UAC Engineering Consultancy & Training Auditing
Inspection and Laboratory Services Co.
Atalar Mah. Çanakkale Cad. No:69 / Kat:4 D:5
Kartal / İSTANBUL Tel: +90216 3309048
www.uacmuhendislik.com

TEST REPORT

EN 60670-1:2005/A1:2013

Boxes and enclosures for electrical accessories for household and similar fixed electrical installation – Part 1: General requirements

Report Number.	**2016-AP-003**
Date of issue.....	**3th March 2016**
Total number of pages	**32/32**
Name of Testing Laboratory preparing the Report.....	**UAC ENGINEERING CONSULTANCY & TRAINING AUDITING INSPECTION AND LABORATORY SERVICES CO.** ATALAR MAH. ÇANAKKALE CAD. NO:69/5 KARTAL İSTANBUL
Applicant's name	**APLUS PLASTİK VE ELEKTRİK SN VE TİC. LTD. ŞTİ.**
Address.....	**SELİMPAŞA ORTAKÖY SAN. SİT. HARPUT SK. NO:4A SİLİVRİ / İSTANBUL**
Test specification	
Standard.....	**EN 60670-1:2005/A1:2013**
Test procedure	CB Scheme (Electrical safety testing procedure)
Non-standard test method..	N/A
Test Report Form No.	**EN 60670-1:2005/A1:2013**
Test Report Form(s) Originator.....	UAC

General disclaimer:

The test results presented in this report relate only to the object tested.

This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description	**POLYESTER ELECTRICAL DISTRIBUTION BOARD**
Trade Mark.....	A+ plastik®
Manufacturer	**APLUS PLASTİK VE ELEKTRİK SN VE TİC. LTD. ŞTİ. SELİMPAŞA ORTAKÖY SAN. SİT. HARPUT SK. NO:4A SİLİVRİ /**

	İSTANBUL		
Model/Type reference	**20*30*12 cm POLYESTER DISTRIBUTION BOARD**		
Ratings.....	Raw Material	: Glass Reinforced Polyester	
	Quality Standart	: EN61439, EN60670-1	
	Color	: RAL 7035	
	Operating Temperature	: -40°C / +70°C	
	Door Opening Angle	: 210°	
	Hinge	: 2 Pieces	
	Lock Options	: Triangle, Butterfly, Springy, Compression	
		(Metal or Plastic)	
	Protection Class	: IP65	
	Fire Resistance	: Can Change V0,V2,B2,A1,A2,B1	
	UV Resistance	: Yes	
	Humidity Resistance	: Yes	
	Chemical Resistance	: Full Protection Againist Acid and Base	
	Corrosion Resistance	: High Resistance Adverse Weather Conditions	
	Gasket	: Polyurathane Foam Gasket or EPDM Gasket	
	Grounding Class	: Class II	
	Mounting Plate	: Galvanised Steel	
	Rated Operational Voltage (U_e)		400 V
	Rated Voltage (U_n)		400 V
	Rated Insulation Voltage (U_i)		690 V
	Rated Impulse Withstand Voltage (U_{imp})		8,0 kV
	Rated Current (I_n)		400 A
	Rated Peak Withstand Current (I_{pk})		52,5 kA
	Rated Short-Time Withstand Current (I_{cw})		25 kA
	Rated Frequency (f_n)		50 Hz
	Rated Degree of Protection (IP)		IP 65
	Rated Mechanical Impact Code (IK)		IK10
	Number of Poles		3 Phase + Notre

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):	
☒ **CB Testing Laboratory:**	**UAC Engineering Consultancy & Training Auditing Inspection and Laboratory Services Co.** **Atalar Mah. Çanakkale Cad. No:69 Kat:4 D:5 Kartal-İstanbul/ Türkiye**

Testing location/ address.....	**Atalar Mah. Çanakkale Cad. No:69 Kat:4 D:5 Kartal-İstanbul / Türkiye**
☐ **Associated CB Testing Laboratory:**	--
Testing location/ address :	--
Tested by (name, function, signature) :	**Ersin ACIKGOZ** **Machine Engineer** **Test responsible**
	Muhammed BÜYÜK **Electrical Technician** **Test Personnel**
Approved by (name, function, signature) :	**Dr. Aylin DENLİ** **Msc. Chemical Engineer** **Laboratory Manager**

SUMMARY OF TESTING:

Electrical safety testing was performed EN 60670-1:2005/A1:2013

Tests performed (name of test and test clause):

POLYESTER ELECTRICAL DISTRIBUTION BOARD

20*30*12 cm POLYESTER DISTRIBUTION BOARD

Testing location: Atalar Mah. Çanakkale Cad. No:69 Kartal- İstanbul-TÜRKİYE

General test conditions

All tests were conducted on model;

20*30*12 cm Polyester Distribution Board

The items tested were found to be in compliance with the test standards of EN 60670-1 polyester electrical boxes in the product .

☒ **The product fulfils the requirements of EN 60670-1**

Test Result: Pass.

Test item particulars :	**POLYESTER ELECTRICAL DISTRIBUTION BOARD**
Classification of installation and use:	**IP2X** **Class II** **IP Number: IP 65**
Supply Connection:	N/A
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:	16th February 2016
Date (s) of performance of tests:	16th February 2016 3th March 2016

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.

Manufacturer's Declaration:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provide:	☐ **Yes** ☒ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies)..... N/A

General Product Information:

Raw Material	: Glass Reinforced Polyester
Quality Standart	: EN61439, EN60670-1
Color	: RAL 7035
Operating Temperature	: -40°C / +70°C
Door Opening Angle	: 210°
Hinge	: 2 Pieces
Lock Options	: Triangle, Butterfly, Springy, Compression (Metal or Plastic)

Protection Class	: IP65
Fire Resistance	: Can Change V0,V2,B2,A1,A2,B1
UV Resistance	: Yes
Humidity Resistance	: Yes
Chemical Resistance	: Full Protection Againist Acid and Base
Corrosion Resistance	: High Resistance Adverse Weather Conditions
Gasket	: Polyurathane Foam Gasket or EPDM Gasket
Grounding Class	: Class II
Mounting Plate	: Galvanised Steel

GENERAL SPECIFICATIONS

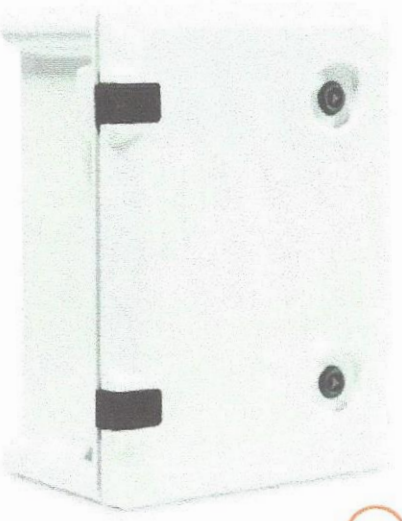
Rustproof, unscratcheble paint, no need painting and maintenance.

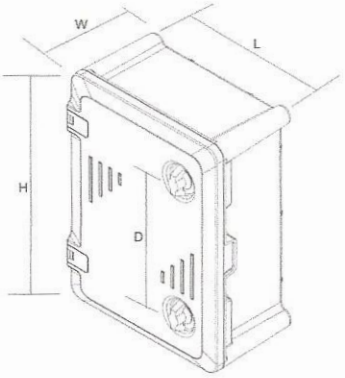
Dielectric.

Flameproof, self-extinguishing.

Non-affected by humidity.

