

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.

Contents	Pages
Introduction	1
ЩР, ЩРГ and СЩР	2
ЩР, ЩРГ, Р, РГ, 2РТ-A and 2РТТ connectors	3-5
ЩР, СЩР, Р, 2РТ-A and 2РТТ connectors	6
ЩР,Р,2РТ-A and 2РТТ connectors	7
Layout of contacts	8-9
2РМ and 2РМД connectors	10-11
2РМ, 2РМТ, 2РМКГ, РМКГ, 2РМД, 2РМДТ and 2РМГД connectors	12
2РМ, 2РМТ, 2РМГ, РМКГ, РМГ, 2РМДТ and 2РМГД connectors	13
2РМ, 2РМТ, 2РМД, 2РМДТ connectors	14
Contact layout diagrams for 2РМ and 2РМД	15

Cylindrical-Shaped Connectors for Electrical and Equipment

CYLINDRICAL-SHAPED LOW-FREQUENCY, LOW-VOLTAGE CONNECTORS

IIIП, IIIПГ and CIIIП

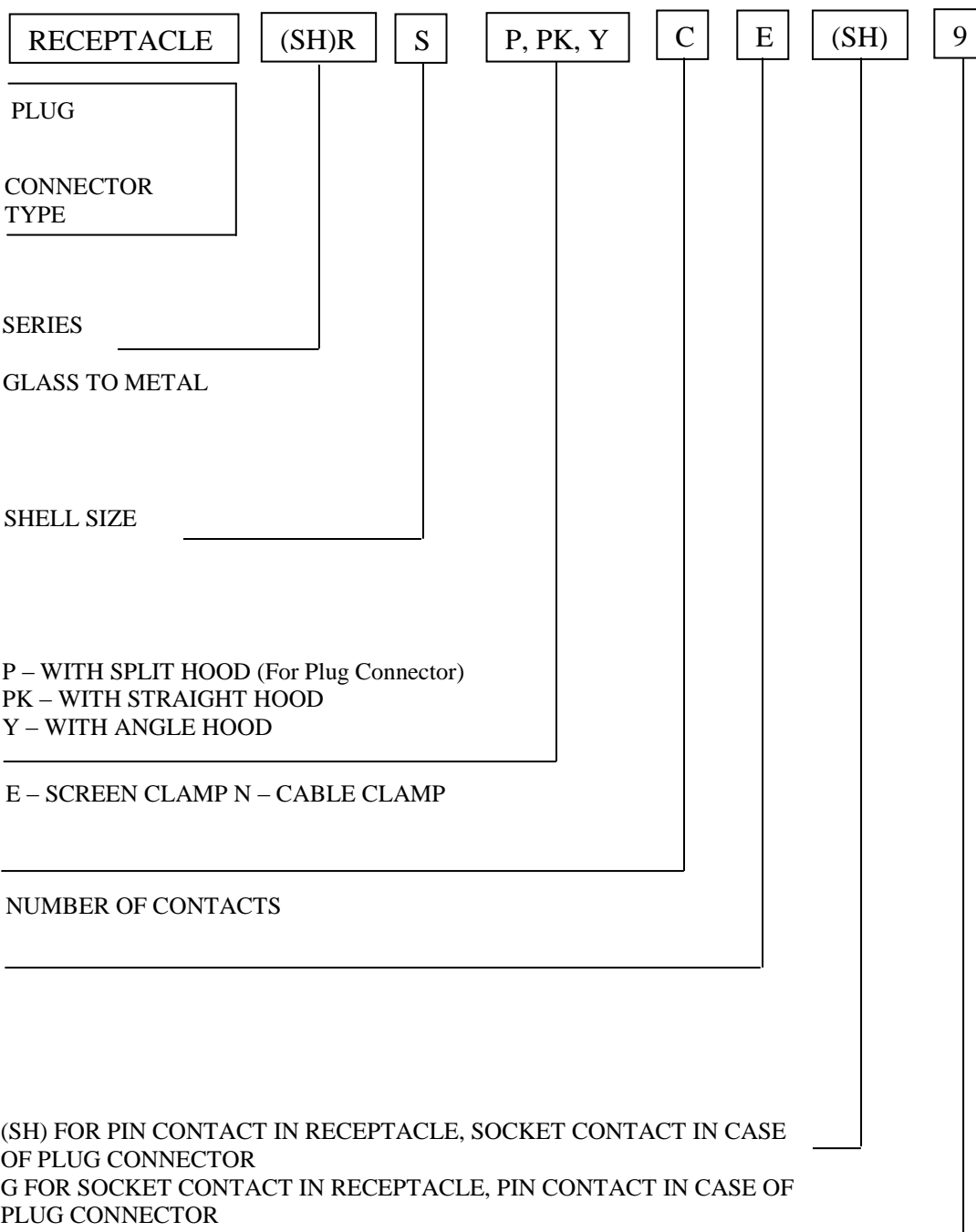
The connectors include two parts: a receptacle and a plug. The receptacle and the plug parts are drawn together by means of the thread provided on the receptacle insert and plug coupling nut. The group of connectors is classified on the basis of common utilized shells available in ten sizes. Constructionally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

