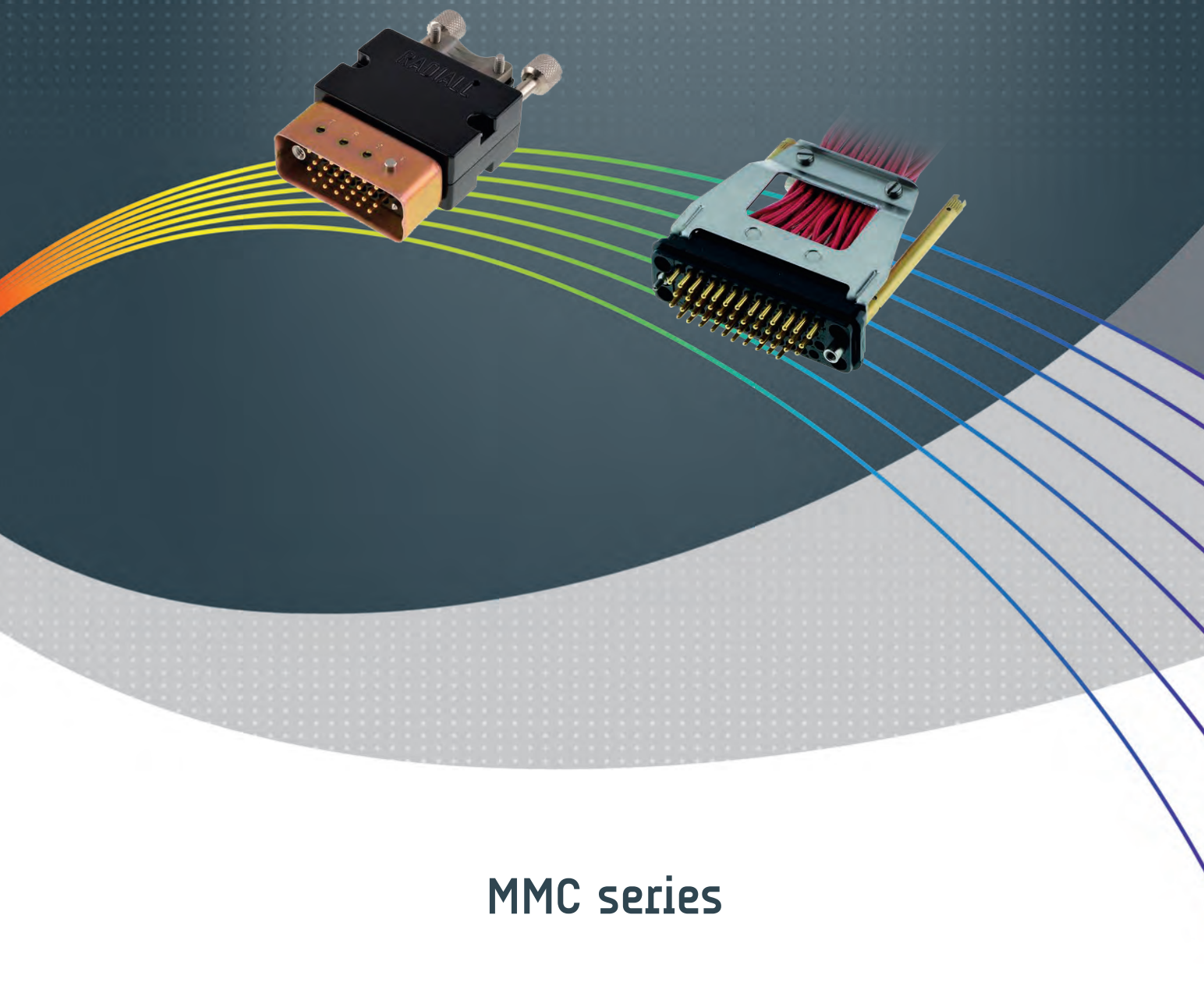




MMC series

	Page
Introduction	7-4
Application	7-4
Features	7-4
Product overview	7-5
Electrical characteristics	7-6
Mechanical & environmental characteristics	7-6
Products materials and masses	7-7
How to order connectors	7-8
Contact arrangements	7-9 & 7-10
Rack guides dimensions	7-11 & 7-12
Fixed jackscrews dimensions	7-13 & 7-14
Rotating jackscrews dimensions	7-15 & 7-16
Block 104 contacts	7-17 to 7-19
Block 158 contacts	7-20 & 7-21
Block 208 contacts	7-22 & 7-23
Contacts	7-24
Front release and front removable contacts	7-24
Equipment wire contacts	7-25
Twisted pair contacts	7-26
Micro-coaxial contacts	7-27
Panel cut out	7-28
Spare parts for guides	7-29
Spare parts for insulators, backshells and shrouds	7-30
Wiring instructions	7-31 to 7-34
Tools	7-35

INTRODUCTION

The Radiall MMC series have been designed in response to the majority of connection problems of cabling installation, internal and external on electrical and electronic equipment.

The series is conform to the French specification NF-C-93 426 HE 621-622.

They are made up of a rectangular insulation block which accepts equally male or female contacts fitted with different types of wires and coaxial cables. A large number of accessories: backshell with cable clamp, contact protection shrouds, locking... make it possible for this connector to be made up uniquely to correspond to the users exact requirements.

APPLICATIONS

Of simple construction but highly reliable, MMC offer enormous adaptability of use with the help of the range of accessories. This has allowed the Radiall MMC series to be widely approved for the use in all civil and military fields such as computers, telecommunications, medical, aeronautical, naval and nuclear.



© Courtesy of US Army



© Eurocopter - Jérôme DEULIN

FEATURES

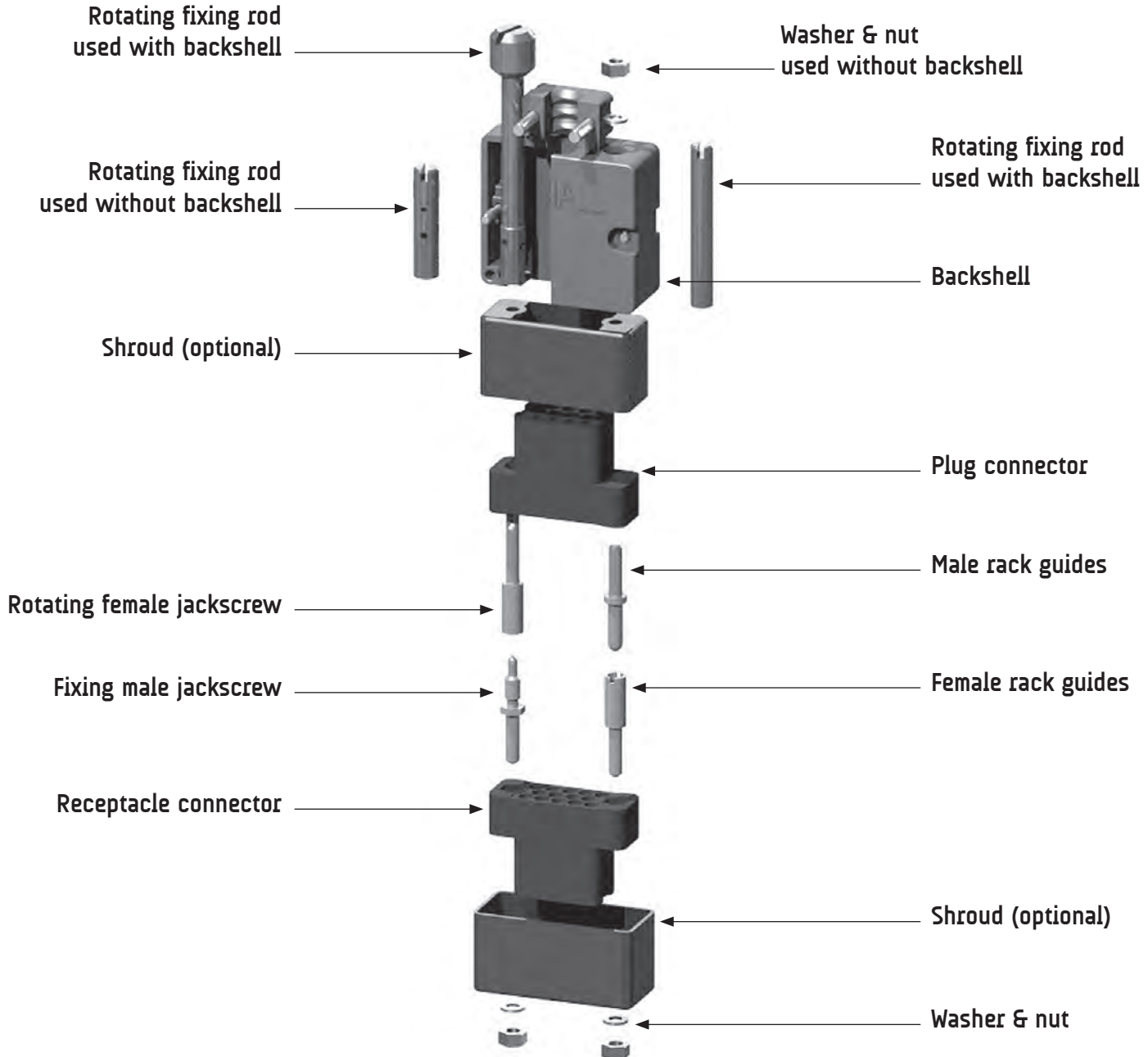
All of the contacts are removable in order to facilitate replacement, repairs or modification to circuits.

A range of robust manual and automatic tooling with easy to follow instructions answers straight-forward connector/cable assembly. Conform to French specification NF-C-93 426 HE 621-622.

Detailed view of the various parts of this series connector.

JACKSCREWS

RACK GUIDES



ELECTRICAL CHARACTERISTICS

Equipment wire contacts

Wire section	AWG mm ²	16	18	20	22	24	26	28
		1.34	0.93	0.60	0.38	0.22	0.14	0.093
Current rating (Amp.)		13	10	7.5	5	3	2	1
Maximum Ø on insulation		3.10						
Contact resistance		≤ 5 m Ω						

Coaxial contacts

- Nominal impedance: 50Ω
- Operating frequency: 0 to 1000MHz
- Dielectric withstanding voltage: 600 V.r.m.s. @ 50Hz (at sea level)
- Insulation resistance: ≥ 5000 MΩ
- Contact resistance: ≤ 12 mΩ

Frequency	0 – 200MHz	200 – 500 MHz	500 – 1000 MHz
Voltage standing wave ratio (VSWR)	1.10	1.15	1.40
Insertion loss by pair (dB)	< 0.015	< 0.025	< 0.025

Connectors

- Insulation resistance: > 5000 MΩ
- Dielectric withstanding voltage: 1500 V.r.m.s. @ 50Hz (at sea level)

MECHANICAL & ENVIRONMENTAL CHARACTERISTICS

- Retention of the contact in moulding: > 50 N (11.24 lbs)
- Mating force per contact pair: < 3.4 N (0.76 lbs)
- Durability: 500 matings
- Vibration: 20 g (0.71 oz) from 80 to 2000 Hz
- Shock: 50 g (1.76 oz)
- Temperature range: -55°C @ +125°C (-131°F to 257°F)
- Humidity: 21 days
- Salt spray: 48H

PRODUCTS MATERIALS

MMC series

Description		Material	Plating
Connector		Glass filled phenolic	--
Equipement Wire Contacts	Body Spring Retention clip	Copper alloy	Gold over nickel Gold over nickel Nickel
Coaxial Contacts	Body & center Contacts Ferrule Insulator	Copper alloy Copper alloy PTFE	Gold over nickel Nickel
Rack guide		Brass	Nickel plated
Jackscrews		Stainless steel	--
Shroud		Steel	Yellow chromate cadmium plated
Backshell		Zinc or aluminium alloy	Painted black
Cable clamp		Stainless steel	--

PRODUCTS MASSES

Size	Masses g (oz)	Type
14	7 (0.246)	Plug connector
20	8 (0.282)	
26	11 (0.388)	
34	19 (0.670)	
42	22 (0.776)	
690501	7 (0.246)	Receptacle connector
690511	8 (0.282)	
690521	11 (0.388)	
690531	19 (0.670)	
690541	22 (0.776)	
690962	2 (0.070)	Rack guide
690952		
690963	8 (0.282)	
690953		
690965	6 (0.211)	Short jackscrew
690955		
690966	15 (0.529)	Long jackscrew
690949	18 (0.634)	
690956	16 (0.564)	
690939	18 (0.634)	

Références	Masses g (oz)	Type
690940	15 (0.529)	Shroud male
690941	16 (0.564)	
690942	18 (0.634)	
690943	22 (0.776)	
690930	14 (0.493)	
690931	15 (0.529)	Shroud female
690932	17 (0.599)	
690933	25 (0.881)	
690905	57 (2.010)	Backshell top entry
690908	65 (2.292)	
690911	77 (2.716)	
690914	101 (3.562)	
690917	125 (4.409)	Backshell side entry
20521500	39 (1.375)	
(14) 690848001	14 (0.493)	Strain relief top entry
(20) 690848002	16 (0.564)	
(26) 690848003	18 (0.634)	
(50) 690848006	28 (0.987)	
(75) 690848007	40 (1.410)	

HOW TO ORDER CONNECTOR

A pair of MMC connectors is made up of the following:

- a block “P” (plug)
- a block “R” (receptacle)

Of identical dimensions but distinguished by:

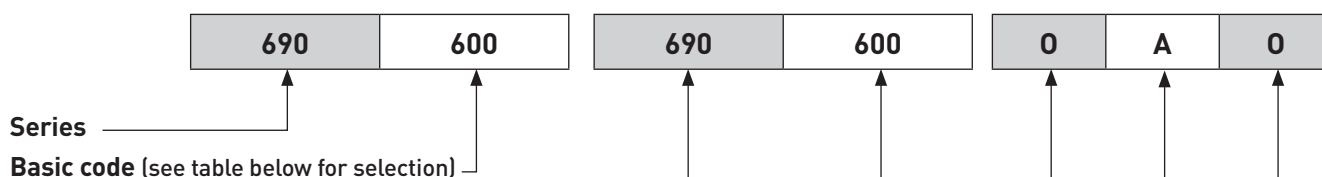
- the engraved letters “P” and “R” on the mating faces
- the contact identification and position of the cavities is a mirror image of the mating half.

