

50 FY

T - 28112

CONNECTORS, TYPE CWP, WP

SPECIFICATIONS

EO.364.107 TY

(EXTRACT)

These specifications are applicable to low-frequency, low-voltage cylindrical *UP* type connectors having normal dimensions and a screw-thread joint. These connectors have silver coated contacts and are meant for use in DC and AC (Up to 3 MHz) circuits with voltage and current parameters of up to 850 V (peak value) and 200 A respectively.

1. CLASSIFICATION

Nomenclature

1.1. The connectors supplied are of a type which can be used only in regions of cold or moderate climate.

1.2. The connector consists of two parts: "Plug" and "socket". For the purpose of indenting and design documentation the nomenclature of the connector should consist of the word "Plug" or "Socket", part number of the connector and the number of these specifications.

For example:

Socket *UP20 Y 5 UM10. ГЕО.864.107. ТУ*

The part number consists of classification symbols for the connector.

The classification symbols include:

- (a) Type of connector (*UP*)
- (b) Size code of the body of the connector (20)
- (c) Design peculiarity of the connector:
 - connector body without sleeve (*Π*)
 - connector body with straight sleeve (*ΠK*)
 - cable portion of the connector with curved sleeve (*Y*)
 - cable portion of the connector with

(*Π*)

(e) Type of connecting cable:

- shielded (3)
- unshielded (H)

(f) Type of contacts (socket - Γ , pin - \mathcal{M})

(g) Contact combination number (10)

- Notes: 1. The connector body without sleeve is denoted by the same symbol as the one used for the connector body meant for connection to a shielded cable (classification: sub-para "e")
2. In the symbol for cable portion of the connector, the type of contacts (classification, sub-para "f" is denoted with reference to the contacts of the connector main body with which the cable is joined.

2. PRINCIPAL TECHNICAL REQUIREMENTS

AND CHARACTERISTICS

2.1. The general view and various dimensions of connectors are given in Appendices 1, 2, 3, 4.

2.2. The diagrams showing the arrangement of contacts in the insulators, the number of contacts and their diameters should be as per Appendix 5.

2.3. The pull-out force for disconnecting the connector should not exceed the values given in Appx 5.

2.4. The cross-section of wires that are connected to the contact-ends should not exceed the values given in Table 1.

Table 1

(1) Diameter of the contact, (2) Inner diameter of
the contact-end, (3) Cross-section of the wire,

2.5. The wires should be connected to the contact-ends by means of soldering.

2.6. The connectors have one spline key (guiding projection)

2.7. Electrical Parameters

2.7.1. The contact resistance and static instability of the transient resistance of contacts should not exceed the values given in Table 2.

Table 2

-
- (1) Diameter of the contact,
 - (2) Contact resistance,
 - (3) Static instability,
-

2.7.2. The capacitance between any two adjacent contacts should not exceed 20 pf

2.7.3. Insulation resistance between the contacts of any pair, as also between the metallic body of the fitted connector and the contact of any pair should not be less than 5000 M Ω *

2.7.4. The nominal value of the current at the contact, total current load and the nominal voltage are given in Appendix 5.

* Original text reads as m Ω which seems wrong.

2.8. Capability to withstand mechanical abuse is as under:

- Vibrations in the frequency range 1-5000 Hz with an acceleration of not more than 294 m/s^2 (30 g);
- shocks:
 - (a) Continuous shocks with an acceleration of not more than 343 m/s^2 (35 g),
 - (b) single shocks with an acceleration of not more than 4905 m/s^2 (500 g),

2.9. Environmental conditions:

- Ambient temperature - 60° C to $+60^\circ \text{ C}$
- Atmospheric pressure 800 to 10^{-6} mm Hg;
- Increased pressure of air or other gas (except aggressive gas) - up to 3 kgf/cm^2 ;
- Variation in temperature from -60° to 110° C (taking into account, overheating temperature of contacts)

2.10. Minimum operating life of connectors under regimes and conditions stipulated in these specifications should not be less than 700 h. During this period the connectors should withstand 500 "connect-disconnect" operations.

