

Introduction

Hitech Russian Series are of threaded - coupled connector designed to meet the operating requirements of Indian Defense Standard, Joint Services Specifications JSS 50860, approved by Electronics Components Standardization Organization (LCSO).

Hitech Russian Series are used in Defense Military Communication/Tracking Vehicle and various other Defense applications.

They are intermateable with other Russian connectors and are similar to any Russian series.

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Cylindrical-Shaped Connectors for Electrical and Equipment

CYLINDRICAL-SHAPED LOW-FREQUENCY, LOW-VOLTAGE CONNECTORS

III P, III PГ and CIII P

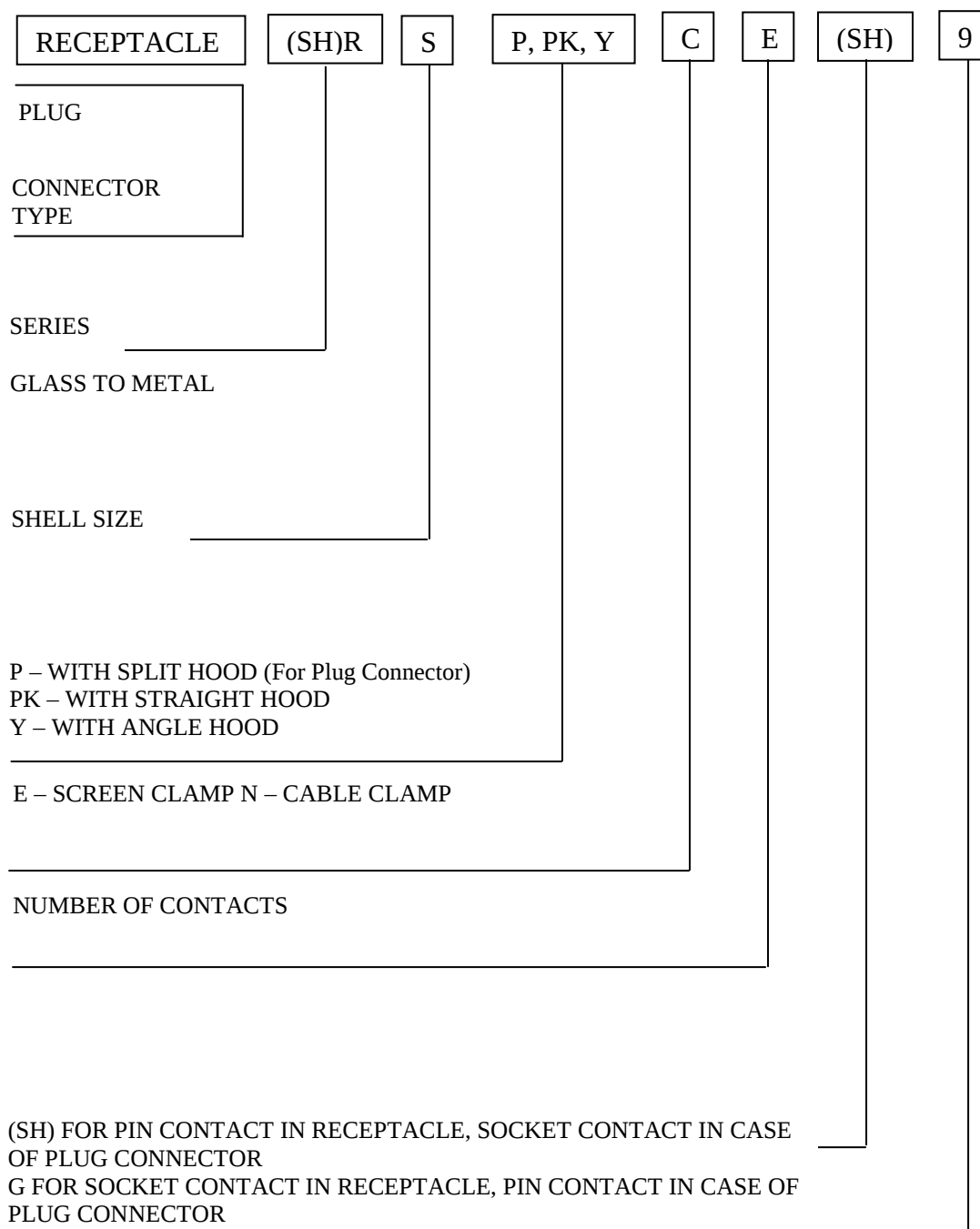
The connectors include two parts: a receptacle and a plug. The receptacle and the plug parts are drawn together by means of the thread provided on the receptacle insert and plug coupling nut. The group of connectors is classified on the basis of common utilized shells available in ten sizes. Constructionally each type of connectors has specific application features specified for the given type by the operating conditions.