Each block “P” and “R” must be fitted with male and female guides or jackscrews.

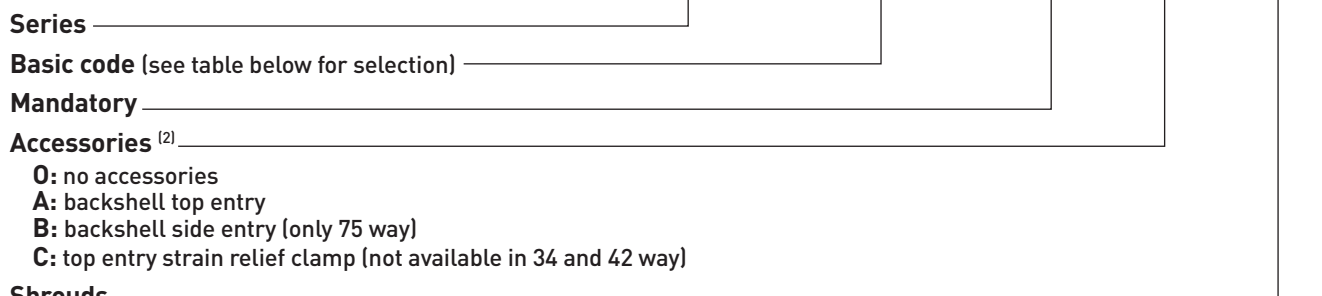
- on the block P female guide beside hole 1 or A
- on the block R male guide beside hole 1 or A (in order to prevent mismatching and misalignment).

PART NUMBERING

Connectors with guides (without other accessories)



Connectors with accessories



Shrouds

0: no shroud

A: male shroud without polarizing ⁽¹⁾
 male shroud with polarizing ⁽²⁾

F: female shroud without polarizing ⁽¹⁾
 female shroud with polarizing ⁽²⁾

In	1	3	5	7
code	B	C	D	E
In	1	3	5	7
code	G	H	J	K



Number of contacts	Rack guides		Fixed jackscrews		Rotating jackscrews	
	Plug	Receptacle	Plug	Receptacle	Plug	Receptacle
14	400	500	701	700	600	602
20	410	510	711	710	610	612
26	420	520	721	720	620	622
34	430	530	731	730	630	632
42	440	540	741	740	640	642
50	450	550	751	750	650	652
75	460	560	761	760	660	662

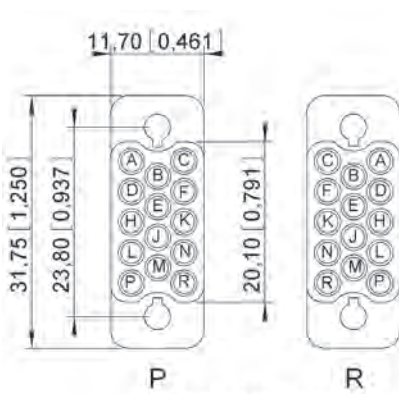
Example: 701 goes with 602

NOTES:

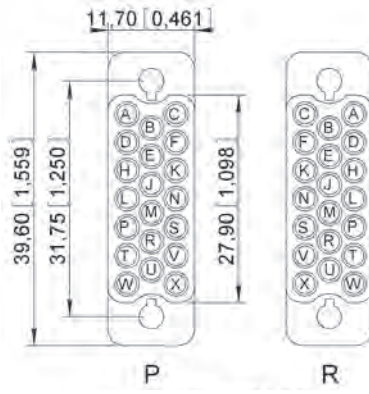
⁽¹⁾ Not available in 42 way ⁽²⁾ Not available in 14 way

When connector has a shroud with polarizing, polarisation starts from the cavity A or 1 side of the connector (refer to page 7-30).

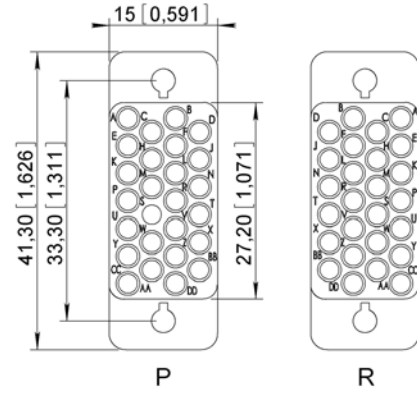
VIEW WIRING SIDE mm (inch)



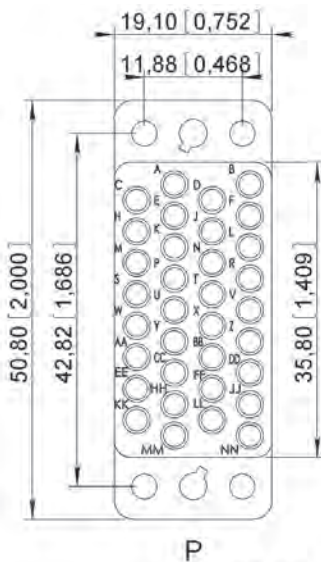
14 contacts



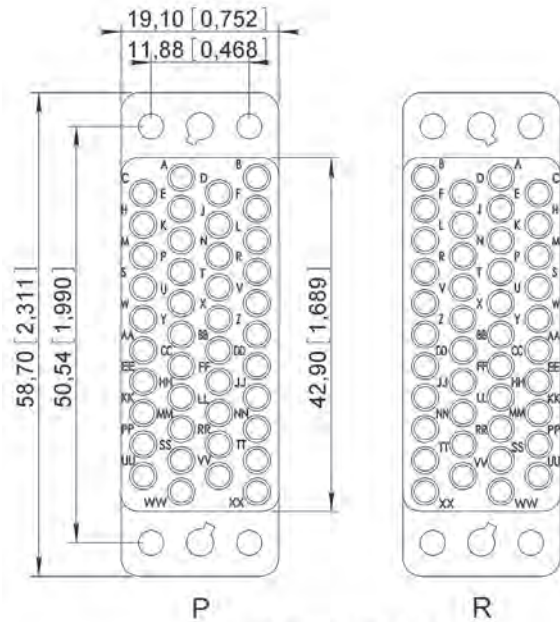
20 contacts



26 contacts



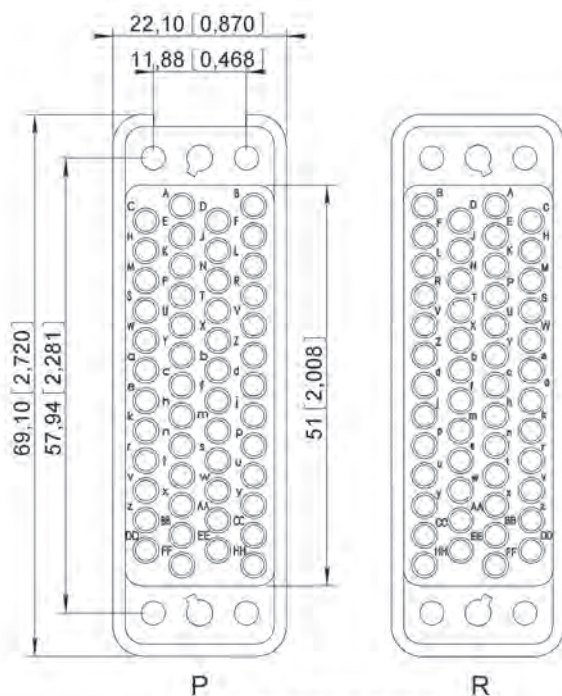
34 contacts



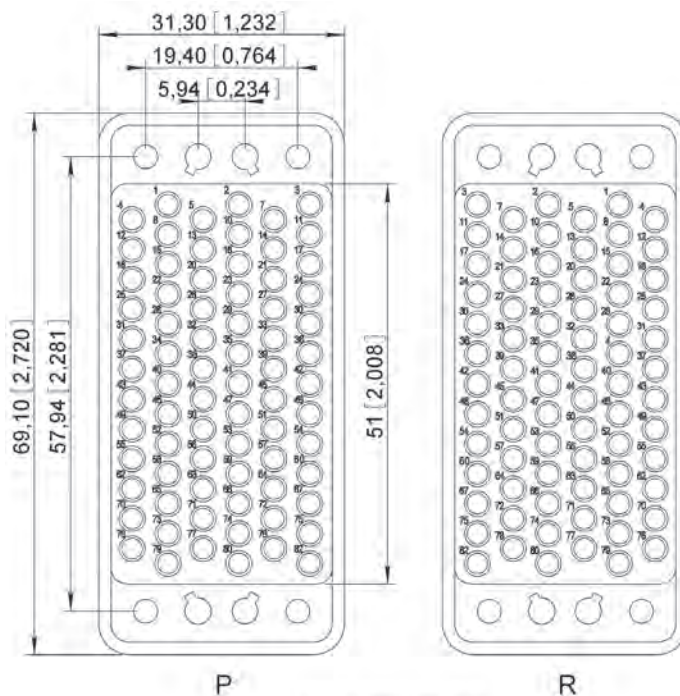
42 contacts

CONTACT ARRANGEMENT

VIEW WIRING BLOCK mm (inch)



50 contacts

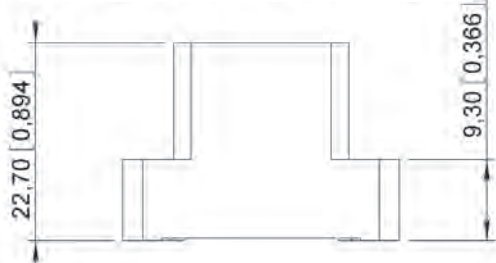


75 contacts

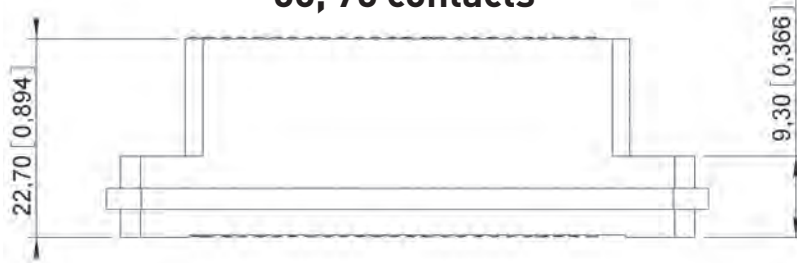
HEIGHT DIMENSIONS

mm (inch)