Resistant to atmosphere conditions.





APPLICATIONS

Transformer Load

Boards

Compensation Boards

Distribution Boards

Network Generator

Transfer Applications

Automation Panels

Lighting Panels

OSOS Panels

Counter Panels

All model/type List:
20*30*12 POLYESTER DISTRIBUTION BOARD
21*32*13 POLYESTER DISTRIBUTION BOARD
25*30*17 POLYESTER DISTRIBUTION BOARD
30*40*17 POLYESTER DISTRIBUTION BOARD
35*50*17 POLYESTER DISTRIBUTION BOARD
40*60*20 POLYESTER DISTRIBUTION BOARD
50*70*20 POLYESTER DISTRIBUTION BOARD
60*80*22 POLYESTER DISTRIBUTION BOARD
25*30*17 POLYESTER CONNECTION BOARD
30*40*17 POLYESTER CONNECTION BOARD
35*50*17 POLYESTER CONNECTION BOARD
40*60*20 POLYESTER CONNECTION BOARD
50*70*20 POLYESTER CONNECTION BOARD
60*80*22 POLYESTER CONNECTION BOARD
3*160A POLYESTER CONNECTION BOARD
21*32*13 POLYESTER SINGLE ONE-PHASE BOARD
30*40*17 POLYESTER DOUBLE ONE-PHASE BOARD
35*50*17 POLYESTER TRIPLE ONE-PHASE BOARD
40*60*20 POLYESTER QUADRUBLET ONE-PHASE BOARD
30*40*17 POLYESTER SINGLE THREE-PHASE BOARD
40*60*20 POLYESTER DOUBLE THREE-PHASE BOARD
20*32*10 POLYESTER COUNTER BOARD
60*80*22 POLYESTER AUTO READER BOARD
35*50*17 POLYESTER AGRICULTURAL IRRIGATION BOARD
1200*275*140 POLYESTER TRANSFORMER COUNTER BOARD
TYPE 1 POLYESTER DISTRIBUTION BOARD
TYPE 3 POLYESTER DISTRIBUTION BOARD

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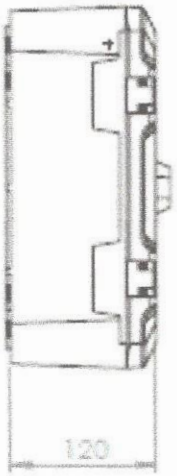
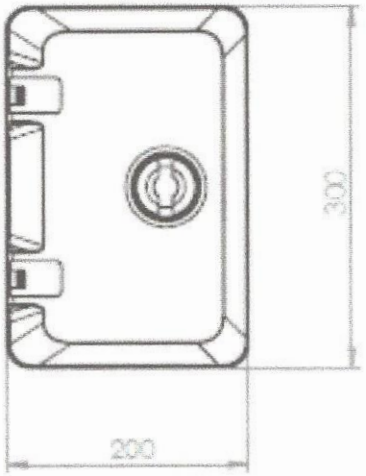
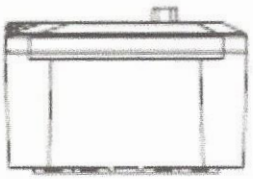
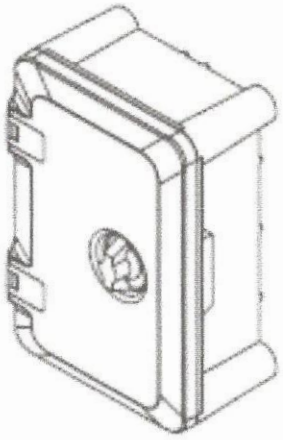
Product Technical Data