III P - not sealed connector

III PГ - sealed receptacles

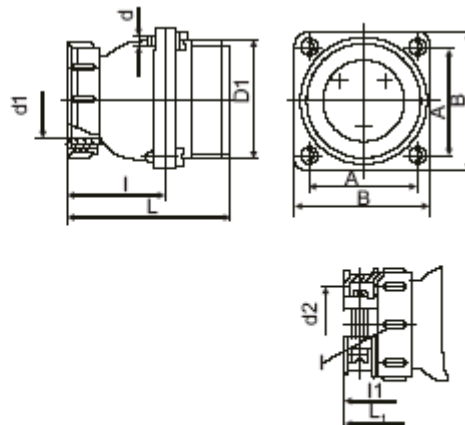
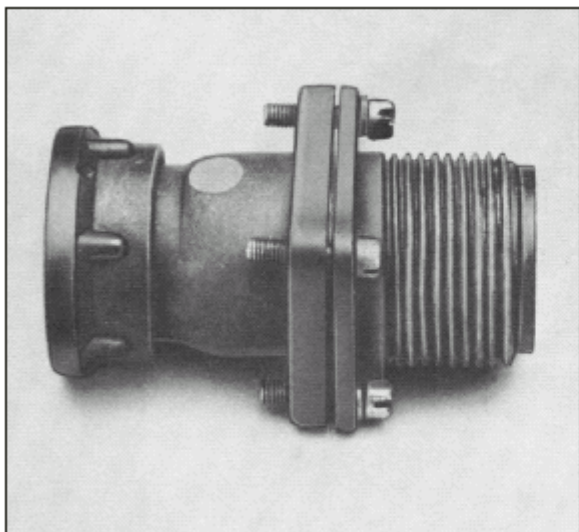
III P, And III PГ Series Russian Connectors (Circular Thread Coupling Solder Connectors : Receptacle And Plug)

3. 14 CONNECTOR DESIGNATION



ARBITRARY NUMBER OF CONTACT SET

Receptacle connector with Sub Assembly



Equipment-mounted part with straight shell, (screened and unscreened) of connectors, types III P, III PГ, P, PГ, 2PT-A, 2PTT (plugs and receptacles) : I - for unscreened cable

Shell Material: Aluminium Die casted body

Insert: Neoprene Rubber/Phenolic glass as per original Russian Type

Pins: Brass, Silver Plating

Connector type	Dimensions, mm												Mass g						
	D*	D1	d	d1	d2	A		B	L Aprox.	L1	I	I							
						nominal	tolerance												
1	2	3	4	5	6	7	8	9	10	11	12	13	14						
ЩР	12	M16 x 1.5	M3	8	5	16	±0.1	22	51	63	28	40	35						
2PT-A													42						
2РТТ																			
ЩР	16	M20 x 1.5	M3	11	7	19		25	55	61	28	38	48						
Р									51				43						
2PT-A								26	55	65			49						
2РТТ																			
ЩРГ																			
ЩР	20	M24 x 1.5	M3	18	14	22		30	54	65	32	43	55						
Р													56						
2PT-A																			
2РТТ			M4					32	58	70			61						
ЩРГ													55						
РГ																			
ЩР	28	M33 x 1.5		25	21	30	±0.2	38	59	73	36	54	99						
Р													90						
2PT-A													M4						
2РТТ			40					63	77				119						
ЩРГ													101						
РГ																			
ЩР	32	M36 x 1.5	M3	25	21	32		40	63	77	40	54	112						
Р													100						
2PT-A													M4					44	67
2РТТ			153																
ЩРГ			107																
РГ																			

Continued

Connector type	Dimensions, mm											Mass g								
	D*	D1	d	d1	d2	A		B	L Aprox.	L1	I		I							
						nominal	tolerance													
1	2	3	4	5	6	7	8	9	10	11	12	13	14							
ЩР	36	M39 x 1.5	M3	29	23	34	±0.2	42	65	79	42	56	131							
Р													121							
2РТ-А													162							
2РТТ			M4					46	69	83			175							
ЩРГ													130							
РГ																				
ЩР	40	M45 x 1.5	M3	32	24	40		48	65	79	42	56	176							
Р													154							
2РТ-А													239							
2РТТ			M4					52	69	83			224							
ЩРГ													168							
РГ																				
ЩР	48	M52 x 1.5	M4	36	32	48		58	67	81	44	58	224							
Р													191							
2РТ-А													258							
2РТТ								M4					60	71	85			280		
ЩРГ																		208		
РГ																				
ЩР	55	M60 x 1.5	M4	46	40	52	±0.2	64	67	81	44	58	294							
Р													271							
2РТ-А													337							
2РТТ								M4					68	71	85			384		
ЩРГ																		-		
РГ																				
ЩР	60	M64 x 1.5	M4	50	48	54		68	65	79	42	56	295							
Р													274							
2РТ-А													358							
2РТТ								M4					72	69	83			313		
ЩРГ																		-		
РГ																				