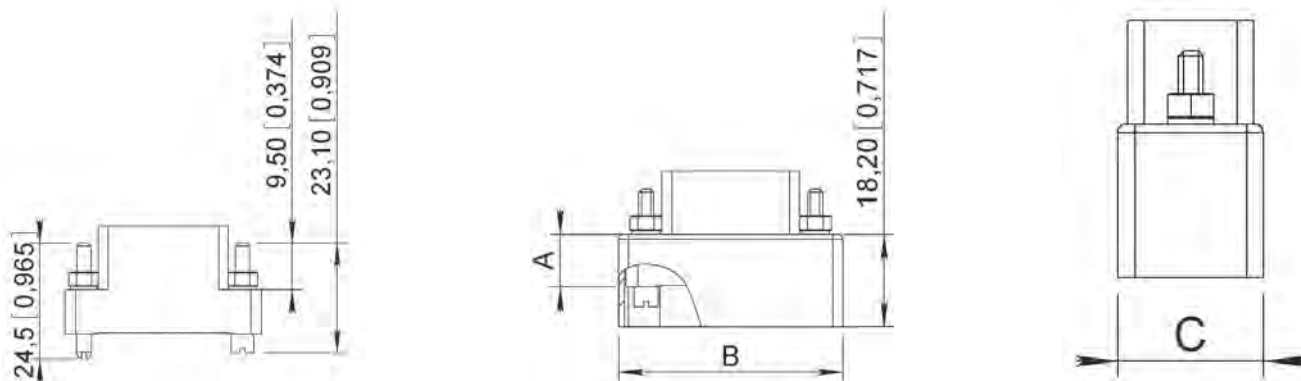
14, 20, 26, 34, 42 contacts



50, 75 contacts

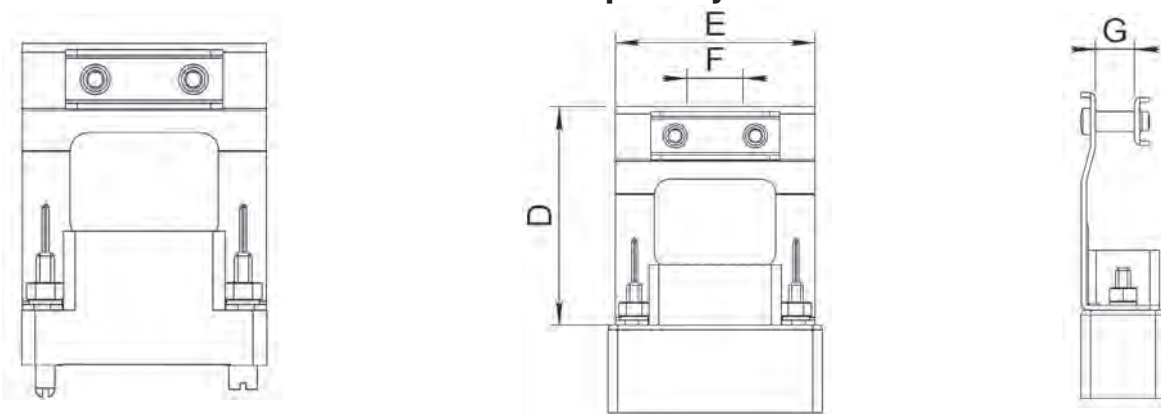


CONNECTOR BLOCK mm (inch)



Number of contacts	A	B		C	
		Male	Female	Male	Female
14	10.1 (.397)	34.8 (1.370)	37.2 (1.464)	14.2 (.559)	16.6 (.653)
20		42.2 (1.661)	45.1 (1.775)		
26		44.2 (1.740)	46.1 (1.826)		
34	10.3 (.405)	54 (2.126)	56.4 (2.220)	22.2 (.874)	24.6 (.968)
42	Shroud not available				
50	10.3 (.405)	72 (2.834)	74.6 (2.937)	25.3 (.996)	27.8 (1.094)
75		72.4 (2.850)	74.7 (2.940)	34.4 (1.354)	37 (1.456)

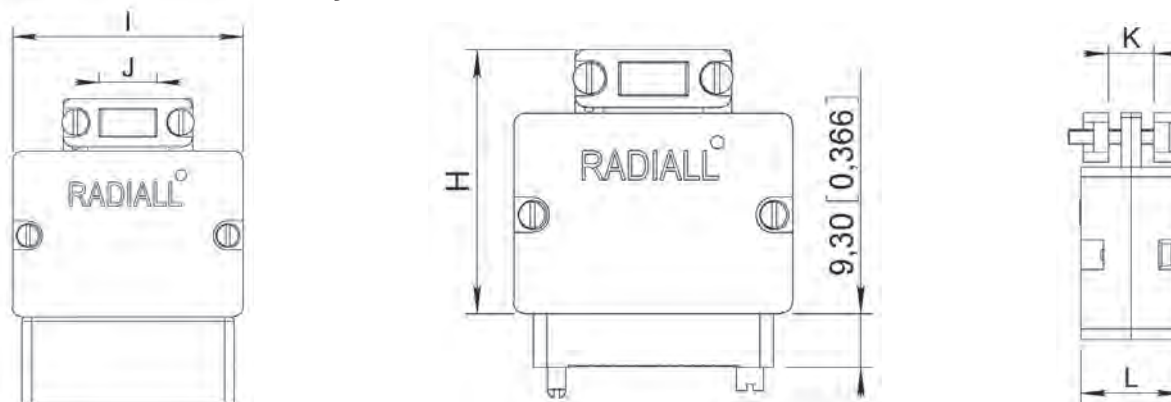
STRAIN RELIEF CABLE CLAMP (top entry) mm (inch)



Number of contacts	D	E	Cable entry dimensions	
			F	G max
14	44 (1.732)	31.5 (1.240)	5 (.197)	8 (.315)
20		39.5 (1.555)	12 (.472)	
26		41.1 (1.618)		10 (.394)
34	Cable clamp not available			
42	Cable clamp not available			
50	53 (2.086)	65.6 (2.582)	26 (1.023)	14 (.551)
75				18 (.708)

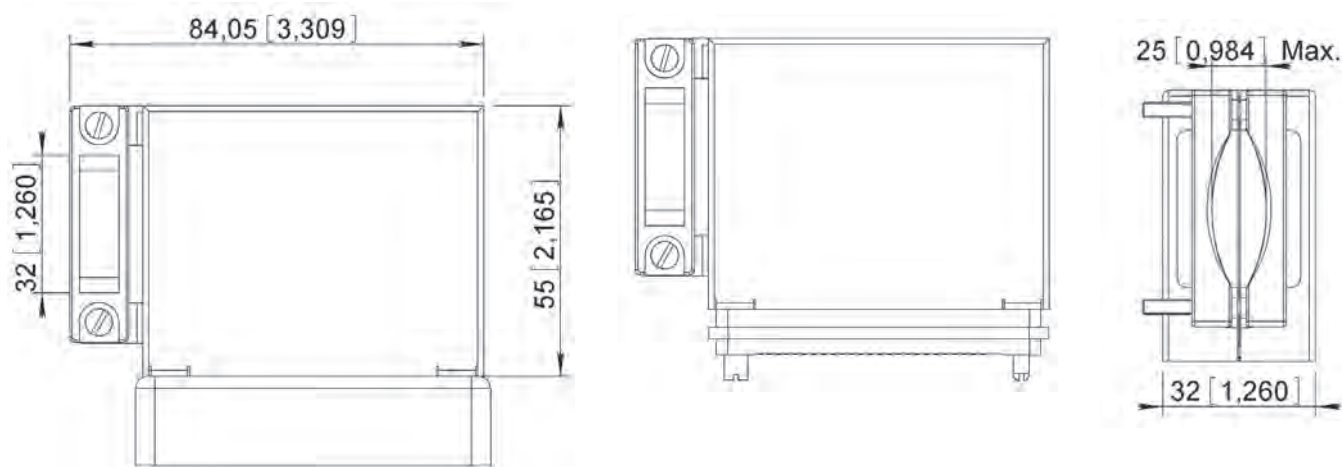
RACK GUIDES DIMENSIONS

Backshell Top Entry mm (inch)



Number of contacts	H	I	Cable entry dimensions		L
			J	K max	
14	46 (1.811)	39 (1.535)	7.6 (.299)	13 (.512)	17 (.670)
20		47 (1.850)	15 (.590)		
26		48.5 (1.909)	17 (.670)		21 (.827)
34	52.5 (2.067)	53.5 (2.106)	22 (.866)	20 (.787)	24 (.945)
42	47 (1.850)	61 (2.401)	32 (1.260)	12 (.472)	21.5 (.846)
50	66.5 (2.618)	68.5 (2.697)	26 (1.023)	21 (.827)	25 (.984)
75	47 (1.850)	68 (2.677)	40 (1.575)		30.5 (1.200)

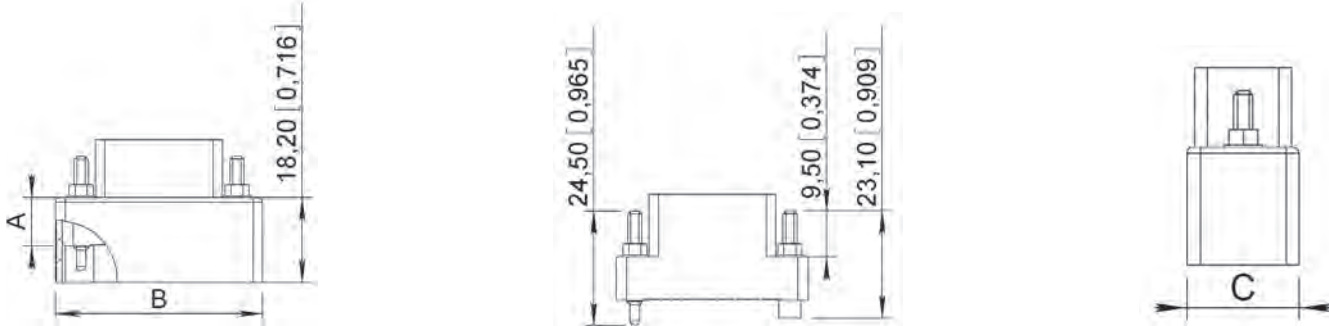
Backshell Side Entry - available only for 75 way mm (inch)



FIXED JACKSCREWS DIMENSIONS

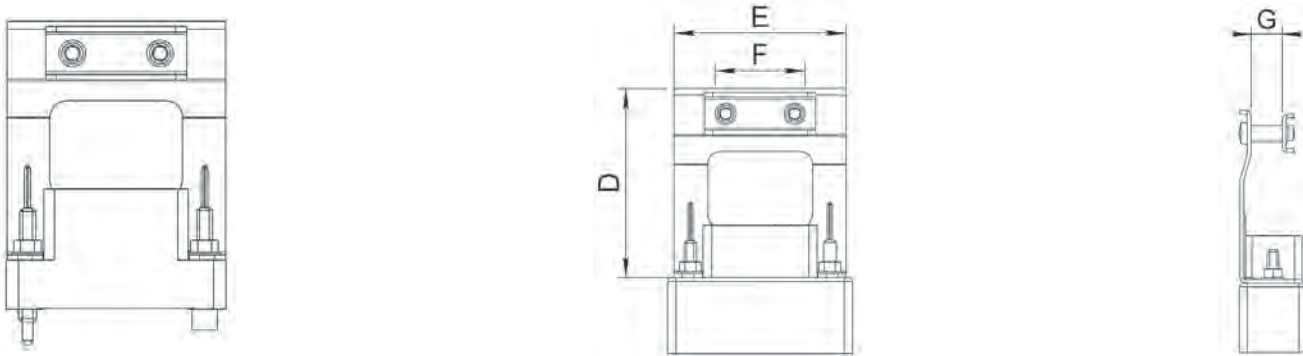
MMC series

Connector Block mm (inch)



Number of contacts	A	B		C	
		Male	Female	Male	Female
14	10.1 (.397)	34.8 (1.370)	37.2 (1.464)	14.2 (.559)	16.6 (.653)
20		42.2 (1.661)	45.1 (1.775)		
26		44.2 (1.740)	46.4 (1.827)		
34	10.3 (.405)	54 (2.126)	56.4 (2.220)	22.2 (.874)	24.6 (.968)
42	Shroud not available				
50	10.3 (.405)	72 (2.834)	74.6 (2.937)	25.3 (.996)	27.8 (1.094)
75		72.4 (2.850)	74.7 (2.940)	34.4 (1.354)	37 (1.456)

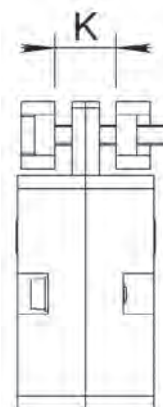
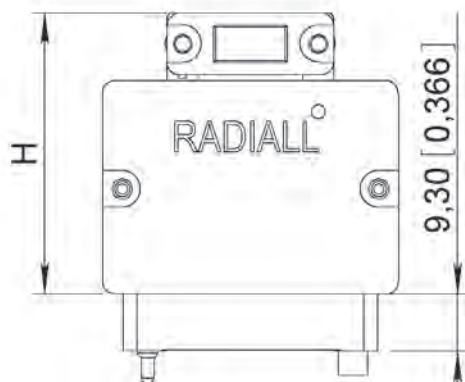
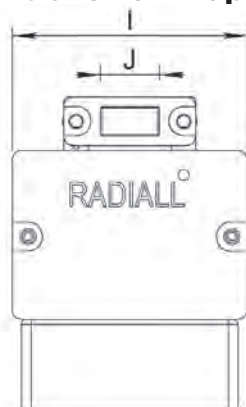
Strain Relief Cable Clamp (top entry) mm (inch)