20x30x12 cm

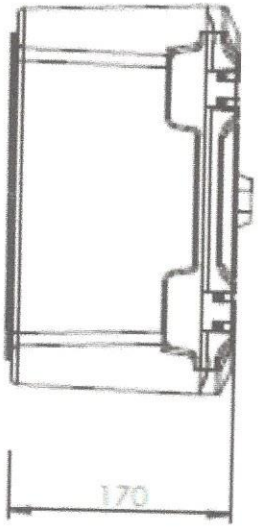


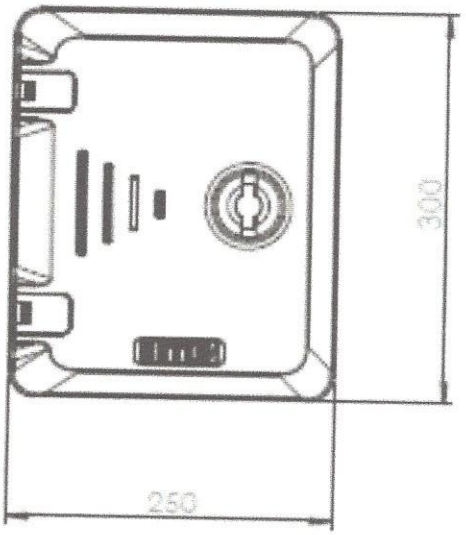


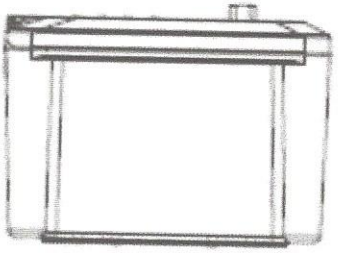


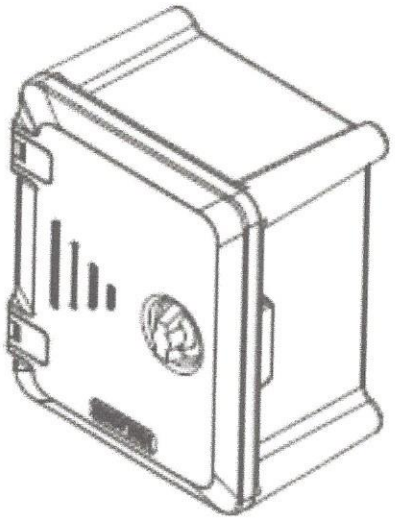


25*30*17 cm

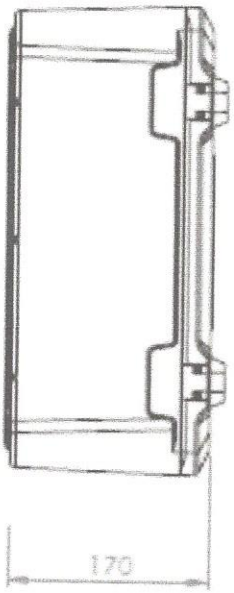


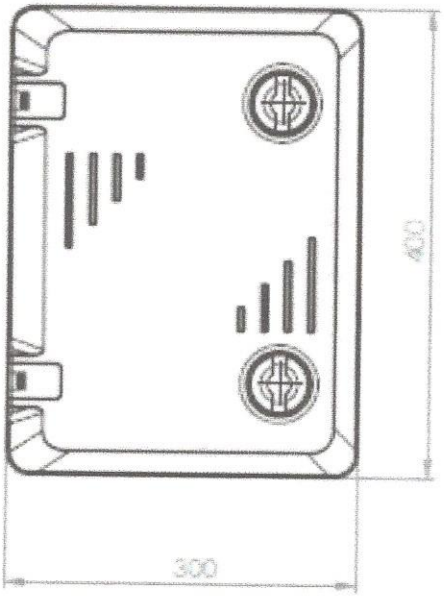


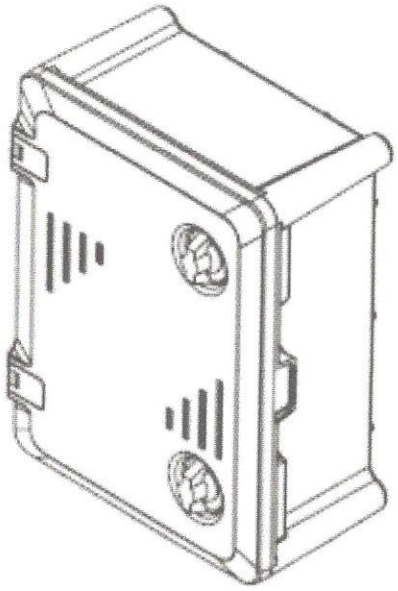


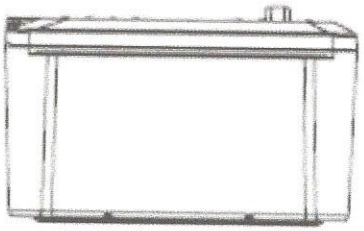


30*40*17 cm

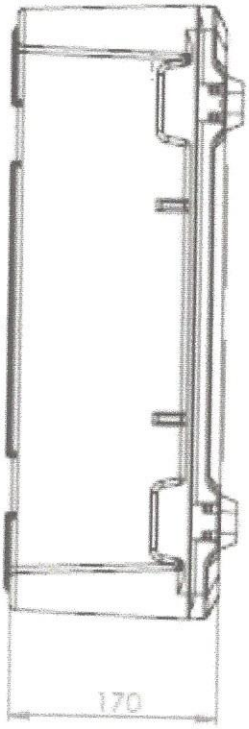


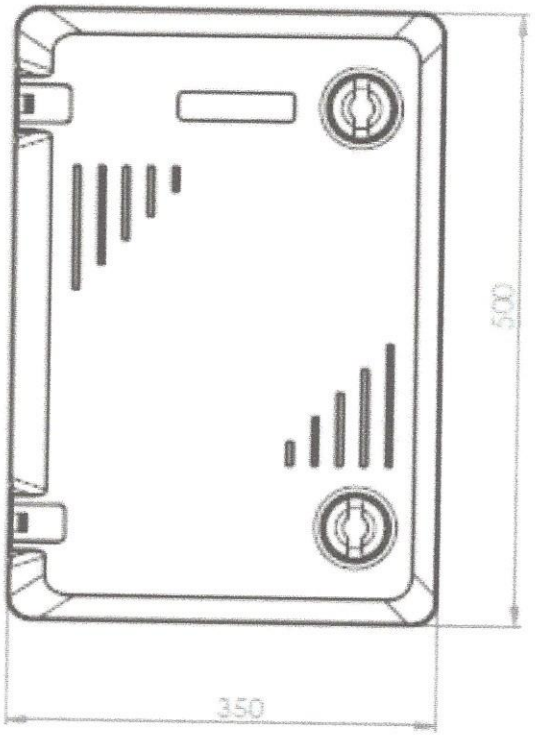


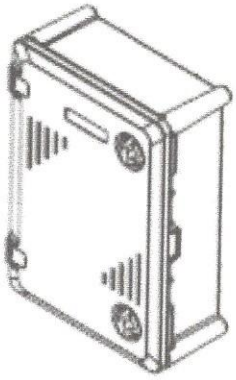


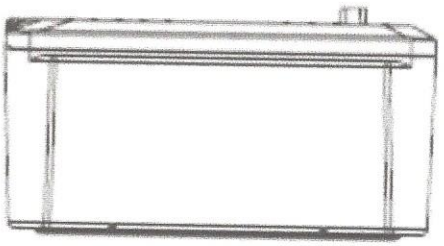


35*50*17 cm

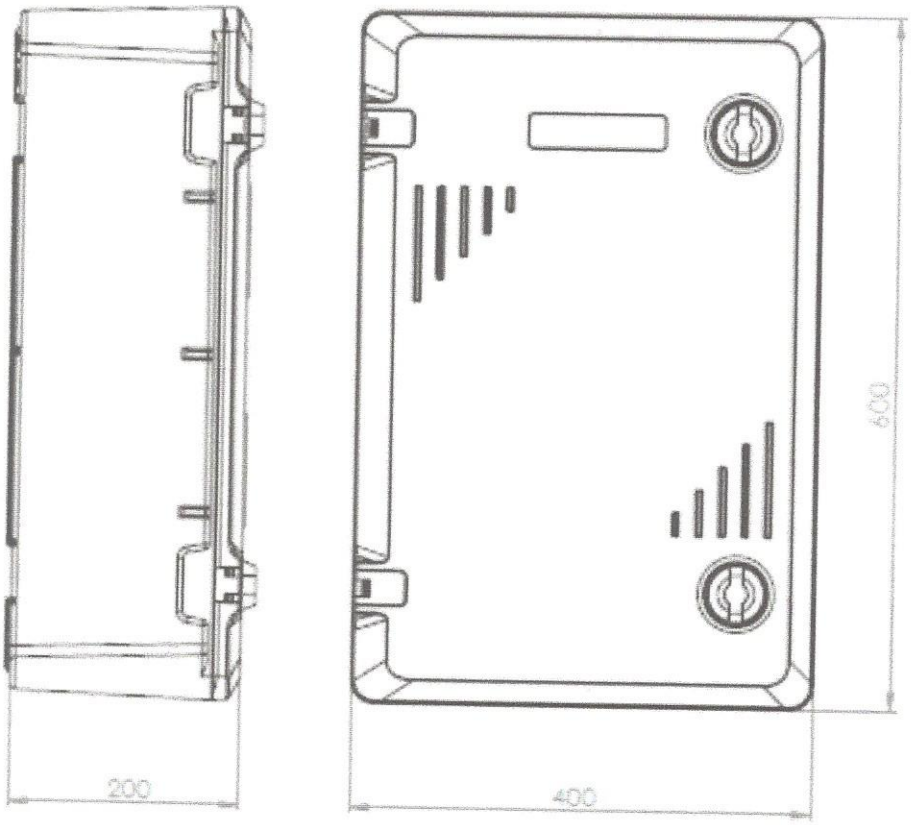


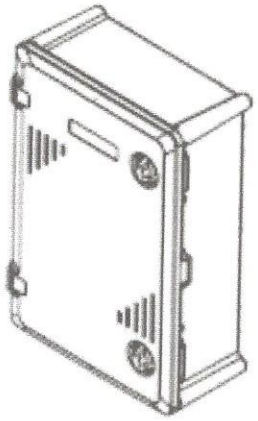


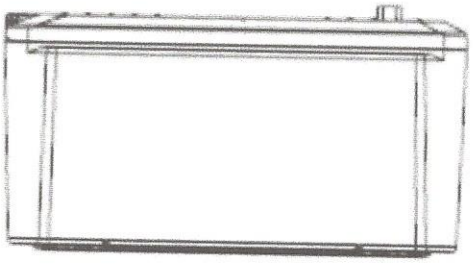




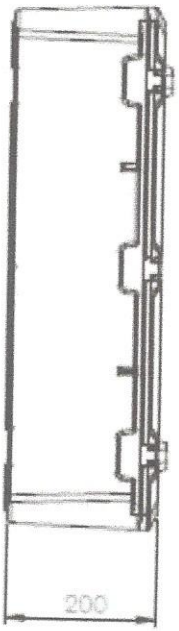
40*60*20 cm

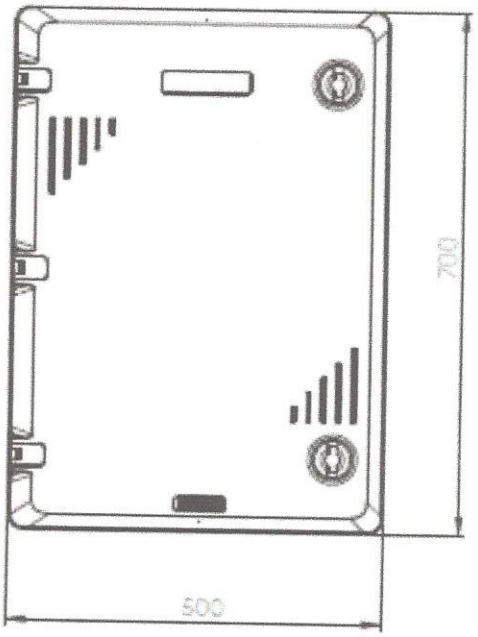


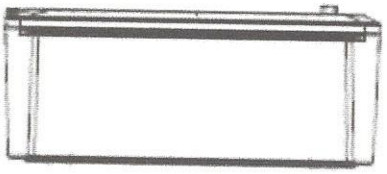


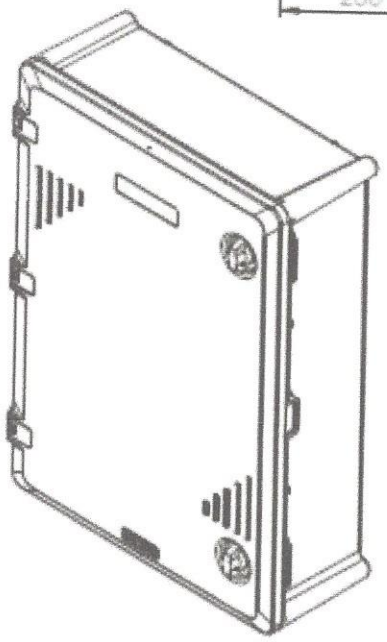


50*70*20 cm

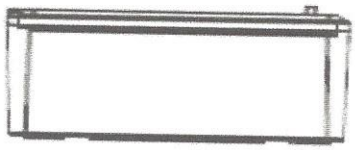


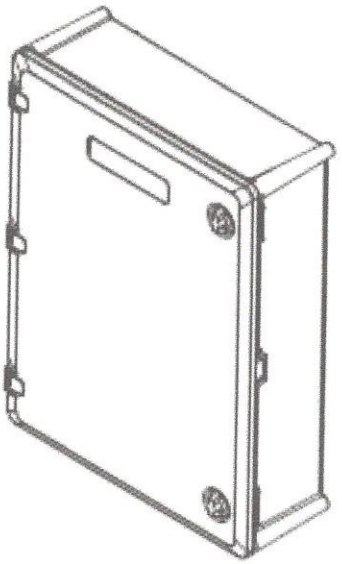


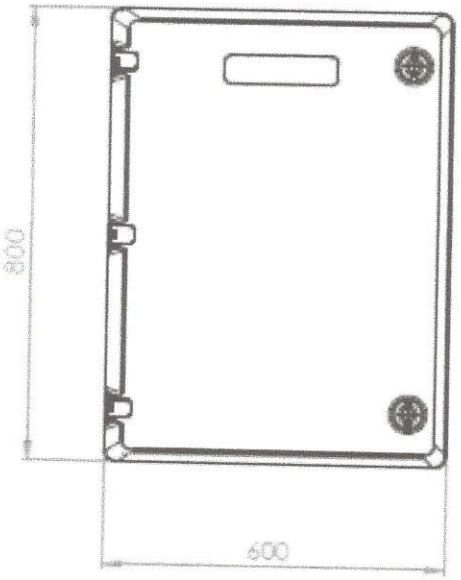


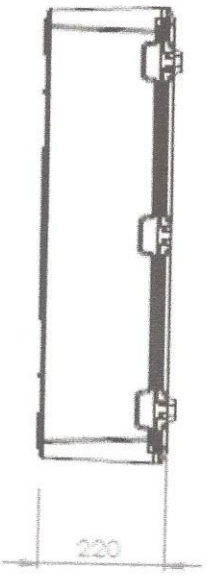


60*80*22 cm

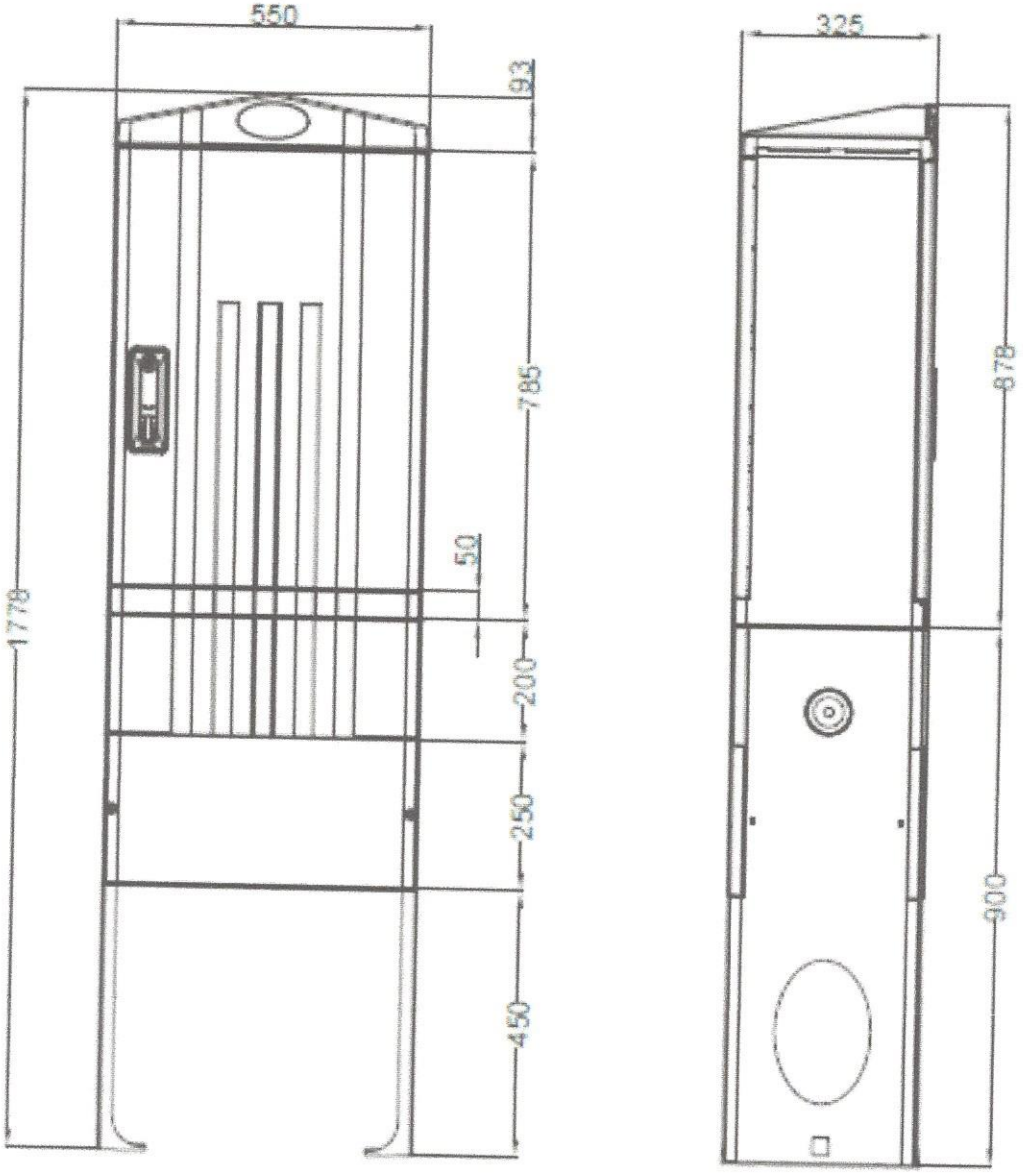








TYPE 1 POLYESTER DISTRIBUTION BOARD



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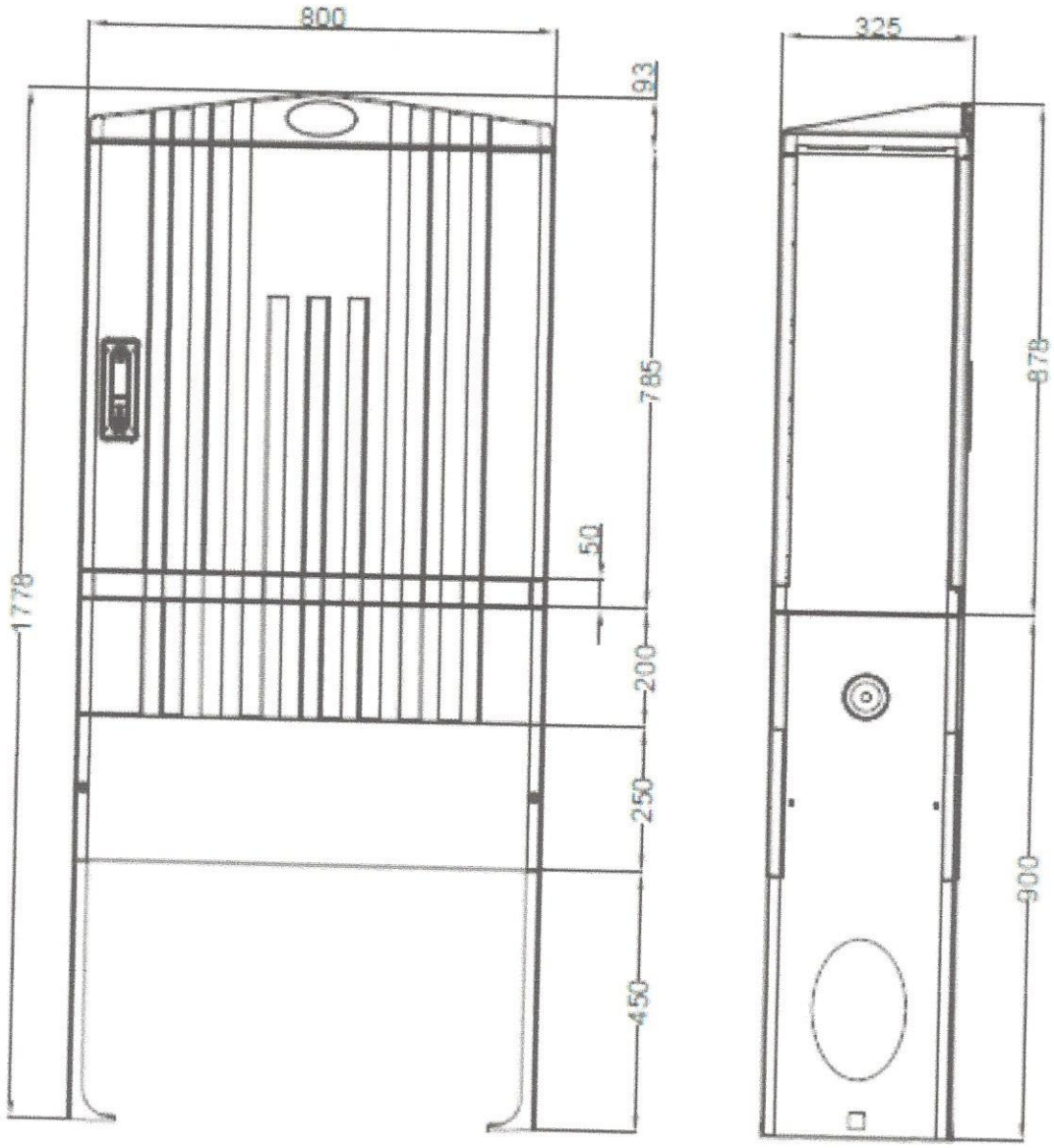
TYPE 3 POLYESTER DISTRIBUTION BOARD



EN 60670-1:2005/A1:2013			
Clause	**Requirement + Test**	**Result - Remark**	**Verdict**
4	**General requirements**		
