

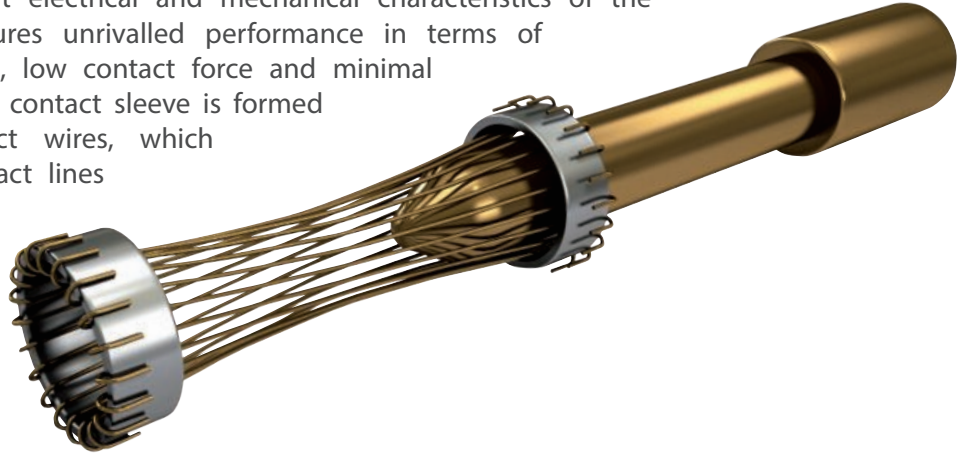
# LR Series

Standard & EN45545 Modular Connectors



# Hypertac<sup>®</sup> Hyperboloid Technology

Smiths Interconnect offers an extensive range of superior contact technologies suitable for standard and custom solutions. Hypertac<sup>®</sup> (HYPERboloid conTACT) is the original superior performing hyperboloid contact technology designed for use in all applications and in harsh and demanding environments where high reliability and safety are critical. The inherent electrical and mechanical characteristics of the Hypertac hyperboloid contact ensures unrivalled performance in terms of reliability, number of mating cycles, low contact force and minimal contact resistance. The shape of the contact sleeve is formed by hyperbolically arranged contact wires, which align themselves elastically as contact lines around the pin, providing a number of linear contact paths.



## Features

## Benefits

### Low insertion/extraction forces

The angle of the socket wires allows tight control of the pin insertion and extraction forces. The spring wires are smoothly deflected to make line contact with the pin.

### High density interconnect systems

Significant reductions in size and weight of sub-system designs. No additional hardware is required to overcome mating and unmating forces.

### Long contact life

The smooth and light wiping action minimizes wear on the contact surfaces. Contacts perform up to 100,000 insertion/extraction cycles with minimal degradation in performance.

### Low cost of ownership

The Hypertac contact technology will surpass most product requirements, thus eliminating the burden and cost of having to replace the connector or the entire subsystem.

### Lower contact resistance

The design provides a far greater contact area and the wiping action of the wires insures a clean and polished contact surface. Our contact technology has about half the resistance of conventional contact designs.

### Low power consumption

The lower contact resistance of our technology results in a lower voltage drop across the connector reducing the power consumption and heat generation within the system.

### Higher current ratings

The design parameters of the contact (e.g., the number, diameter and angle of the wires) may be modified for any requirement. The number of wires can be increased so the contact area is distributed over a larger surface. Thus, the high current carried by each wire because of its intimate line contact, can be multiplied many times.

### Maximum contact performance

The lower contact resistance of the Hypertac contact reduces heat build-up; therefore Hypertac contacts are able to handle far greater current in smaller contact assemblies without the detrimental effects of high temperature.

### Immunity to shock & vibration

The low mass and resultant low inertia of the wires enable them to follow the most abrupt or extreme excursions of the pin without loss of contact. The contact area extends 360° around the pin and is uniform over its entire length. The 3 dimensional symmetry of the Hypertac contact design guarantees electrical continuity in all circumstances.

### Reliability under harsh environments

Harsh environmental conditions require connectors that will sustain their electrical integrity even under the most demanding conditions such as shock and vibration. The Hypertac contact provides unmatched stability in demanding environments when failure is not an option.