Number of contacts	D	E	Cable entry dimensions	
			F	G max
14	44 (1.732)	31.5 (1.240)	5 (.197)	8 (.315)
20		39.5 (1.555)	12 (.472)	
26		41.1 (1.618)		10 (.394)
34	Cable clamp not available			
42				
50	53 (2.086)	65.6 (2.582)	26 (1.023)	14 (.551)
75				18 (.708)

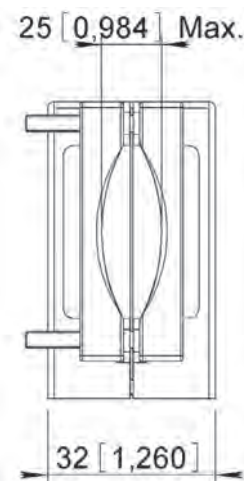
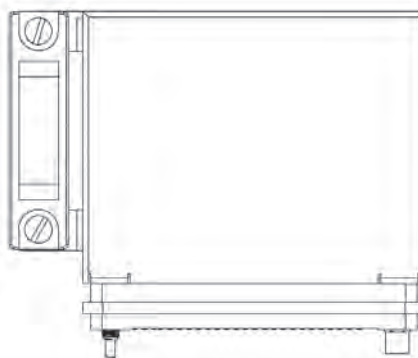
FIXED JACKSCREWS DIMENSIONS

Backshell Top Entry mm (inch)



Number of contacts	H	I	Cable entry dimensions		L
			J	K max	
14	46 (1.811)	39 (1.535)	7.6 (.299)	13 (.512)	17 (.670)
20		47 (1.850)	15 (.590)		
26		48.5 (1.909)	17 (.670)	17 (.670)	21 (.827)
34	52.5 (2.067)	53.5 (2.106)	22 (.866)	20 (.787)	24 (.945)
42	47 (1.850)	61 (2.401)	32 (1.260)	12 (.472)	21.5 (.846)
50	66.5 (2.618)	68.5 (2.697)	26 (1.023)	21 (.827)	25 (.984)
75	47 (1.850)	68 (2.677)	40 (1.575)		30.5 (1.200)

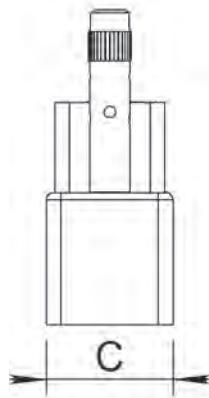
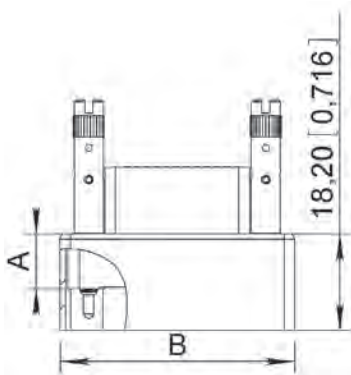
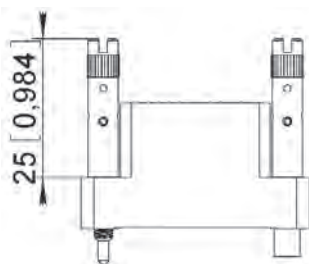
Backshell Side Entry - available only for 75 way mm (inch)



ROTATING JACKSCREWS DIMENSIONS

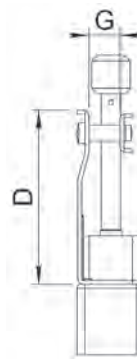
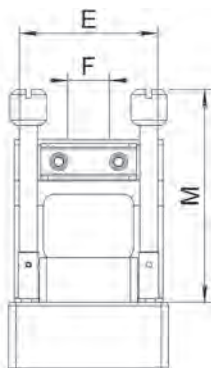
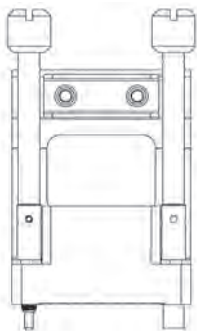
MMC series

Connector Block mm (inch)



Number of contacts	A	B		C	
		Male	Female	Male	Female
14	10.1 (.397)	34.8 (1.370)	37.2 (1.464)	14.2 (.559)	16.6 (.653)
20		42.2 (1.661)	45.1 (1.775)		
26		44.2 (1.740)	46.4 (1.827)		
34	10.3 (.405)	54 (2.126)	56.4 (2.220)	22.2 (.874)	24.6 (.968)
42	Shroud not available				
50	10.3 (.405)	72 (2.834)	74.6 (2.937)	25.3 (.996)	27.8 (1.094)
75		72.4 (2.850)	74.7 (2.940)	34.4 (1.354)	37 (1.456)

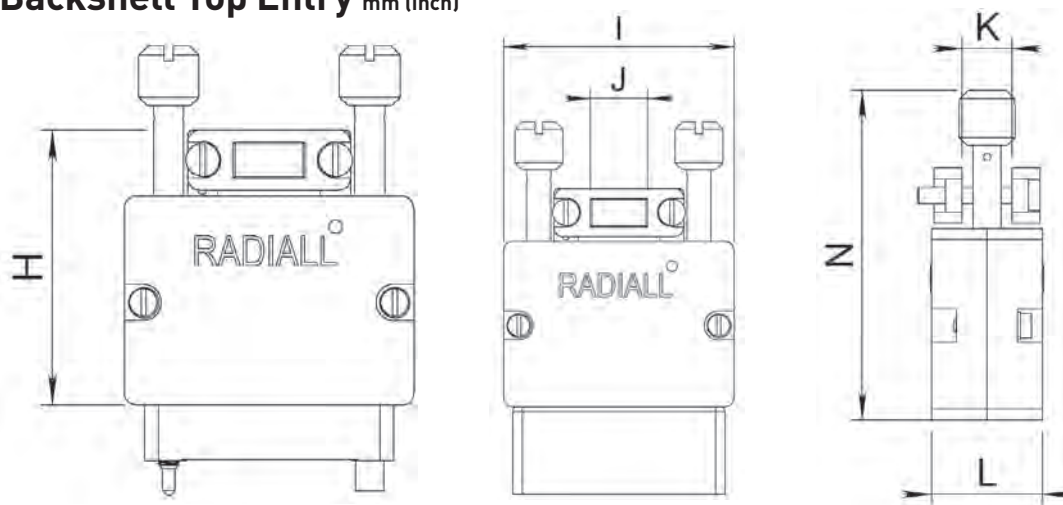
Strain Relief Cable Clamp (top entry) mm (inch)



Number of contacts	D	E	M	Cable entry dimensions	
				F	G max
14	44 (1.732)	31.5 (1.240)	60 (2.362)	5 (.197)	8 (.315)
20		39.5 (1.555)		12 (.472)	
26		41.1 (1.618)			10 (.394)
34	Cable clamp not available				
42					
50	53 (2.086)	65.6 (2.582)	64 (2.519)	26 (1.023)	14 (.551)
75					18 (.708)

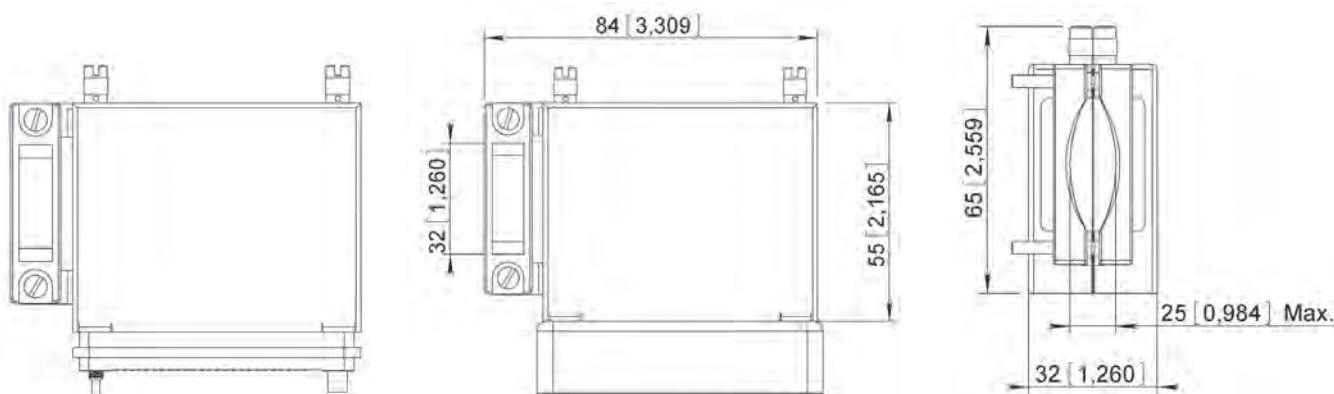
ROTATING JACKSCREWS DIMENSIONS

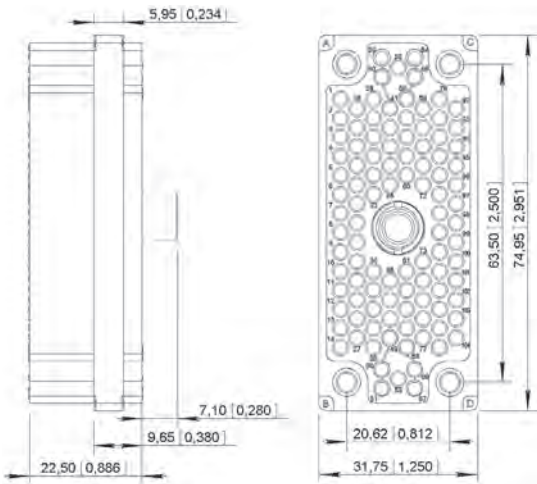
Backshell Top Entry mm (inch)



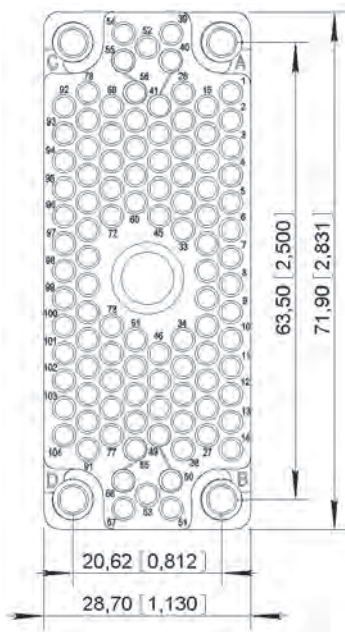
Number of contacts	H	I	Cable entry dimensions		L	N
			J	K max		
14	46 (1.811)	39 (1.535)	7.6 (.299)	13 (.512)	17 (.670)	60 (2.362)
20		47 (1.850)	15 (.590)			
26		48.5 (1.909)	17 (.670)	17 (.670)	21 (.827)	
34	52.5 (2.067)	53.5 (2.106)	22 (.866)	20 (.787)	24 (.945)	64 (2.519)
42	47 (1.850)	61 (2.401)	32 (1.260)	12 (.472)	21.5 (.846)	
50	66.5 (2.618)	68.5 (2.697)	26 (1.023)	21 (.827)	25 (.984)	78 (3.071)
75	47 (1.850)	68 (2.677)	40 (1.575)		30.5 (1.200)	

Backshell Side Entry - available only for 75 way mm (inch)





Central guide	R Type - Rack guides				Part number
	A	B	C	D	
Mates with all the blocks P	No guides				690571
	Female	Male	Male	Female	690570
	Female	--	--	Female	690572
	Female	Female	Female	Female	690573