IIIП - not sealed connector

IIIПГ - sealed receptacles

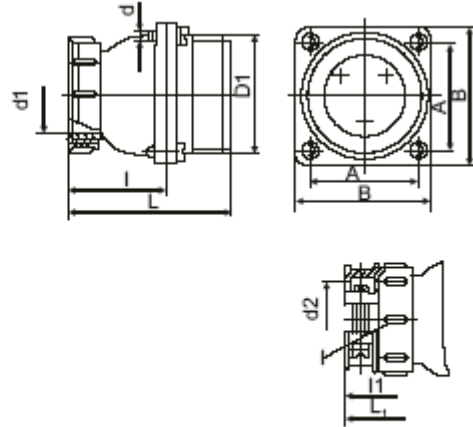
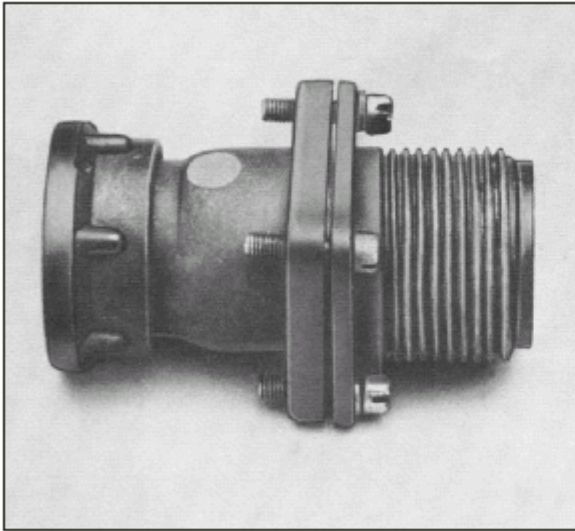
IIIП, And IIIПГ Series Russian Connectors (Circular Thread Coupling Solder Connectors : Receptacle And Plug)

3. 14 CONNECTOR DESIGNATION



ARBITRARY NUMBER OF CONTACT SET

Receptacle connector with Sub Assembly



Equipment-mounted part with straight shell, (screened and unshielded) of connectors, types III P, III PГ, P, PГ, 2PT-A, 2PTT (plugs and receptacles) : I - for unshielded 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 Approx.	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	
2PTT													48	
ЩР	16	M20 x 1.5	M3	11	7	19		25	55	61	28	38	43	
P									51				49	
2PT-A									26				55	65
2PTT								56						
ЩРГ								20	M24 x 1.5	M4			18	14
ЩР	55													
P	58	70	55											
2PT-A	28	M33 x 1.5	M3	25	21	30	±0.2	38	59	73	36	54	99	
P													90	
2PT-A			40					63	77	124				
2PTT										119				
ЩРГ										101				
PГ	32	M36 x 1.5	M3	25	21	32	40	63	77	40	54	112		
ЩР												100		
P			44									67	81	144
2PT-A														153
2PTT														107
ЩРГ	44	67	81	153										
PГ				107										

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							
2РГ-А													162							
2РТТ			46					69		83			175							
ЩРГ													130							
РГ													48	65	79	176				
ЩР	154																			
Р	239																			
2РГ-А	40	M45 x 1.5	M3	32	24	40		52	69	83	42	56	224							
2РТТ													168							
ЩРГ			M4										36	32	48	58	67	81	44	58
РГ								191												
ЩР	48	M52 x 1.5	M4	36	32	48	60	71	85	44	58	258								
Р												280								
2РГ-А												208								
2РТТ							64					67	81	44	58	294				
ЩРГ																	68	71	85	384
РГ																				
ЩР	55	M60 x 1.5	M4	46	40	52	68	71	85	44	58	271								
Р												337								
2РГ-А												68	65	79	42	56	295			
2РТТ							72											69	83	313
ЩРГ																				
РГ							-													