2.11. Storage life of connectors is 12 years.

3. STORAGE

3.1. When connectors are stored in unheated premises and in covered sheds, as also when they are fitted in an equipment which is not protected, the storage time should

correspond to the values mentioned in Table 3, depending upon the place of storage:

Table 3

(1) Place of storage (2) Storage life of connectors, years (3) In manufacturer's packing (4) Fitted in the equipment (as part of an unprotected equipment)
 (5) As part of the equipment and ^{STPA} ~~STPA~~ enclosed in hermetically sealed packing (6) Unheated premises
 (7) In covered space (8) In open space (9) storage is forbidden

4. WARRANTY

4.1. The manufacturer guarantees the performance of every connector supplied by him as per all clauses of these specifications during the storage life (Cl. 2.11) or the minimum operating life (Cl.2.10) within the limits of maximum storage life, provided the regimes and conditions of usage are observed by the customer.

Appendix 1

(1) Plug *MP*, main body without sleeve
 (2) socket *MP*, main body without sleeve
 (3) Part Number (4) Dimensions,
 (5) Weight, g, not more than

Appendix 2

- (1) Appendix 2
 - (2) Plug *UP* , main body, with straight sleeve, shielded.
 - (3) Socket *UP* , main body, with straight sleeve, shielded
 - (4) Part number
 - (5) Dimensions, mm
 - (6) Weight, g, not more than
-

Appendix 3

- (1) Socket *UP* , cable type, with straight sleeve, shielded
 - (2) Plug *UP* , cable type, with straight sleeve, shielded
 - (3) Part number
 - (4) Dimensions, mm
 - (5) Weight, g, not more than.
-

Appendix 4

- (1) Plug *UP* , cable type, with curved sleeve, shielded
 - (2) Socket *UP* , cable type, with curved sleeve, shielded

 - (4) Part number
 - (5) Dimensions, mm (6) Weight, g, not more than
-

Appendix 5

CONVENTIONAL

- (1) Size code of the body
- (2) Diagram showing positions of contacts on the insulator. The numbering of contacts is:
for plugs - from the side of contact ends
for sockets - from the contact side.
- (3) Symbol for contact
- (4) Diameter of contact, mm
- (5) Number of contacts
- (6) Contact combination number
- (7) Contact numbers for taking measurement of the overheating temperature.
- (8) Current loads, A, not more than
- (9) Operating current at each contact
- (10) Maximum at a single contact
- (11) Total current for the whole connector
- (12) DC Voltage or peak AC Voltage, V, not more than
- (13) Operating
- (14) Test voltage
- (15) Under normal climatic conditions
- (16) At 0.5 mm Hg.
- (17) Pull-out force for the connector, kgf, not more than
- (18) rotating torque of the union nut, kgf.cm, not more than.
- (19) Any

(50)

TABLE - I

DIAMETER OF THE CONTACT MM.	INNER DIAMETER OF THE CONTACT - END.	CROSS-SECTION OF THE WIRE.
1.5	2.0	1.93
2.5	2.7	3.00
3.5	5.2	13.00
5.5	9.0	35.00
9.0	12.0	50.00

TABLE - 2

DIAMETER OF THE CONTACT MM.	CONTACT RESISTANCE MΩ	STATIC INSTABILITY MΩ
1.5	2.50	0.20
2.5	1.00	0.15
3.5	0.75	0.10
5.5	0.30	0.06
9.0	0.15	0.04