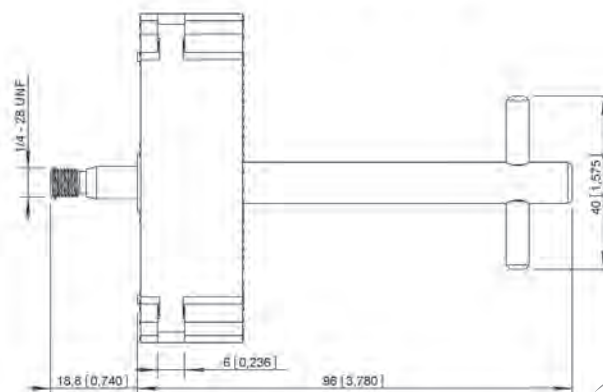
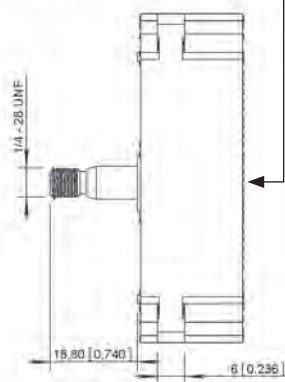
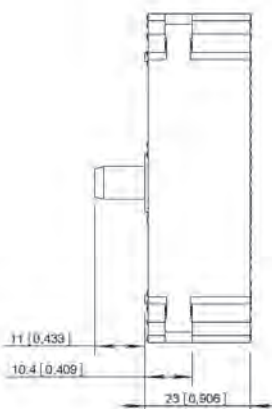


Central guide	P Type - Rack guides				Part number
	A	B	C	D	
Central rack guide	No guides				690481
	Male	Female	Female	Male	690480
	Male	--	--	Male	690482
	Male	Male	Male	Male	690483
Sunken Hex. Nut 4 A/F	No guides				690471
	Male	Female	Female	Male	690470
	Male	--	--	Male	690472
	Male	Male	Male	Male	690473
Central jackscrew	No guides				690476
	Male	Female	Female	Male	690475
	Male	--	--	Male	690477
	Male	Male	Male	Male	690478

Rack guide

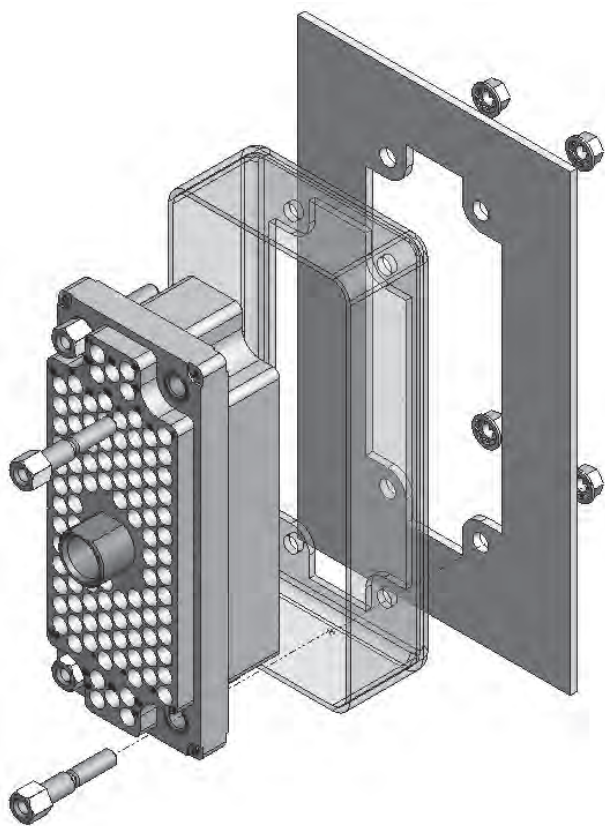
Sunken Hex. nut

Central jackscrew

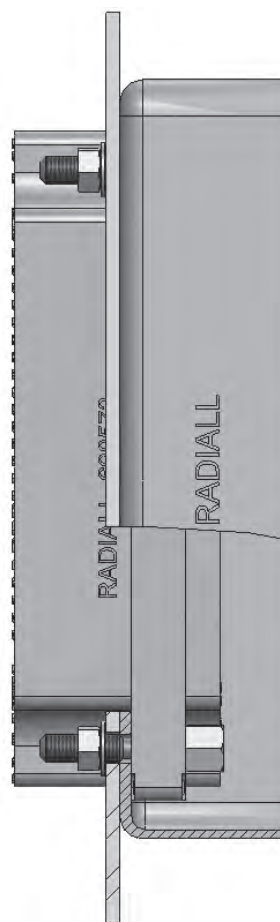


BLOCK 104 CONTACTS

Detailed view of the connector with shroud mounted on a panel.



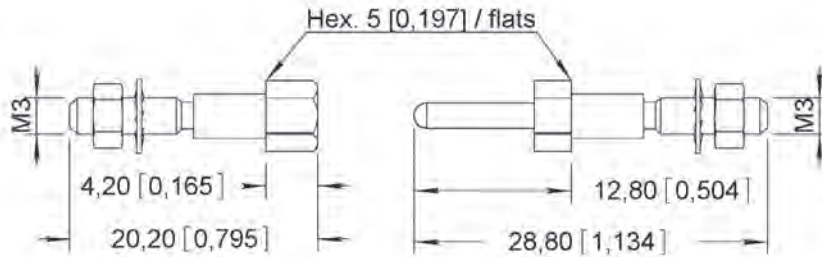
View once all assembled.



GUIDES to mount in positions A, B, C, D

Female P/N 690950

Male P/N 690960

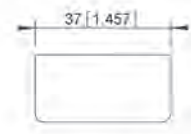
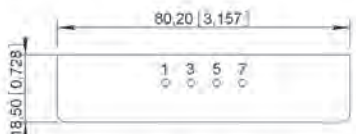
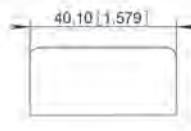
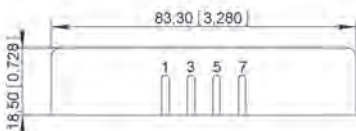


SHROUDS

Female shroud - use only this reference to order without polarizing code.

Shroud female

Ref : 690 992



Shroud male

Ref : 690 991

Polarisation Code	Position
110	1
120	3
130	5
140	7
210	1 + 3
220	3 + 5
230	5 + 7
240	1 + 5
250	3 + 7
260	1 + 7

Male shroud - use only this reference to order without polarizing code.

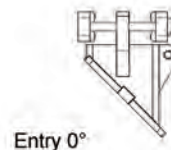
To order with polarizing: add the polarisation code at the end of you shroud part number see

Example: 690991110.

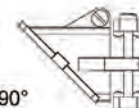
BACKSHELL - cast aluminium painted black

Assembly Kit

Entry	Cable clamp max. cm_ (inch)	L	H	Part number
1 entry 45°	7.8 (3.1)	70	71	690971
2 entries 45°	15.6 (6.1)	(27.6)	(28)	690972
1 entry 0°	5.3 (2.1)	55	66	690973
2 entries 0°	10.6 (4.2)	(21.7)	(26)	690974
1 entry 90°	5.3 (2.1)	65	57	690973
2 entries 90°	10.6 (4.2)	(25.6)	(22.4)	690974



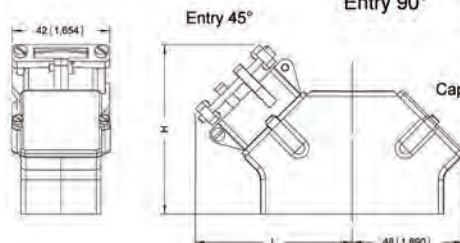
Entry 0°



Entry 90°

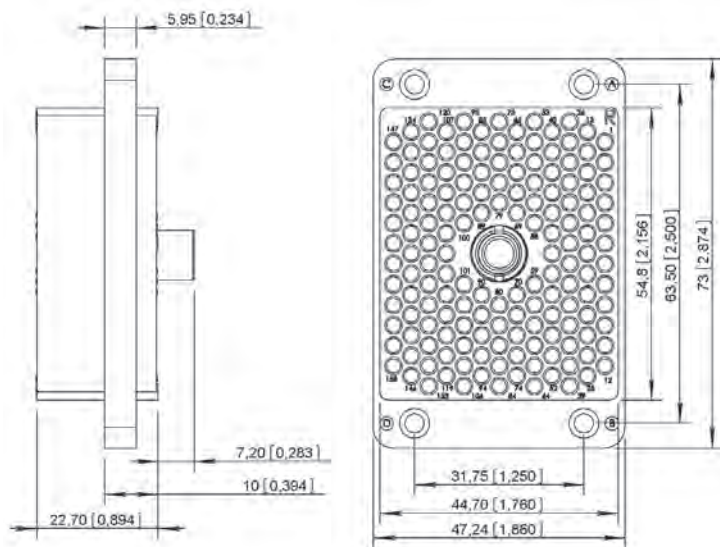
Spare parts (1 or 2 entry rotation)

Description	Part number
Body (in 2 parts)	690977
Entry 0 - 90°	690980
Entry 45°	690979
Cap	690978

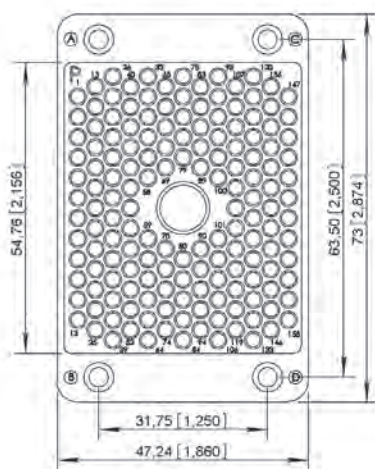


BLOCK 158 CONTACTS

view wiring side mm (inch)

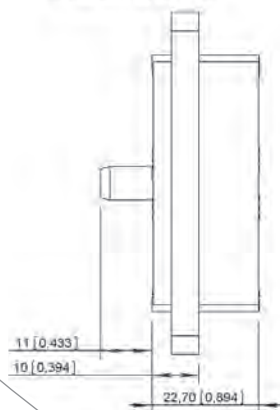


R TYPE		Guides supplied unmounted	
Central guide	Without guides	4 female	2 male / 2 female
Mates with all blocks P	690686	690670	690680

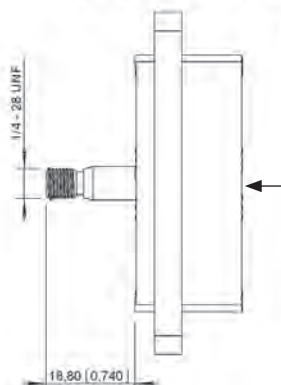


P TYPE		Guides supplied unmounted	
Central guide	Without guides	4 female	2 male / 2 female
Central rack guide	690681	690678	690683
Sunken Hex. 4 A/F	690671	690679	690684
Central jackscrew	690676	690677	690682

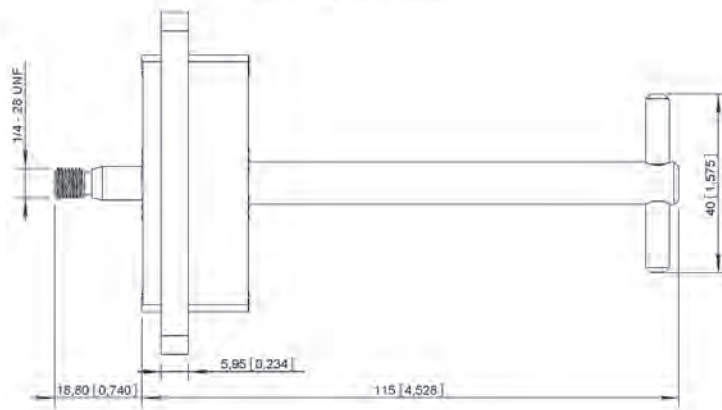
Rack guide



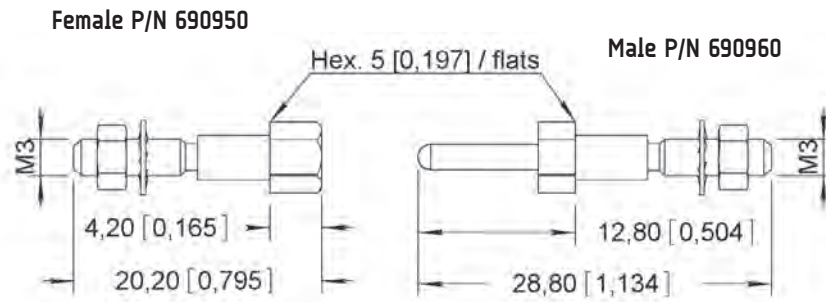
Sunken hex. nut



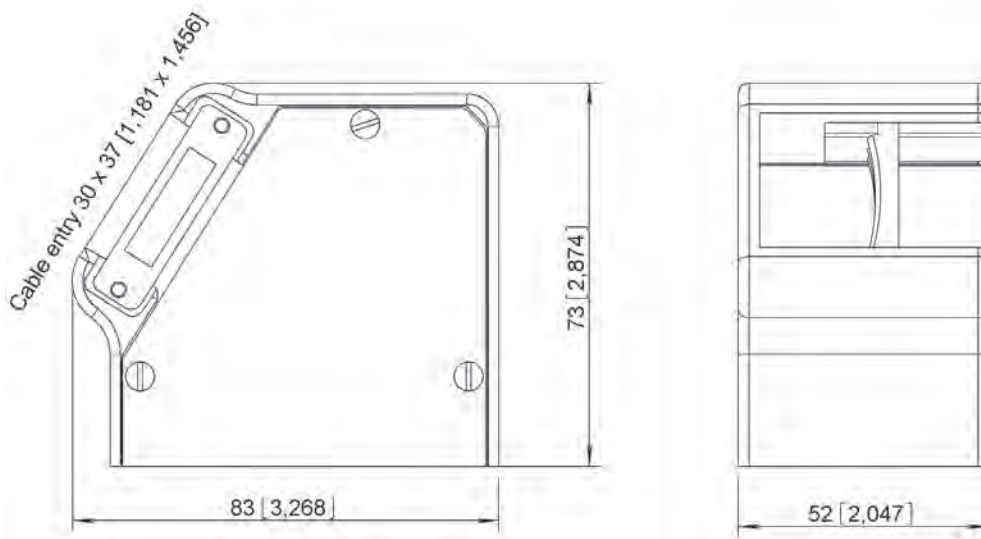
Central jackscrew



GUIDES to mount in positions A, B, C, D - mm (inch)