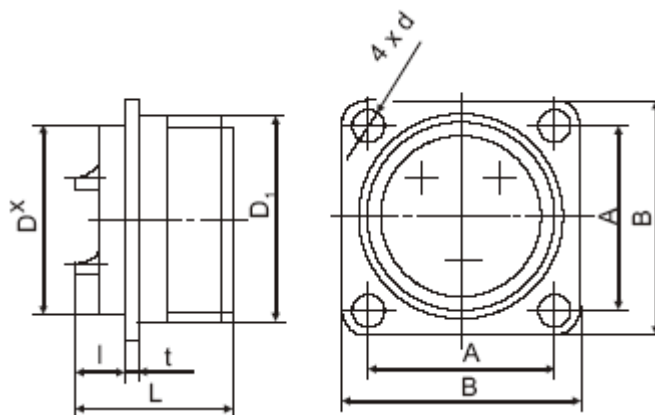


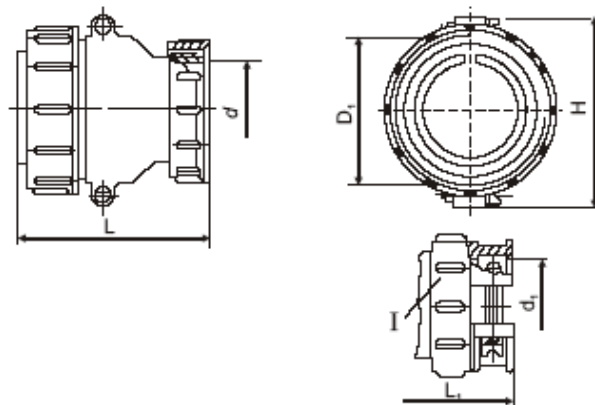
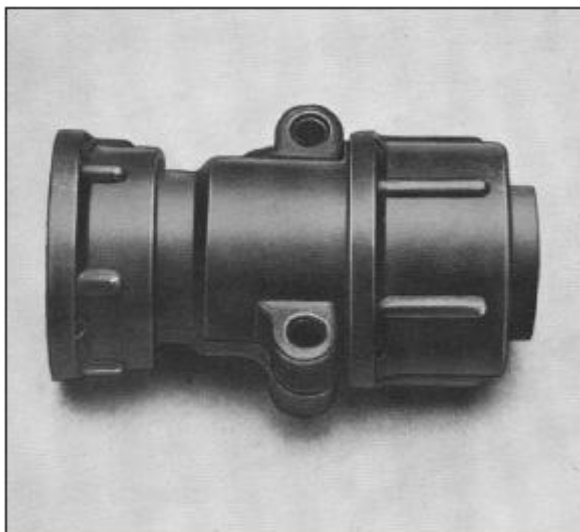
Fig. 1 Equipment-mounted part of connectors, types
ЩР, ЩРГ, СЩР, Р, РГ, 2РТ-А, 2РТТ (plugs and receptacle), without shell

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, СЩР, Р, РГ, 2РТ-А, 2РТТ	20	M24x1.5	3.5(4.5)	22+0.1	30	3
					(32)	2
ЩР, ЩРГ, СЩР, Р, РГ, 2РТ-А, 2РТТ	28	M33x1.5	3.5(4.5)	30+0.2	38 (40)	3
ЩР, ЩРГ, СЩР, Р, РГ, 2РТ-А, 2РТТ	32	M36x1.5	3.5(4.5)	32+0.2	40 (44)	3
ЩР, ЩРГ, СЩР, 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, СЩР, Р, РГ, 2РТ-А, 2РТТ	48	M52x1.5	4.5	48+0.2	58 (60)	3
ЩР, ЩРГ, СЩР, Р, РГ, 2РТ-А, 2РТТ	55	M60x1.5	4.5	52+0.2	64 (68)	3
ЩР, ЩРГ, СЩР, 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 ЦП,СЦП,Р,2РТ-А,2РТТ and unscreened one of connectors, types ЦП,Р,2РТ-А,2РТТ(plugs and receptacles). I - for unscreened cable.