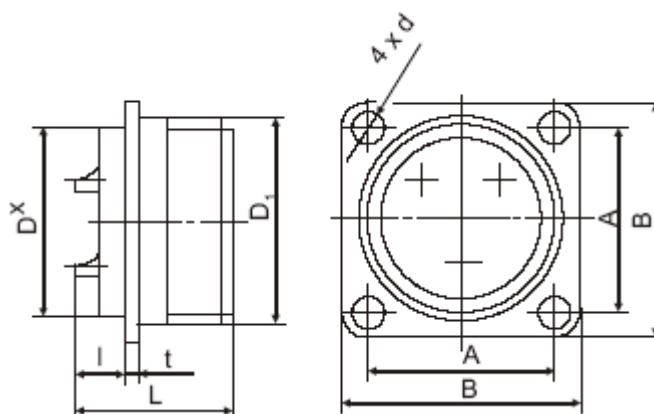
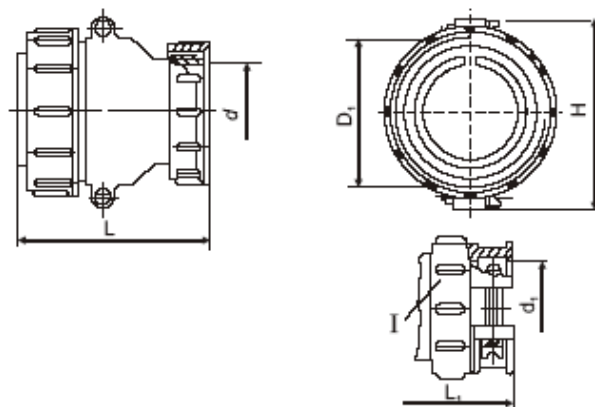
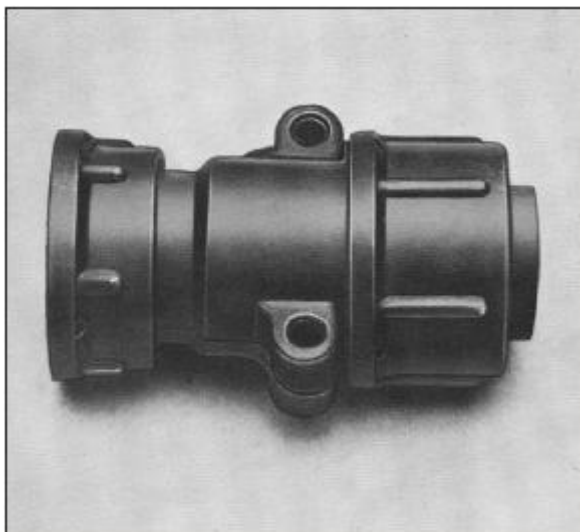


Fig. 1 Equipment-mounted part of connectors, types
ЩР, ЩРГ, ЩЩР, Р, РГ, 2РТ-А, 2РТТ (plugs and receptacle), without shell

Connector type	Dimensions, mm					
	D^*	$D1$	d	A	B	t
ЩР 2РТ-А, 2РТТ	12	M16x1.5	3.2	16+0.1	22	3
ЩР, ЩРГ Р, 2РТ-А, 2РТТ	16	M20x1.5	3.2(3.5)	19+0.1	25 (26)	3
ЩР, ЩРГ, ЩЩР, Р, РГ, 2РТ-А, 2РТТ	20	M24x1.5	3.5(4.5)	22+0.1	30 (32)	3
						2
ЩР, ЩРГ, ЩЩР, Р, РГ, 2РТ-А, 2РТТ	28	M33x1.5	3.5(4.5)	30+0.2	38 (40)	3
ЩР, ЩРГ, ЩЩР, Р, РГ, 2РТ-А, 2РТТ	32	M36x1.5	3.5(4.5)	32+0.2	40 (44)	3
ЩР, ЩРГ, ЩЩР, Р, РГ, 2РТ-А, 2РТТ	36	M39x1.5	3.5	34+0.2	42	3
ЩР, ЩРГ, Р, РГ, 2РТ-А, 2РТТ	40	M45x1.5	3.5(4.5)	40+0.2	48 (52)	3
ЩР, ЩРГ, ЩЩР, Р, РГ, 2РТ-А, 2РТТ	48	M52x1.5	4.5	48+0.2	58 (60)	3
ЩР, ЩРГ, ЩЩР, Р, РГ, 2РТ-А, 2РТТ	55	M60x1.5	4.5	52+0.2	64 (68)	3
ЩР, ЩРГ, ЩЩР, Р, РГ, 2РТ-А, 2РТТ	60	M64x1.5	4.5	54+0.2	68 (72)	3
Notes:						
1. Data in parentheses refer to sealed connectors.						
2. D^* is internal diameter of connector receptacle.						

Plug connector with Sub Assembly



Cable part with straight shell (screened) of connectors, types ИЦР, СИЦР, P, 2PT-A, 2PTT and unscreened one of connectors, types ИЦР, P, 2PT-A, 2PTT (plugs and receptacles). I - for unscreened cable.

Shell Material: Aluminium Die Casting

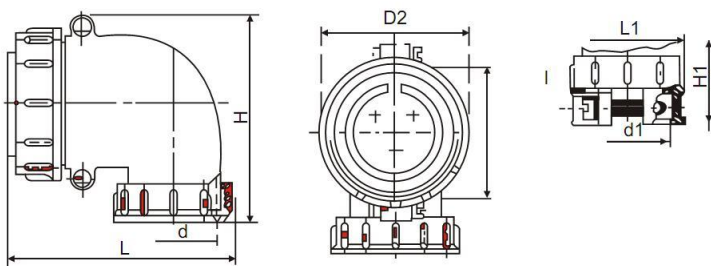
Insert: Neoprene Rubber/Phenolic glass insulator as per original Russian Type.

Socket: Brass With Beryllium Copper Clip, Silver Plating/gold plating.