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## Modules

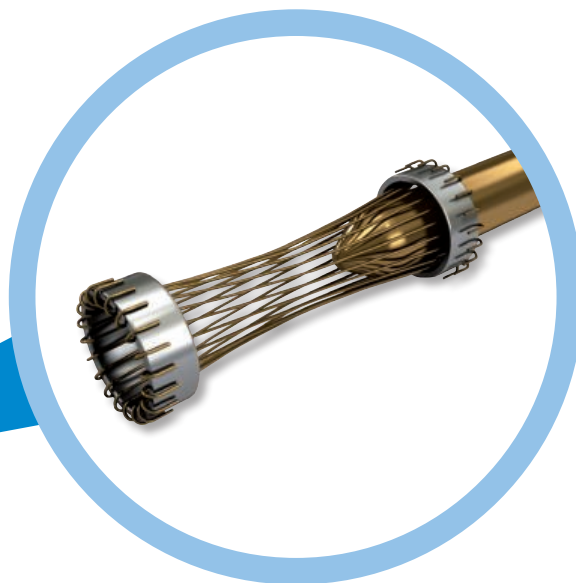
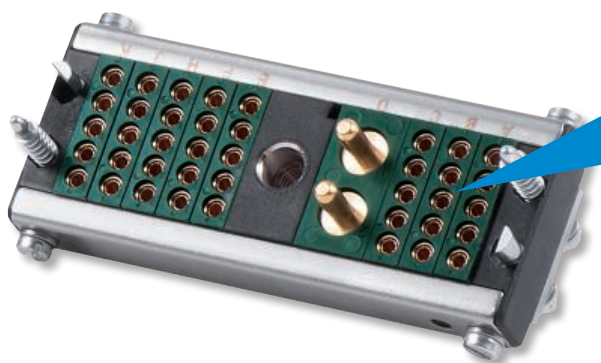
Type "LW" element (Ø0.60 removable contacts-clip).....	22
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Type "B" and "RB" element (Ø2.50 contacts).....	32
Type "W" and "RW" element (Ø2.50 removable contacts-cloc).....	33
Type "C", "RC" and "M" element (Ø3.50 contacts).....	34
Type "Z" and "RZ" element (Ø3.50 removable contacts-cloc).....	35
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Type "PN" (Pneumatic*).....	46
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# LR Series Connectors

- Variety of combination in a single connector frame
- Low insertion and extraction forces
- Full range of accessories
- Modules' temperature range from -55°C to +125°C
- Materials RoHS & REACH compliant
- Configurations compliant to EN45545



References of technical characteristics vs. EN 45545

Series	Part	Element	R22 & R23	R26	Weight gr	Material
V	Plastic Shell	-	HL3	HL3	-	PA 66: LATAMID_66_H2_G-25-V0CT4
-	Module	A	HL1	HL3	1,7	DAP_RX3-1-525-FRP
-	Module	B	HL1	HL3	2,5	DAP_RX3-1-525-FRP
-	Module	C	HL1	HL3	3,8	DAP_RX3-1-525-FRP
-	Module	D	HL1	HL3	3,3	DAP_RX3-1-525-FRP
-	Module	O	HL3	HL3	6	PA: LATAMID_66_H2_G-50-V0HF1
-	Module	T	HL1	HL3	2,4	DAP_RX3-1-525-FRP
-	Module	X	HL1	HL3	1,2	Technyl A20
-	Module	W	HL1	HL3	1,7	Technyl A20
-	Module	Z	HL1	HL3	3,5	Technyl A20
-	Module	RA	HL3	HL3	1,7	VYNCOLIT X611
-	Module	RB	HL3	HL3	2,5	VYNCOLIT X611
-	Module	RC	HL3	HL3	3,8	VYNCOLIT X611
-	Module	RD	HL3	HL3	3,3	VYNCOLIT X611
-	Module	RG	HL3	HL3	2,9	VYNCOLIT X611
-	Module	RI	HL3	HL3	9/14	PA: LATAMID_66_H2_G-50-V0HF1
-	Module	RK	HL3	HL3	6	VYNCOLIT X611
-	Module	RO	HL3	HL3	6	PA: LATAMID_66_H2_G-50-V0HF1
-	Module	RQ	HL3	HL3	2,1	VYNCOLIT X611
-	Module	RT	HL3	HL3	2,4	VYNCOLIT X611
-	Module	RX	HL3*	HL3	1,2	PC; LEXAN 943
-	Module	RW	HL3*	HL3	1,7	PC; LEXAN 943
-	Module	RZ	HL3*	HL3	3,5	PC; LEXAN 943

\* HL3 vs. R23 & HL2 vs. R22

# LR Modular Series



LR connectors are modular rugged connectors that include coax and high current contacts up to 200 amps. The LR series is used in high demanding applications where the environment requires durability, ruggedization and extended operating life and employs a do-it-yourself system based on the building block principle.

They offer a wide variety of combinations available in standard and compliant to EN45545 requirements versions. Thus, the user is capable of selecting the connector that fulfils the exact requirements with off-the-shelf components.

One of the many advantages of the Hypertac hyperboloid contact used is its low extraction and insertion forces. In this application it enables the user to assemble large numbers of contacts into a connector which is still able to mate and unmate smoothly and easily.

The system is composed of two basic elements: the modules and the frames.

### Modules

The modules are the connector elements of the system. Modules named with initial "R" are compliant to EN45545 requirements. Various types of contacts are available, such as signal, power, coaxial, high voltage, etc. These contacts are mounted in small plastic blocks. Crimp contacts are also available in plastic blocks that can be mounted individually or together into the frame. The width of each module block is designated in units.