Shell Material: Aluminium Die Casting

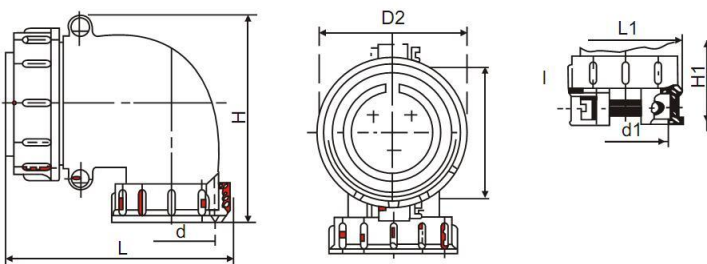
Insert: Neoprene Rubber/Phenolic glass insulator as per original Russian Type.

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	
ЦП	12	M16x1.5	8	5	25	50	62	33	ЦП	36	M39x1.5	29	23	54	62	76	157
2РТ-А								32	Р								136
2РТТ								2РТ-А	184								
ЦП	16	M20x1.5	11	7	29	50	60	45	2РТТ	40	M45x1.5	32	24	60	64	78	193
2РТ-А								44	ЦП								173
2РТТ								41	Р								
Р								41	2РТ-А								
ЦП	16	M24x1.5	18	14	36	53	64	98	2РТТ	48	M52x1.5	36	32	68	66	80	264
Р								57	ЦП								222
СЦП								50	СЦП								219
2РТ-А								65	Р								281
2РТТ									2РТ-А								
ЦП	28	M33x1.5	25	21	48	56	70	114	2РТТ	55	M60x1.5	46	40	74	66	80	324
СЦП								97	ЦП								249
Р								95	СЦП								269
2РТ-А								123	Р								337
2РТТ									2РТ-А								
ЦП	32	M36x1.5	25	21	52	58	72	124	2РТТ	60	M64x1.5	50	48	80	64	78	398
Р								118	ЦП								384
2РТ-А								147	СЦП								345
2РТТ									2РТ-А								422
									2РТТ								