		Approved of EN 60670-1 Product sections will provide adequate electrical protection and It is designed to prevent danger to the user and the surroundings.	P
5	**General notes on tests**		
	Tests on boxes and enclosures of insulating material shall be performed after a optioning of at least 10 days at ambient temperature and relative air humidity of between and 50-85 %. Unless otherwise specified the tests shall be carried out in the order of the clause ambient temperature of (20 ± 5) °C on a set of three new specimens.	Approved of EN 60670-1 Ambient temperature: 22 °C Relative air humidity: % 59 Preconditioning : 10 days	P
7	**CLASSIFICATION**		
7.1	The nature of their material	Composite	P
7.2.	The method of installation		P
7.2.1	Flush, semi-flush or embedded in		P
7.2.2	Surface mounting on		P
7.2.3	Placement		P
7.3	The type(s) of inlets (outlets)	Boxes and enclosures may have more than one type of inlet.	P
7.4	The clamping means	Equipped with earthing terminal block and intallation accessories Installation of insulated earthing is optional	P
7.5	The minimum and maximum temperatures during installation	-40°C to +70°C	P
7.6	The maximum temperature during the casting process	+70 °C	P
7.7	Boxes and enclosures for hollow walls and the like according to 7.2.1.3 are classified as		P
7.7.3	According to the degree of protection of the part mounted in the hollow wall	IP2X	P
7.101	For empty boxes and enclosures		N/A
8	**MARKING**		