The modules have fixed contacts with			
2	contacts	@ 50 amps	(type M)
2	contacts	@ 25 amps	(type C and RC)
2	contacts	shielded	(type E)
2	contacts	high voltage	(type H)
2	contacts	@ 200 amps	(type I and RI)
2	contacts	fibre optic	(type Y and RY)
3	contacts	@ 15 amps	(type B and RB)
4	contacts	@ 15 amps	(type N)
5	contacts	@ 8 amps	(type A and RA)
9	contacts	@ 5 amps	(type Q and RQ)
9	contacts	@ 8 amps	(type G and RG)
17	contacts	@ 5 amps	(type D and RD)

Coaxial contacts		
2	contacts	(type J)
2	contacts	(type K and RK)
3	contacts	(type L)

Removable contacts			
2	contacts	@ 25 or 50 amps	(type Z and RZ)
3	contacts	@ 15 amps	(type W and RW)
5	contacts	@ 8 amps	(type T and RT)
5	contacts	@ 8 amps	(type X and RX)
17	contacts	@ 8 amps	(type O and RO)
30	contacts	@ 3 amps	(type LW)

### Frames

Frames range from a basic design consisting of 2 side rails and 2 end caps to more complex versions with jack screws, hoods, cable clamps, etc.

All frames are available in numerous lengths to conform to almost any combination of modules and compliant to EN45545 requirements. With the modular Series, specially designed connectors can be purchased quickly and inexpensively, eliminating the extra cost and delay of custom tooling.

# How To Order



## "A", "B", and "H" series

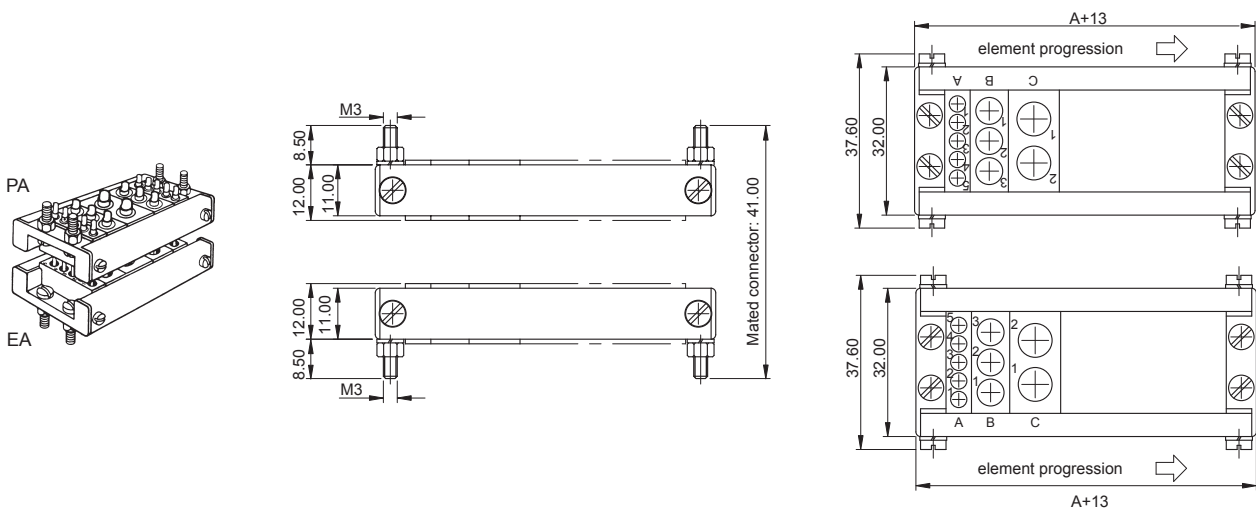


1 Connector type	<b>P</b> Plug <b>E</b> Receptacle
2 Series	<b>A</b> <b>B</b> <b>H</b>
3 Contacts surface treatment <i>(see page 20)</i>	<b>T</b> Gold standard <b>H</b> Gold as per MIL-DTL-55302
4 Element progression <i>(see page 21÷42)</i>	

ex.: PAT/3Am-2Dm  
 (A Series plug with 3 elements type Am, two elements type Dm, surface treatment T)