Connector type	Dimesions, mm							Mass g	Connector type	Dimesions, mm							Mass g
	D*	D1	d	d1	H	L	L1			D*	D1	d	d1	H	L	L1	
ИЦР	12	M16x1.5	8	5	25	50	62	33	ИЦР	36	M39x1.5	29	23	54	62	76	157
2PT-A								32	P								136
2PTT									2PT-A								184
ИЦР	16	M20x1.5	11	7	29	50	60	45	2PTT	40	M45x1.5	32	24	60	64	78	193
2PT-A								44	ИЦР								173
2PTT								41	P								
P	16	M24x1.5	18	14	36	53	64	98	2PT-A	48	M52x1.5	36	32	68	66	80	
ИЦР								57	ИЦР								264
P								50	СИЦР								222
СИЦР	20	M24x1.5	18	14	36	53	64	65	P	55	M60x1.5	46	40	74	66	80	219
2PT-A									2PT-A								281
2PTT								114	2PTT								
ИЦР	28	M33x1.5	25	21	48	56	70	97	ИЦР	60	M64x1.5	50	48	80	64	78	324
СИЦР								95	СИЦР								249
P								123	P								269
2PT-A	32	M36x1.5	25	21	52	58	72		2PT-A	60	M64x1.5	50	48	80	64	78	337
2PTT								124	2PTT								
ИЦР								118	ИЦР								398
P	32	M36x1.5	25	21	52	58	72	147	СИЦР								384
2PT-A									P								345
2PTT									2PT-A								422
									2PTT								