8.1	trade mark ……:	**Trade Mark:**	P

		A+plastik®	
	Manufacturer……:	**Manufacturer: APLUS PLASTİK VE ELEKTRİK SN VE TİC. LTD. ŞTİ.**	P
	Raw Material……:	Glass Reinforced Polyester	P
	Operating Temperature…:	-40 °C to +70°C	P
	Rated frequency (Hz) ……:	50 Hz	P
	Door Opening Angle……:	210°	P
	Protection Class (IP Number):	IP65	P
	Fire Resistance:	Can Change V0,V2,B2,A1,A2,B1	P
	Model or type reference. :	20*30*12 cm POLYESTER DISTRIBUTION BOARD	P
	Grounding Class:	Class II	N/A
	IP number, other than IP2X……:	IP65	P
8.2	The marking on the boxes and enclosures shall be durable and easily legible.	*Compliance with 8.1 and 8.2 is checked by inspection and by the test. The test results are given in the appendix.*	P
9	**Dimensions**		
	Boxes and enclosures shall comply with the appropriate standard sheets, if any. Compliance is checked by inspection and measurement.	*Manufacturers have been checked according to the technical data. Test results are given in the appendix.*	P
10	**Protection against electric shock**		
	Boxes and enclosures shall be so designed that, when they are assembled, equipmants installed as for normal use in accordance with the manufacturer's instructions, live parts not accessible.		P
	Box of cover, without cover plate or a case of ensuring their equipment, which is installed according to the instructions in the manufacturer's instructions shall be tested with the appropriate section.		N/A