## "A" series

### A series plug connector



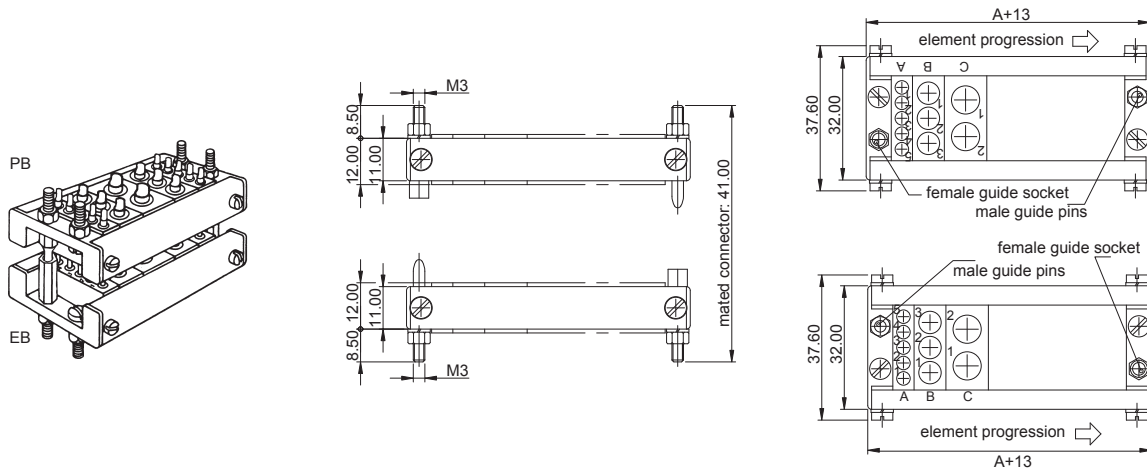
### A series receptacle connector

Dimensions are in mm  
 Consult factory for spare parts ordering codes.