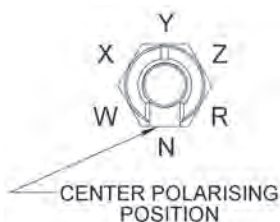
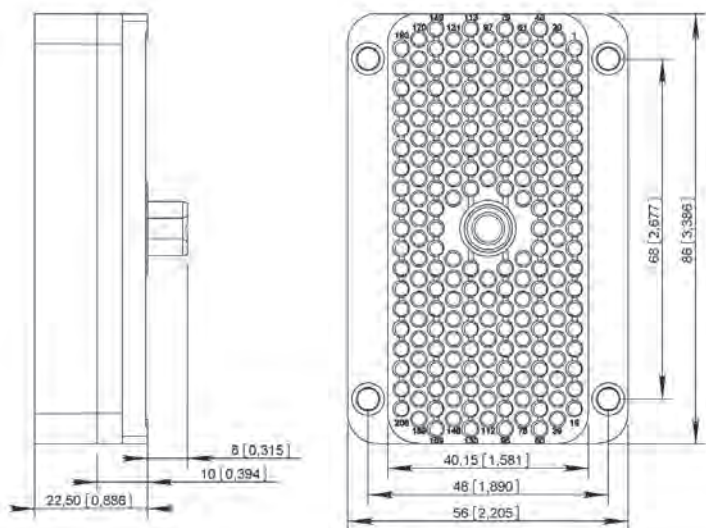


BACKSHELL P/N 690985 - mm (inch)



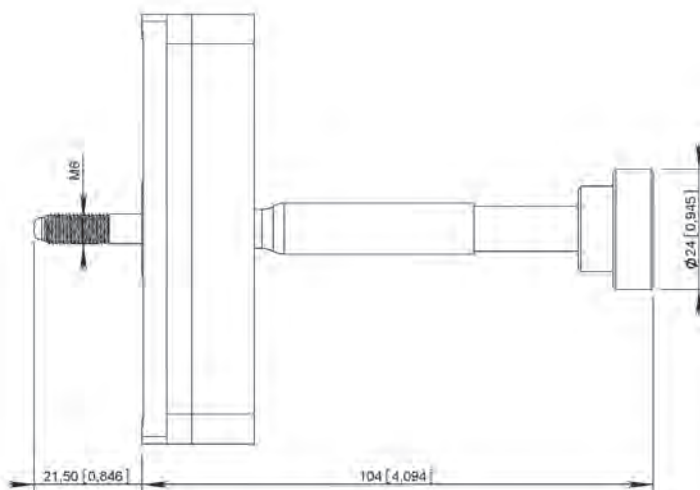
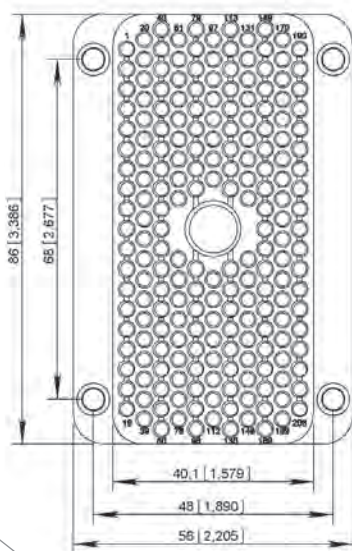
BLOCK 208 CONTACTS

view wiring side mm (inch)

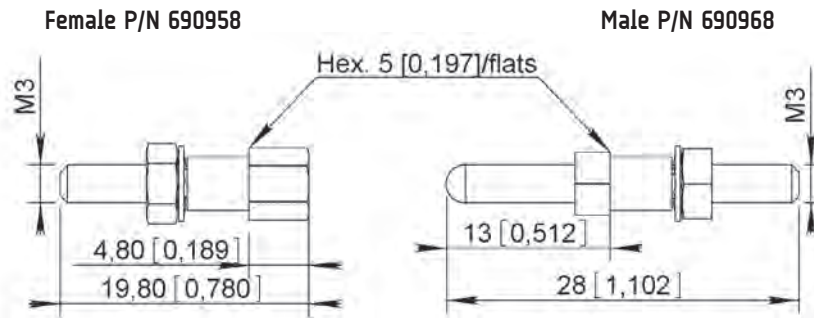


Polarizing positions	Guides supplied unmounted	
	4 female	2 male / 2 female
N	690768001	690778004
R	690768002	690778007
Z	690768003	690778002
Y	690768004	690778003
X	690768005	690778001
W	690768006	690778005

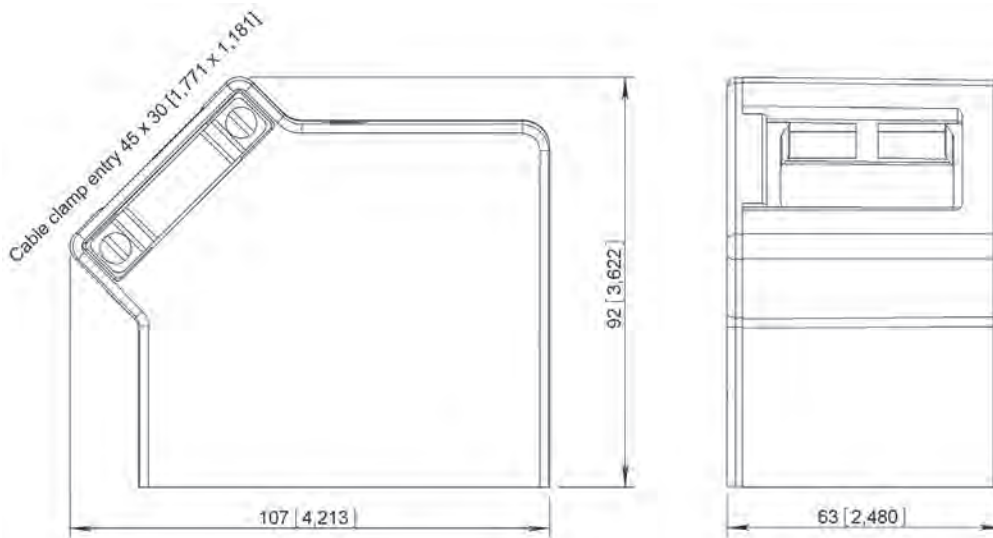
Polarizing positions	Guides supplied unmounted	
	4 female	2 male / 2 female
N	690769001	690767001
R	690769002	690767002
Z	690769003	690767003
Y	690769004	690767004
X	690769005	690767005
W	690769006	690767006



GUIDES to mount in positions A, B, C, D - mm (inch)



BACKSHELL P/N 690982 - mm (inch)



CONTACTS

Pins and/or sockets for equipment wire, twisted pairs and coaxial cable can be housed in either plug or receptacle giving a multitude of connection possibilities.

Many contact arrangements available: 14 - 20 - 26 - 34 - 42 - 50 - 75 - 104 - 158 and 208 ways.

The signal contacts size 16 (pin Ø 1.58mm) are for crimping to AWG 16 to 28.

Contacts for wire wrapping are available with tails 0.6 x 0.6 mm (0.024x0.024 inch) or 1.2 x 1.2mm (0.047 x 0.047 inch) square. The coaxial contacts are for crimping to 2 mm and 2.6 mm coaxial cables and AWG 24 to 30 twisted pairs.

For all other contact terminations: consult us.

No tool is necessary for the insertion, the extraction is from the rear using an extraction tool introduced by the mating face of the connector.

FRONT RELEASE AND FRONT REMOVABLE* CONTACTS

In order to facilitate the junction of MMC series connectors with a flexible or steady printed circuits, Radiall created a range of solder tail and wire wrap front release contacts.

This eases the replacement of a damaged contact without unwiring the set.

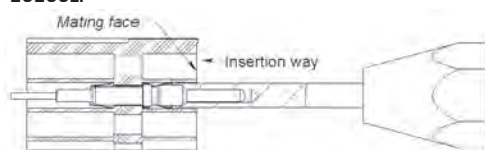
These size 16 contacts fit with all standard MMC connectors cavities from 14 to 208 which allow to mix them on a same connector with micro-coaxial contacts and crimping contacts.

Type	Contacts Arrangements		Contact ⁽¹⁾		Replacement contact ⁽²⁾	
			Pin	Socket	Pin	Socket
Mini-wrapping ☐ 0.6 (.024) flats 2 wraps		L=10.6 (.417)	690220	690320	690220001	690320001
Mini-wrapping ☐ 0.6 (.024) flats 3 wraps		L=16 (.630)	690221	690321	690221001	690321001
PC tail Ø 0.65mm (.026)		L=6.2 (.244)	690222	690322	690222001	690322001

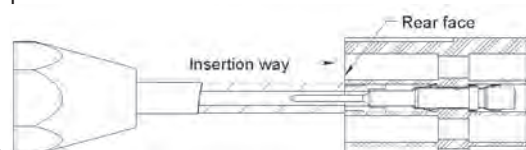
Installation and extraction of FR/FR* contacts.

CONTACT INSTALLATION

1) Insert the contact fitted with the retention clip through the mating face and push it home by means insertion tool 282501.

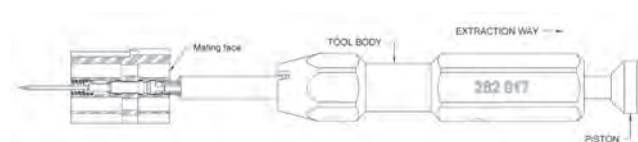


2) Introduce the sleeve by the rear face with tool 282502 and push it until it flushes with the insulator.



CONTACT REPLACEMENT

Extraction: insert the extraction tool 282917 by the mating face into the cavity of the contact to be replaced. Push it until it butts against the contact shoulder. Maintain the pressure on piston and pull on body tool to extract the contact. To free the contact release pressure on piston.



Installation of a new contact without retention clip: insert the contact through the mating face, push it with tool 282501 until contact snaps in place.

NOTES:

- (1) Contact with retention clip and anti-rotation sleeve, must be used for the original or initial equipment of the connectors.
- (2) Contact without retention clip and anti-rotation sleeve for the replacement of damaged contacts.