TABLE - 3

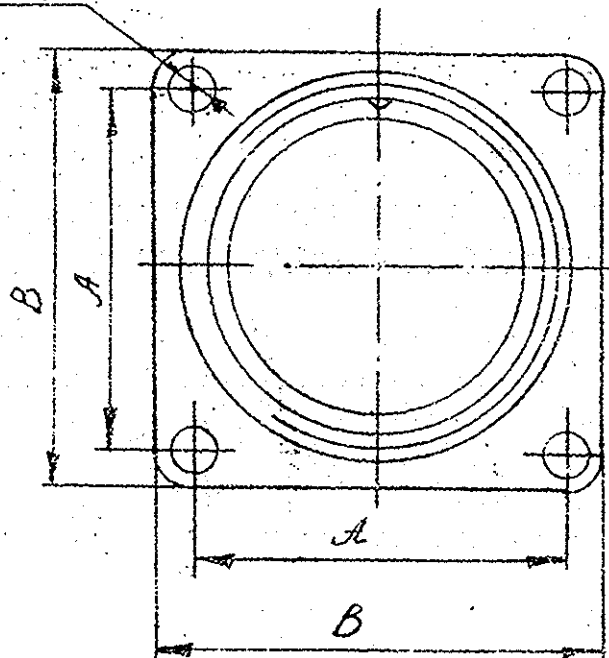
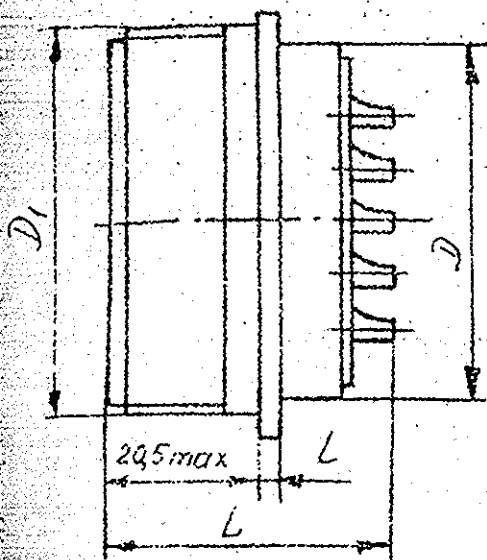
PLACE OF STORAGE	STORAGE LIFE OF CONNECT ORS, YEARS		
	IN MANUFACTURER'S PACKING	FITTED IN THE EQUIPMENT. (AS PART OF AN UNPROTECTED EQUIPMENT)	AS PART OF THE EQUIPMENT AND SPIA IN HERMETICALLY SEALED PACKING
UNHEATED PREMISES.	3	3	6
UNDER SHED.	3	3	6
IN OPEN YARD	STORAGE IS FOR BURN	-	6

APPENDIX 1
 ПРИБОРНОЕ
 Вилка ЩР приборная без патрубков
 PLUG WP DEVICE MOUNTED WITHOUT SLEEVE