## "B" series

Application: Rack and Panel with guiding hardware

### B series plug connector

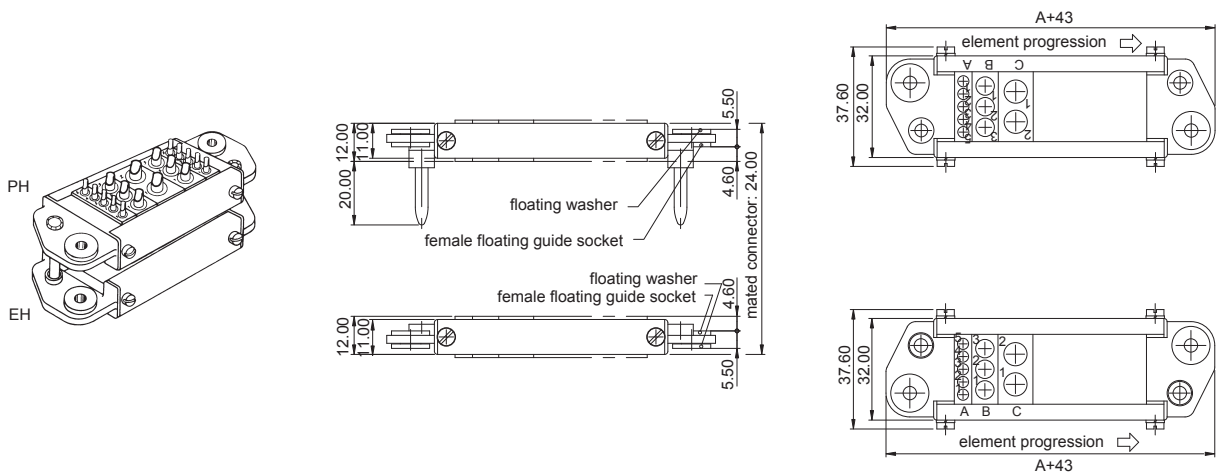


### B series receptacle connector

## "H" series

Application: Rack and Panel with guiding floating hardware

### H series plug connector



### H series receptacle connector

# How To Order



## "J" series



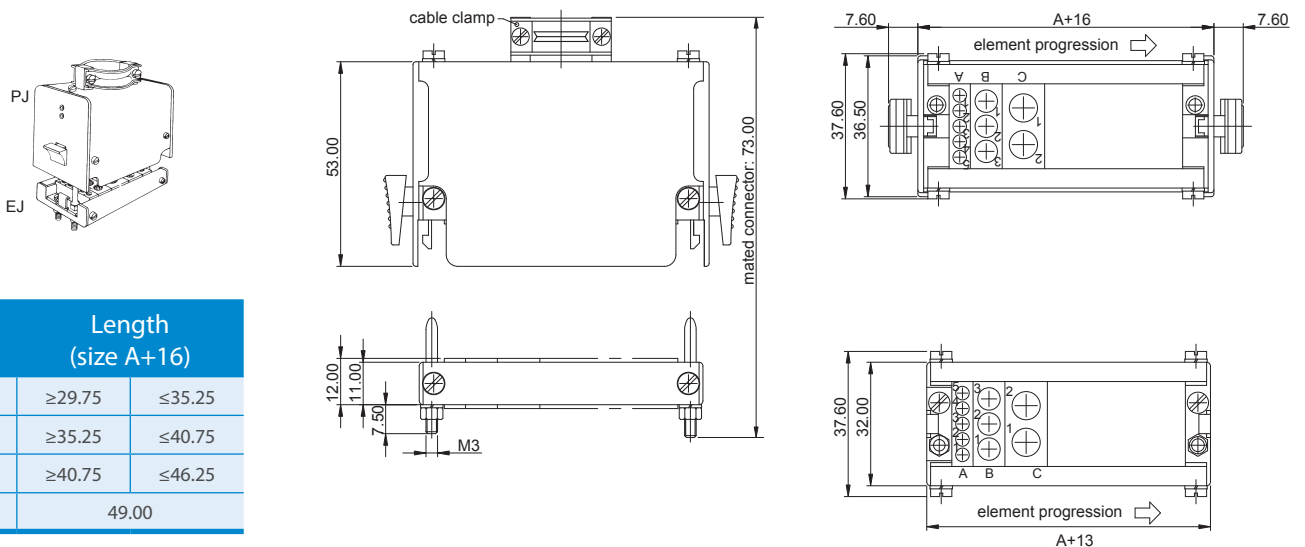
1 Connector type	<b>P</b> Plug <b>E</b> Receptacle				
2 Series					
3 Contacts surface treatment <i>(see page 20)</i>	<b>T</b> Gold standard <b>H</b> Gold as per MIL-DTL-55302				
4 Element progression <i>(see page 21÷42)</i>					
5 Cable clamp <i>(only for plug connector)</i>	<table border="0"> <tr> <td><b>1 0</b> Circular cable clamp Ø10</td> <td><b>1 5</b> Circular cable clamp Ø15</td> </tr> <tr> <td><b>2 0</b> Circular cable clamp Ø20</td> <td><b>2 4</b> Circular cable clamp Ø24</td> </tr> </table>	<b>1 0</b> Circular cable clamp Ø10	<b>1 5</b> Circular cable clamp Ø15	<b>2 0</b> Circular cable clamp Ø20	<b>2 4</b> Circular cable clamp Ø24
<b>1 0</b> Circular cable clamp Ø10	<b>1 5</b> Circular cable clamp Ø15				
<b>2 0</b> Circular cable clamp Ø20	<b>2 4</b> Circular cable clamp Ø24				

ex.: PJT/3Am-2Dm/10  
 (J Series plug with 3 elements type Am, two elements type Dm, circular cable clamp Ø10, surface treatment T)

## "J" series

Application: Cable interface top entry, quick disconnect device

### J series plug connector



Cable clamp	Length (size A+16)	
Ø10	≥29.75	≤35.25
Ø15	≥35.25	≤40.75
Ø20	≥40.75	≤46.25
Ø24	49.00	

### J series receptacle connector

Dimensions are in mm  
 Consult factory for spare parts ordering codes.



# How To Order



## "K" series



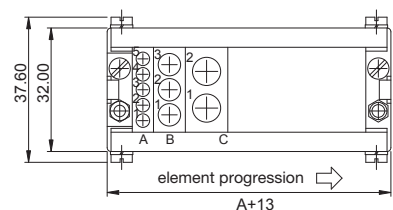
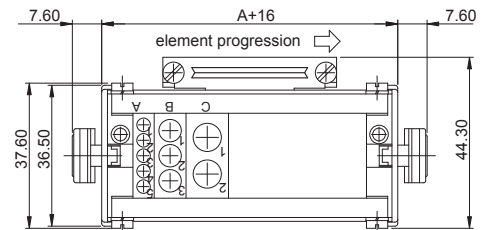
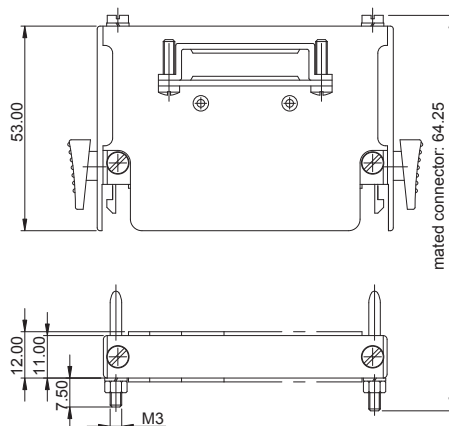
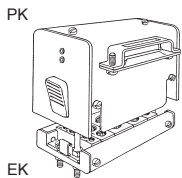
1 Connector type	<b>P</b> Plug <b>E</b> Receptacle				
2 Series					
3 Contacts surface treatment <i>(see page 20)</i>	<b>T</b> Gold standard <b>H</b> Gold as per MIL-DTL-55302				
4 Element progression <i>(see page 21÷42)</i>					
5 Cable clamp <i>(only for plug connector)</i>	<table border="0"> <tr> <td><b>1 3 3</b> Rectangular cable clamp 9x33</td> <td><b>1 5 0</b> Rectangular cable clamp 9x50</td> </tr> <tr> <td><b>1 0 0</b> Rectangular cable clamp 13.5x33</td> <td><b>1 0 1</b> Rectangular cable clamp 13.5x50</td> </tr> </table>	<b>1 3 3</b> Rectangular cable clamp 9x33	<b>1 5 0</b> Rectangular cable clamp 9x50	<b>1 0 0</b> Rectangular cable clamp 13.5x33	<b>1 0 1</b> Rectangular cable clamp 13.5x50
<b>1 3 3</b> Rectangular cable clamp 9x33	<b>1 5 0</b> Rectangular cable clamp 9x50				
<b>1 0 0</b> Rectangular cable clamp 13.5x33	<b>1 0 1</b> Rectangular cable clamp 13.5x50				