FRONT RELEASE / REAR RELEASE CRIMP CONTACTS

CABLES			Contacts		Positioner	Crimping tool	Position on crimp tool	Extraction tool
AWG size	Section in mm² (sq.in)	Ø max. on sleeve mm (inch)	Pin	Socket				
16 18 20	1.34 (.053) 0.93 (.037) 0.60 (.024)	3.10 (.122)	690200	690300	282975	282291 M22520/1.01	6 5 4	282920
16 18 20	1.34 (.053) 0.93 (.037) 0.60 (.024)	3.10 (.122)	690201	690301			6 5 4	
20 22 24	0.60(.024) 0.38 (.015) 0.22 (.009)	2.20 (.086)	690215	690315	282976		4 3 2	282920
24 26 28	0.22 (.009) 0.14 (.006) 0.093 (.004)	1.60 (.063)	690235	690335			4 2 2	

WIRE WRAP CONTACTS

Type	Contacts Arrangements	Contacts		Tools	
		Pin	Socket	Insertion	Extraction
Mini-wrapping Ø 0.6 (.024) flats 2 wraps		L=10.6 (.417) 690241	690341	282921	282920
Wrapping standard Ø 1.2 (.047) flats 3 wraps		L=19.5 (.767) 690240	690340		

TWISTED PAIR CRIMP CONTACTS

CABLES				TOOLS ⁽³⁾				CONTACTS & Wiring Instructions ⁽⁴⁾	
AWG size		Section in mm ² (sq.in)	Ø max. on insulator	Center contact		Outer contact		Socket ⁽¹⁾	Pin ⁽²⁾
				Position on crimping tool ⁽⁵⁾	Positioner	Crimping tool	Positioner		
24	Stranded wire cable	0.22 (.009)	0.96 (.038)	2	282981 / M22520/2.04	282292 / M22520/4.01	282973 / M22520/4.02	690070 B	690170 B
26	Stranded wire cable	0.14 (.006)	0.84 (.033)	2				690060 A	690160 A
28		0.093 (.004)	0.73 (.029)	1					
30		0.055 (.002)	0.66 (.026)	1					
26	Single wire cable	0.12 (.005)	0.85 (.033)	3					
28		0.08 (.003)	0.67 (.026)	2				690061 A	690161 A
30		0.05 (.002)	0.58 (.023)	1					
26	Stranded wire cable	0.14 (.006)	0.84 (.033)	2					
28		0.093 (.004)	0.73 (.029)	1					
26	Single wire cable	0.12 (.005)	0.85 (.033)	3				690062 A	690162 A
28		0.08 (.003)	0.67 (.026)	2					
30	Stranded wire cable	0.055 (.002)	0.66 (.026)	1					
30	Single wire cable	0.05 (.002)	0.58 (.023)	1					

NOTES:

(1) Body female contact / center male contact

(2) Body male contact / center female contact

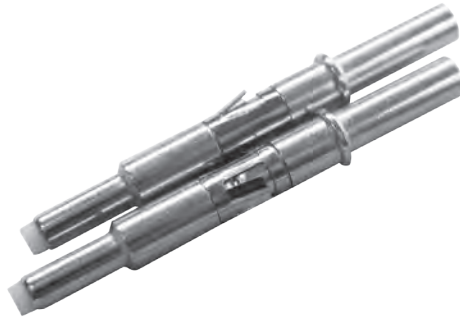
(3) Extraction tool for all twisted pair contacts P/N 282920

(4) Wiring instructions on pages 7-31 to 7-34.

(5) Crimping tool for all 282281 / M22520/2.01.

COAXIAL CRIMP CONTACTS

MMC series



CABLES			TOOLS ⁽³⁾				CONTACTS & Wiring Instructions ⁽⁴⁾	
Cable reference	Impedance Ω	Outer diameter	Center contact		Outer contact		Socket ⁽¹⁾	Pin ⁽²⁾
			Crimp tool	Positioner	Crimp tool	Positioner		
RG178/U RG196/U KX21	50	2 (.079)	282281 M22520/2.01	282981 M22520/2.04	282292 M22520/4.01	282973 M22520/4.02	690020 C	690120 C
KX3A RG316/U KX22	50	2.54 (.100) ± 0.13 (.005)					690040 D	690140 D
RG179/U	75							

NOTES:

(1) Body female contact / center male contact

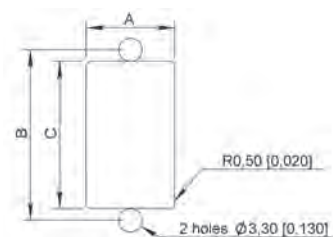
(2) Body male contact / center female contact

(3) Extraction tool for all twisted pair contacts P/N 282920

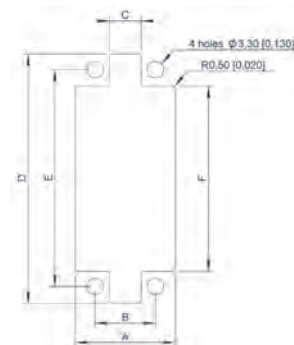
(4) Wiring instructions on pages 7-31 to 7-34.

PANEL CUT OUT

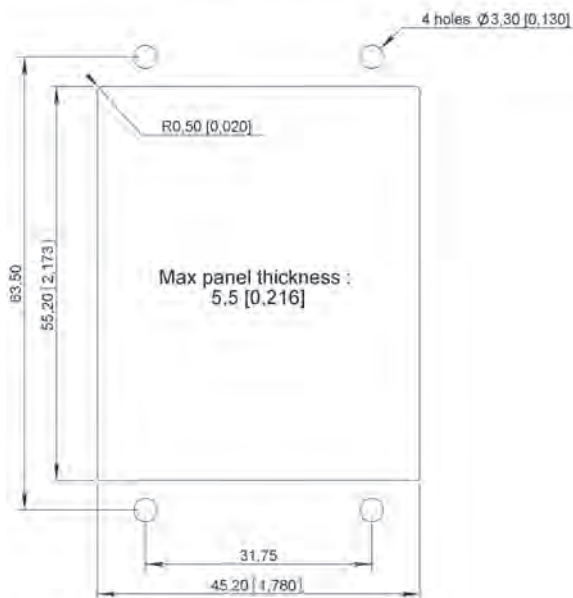
Number of contacts	A	B	C	Max. panel thickness
14	12.4 (.488)	23.8 (.937)	20.8 (.819)	6 (.236)
20	12.4 (.488)	31.7 (1.248)	28.7 (1.130)	
26	15.7 (.618)	33.3 (1.311)	29.2 (1.150)	



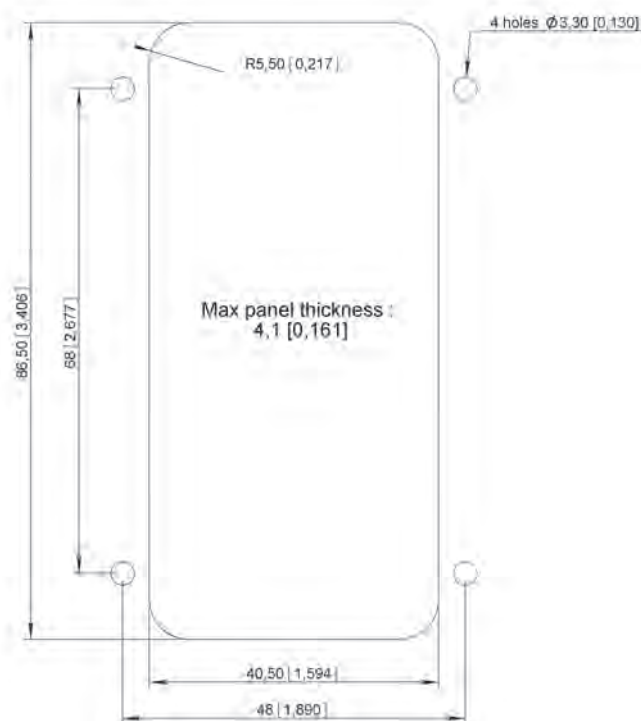
Number of contacts	A	B	C	D	E	F	Max. panel thickness
34	19.8 (.779)	11.9 (.468)	6.3 (.248)	49.3 (1.940)	42.8 (1.685)	36.6 (1.441)	6 (.236)
42				56.9 (2.240)	50.5 (1.988)	43.7 (1.720)	
50				64.3 (2.531)	57.9 (2.279)	51.6 (2.031)	
75	29 (1.141)	19.4 (.764)	14.2 (.559)	72.5 (2.854)	63.5 (2.500)	55.6 (2.189)	5.5 (.216)
104	29.3 (1.153)	20.6 (.811)	12.7 (.500)				



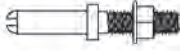
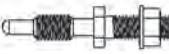
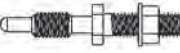
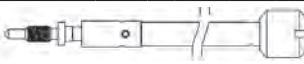
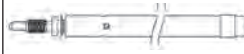
158 CONTACTS



208 CONTACTS



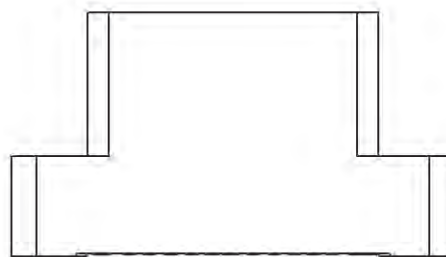
Jackscrew and rack guide selection table

Cables			Number of contacts							
			14	20	26	34	42	50	75	
Rack guides	Without backshell	Male					690962			
		Female					690952			
	With backshell	Male			690963				690963	
		Female			690963				690963	
Fixed guides	Without backshell	Male					690961			
		Female					690951			
	With backshell	Male			690964				690961	
		Female			690954				690951	
Rotating jackscrews	Without backshell	Male					690965			
		Female					690955			
	With or without backshell	Male	690966			690949		690967		
										
									For 75 contacts 690967001 Side entry	
		Female	690956			690939		690957		
										
									For 75 contacts 690957001 Side entry	

SPARE PARTS

Insulator blocks only

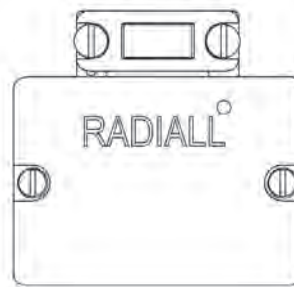
Number of contacts	Block	
	Type P	Type R
14	690401	690501
20	690411	690511
26	690421	690521
34	690431	690531
42	690441	690541
50	690451	690551
75	690461	690561



Backshells

When ordering backshells separately, do not forget to order the appropriate guides or jackscrews refer to previous page for part numbers.

Number of contacts	Backshell reference
14	690905
20	690908
26	690911
34	690914
42	690917
50	690920
75	Type P 690923
	Type R 690924



Shrouds

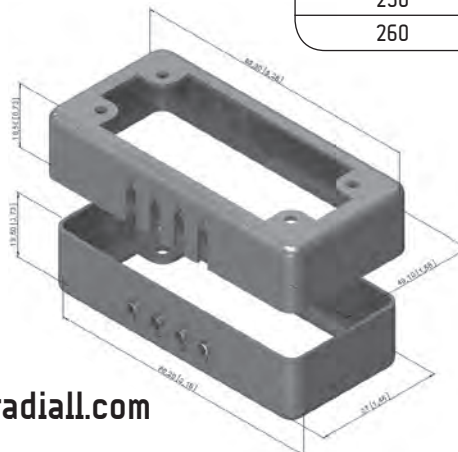
Male shroud is to be mounted on insulator block P and female shroud on insulator block R.

Polarizing is to be positioned next to cavity 1 or A of the insulator block.

To order without polarizing just use the six digits in the table following. In order to have polarizing add the 3 digits suffix following the 6 digits part number. E.G: 690943120 (position 3).

Number of contacts	Shrouds	
	Male	Female
14	690940	690930
20	690941	690931
26	690942	690932
34	690943	690933
42	Not available	
50	690945	690935
75	690946	690936

Polarization code	Position
110	1
120	3
130	5
140	7
210	1 + 3
220	3 + 5
230	5 + 7
240	1 + 5
250	3 + 7
260	1 + 7



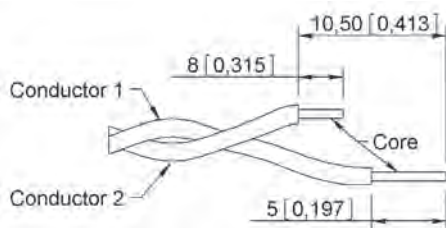
TWISTED PAIR CONTACT

WIRING INSTRUCTIONS A

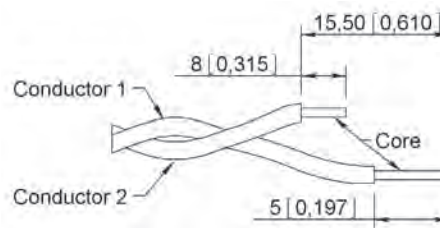
CONTACT REF:	690060	WIRE SIZES
	690160	AWG 26
	690061	AWG 28
	690161	AWG 30
	690062	
	690162	



1 - WIRE STRIPPING



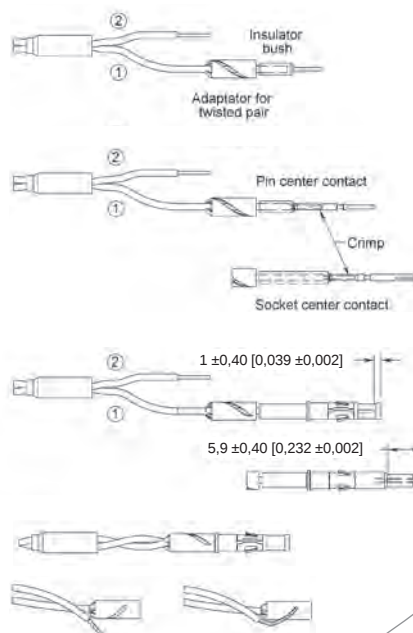
SOCKET CONTACT



PIN CONTACT

2 - WIRING INSTRUCTIONS

- Slide the ferrule over the twisted pair cable
- Following the type of contact, strip the 2 conductors to the shown dimensions here above
- Slide adaptor over conductor ①
- Slide insulator bush over conductor ①
- Put the core of the cable ① in to the centre contact (pin or socket) until it butts against the insulator bush.
- Engage the assembly (cable + centre contact) into the positioner of the crimping tool, and crimp centre contact according to setting instructions page 7-26.
- Engage the centre contact into the body, with reasonable force push home. Check the dimensional position, following type of centre contact (pin/socket).
- Slide the adaptor on to the body up to the shoulder.
- Place the core of conductor ② under the adaptor tab, and slide core into the helical slot.
- Slide the ferrule over the adapter up to the shoulder of the body.
- Engage the assembly into the positioner of the crimping tool, then crimp according to setting instructions, page 7-26.