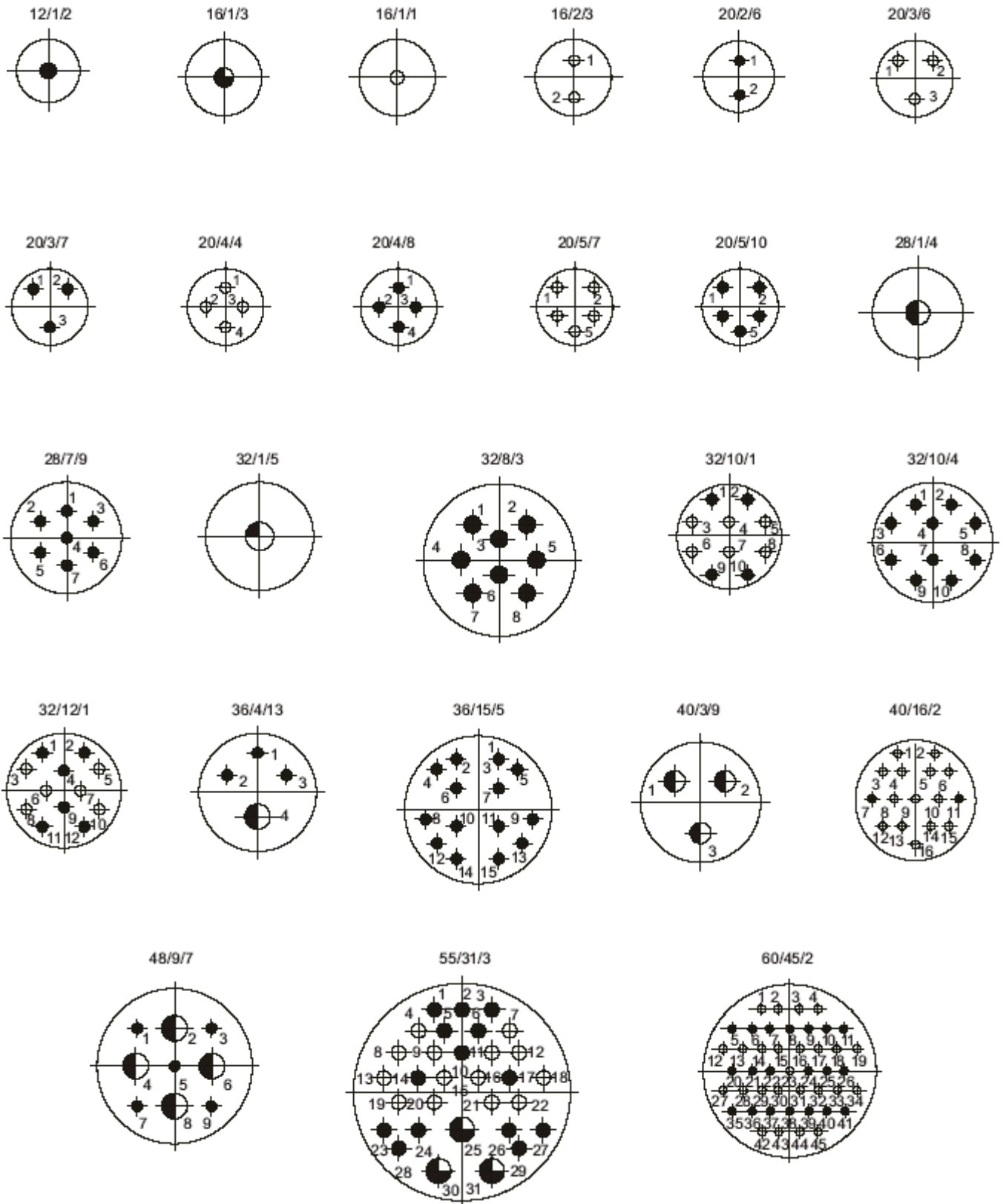
Г, ШР Г, С ШР, Р, Р Г, 2РТ-А, РТТ

Connector type	D*	D1	D2	d	d1	H	H1	L Approx.	Mass g
1	2	3	4	5	6	7	8	9	10
ШР	12	M16 x 1.5	21.5	8	5	39	47	51	30
2РТ-А									25
2РТТ									
ШР	16	M20 x 1.5	25.5	11	7	36	50	56	40
2РТ-А									
2РТТ									
Р									36
ШР	20	M24 x 1.5	29.5	18	14	45	59	64	53
СШР									43
2РТ-А									60
2РТТ									
Р									53
ШР	28	M33 x 1.5	38.5	25	21	62	76	73	99
СШР									82
2РТ-А									104
2РТТ									
Р									80
ШР	32	M36 x 1.5	41.5	25	21	66	80	73	109
СШР									100
2РТ-А									124
2РТТ									
Р									103
ШР	36	M39 x 1.5	45.5	29	23	67	81	76	141
СШР									129
2РТ-А									153
2РТТ									
Р									120
ШР	40	M45 x 1.5	52.5	32	24	72	86	80	174
2РТ-А									188
2РТТ									
Р									153
ШР	48	M52 x 1.5	59.5	36	32	81	95	90	234
СШР									200
2РТ-А									254
2РТТ									
Р									193
ШР	55	M60 x 1.5	67.5	46	40	106	102	98	294
СШР									219
2РТ-А									314
2РТТ									239
Р						88			
ШР	60	M64 x 1.5	72.5	50	48	94	108	103	333
СШР									319
2РТ-А									369
2РТТ									
Р								280	



Cable part with angle-type shell (screened) of connectors, types ШР, СШР, Р, 2РТ-А, 2РТТ and unscreened one of connectors, types ШР, Р, 2РТ-А, 2РТТ (plugs and receptacles) I for unscreened cable.

Layout of contacts








ORDERING INFORMATION

When placing an order for

ЩР, ЩРГ, СЩР, 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
СЩР	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, СЩР, 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.