10

Розетка ЩР приборная без патрубков
 SOCKET WP DEVICE MOUNTED WITHOUT SLEEVE

40 мм. d



WEIGHT "g" NOT MORE THAN

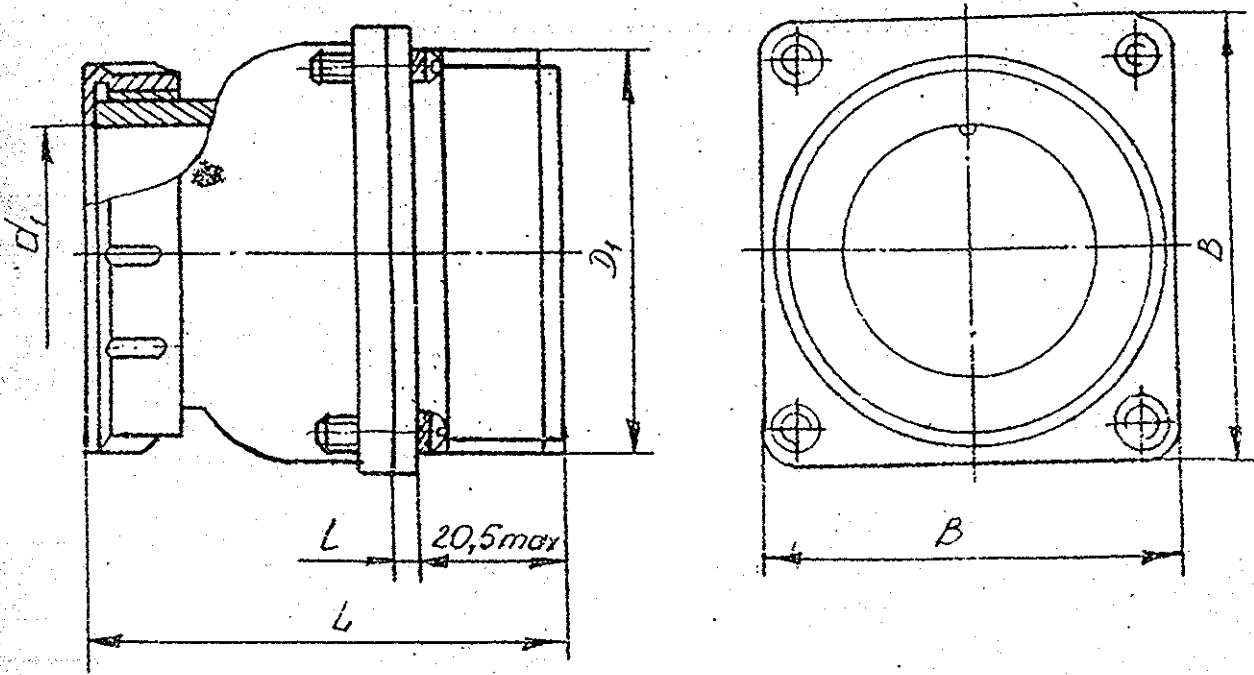
PART NUMBER Условное обозначение	DIMENSIONS, MM Размеры, мм							Масса г, не более
	D	D ₁	d	A	B	L	L	
ЩР16П13Щ13	16	Сп М20×1,5	3,2	19	25	41	3,2	21
ЩР20П23Щ16	20	Сп М24×1,5	3,2	22	30	39	3,2	23
ЩР20П43Щ18								25
ЩР28П43Щ16	28	Сп М33×1,5	3,5	30	38	41	3,2	50
ЩР28П73Щ19						39		
ЩР32П83Щ2	32	Сп М36×1,5	3,5	32	40	39	3,2	51
ЩР32П103Щ1								55
ЩР32П123Щ1								56
ЩР36П43Щ13	36	Сп М39×1,5	3,5	34	42	43	3,2	77
ЩР40П33Щ19	40	Сп М45×1,5	3,5	40	48	43	3,2	97
ЩР48П263Щ2	48	Сп М52×1,5	4,5	48	58	39	3,2	106
ЩР55П313Щ13	55	Сп М60×1,5	4,5	52	64	41	3,2	152
ЩР12П13Г2	12	Сп М16×1,5	3,2	16	22	39	3,2	27
ЩР20П23Г6	20	Сп М24×1,5	3,2	22	30	39	3,2	28