11	**Provision for earthing**		
11.1	Boxes and enclosures with exposed conductive parts		
	Boxes and enclosures with exposed conductive parts shall be provided with an means of low resistance or have provision for the fitting of such an earthing means purpose of this requirement, small screws and the like, for fixing bases, covers or covover etc. isolated from live parts, are not considered as exposed conductive parts.		N/A
	The earthing means or the provision for the fitting of such an earthing means shall be so that:		N/A
	-the means is readily accessible through the open face of the box, and		N/A
	-the removal of an accessory mounted in the box does not disturb the continuit earthing circuit, and		N/A
	-the means is not part of a removable cover, back, or side of the box or enclosure.		N/A
	Compliance is checked by inspection. Exposed conductive parts of covers or cover-plates shall be connected through resistance connection to the earthing means when fitted as for normal use.		N/A
	A current derived from an a.c. source having a no-load voltage not exceeding 12 V a to (25 ± 1) A is passed between the earthing terminal and each exposed conductive turn. The voltage drop between the earthing terminal and each of the exposed conductor parts is measured, and the resistance calculated from the current and this voltage drop	Testing, and evaluation was performed according to standard IEC 61439-1. The results are given in the appendix. See appendix table 11	N/A
12	**Construction**		
12.1	Lids, covers or cover-plates or part of them		
	Lids, covers or cover-plates or parts of them, which are intended to ensure protection against electric shock:		--
	- are held in place effectively		P
	- are removable only by the use of a tool and/or a key		P
12.2	Drain holes		N/A
12.3	Mounting of enclosures		
	Enclosures have provisions for their suitable attachment according to the method of installation (7.2)		P

	Conductive parts of internal fixing means are surrounded by insulation which projects above the top of the fixing means by an amount of ≥ 10 % of the maximum width of the cavity for the fixing means (mm)		N/A
12.4	Boxes and enclosures with inlets for flexible cables		N/A
12.5	Boxes and enclosures with inlets for applications other than flexible cables		N/A
12.6	Boxes and enclosures with a cable anchorage(s)		N/A
12.7	Boxes and enclosures with cable retention means		N/A
12.8	Knock-out inlets (outlets) intended to be removed by mechanical impact		N/A
12.9	Screw fixings		N/A
12.10	Fixing of boxes and accessories		
	Boxes intended to receive accessories are provided with:		
	- fixing means for their suitable attachment according to the method of installation		P
	- means to fix the accessories in order to remain fixed so that in normal use neither the boxes nor the accessories become displaced		P
12.11	Boxes and enclosures classified according to 7.7.1 (Class Ha)		N/A
12.12	Boxes and enclosures classified according to 7.7.2 (Class Hb)		N/A
12.13	Cable gland entry		N/A
12.14	Boxes and enclosures with inlets (outlets) for conduits or spouts (hubs)		N/A
12.101	Enclosures for hollow walls shall have provisions for retention means for cables or means to use a separate retention device or devices.		N/A
13	**Resistance to ageing, protection against ingress of solid objects and against harmful ingress of water**		
13.1	Resistance to ageing		
13.1.1	Specimens of insulating and composite boxes and enclosures, seals, grommets and replaceable membranes placed in a heating cabinet at (70 ± 2) °C for (168 + 4) h and than kept at room temperature for (96 + 4) h		P
	After the test: no harmful deformation or similar damage		P
13.1.2	Grommets and entry membranes in inlet openings and protecting membranes are reliably fixed and are not displaced by the mechanical and thermal stresses occurring in normal use		N/A
	Specimens that have been subjected to the treatment specified in 13.1.1 placed in a heating cabinet at (40 ± 2) °C for 2 h ± 15 min		N/A

	Immediately after this period the tip of test probe 11 of IEC 61032 is applied for (5 ± 1) s with a force of (30 -2) N. During the tests: grommets and/or membranes not deformed to such an extent that live parts of any included accessory become accessible		N/A
	Grommets and/or membranes likely to be subjected to an axial pull: axial pull of (30 -2) N applied for (5 ± 1) s. During the tests: grommets and/or membranes not deformed to such an extent that live parts of any included accessory become accessible		N/A
	Test repeated on same enclosures fitted with grommets and/or membranes not subjected to any treatment		N/A
	After the test: no harmful deformation, cracks or similar damage		N/A
13.1.3	Grommets and entry membranes in inlet openings of boxes and enclosures classified according to 7.5.2 and 7.5.3: introduction of the cables permitted when the ambient temperature is low		N/A
	Test on enclosures fitted with grommets and/or membranes not subjected to any ageing treatment kept for 2 h in a refrigerator		N/A
	Test temperature (°C) ..... :		N/A
	Immediately after conditioning: it is possible to pierce any blind grommets and entry membranes and to introduce cables of the maximum diameter		N/A
	After the test: no harmful deformation, cracks or similar damage		N/A
13.2	Protection against the ingress of solid objects		N/A
	Enclosures provide a degree of protection IP≥3X against the ingress of solid objects in accordance with the declared IP code ..... :	IP4X	P
	Enclosures mounted as in normal use with screwed glands or grommets fitted with cables as declared by the manufacturer:		P
	- type of cable, smallest cross-sectional area (mm²)		N/A
	- type of cable, largest cross-sectional area (mm²)		N/A
	Enclosures mounted as in normal use with screwed glands or grommets fitted with conduits as declared by the manufacturer:		N/A
	.....-smallestdiameterordimensions(mm)		N/A
	- largest diameter or dimensions (mm).....		N/A
	Fixing screws of the cover or cover-plate tightened with a torque equal to 2/3 of the value of Table 4 used for the test of 12.9 (Nm)		N/A

	Greater torque value stated by the manufacturer, if ...there Levantine formation is provided(Nm)		N/A
	- IP5X: test performed as specified in IEC 60529 category 2 with the drain holes, if any, not opened		N/A
	- IP≤4X: test probe does not pass through any opening other than drain holes		P
	- IP≤4X: test probe applied on drain holes does not touch live parts within the enclosure		N/A
	- IP5X: dust does not cover the whole inner surface		N/A
	- IP6X: there is no dust inside the box or enclosure		N/A
13.3	Protection against harmful ingress of water		
13.3.1	Enclosures with IP>X0 provide a degree ofprotection against harmful ingress of water in accordance with the declared IP code	IP X1	P
	Enclosure dimensions: reference surface S (m²) / .....perimeter(m)	See product info	
	Appropriate test performed on surface, flush or semi-flush enclosures as specified in IEC 60529 under the following conditions:		N/A
	- dimension S ≤ 0,04 m² or perimeter ≤ 0,8 m according to 13.3.2 and 13.3.3		P
	- dimension S > 0,04 m² and perimeter > 0,8 m according to 13.3.2 and 13.3.4		P
	Enclosures with screwed glands or grommets fitted with cables as declared by the manufacturer:		N/A
	- type of cable, smallest cross-sectional area (mm²)		N/A
	- type of cable, largest cross-sectional area (mm²)		N/A
	Enclosures with screwed glands or grommets fitted with conduits as declared by the manufacturer:		N/A
	- smallest diameter or dimensions (mm)		N/A
	- largest diameter or dimensions (mm).....		N/A
	Fixing screws of the cover or cover-plate tightened with a torque equal to 2/3 of the value of Table 4 used for the test of 12.9 (Nm) ..... :		N/A
13.3.2	Surface-mounting enclosures mounted as for normal use		N/A
	Flush type and semi-flush type enclosures fixed in a test wall:		N/A
	- according to the manufacturer's instructions		N/A
	- according to Figure 5		N/A