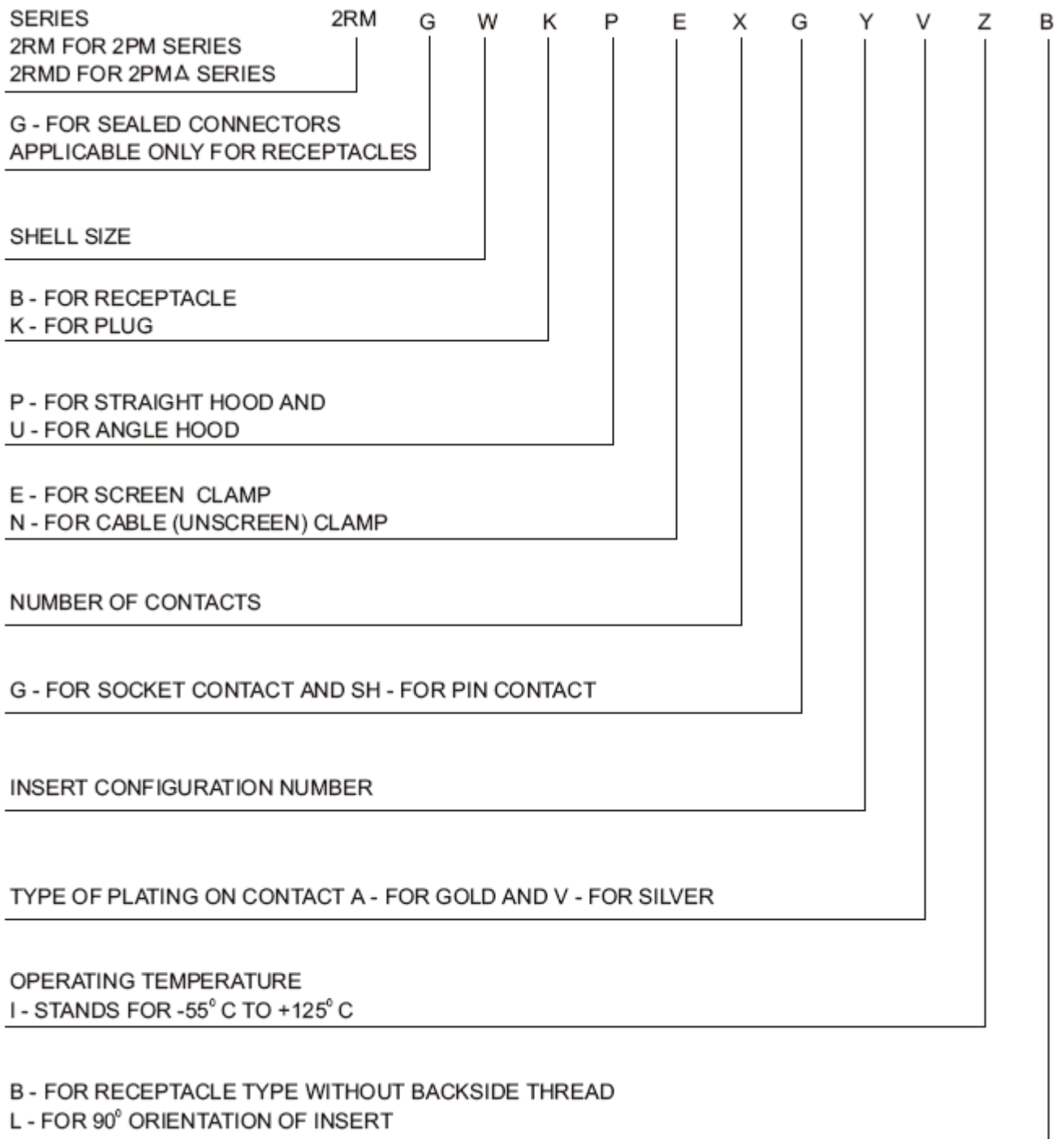
The 2PMГП and 2PMГПД through plugs are mated with two cable receptacles, right and left. The left receptacle differs from the right one in the location of key groove. The plug and receptacle parts of a connector are coupled by a threaded nut found on the connector plug.

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.

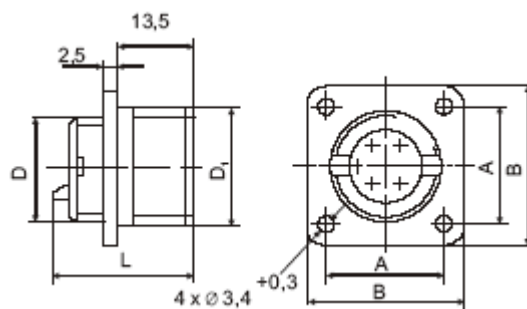
All the above mentioned contacts are used in series 2PM connectors. The 2PMД series connectors employ contacts 1.5, 2.0 and 3.0 mm in diameter whose terminal lugs are 2 and 3 mm in diameter and are intended for connection of heavy conductors.