ex.: PKT/3Am-2Dm/10  
 (J Series plug with 3 elements type Am, two elements type Dm, regular cable clamp 9x33, surface treatment T)

## "K" series

Application: Cable interface side entry, quick disconnect device

### K series plug connector



### K series receptacle connector

Cable clamp	Minimum length (size A+16)
133	49.00
100	
150	65.20
100	

Dimensions are in mm  
 Consult factory for spare parts ordering codes.

# How To Order



## "JS" series



1



2



3



4



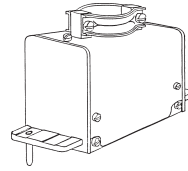
5

1 Connector type	<input type="checkbox"/> P Plug <input type="checkbox"/> E Receptacle
2 Series	
3 Contacts surface treatment <i>(see page 20)</i>	<input type="checkbox"/> T Gold standard <input type="checkbox"/> H Gold as per MIL-DTL-55302
4 Element progression <i>(see page 21÷42)</i>	
5 Cable clamp <i>(only for plug connector)</i>	<input type="checkbox"/> 1 0 Circular cable clamp Ø10 <input type="checkbox"/> 1 5 Circular cable clamp Ø15 <input type="checkbox"/> 2 0 Circular cable clamp Ø20 <input type="checkbox"/> 2 4 Circular cable clamp Ø24

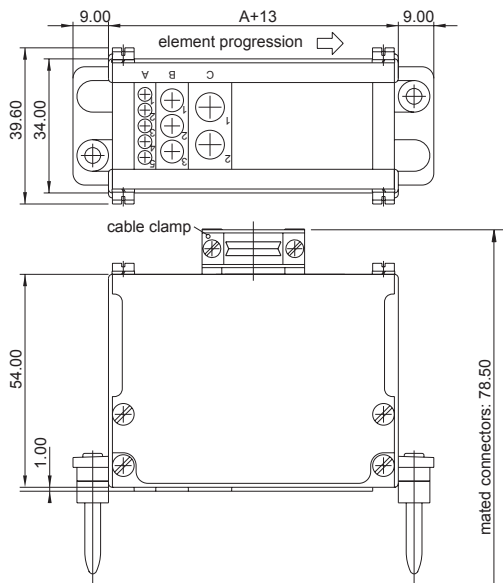
ex.: PJST/3Am-2Dm/10  
(J Series plug with 3 elements type Am, two elements type Dm, circular cable clamp ø10, surface treatment T)

# "JS" series

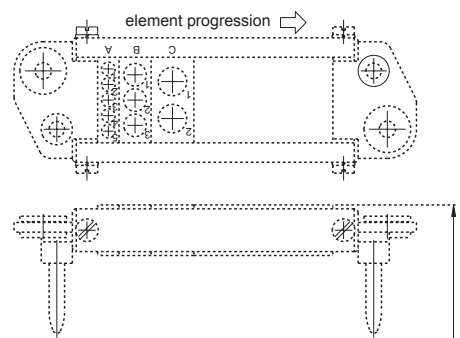
Application: Cable interface on H series