WIRING INSTRUCTIONS

TWISTED PAIR CONTACT

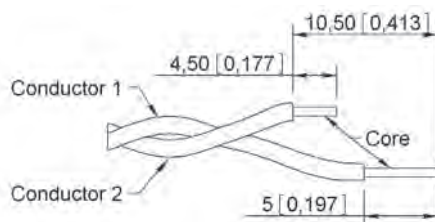
CABLING INSTRUCTIONS B

CONTACT REF: 690070
690170

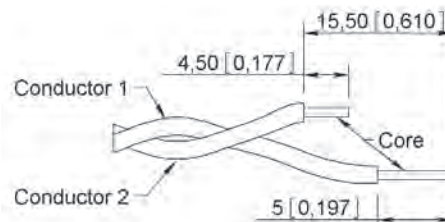
WIRE SIZE AWG 24



1 - WIRE STRIPPING



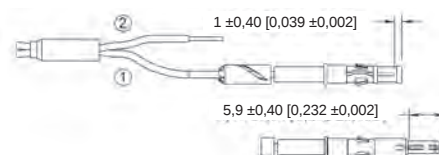
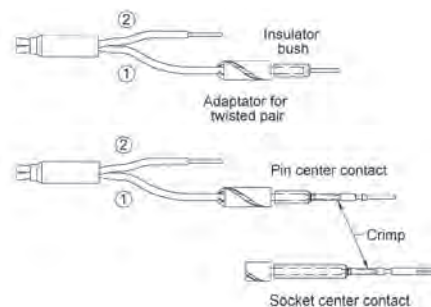
SOCKET CONTACT



PIN CONTACT

2 - WIRING INSTRUCTIONS

- Slide the ferrule over the twisted pair cable
- Following the type of contact, strip the 2 conductors to the shown dimensions here above
- Slide adaptor over conductor ①
- Slide insulator bush over conductor ①
- Put the core of the cable ① in to the centre contact (pin or socket) until it butts against the insulator bush.
- Engage the assembly (cable + centre contact) into the positioner of the crimping tool, and crimp centre contact according to setting instructions page 7-26.
- Engage the centre contact into the body, with reasonable force push home. Check the dimensional position, following type of centre contact (pin/socket).
- Slide the adaptor on to the body up to the shoulder.
- Place the core of the conductor ② into the straight slot, on the outer face of the adaptor.
- Slide the ferrule over the adaptor up to the shoulder of the body.
- Engage the assembly into the positioner of the crimping tool, then crimp according to setting instructions, page 7-26.



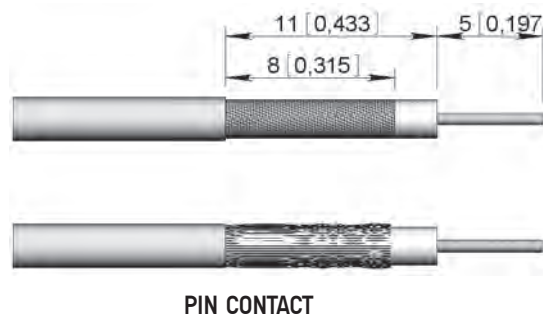
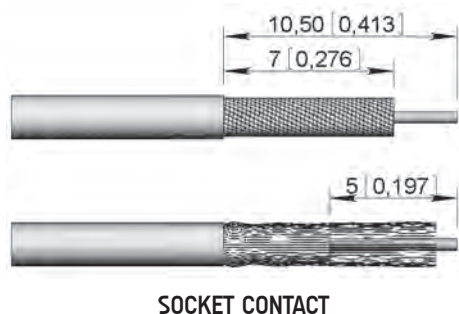
COAXIAL CONTACTS

CABLING INSTRUCTIONS C

CONTACT REF: 690020
690120

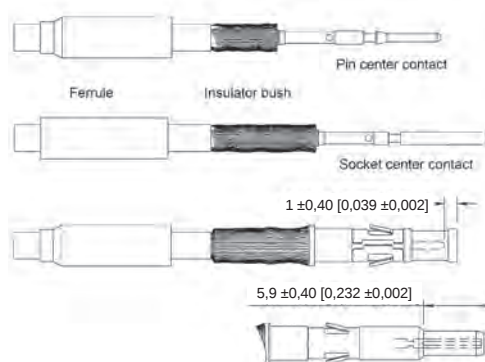


1 - WIRE STRIPPING



2 - WIRING INSTRUCTIONS

- Slide the ferrule over the coaxial cable.
 - Following the type of contact, strip the 2 conductors to dimensions shown above.
 - Comb the braid and slide on the insulator bush until it butts against the dielectric of the cable.
 - Place the core of the cable into the centre contact so as to butt against the dielectric.
 - Engage the assembly into the positioner of the crimping tool and crimp according to instructions indicated on page 7-27.
- Engage the centre contact into the body and with reasonable force push home, check the dimensional position of the centre contact (pin or socket).
- Pull down the braid over the body and slide the ferrule on to the body up to the shoulder.
 - Engage the assembly into the positioner of the crimping tool, then crimp according to instructions indicated on page 7-27.



WIRING INSTRUCTIONS

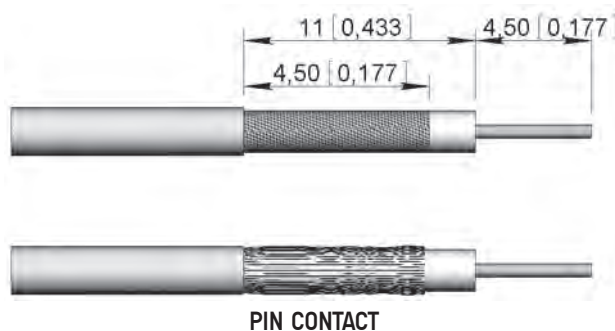
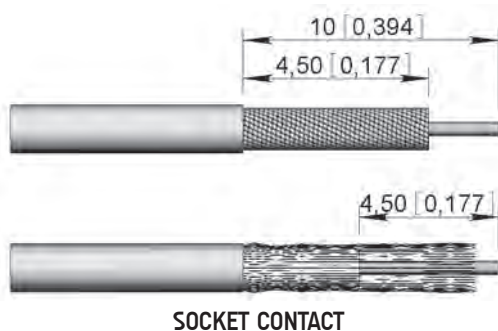
COAXIAL CONTACTS

CABLING INSTRUCTIONS D

CONTACT REF: 690040
690140

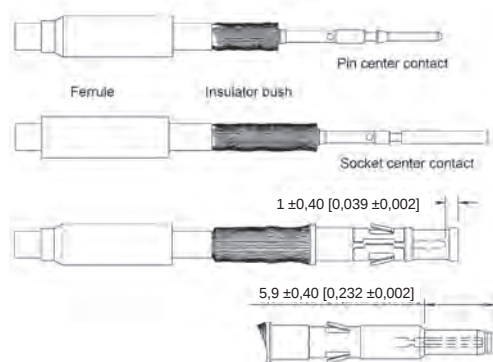


1 - WIRE STRIPPING



2 - WIRING INSTRUCTIONS

- Slide the ferrule over the coaxial cable.
- Following the type of contact, strip the 2 conductors to dimensions shown above.
- Place the core of the cable into the centre contact so as to butt against the dielectric.
- Engage the assembly into the positioner of the crimping tool, then crimp according to instructions indicated on page 7-27.
- Engage the centre contact into the body and with reasonable force push home, check the dimensional position of the centre contact (pin or socket).
- Pull down the braid over the body and slide ferrule over braid up to the body shoulder.
- Engage the assembly into the positioner of the crimping tool, then crimp according to instructions given on page 7-27.



Crimp tools

282281 – M22520/2-01

282291 – M22520/1-01

282292 – M22520/4-01



Positioners

282973 – M22520/4-02

282976 – Daniels TP616

282975 – Daniles TP617

282981 – M22520/2-04



Insertion tool

282502

282921 – wire wrap



Extraction tool

282501

282917

282920



This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

[illegible]

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.



AEROSpace



AUTOMOTIVE



DEFENSE



INDUSTRIAL



INSTRUMENTATION



MEDICAL



SPACE



TELECOM

EUROPE

France - RADIALL SA

101, Rue Ph. Hoffmann
93116 ROSNY sous BOIS (Paris)
Tel.: +33 1 49 35 35 35 - Fax: +33 1 48 54 63 63
E-Mail: info@radiall.com

Finland - RADIALL SF

P.O. Box 202 - 90101 OULU
Tel.: +358 407 522 412
E-Mail: infofi@radiall.com

Germany - RADIALL GmbH

Carl-Zeiss Str. 10 Postfach 200143
D63307 - RÖDERMARK (Frankfurt)
Tel.: +49 60 74 91 07 0 - Fax: +49 60 74 91 07 70
E-Mail: infode@radiall.com

Italy - RADIALL Elettronica S.R.L.

Via Concordia, 5 - 20090 ASSAGO MILANO
Tel.: +39 02 48 85 121 - Fax: +39 02 48 84 30 18
E-Mail: infoit@radiall.com
Regional office: Roma

Netherlands - RADIALL B.V.

Hogebrinkerweg 15b - 3871 KM HOEVELAKEN
Tel.: +31 33 253 40 09 - Fax: +31 33 253 45 12
E-Mail: infofl@radiall.com

Sweden - RADIALL A.B.

Sjöängsvägen 2 - SE-192 72 SOLLENTUNA (Stockholm)
Tel.: +46 844 434 10 - Fax: +46 875 449 16
E-Mail: infose@radiall.com

U.K. - RADIALL Ltd

Ground Floor, 6 The Grand Union Office Park,
Packet Boat Lane
UXBRIDGE Middlesex UB8 2GH (London)
Tel.: +44 1895 425 000 - Fax: +44 1895 425 010
E-Mail: infouk@radiall.com

NORTH AMERICA

USA - RADIALL USA, Inc.

8950 South 52nd Street, Suite 401
Tempe, Arizona 85284
Tel.: +1 480 682 9400 - Fax: +1 480 682 9403
E-Mail: infousa@radiall.com

ALSO REPRESENTED IN

Australia	Hungary	Poland
Austria	Indonesia	Russia
Belgium	Israel	Singapore
Brazil	Korea	Spain
Czech	Latvia	Switzerland
Republic	Lithuania	Taiwan
Denmark	Malaysia	Thailand
Estonia	Norway	Vietnam
Greece	Philippines	South Africa

For the above countries, please contact the local agent or RADIALL at info@radiall.com

ASIA

China - SHANGHAI RADIALL Electronic Co., Ltd

N° 390 Yong He Road 200072 - SHANGHAI
Tel.: +86 21 66 52 37 88 - Fax: +86 21 66 52 11 77
E-Mail: infosh@radiall.com

Japan - NIHON RADIALL

Shibuya-ku Ebisu 1-5-2, Kougetsu Bldg 405
TOKYO 150-0013
Tel.: +81 3 3440 6241 - Fax: +81 3 3440 6242
E-Mail: infojp@radiall.com

HongKong - RADIALL Electronics Ltd

Flat D, 6/F, Ford Glory Plaza,
37-39 Wing Hong Street
Cheung Sha Wan
KOWLOON HONG KONG
Tel: +852-2959-3833 - Fax: +852-2959-2636
E-Mail: infohk@radiall.com

RADIALL India private limites

25 D, II Phase, Peenya Industrial Area
BANGALORE 560058
Tel.: +91 80 83 95 271 - Fax: +91 80 83 97 228
E-Mail: infoin@radiall.com



D7P001CE