(Continued)

2PM AND 2PM $\bar{\Pi}$ SERIES
2.0 CONNECTOR DESIGNATION



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

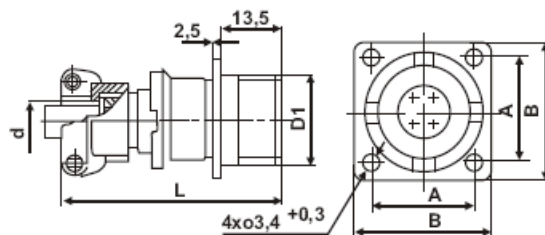
Contact dimensions, mm	
Diameter	Length (L)
1.0 and 1.5	24 and 26.5
2 and 3	27.5

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)

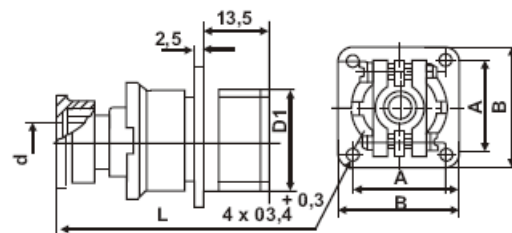
Receptacle connector with Sub Assembly



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



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



Cable part with straight shell unshielded (KПН), 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

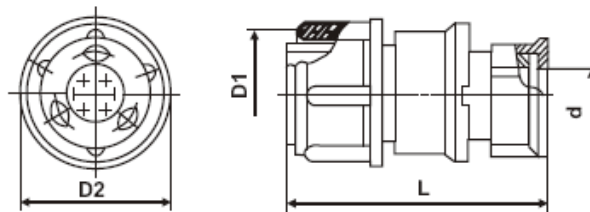
Connector series	Contact dia., mm	Graphical Symbol	Operating voltage, V
2PMД	1.5		560
	1.5		700
	2		560
	3		560

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)

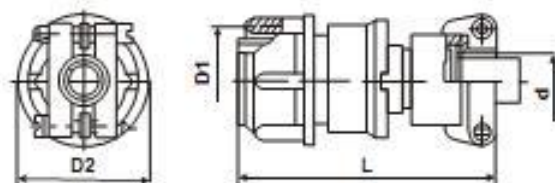
Plug connector with Sub Assembly



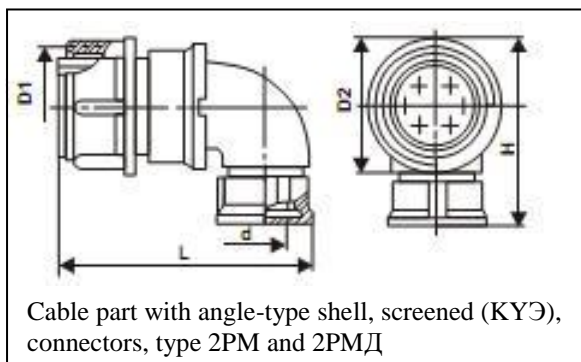
Shell Material: Aluminium
Insert: Neoprene Rubber/Phenolic glass insulator
Socket: Brass with Beryllium Copper Clip, Silver Plating



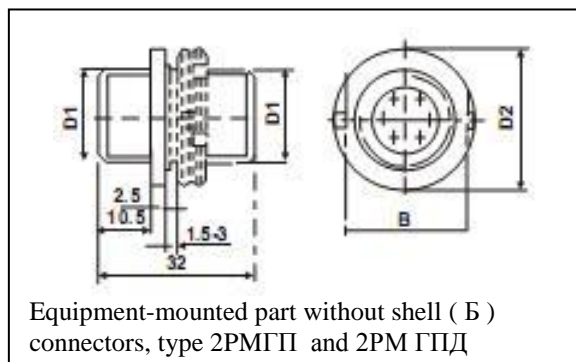
Cable part with straight shell screened (КПЭ), connectors, type 2PM, 2PMT, 2PMД, and 2PMДТ



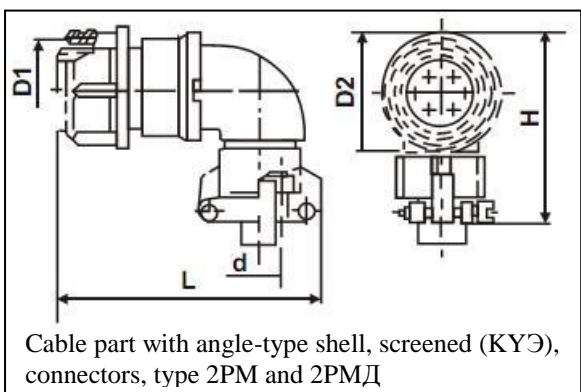
Cable part with straight shell unscreened (КПН), connectors, types 2PM, 2PMT, 2PMД and 2PMДТ