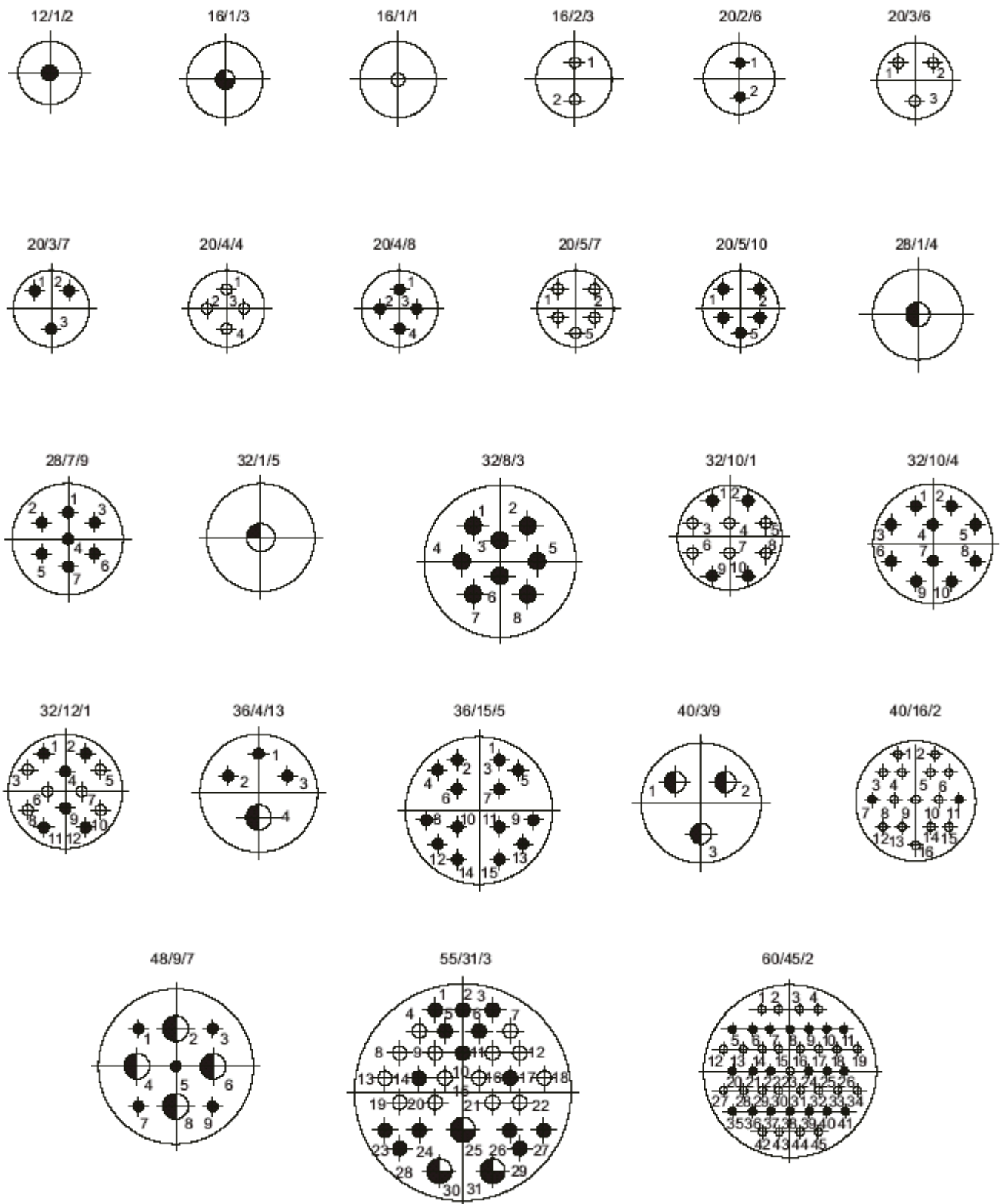
Г, ЦП Г, С ЦП, Р, Р Г, 2PT-A, PTT

Connector type	D*	D1	D2	d	d1	H	H1	L Aprox.	Mass g
1	2	3	4	5	6	7	8	9	10
ЦП	12	M16 x 1.5	21.5	8	5	39	47	51	30
2PT-A									
2PTT									25
ЦП	16	M20 x 1.5	25.5	11	7	36	50	56	40
2PT-A									
2PTT									
P						41	52	57	36
ЦП	20	M24 x 1.5	29.5	18	14	45	59	64	53
СЦП									43
2PT-A									60
2PTT									
P									
ЦП	28	M33 x 1.5	38.5	25	21	62	76	73	99
СЦП									82
2PT-A									104
2PTT									
P									
ЦП	32	M36 x 1.5	41.5	25	21	66	80	73	109
СЦП									100
2PT-A									124
2PTT									
P									
ЦП	36	M39 x 1.5	45.5	29	23	67	81	76	141
СЦП									129
2PT-A									153
2PTT									
P									
ЦП	40	M45 x 1.5	52.5	32	24	72	86	80	174
2PT-A									188
2PTT									153
P									81
ЦП	48	M52 x 1.5	59.5	36	32	81	95	90	234
СЦП									200
2PT-A									254
2PTT									
P									
ЦП	55	M60 x 1.5	67.5	46	40	106	102	98	294
СЦП									219
2PT-A						314			
2PTT									
P									
ЦП	60	M64 x 1.5	72.5	50	48	94	108	103	333
СЦП									319
2PT-A									369
2PTT									
P									



Cable part with angle-type shell (screened) of connectors, types ЦП, СЦП, Р, 2PT-A, 2PTT and unscreened one of connectors, types ЦП, Р, 2PT-A, 2PTT (plugs and receptacles) I for unscreened cable.

Layout of contacts



ORDERING INFORMATION

When placing an order for

ЩР, ЩРГ, ЩЩР, Р, РГ and 2РТ-А connectors, please indicate the name of connector part: 'Receptacle' or 'plug' and its designation. With 2 РТТ type connectors, kindly indicate 'Plug' or 'Socket' and its designation.

Connector part	Connector part	Examples
ЩР	Straight receptacle without hood with pins	Receptacle ЩР20П2ЭЩ6
	Angle-type plug, unscreened	Plug ЩР20У2НЩ6
	Straight receptacle, with sockets	Receptacle ЩР55ПК6ЭГ6
	Straight plug, screened	Plug ЩР55П6ЭГ6
ЩРГ	Receptacle without hood	Receptacle ЩРГ20П2ЭЩ6
	Straight receptacle, screened	Receptacle P48K29
	Straight receptacle, unscreened	Receptacle P55K2H6
ЩЩР	Straight plug, screened	Plug CP55301

Connector Type	Contact Connector mm	Graphical Symbol	Diameter of hole in lug Terminal for Soldering Connector mm
ЩР, 2РТ-А, 2РТТ, РГ	1.5		2
			1.5
ЩР, ЩЩР, ЩРГ, 2РТ-А, 2РТТ	2.5		2.7
ЩР, ЩРГ, 2РТ-А, 2РТТ	3.5		5.3
ЩР, ЩРГ, 2РТ-А, 2РТТ	5.5		9
ЩР, ЩРГ, 2РТ-А, 2РТТ	9		12

Cylindrical-Shaped small-size Connectors for Electrical Equipment

CYLINDRICAL-SHAPED LOW-VOLTAGE SMALL-SIZE CONNECTORS

2PM and 2PMД

The 2PM and 2PMД series connectors find their applications in electrical equipment for high quality electrical connections. The 2PM and 2PMД connectors differ in the contact layout and are not, therefore interchangeable. The connector shells are unitized and have similar mounting and connection dimensions.

The **2PM** series covers the following types;
2PM, 2PMГ

The **2PMД** series connectors include
2PMД, 2PMГД, 2PMГПД

The connectors are subdivided into unsealed and sealed. Unsealed connectors, types 2PM and 2PMД consist of receptacles and plugs. The receptacles are furnished with hoods for clamping a cable or bunched conductor. The glass to metal sealed connectors, types 2PM, 2PMГД and 2PMГП are connector receptacle intended to provide a vacuum-tight seal between the outside and inside of an apparatus. The 2PMГ, 2PMГД and 2PMГП and 2PMГПД connectors have Aluminium shells and Neoprene or phenolic glass insulators.

The 2PMГП and 2PMГПД through plugs are mated with two cable receptacles, right and left. The left receptacle differs from the right one in the location of key groove. The plug and receptacle parts of a connector are coupled by a threaded nut found on the connector plug.

When coupled the connectors protect the contacts and the conductor joins against dust. The connectors are provided with contacts having nominal diameters of 1, 1.5, 2.0, and 3.0 mm.

All the above mentioned contacts are used in series 2PM connectors. The 2PMД series connectors employ contacts 1.5, 2.0 and 3.0 mm in diameter whose terminal lugs are 2 and 3 mm in diameter and are intended for connection of heavy conductors.