PLUG W/P DEVICE MOUNTED WITH STRAIGHT SLEEVE, SHIELDED

Вилка ЦР приборная с прямым патрубком экранированная

SOCKET W/P DEVICE MOUNTED, WITH STRAIGHT SLEEVE, SHIELDED

Розетка ЦР приборная с прямым патрубком экранированная



PART NUMBER

WEIGHT, 'g' NOT MORE THAN

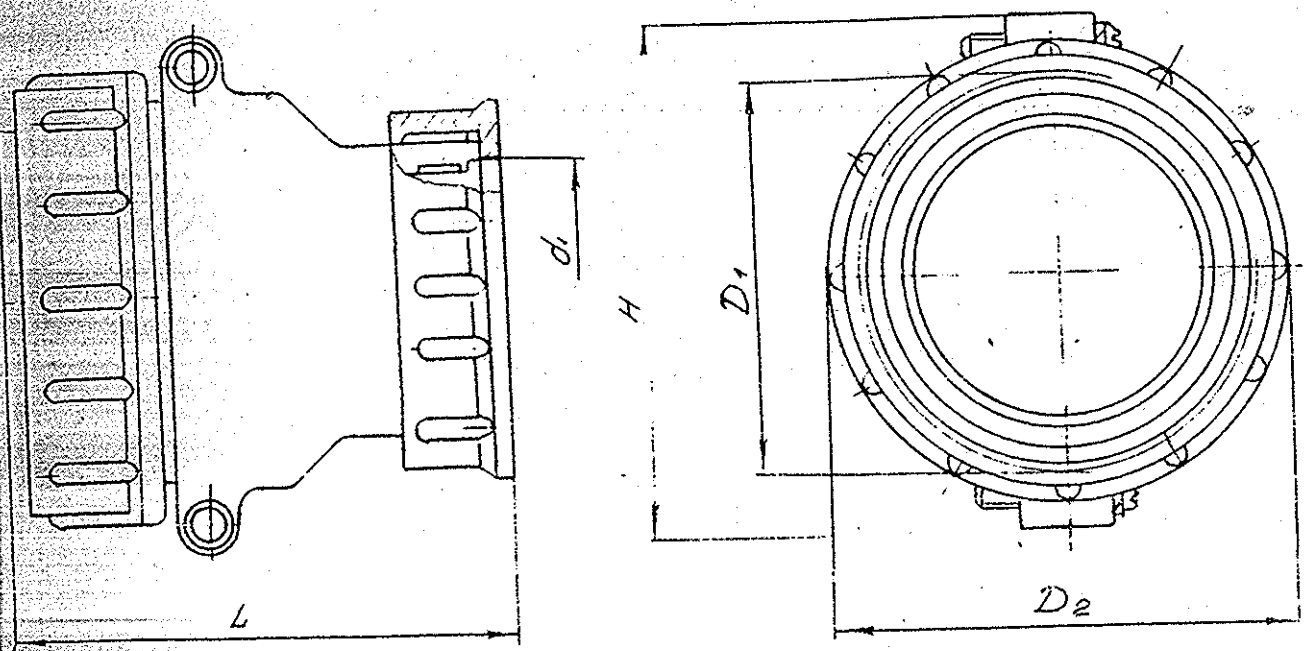
Условное обозначение	DIMENSIONS, MM. Размеры, мм					Масса, г не более
	D ₁	d ₁	B	L	L	
ЦР16ПК2ЭЦШ5	Сп М20×1,5	11	25	52	3,2	36
ЦР55ПК31ЭЦШ3	Сп М60×1,5	46	64	68	3,2	244

SOCKET WP, CABLE MOUNTED WITH STRAIGHT SLEEVE, SHIELDED

① Розетка WP-кабельная с прямым патрубком экранированная

PLUG WP, CABLE MOUNTED WITH STRAIGHT SLEEVE, SHIELDED

② Вилка WP-кабельная с прямым патрубком экранированная



WEIGHT, g NOT MORE THAN

PART NUMBER. Условное обозначение	① Размеры, мм DIMENSIONS, MM.					Масса, г, не более
	D ₁	D ₂	d ₁	H	L	
WP12П19Г2	M16×1,5	21,5	8	25,1	51	24
WP16П19Г3 WP16П29Г5	M20×1,5	25,5	11	29,5	51	32 33