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



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

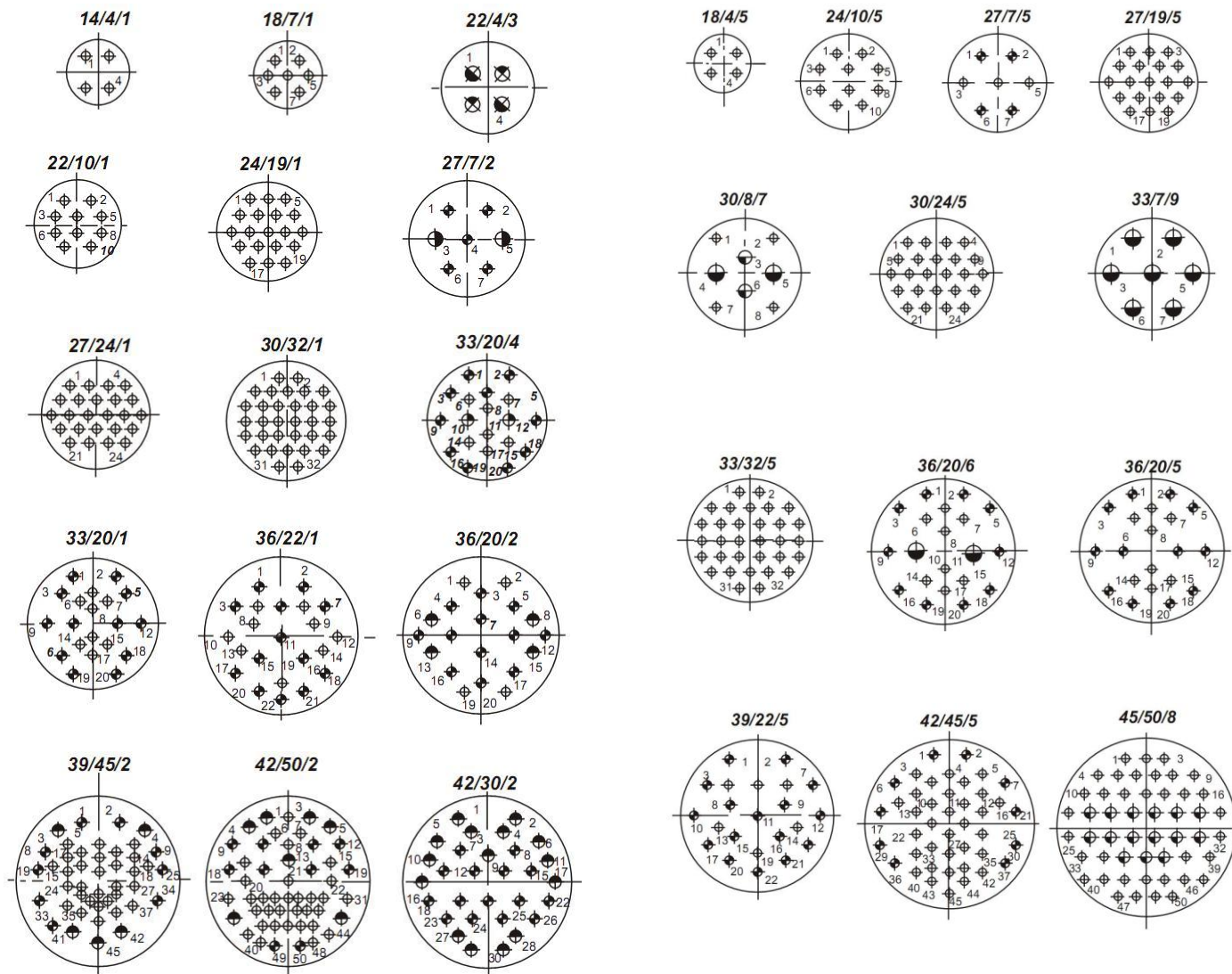


Cable part with angle-type shell, screened (КУЭ), connectors, type 2PM and 2PMД

D	Dimensions, mm				Mass, g	
	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									