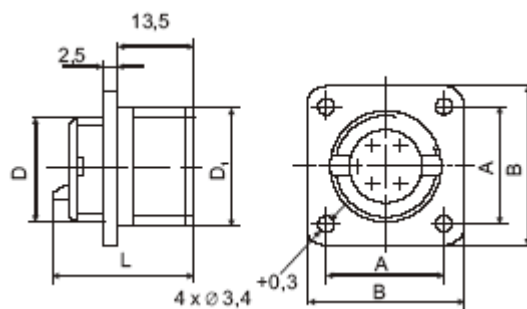
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2PM AND 2PM/J SERIES

2.0 CONNECTOR DESIGNATION

SERIES	2RM	G	W	K	P	E	X	G	Y	V	Z	B
2RM FOR 2PM SERIES												
2RMD FOR 2PMA SERIES												
G - FOR SEALED CONNECTORS APPLICABLE ONLY FOR RECEPTACLES												
SHELL SIZE												
B - FOR RECEPTACLE K - FOR PLUG												
P - FOR STRAIGHT HOOD AND U - FOR ANGLE HOOD												
E - FOR SCREEN CLAMP N - FOR CABLE (UNSCREEN) CLAMP												
NUMBER OF CONTACTS												
G - FOR SOCKET CONTACT AND SH - FOR PIN CONTACT												
INSERT CONFIGURATION NUMBER												
TYPE OF PLATING ON CONTACT A - FOR GOLD AND V - FOR SILVER												
OPERATING TEMPERATURE I - STANDS FOR -55° C TO +125° C												
B - FOR RECEPTACLE TYPE WITHOUT BACKSIDE THREAD L - FOR 90° ORIENTATION OF INSERT												

Sealed Receptacle without Sub Assembly



Equipment-mounted part without shell of connectors, types 2PM, 2PMT, 2PMKГ, PMKГ, 2PMД, 2PMДТ and 2PMГД.

Shell Material: Aluminium

Material Insert: Neoprene Rubber/Phenolic glass insulator

Pins: Brass, Silver Plating

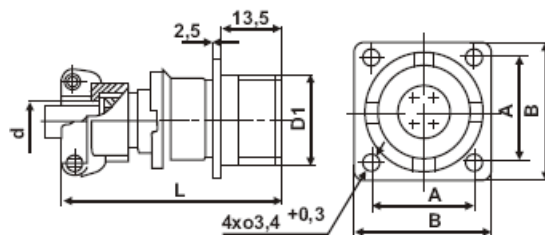
Contact dimensions, mm	
Diameter	Length (L)
1.0 and 1.5	24 and 26.5
2 and 3	27.5

Dimensions, mm					Mass, g	
<i>D</i>	<i>D</i>	<i>D1</i>	<i>A</i>	<i>B</i>	2PM	2PMД
14	M14 X 1	M16 X 1	17±0.1	24	8.5(10.5)	-
18	M18 X 1	M20 X 1	20±0.1	27	11.1(15)	11(14)
22	M22 X 1	M24 X1	23±0.1	30	17(21.5)	-
24	M24 X 1	M27 X 1.5	26±0.1	33	18(26)	19(25)
27	M27 X 1	M30 X1.5	29±0.1	36	22(31)	25(33)
30	M30 X 1	M33 X 1.5	31±0.1	38	25.5(38.5)	29(40)
33	M33X 1	M36 X 1.5	32±0.1	40	28(42)	37(48)
36	M36 X 1	M39 X 1.5	35±0.1	43	30(47)	36(52)
39	M39 X 1	M42 X 1.5	37±0.1	46	37(60)	38(56)
42	M42X 1	M45 X 1.5	40±0.1	49	42(67)	49(72)
45	M45 X 1	M48 X 1.5	43±0.1	52	-	60(89.5)

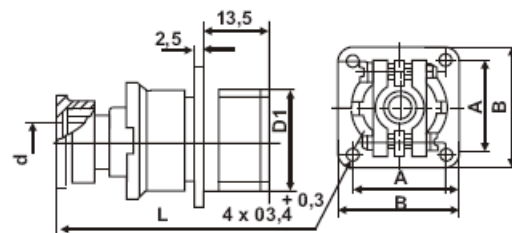
Receptacle connector with Sub Assembly



Shell Material : Aluminium
 Material Insert : Neoprene Rubber/Phenolic glass insulator
 Pins :Brass, Silver Plating



Equipment-mounted part with straight shell, unscreened (КПЭ), connectors, types 2PM, 2PMT, 2PMД, and 2PMДТ.



Cable part with straight shell unscreened (КПН), connectors, types 2PM, 2PMT, 2PMД and 2PMДТ

Connector series	Contact dia., mm	Graphical Symbol	Operating voltage, V
2PM	1		560
	1		700
	1.5		560
	1.5		700
	2		560
	3		560

Connector series	Contact dia., mm	Graphical Symbol	Operating voltage, V
2PMД	1.5		560
	1.5		700
	2		560
	3		560

Dimensions, mm						Mass, g	
D*	D1	D	A	B	L Aprox	2PM	-
14	M16 X 1	6.5	17+0.1	24	48	15.5(17.5)	20(22)
18	M20 X 1	10.5	20+0.1	27	48	21(25)	-
22	M24 X 1	14	23+0.1	30	48	29(34)	-
24	M27 X 1	16	26+0.1	33	53.5	32(40)	33(39)
27	M30 X 1	18	29+0.1	36	53.5	38(47)	37(49)
30	M33 X 1	19	31+0.1	38	53.5	45(59)	50(60)
33	M36 X 1	23	32+0.1	40	59	52(65.5)	61(71)
36	M39 X 1	23	35+0.1	43	59	68(74.5)	64(80)
39	M42X 1	24	37+0.1	46	59	67.5(90.5)	69(87)
42	M45 X 1	29	40+0.1	49	59	75(101)	83(106)
45	M48 X 1	29	43+0.1	52	59	-	93(122)