Продолжение приложения 3
 continuation of Appendix 3
 WEIGHTS NOT MORE THAN

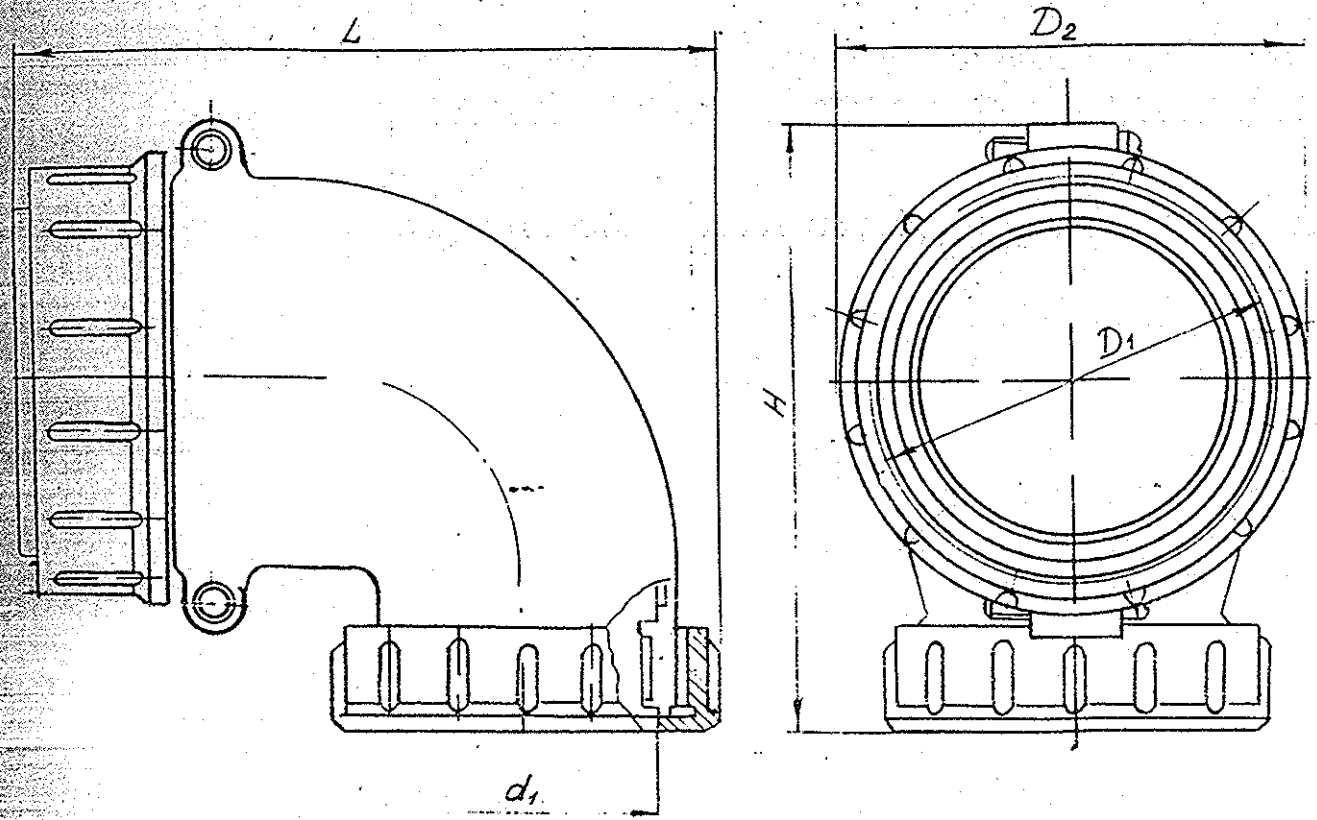
PART NUMBER Условное обозначение (3)	РАЗМЕРЫ, мм DIMENSIONS, MM (4)					Масса, г не более (5)
	D ₁	D ₂	d ₁	H	L	
ШР20П23Г6	M24×1,5	29,5	18	36,6	54	44
ШР16П13Ш3	M20×1,5	25,5	11	29,1	51	37
ШР20П23Ш6 ШР20П43Ш8	M24×1,5	29,5	18	36,6	54	46 52
ШР28П43Ш5 ШР28П73Ш9	M33×1,5	38,5	25	48,6	57	93,5 91
ШР32П83Ш2 ШР32П103Ш1 ШР32П123Ш1	M36×1,5	41,5	25	52,6	59	104,5 97 111
ШР36П43Ш13	M39×1,5	45,5	29	55,6	63	136
ШР40П33Ш9	M45×1,5	52,5	32	60,6	65	167
ШР48П263Ш2	M52×1,5	59,5	36	68,6	67	225,5
ШР55П313Ш3	M60×1,5	67,5	46	74,6	66	271

PLUG, WP, CABLE MOUNTED WITH CURVED SLEEVE, SHIELDED.

1 Вилка WP кабельная с угловым патрубком экранированная.

SOCKET WP, CABLE MOUNTED, WITH CURVED SLEEVE, SHIELDED.

3 Розетка WP кабельная с угловым патрубком экранированная.