	Enclosures fitted with cables having conductors of		N/A
	the largest and smallest cross-sectional area as		N/A
	declared by the manufacturer ..... :		N/A
	IPX3 and IPX4 enclosures: use of oscillating tube		N/A
	(Figure 4) or spray nozzle according to IEC 60529		N/A
	(Figure 5)..... :		N/A
13.3.3	Immediately after the test no more than 0,2 ml x S (cm^2) water in the enclosure (ml)..... :		P
	Specimens withstand an electric strength test specified in 14.3 started within 5 min of the completion of IP test		P
13.3.4	Immediately after the test: indicator paper still dry		P
14	**INSULATION RESISTANCE AND ELECTRIC STRENGTH**		
14.1	Insulation resistance and electric strength of enclosures classified according to 7.1.1 and 7.1.3 is adequate		
	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:		---
	- 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
15	**MECHANICAL STRENGTH**		N/A
16	**RESISTANCE TO HEAT**		N/A
17	**CREEPAGE DISTANCES, CLEARANCES AND DISTANCES THROUGH SEALING COMPOUND**		N/A
	Void		N/A
18	**RESISTANCE OF INSULATING MATERIAL TO ABNORMAL HEAT AND FIRE**		N/A
19	**RESISTANCE TO TRACKING**		
	Parts of insulating material retaining live parts in position of boxes and enclosures having IP>X0:	See appended table 19	N/A

	PTI 175, 50 drops, solution A of IEC 60112		
20	**RESISTANCE TO CORROSION**		
	Test made after having removed all grease by immersion in a degreasing agent for (10 ± 1) min, (10 ± 1) min in a 10 % solution of ammonium chloride, (10 ± 1) min in a box containing air saturated with moisture and (10 ± 1) min at (100 ±5) °C	The surface of the box, no trace of rust did not occur.	P
21	**ELECTROMAGNETIC COMPATIBILITY (EMC)**		
	No tests necessary		

TEST RESULT

8.2		TABLE: The marking on the boxes shall be durable and easily legible.			P
Sample Name	Test metarial	Time	treatment on the box	Result assessment	Result
20*30*12 cm Polyester Distribution Board	Water glands	15 sec	hand rubbing	*After the test the marking shall still be legible.*	Pass
20*30*12 cm Polyester Distribution Board	spirituous petroleum glands	15 sec	hand rubbing	*After the test the marking shall still be legible.*	Pass

9	TABLE: Dimensions		P
Sample Name	Box Size mm	Result assessment	Result
20*30*12 cm Polyester Distribution Board	200*300*120	*Manufacturer technical data.*	Pass

Not: Tolerance % 1

11	TABLE: Provisions for earthing - Heating test, thermocouples Limit of IEC 61439-1		P
	Test voltage (V) ..... :	--	
	Ambient (°C) ..... :	--	

Thermocouple locations	dT (K)	Max. dT (K)
Terminals for external insulated conductors	55	70
Manual operating means:		
– of metal	11	15
– of insulating material	19	25
Metal surface	23	30
insulating surfaces	39	50

11	TABLE: Provisions for earthing - Heating test, resistance method Limt of IEC 61439-1					P
	Test voltage (V) ..... :				--	
	Ambiant, t1 (°C)..... :				23	
	Ambiant, t2 (°C)..... :				27	
	Current (A)				10	
Temperature rise of winding		R1 (Ω)	R2 (Ω)	I rated (A)	I measured (A)	Result
20*30*12 cm Polyester Distribution Board		0,09	0,08	10	10	<0,1 Ω

14.2	TABLE: Insulation resistance		P
	Test voltage (V) ..... :	500	
	Time (minute)..... :	1	
	Ambiant, t1 (°C)..... :	23	
	Ambiant, t2 (°C)..... :	27	
test voltage applied between: in-/outside enclosure	measured (MΩ)	measured (MΩ)	Result
	> 5	5 min.	P

14.3	TABLE: Electric strength (IEC 61439-1)				P
Sample Name	Rated insulation voltage (V)	Dielectric test voltage a.c. r.m.s. (V)	Dielectric test voltage d.c. (V)	Test Voltage (V)	Breakdown (Yes/No)
20*30*12 cm Polyester Distribution Board	690	1890	2670	2835	No
Metallic parts				1000	No
				1500	No
Plastic Surface				1750	No
				2500	No

Not: Tolerance % ±3

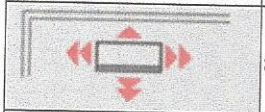
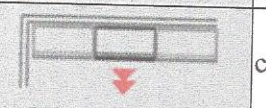
19	TABLE: Resistance to tracking		P
	Test voltage (V) ..... :		175
	Time (sec)..... :		30
Part under test	**Material designation dimensions**	Test Voltage (V)	Flashover/ Breakdown (Yes/No)
20*30*12 cm Polyester Distribution Board	14*14 mm	175	No
	2 mm thickness		No

20	TABLE: RESISTANCE TO CORROSION	P
Test solution (% 10 NH_4Cl) temperature (°C) ..... :		22
Time (minute) .....:		10
Ambiant, t_1 (°C).....:		24
Time (minute) .....:		10
Ambiant, t_2 (°C).....:		105
Time (minute) .....:		10
Sample Name	Result	
20*30*13 cm ABS Electrical Boxes with Clear Door	No trace of rust	
40*60*20 cm ABS Electrical Boxes with Clear Door	No trace of rust	

EN/IEC 61439-1 Evaluation tests	TABLE: Minimum clearances in air		P
Sample ID	Rated impulse withstand voltage *U*imp kV	Minimum Clearance mm	Result (Yes/No)
20*30*12 cm Polyester Distribution Board	≤ 2,5	1,5	N/A
	4,0	3,0	N/A
	6,0	5,5	N/A
	8,0	8,0	YES
	12,0	14,0	N/A

