation resistance**		**P**
Test voltage applied between:		**Measured (MΩ)**	**Required (MΩ)**
Between metal foil in contact with outer surface of the box and metal foil in contact with internal surface		> 100	> 5
Supplementary information:			

14.3	TABLE: Electric strength	P

Test voltage applied between:	Test voltage (V)	Flashover / breakdown (Yes/No)
Between metal foil in contact with outer surface of the box and metail foil in contact with internal surface	5250 V a.c.	No
Supplementary information:		

17	TABLE: Creepage distances, clearances and distances through sealing compound		P
	Rated voltage (V) .....:	Rated voltage: 400 V a.c. Rated insulation voltage: 1000 V d.c.	—

Creepage distance dcr, clearance cl and distance through sealing compound dtsc at/of:	Required Cl. d. (mm)	Mesured Cl. d. (mm)	Required Cr. d. (mm)	Mesured Cr. d. (mm)	Required D. t. s. c. (mm)	Mesured D. t. s. c. (mm)
Between terminals (N and E)	≥4	> 10	≥ 4	> 10	≥ 4	/
Between internal metal parts and accessible surfaces	≥4	> 10	≥ 4	> 10	≥ 4	/
Supplementary information:						

List of test equipment used:

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date
14	Humidity / Temperature	Omega HH314A	/	2015-04-02
14.2	Isolation resistance	Kikusui SM001164	0 - 100 Gohm	2015-05-30
14.3	Dielectric strength	Kikusui TOS5301	5,5 kV	2015-12-01
17	Clearance and creepage distances	Mitutoyo CD-15CPX	/	2015-12-16