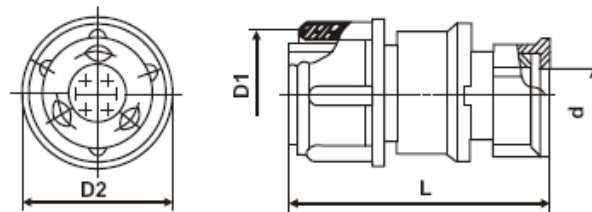
Plug connector with Sub Assembly



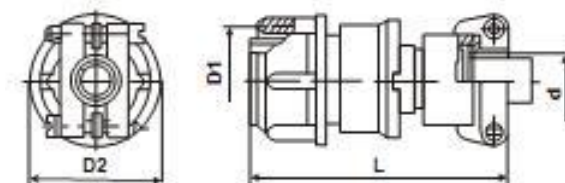
Shell Material: Aluminium

Insert: Neoprene Rubber/Phenolic glass insulator

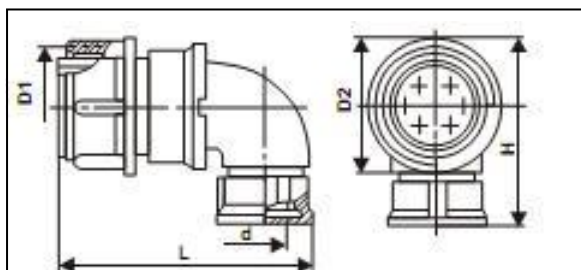
Socket: Brass with Beryllium Copper Clip, Silver Plating



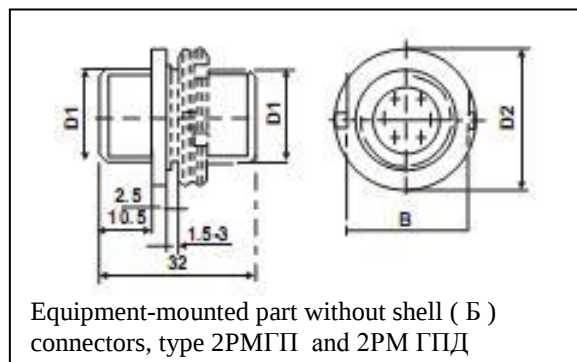
Cable part with straight shell screened (КПЭ), connectors, type 2PM, 2PMT, 2PMД, and 2PMДТ



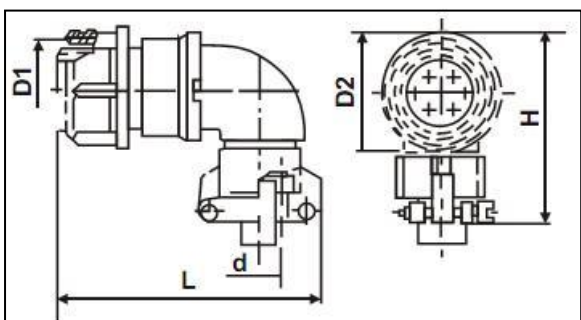
Cable part with straight shell unscreened (КПН), connectors, types 2PM, 2PMT, 2PMД and 2PMДТ



Cable part with angle-type shell, screened (КΥЭ), connectors, type 2PM and 2PMД



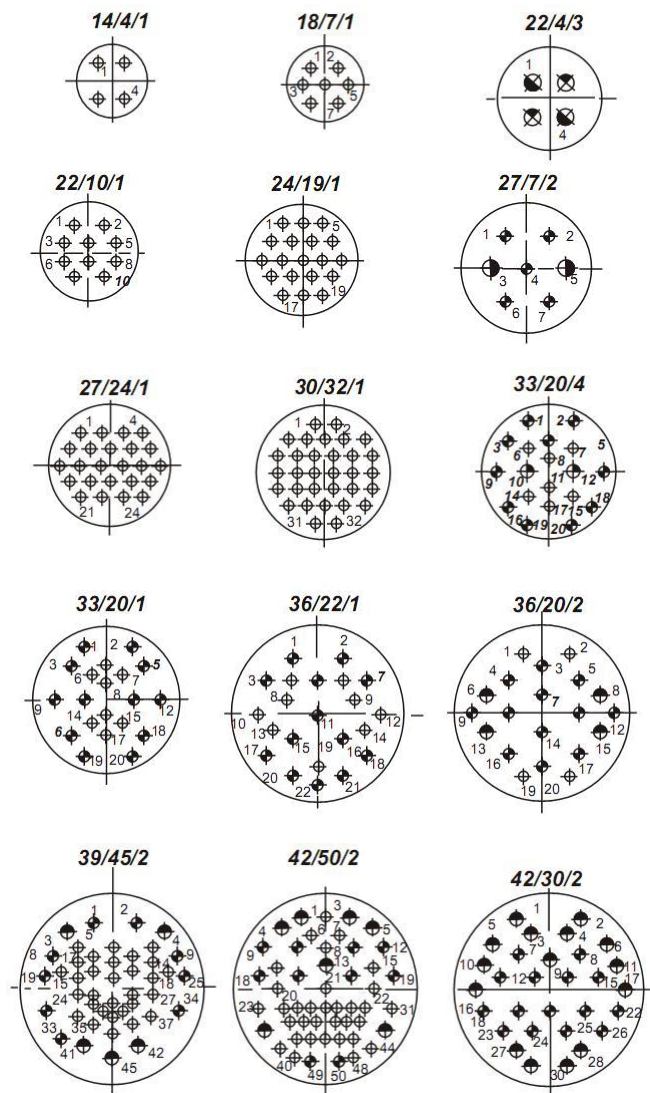
Equipment-mounted part without shell (Б) connectors, type 2PMГП and 2PMГПД