WEIGHT 'g' NOT MORE THAN

PART NUMBER Угловое обозначение	5 Размеры, мм DIMENSIONS, MM.					6 Масса, г. не более
	D ₁	D ₂	d ₁	H	L	
WP20429Г6	M24×1,5	29,5	18	50,8	66,7	48
WP20439Г6						49,5
WP20459Г10						55
WP28449Г5	M33×1,5	38,5	25	62,2	74,7	79
WP28479Г9						98
WP32489Г2	M36×1,5	41,5	25	66,8	74,7	106
WP324109Г1						108

Продолжение приложения 4
 continuation of Appendix 4
 WEIGHT, "g" NOT MORE THAN

PART NUMBER Условное обозначение	размеры, мм DIMENSIONS, MM					масса, не более
	D ₁	D ₂	d ₁	H	L	
ШР36У15ЭГ4	M39 × 1,5	45,5	29	67,3	77,7	126,5
ШР40У3ЭГ9	M45 × 1,5	52,5	32	72,8	82,7	176
ШР20У2ЭШ6	M24 × 1,5	29,5	18	50,8	66,7	54
ШР20У5ЭШ10						59
ШР20У3ЭШ6						54
ШР28У4ЭШ5	M33 × 1,5	38,5	25	62,8	74,7	110
ШР28У7ЭШ9						109
ШР32У8ЭШ2	M36 × 1,5	41,5	25	66,8	74,7	121
ШР32У10ЭШ1						123
ШР36У15ЭШ4	M39 × 1,5	45,5	29	67,8	77,7	142
ШР40У3ЭШ9	M45 × 1,5	52,5	32	72,8	82,7	188

CONVENTIONAL SIZE OF THE BODY	DIAGRAM SHOWING POSITIONS OF CONTACTS ON THE INSULATOR, THE NUMBERING OF CONTACTS IS: FOR PLUGS - FROM THE SIDE OF CONTACT ENDS FOR SOCKETS - FROM THE CONTACT SIDE	SYMBOL FOR CONTACT	DIAMETER OF CONTACT, MM	NO OF CONTACTS	CONTACT COMBINATION NUMBER	CONTACT NUMBERS FOR TAKING MEASUREMENT OF THE OVERHEATING TEMPERATURE	CURRENT LOADS		D.C. VOLTAGE OR PEAK A.C. VOLTAGE NOT MORE THAN	OPERATING UNDER NORMAL CLIMATIC CONDITIONS AT 0.5mm HG	TEST VOLTAGE	PULLOUT FORCE FOR THE CONNECTOR KG	
							A	NOT MORE THAN					
40			5.5	3	9	19 ANY	100	100	300	800	2550	350	22
12			2.5	1	2	19 ANY	25	25	25	850	2650	350	3.0
16			3.5	1	3	19 ANY	50	50	50	860	2650	350	1.5
16			1.5	2	5	19 ANY	10	20	20	800	2550	350	6
20			2.5	2	6	19 ANY	25	35	50	850	2650	350	7
28			2.5	7	9	19 ANY	25	35	175	850	2650	350	2.5

APPENDIX - 5
 MORE THAN THE UNION NOT, KG. CM NOT MORE THAN.

CONVENTIONAL SIZE OF THE BODY	DIAGRAM SHOWING POSITIONS OF CONTACTS ON THE INSULATOR THE NUMBERING OF CONTACTS IS FOR PLUGS - FROM THE SIDE OF CONTACT ENDS FOR SOCKETS FROM THE CONTACT SIDE	SYM FOR CONTACT	DIAMETER OF CONTACT MM.	NO. OF CONTACTS	CONTACT COMBINATION NUMBER	CONTACT NUMBERS FOR TAKING MEASUREMENT OF THE OVER HEATING TEMPERATURE	CURRENT LOADS		CONTINUATIVE DC VOLTAGE OR AC VOLTAGE V.		APPENDIX-25		
							A NOT MORE THAN.	BEAS AS VOLTAGE NOT MORE THAN.	TEST VOLTAGE UNDER NORMAL CLIMATIC CONDITIONS	AT 0.5 mm Hg.			
36		Φ	2.5	3	13	1	25	35	275	850	2650	350	26
20		Φ	2.5	5	10	ANY	25	35	125	800	2500	350	18
		Φ	4.5	14		20	8	20					5
55		Φ	2.5	14	3	10	20	35	312	850	2650	350	105
		Φ	3.5	3		25	40	50					70
48		Φ	1.5	20	2	13	8	20	208	850	2650	350	78
		Φ	1.5	20	2	13	8	20	208	850	2650	350	4.5

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