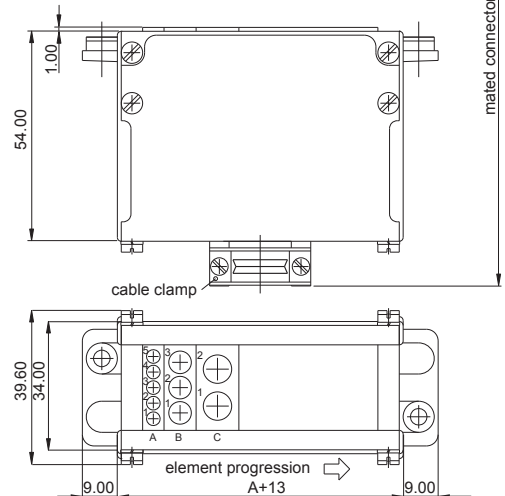
## JS series plug connector



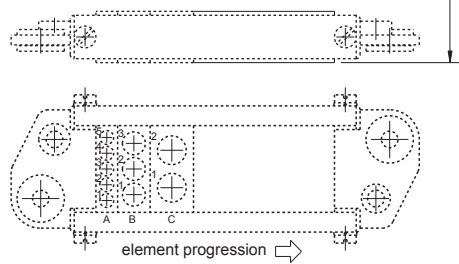
## H series plug connector



## JS series receptacle connector



## H series receptacle connector



Cable clamp	Minimum length (size A+13)
Ø10	35.00
Ø15	40.50
Ø20	46.00
Ø24	48.75

Cable clamp	Minimum length (size A+13)
Ø10	35.00
Ø15	40.50
Ø20	46.00
Ø24	48.75

# How To Order



## "BV" series



1

B V

2



3



4



5



6

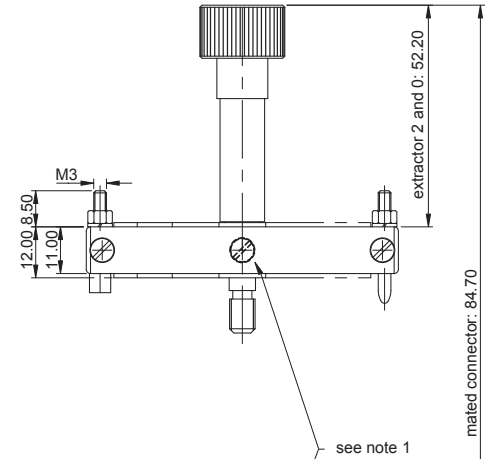
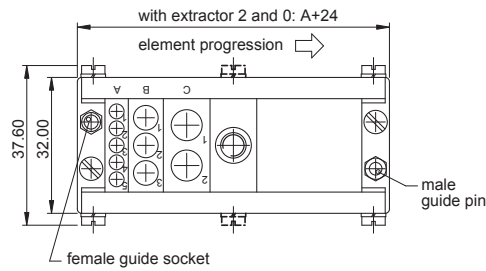
1 Connector type	<input type="checkbox"/> P Plug <input type="checkbox"/> E Receptacle
2 Series	
3 Contacts surface treatment <i>(see page 20)</i>	<input type="checkbox"/> T Gold standard <input type="checkbox"/> H Gold as per MIL-DTL-55302
4 Element progression before screw extractor <i>(see page 21÷42)</i>	
5 Extractor <i>(see pages 43 and 44)</i>	<input type="checkbox"/> 2 Type 2: standard (2 steps) <input type="checkbox"/> 0 Type 0: special (2 steps)
6 Element progression after screw extractor <i>(see pages 21÷42)</i>	

ex.: PBVT/3Am-2-3Am  
(BV Series plug with 3 elements type Am, Type 2 extractor, 3 elements type Am, contact surface treatment T)

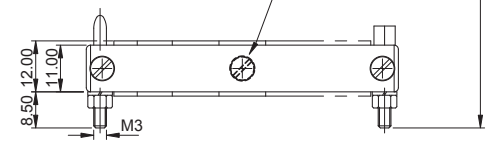
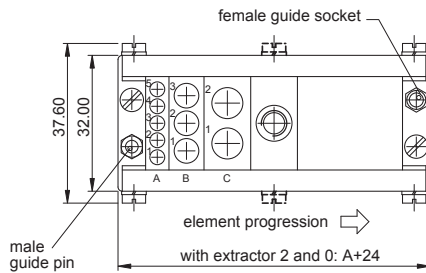
# "BV" series

Application: Cable interface, without shell, screw locking device

## BV series plug connector



## BV series receptacle connector



### Notes:

- 1) Type 2 and 0 extractor: Length (size A+24) < 101 mm without extractor holding screws; > 103.75 mm with screws. To simplify the drawing only type 2 extractor has been shown.