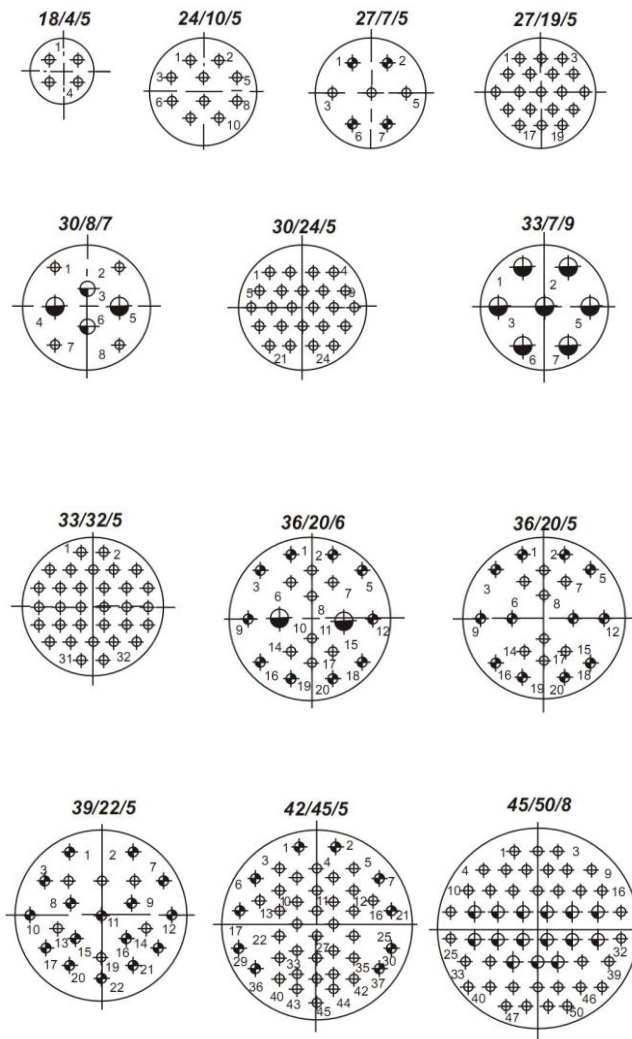
Cable part with angle-type shell, screened (КΥЭ), connectors, type 2PM and 2PMД

Dimensions, mm					Mass, g	
D	D1	D2	d	L Aprox	2PM	2PMД
14	M16 X 1	22	6.5	53.5	21.5(22)	-
18	M20 X 1	25	10.5	53.5	26.5(43)	27(30)
22	M24 X 1	29	14.5	56	39(43.5)	-
24	M27 X 1.5	32	16.5	62.5	45.5(53)	46(52)
27	M30 X 1.5	35	18.5	62.5	51.5(62)	54(63)
30	M33 X 1.5	39	20.5	62.5	61(75)	69(75)
33	M36 X 1.5	42	22.5	67.5	70.5(87)	79(90)
36	M39 X 1.5	45	22.5	67.5	77(93)	83(96)
39	M42 X 1.5	48	24.5	67.5	90(115.5)	89(108)
42	M45 X 1.5	51	30.5	67.5	99(123)	105(130)
45	M48 X 1.5	54	30.5	67.5	117(146)	-

Contact Layout Diagrams for 2PM



Contact layout diagrams for 2PMД



Contact configuration in insert									
For 2PM size.									
Sr. No.	Inserts			Contacts					
	Shell Size	No. of Contacts	Combination No.	1.0	1.5	2.0	2.0 A	3.0	3.0 A
1	14	4	1	4	-	-	-	-	-
2	18	7	1	7	-	-	-	-	-
3	22	4	3	-	-	2	-	2	-
4	22	10	1	10	-	-	-	-	-
5	24	19	1	19	-	-	-	-	-
6	27	24	1	24	-	-	-	-	-
7	30	32	1	32	-	-	-	-	-
8	33	20	4	18	-	-	-	2	-
9	39	45	2	40	5	-	-	-	-
10	42	50	2	43	7	-	-	-	-
For 2PMД size.									
1	18	4	5	-	4	-	-	-	-
2	24	10	5	-	10	-	-	-	-
3	27	19	5	-	19	-	-	-	-
4	30	8	7	-	4	-	2	-	2
5	30	24	5	-	24	-	-	-	-
6	33	32	5	-	32	-	-	-	-
7	36	20	6	-	18	-	-	-	2
8	42	45	5	-	45	-	-	-	-
9	33	7	9	-	-	-	-	-	7
10								-	