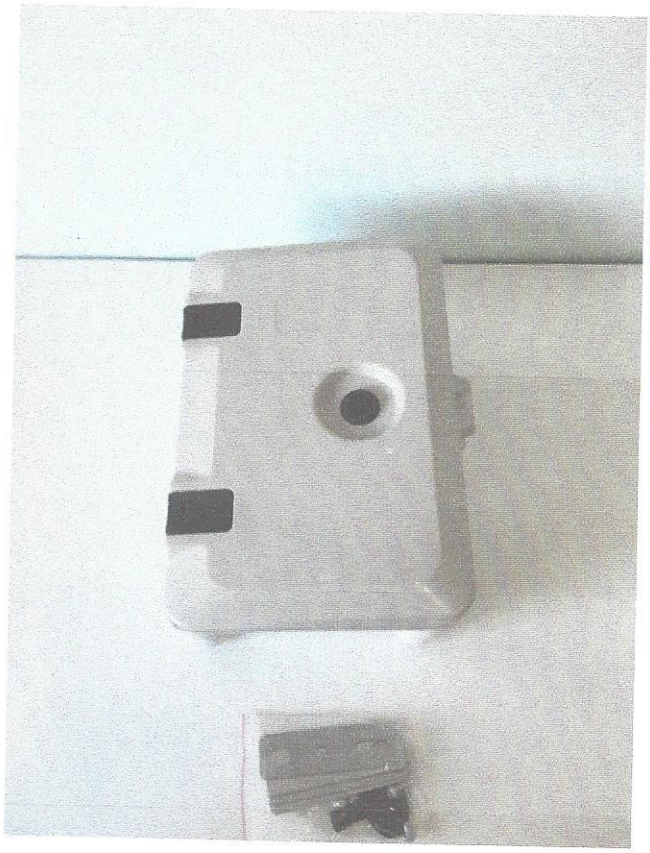
EN/IEC 61439-1 Evaluation tests	TABLE: Minimum creepage distance mm								P
Rated insulation voltage *U*i V	Creepage distance (mm)								Verdict
	Pollution degree								
	1	2			3				
	Material group	Material group			Material group				
	I	I	II	IIIa-IIIb	I	II	IIIa	IIIb	
32	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	N/A
40	1,5	1,5	1,5	1,5	1,5	1,6	1,8	1,8	N/A
50	1,5	1,5	1,5	1,5	1,5	1,7	1,9	1,9	N/A
63	1,5	1,5	1,5	1,5	1,6	1,8	2	2	N/A
80	1,5	1,5	1,5	1,5	1,7	1,9	2,1	2,1	N/A
100	1,5	1,5	1,5	1,5	1,8	2	2,2	2,2	N/A
125	1,5	1,5	1,5	1,5	1,9	2,1	2,4	2,4	N/A
160	1,5	1,5	1,5	1,6	2	2,2	2,5	2,5	N/A
200	1,5	1,5	1,5	2	2,5	2,8	3,2	3,2	N/A
250	1,5	1,5	1,8	2,5	3,2	3,6	4	4	N/A
320	1,5	1,6	2,2	3,2	4	4,5	5	5	N/A
400	1,5	2	2,8	4	5	5,6	6,3	6,3	P
500	1,5	2,5	3,6	5	6,3	7,1	8	8	P
630	1,8	3,2	4,5	6,3	8	9	10	10	P
800 and 1600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

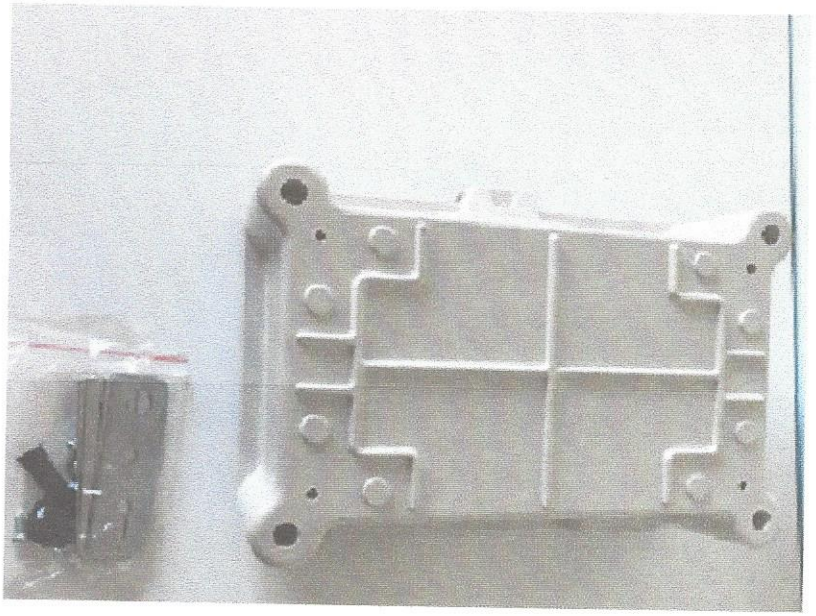
EN/IEC 61439-1 Evaluation tests	TABLE: Mechanical operation (The number of operating cycles shall be 200.)				P
Sample ID	Cover	Locks	Joints	Other Moving Parts	Result (Yes/No)
20*30*12 cm Polyester Distribution Board	The test result is appropriate.	The test result is appropriate.	The test result is appropriate.	The test result is appropriate.	Yes

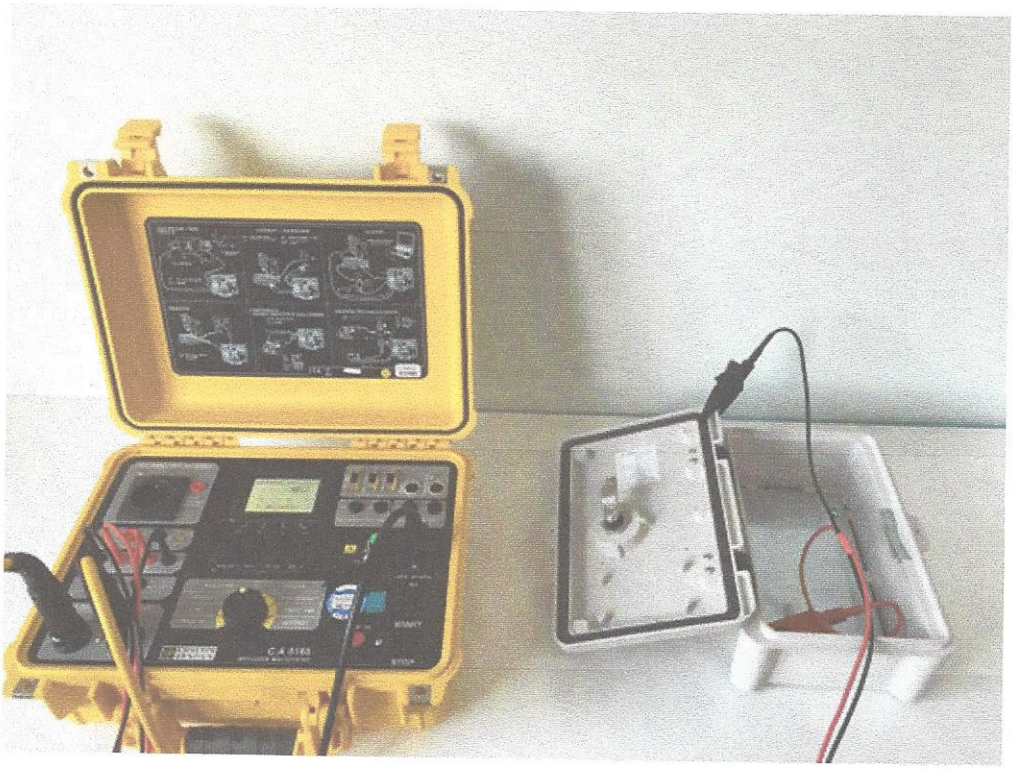
IEC 60890 calculation 200*300*120 mm	Enclosure placed on the floor (top view)	S_s in m^2	Loss Watt for $D_t = 1$
	separate enclosure, freely accessible	0.2	**13.2**
	separate enclosure, wall-mounted	0.2	**11.7**
	enclosure free at the start or the end of the line	0.2	**12.3**
	starting or ending enclosure, wall-mounted	0.2	**10.8**
	central enclosure	0.2	**11.4**
	central enclosure, wall mounted	0.2	**9.8**
	central enclosure, wall-mounted	0.1	**8.8**

UAC Engineering Consultancy & Training Auditing
Inspection and Laboratory Services Co.
Atalar Mah. Çanakkale Cad. No:69 / Kat:4 D:5
Kartal / İSTANBUL Tel: +90216 3309048
www.uacmuhendislik.com

Photos







********** End of Test Report **********