# How To Order



## "JV" series



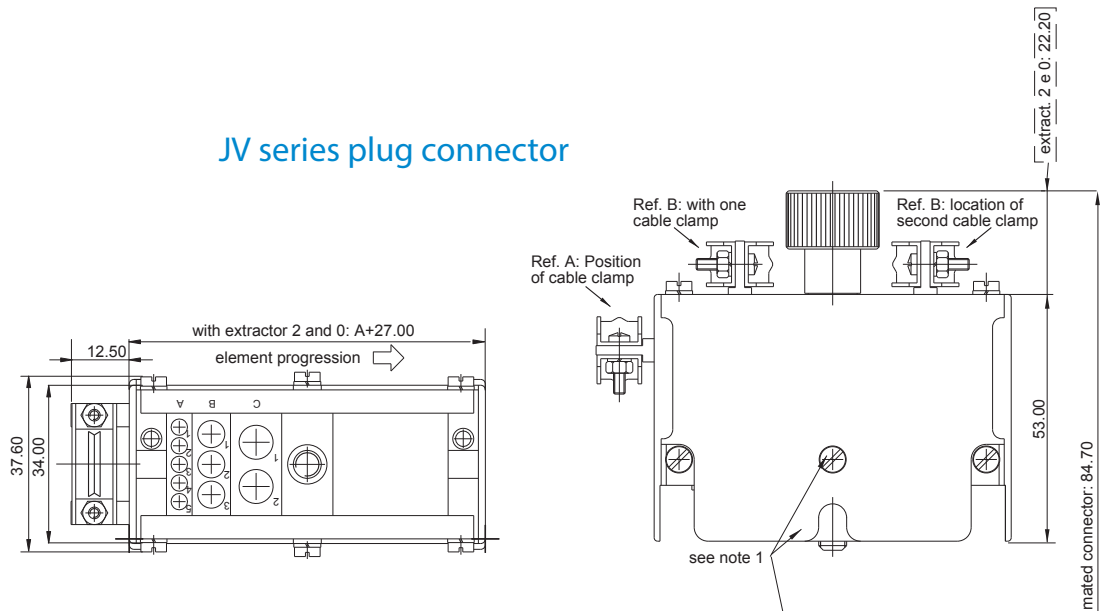
1 Connector type	<b>P</b> Plug <b>E</b> Receptacle									
2 Series										
3 Contacts surface treatment <i>(see page 20)</i>	<b>T</b> Gold standard <b>H</b> Gold as per MIL-DTL-55302									
4 Element progression before screw extractor <i>(see page 21÷42)</i>										
5 Extractor <i>(see pages 43 and 44)</i>	<b>2</b> Type 2: standard (2 steps) <b>0</b> Type 0: special (2 steps)									
6 Element progression after screw extractor <i>(see page 21÷42)</i>										
7 Position of cable clamp <i>(only for plug)</i>	<b>A</b> Cable clamp on side <b>B</b> Cable clamp/s on cover									
8 Quantity and diameter of cable clamp <i>(only for plug)</i>	<table border="0"> <tr> <td><b>1 1 0</b> No. 1 cable clamp Ø10</td> <td><b>2 1 0</b> No. 2 cable clamp Ø10</td> <td rowspan="4">} <i>(only for plug)</i></td> </tr> <tr> <td><b>1 1 5</b> No. 1 cable clamp Ø15</td> <td><b>2 1 5</b> No. 2 cable clamp Ø15</td> </tr> <tr> <td><b>1 2 0</b> No. 1 cable clamp Ø20</td> <td><b>2 2 0</b> No. 2 cable clamp Ø20</td> </tr> <tr> <td><b>1 2 4</b> No. 1 cable clamp Ø24</td> <td><b>2 2 4</b> No. 2 cable clamp Ø24</td> </tr> </table>	<b>1 1 0</b> No. 1 cable clamp Ø10	<b>2 1 0</b> No. 2 cable clamp Ø10	} <i>(only for plug)</i>	<b>1 1 5</b> No. 1 cable clamp Ø15	<b>2 1 5</b> No. 2 cable clamp Ø15	<b>1 2 0</b> No. 1 cable clamp Ø20	<b>2 2 0</b> No. 2 cable clamp Ø20	<b>1 2 4</b> No. 1 cable clamp Ø24	<b>2 2 4</b> No. 2 cable clamp Ø24
<b>1 1 0</b> No. 1 cable clamp Ø10	<b>2 1 0</b> No. 2 cable clamp Ø10	} <i>(only for plug)</i>								
<b>1 1 5</b> No. 1 cable clamp Ø15	<b>2 1 5</b> No. 2 cable clamp Ø15									
<b>1 2 0</b> No. 1 cable clamp Ø20	<b>2 2 0</b> No. 2 cable clamp Ø20									
<b>1 2 4</b> No. 1 cable clamp Ø24	<b>2 2 4</b> No. 2 cable clamp Ø24									

ex.: PJVT/3Am-2-3Am/B215  
 (JV Series plug with 3 elements type Am, type 2 extractor, 3 elements type Am, two cable clamps Ø15 on cover, contact surface treatment T)

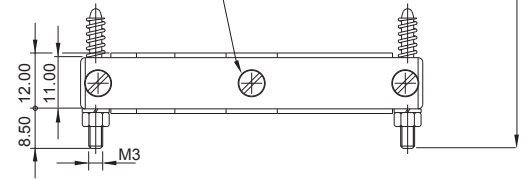
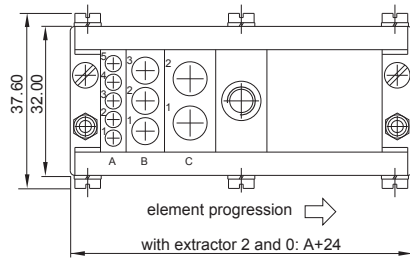
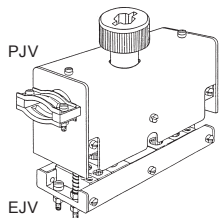
# "JV" series

Application: Cable interface with side and top clamps

## JV series plug connector



## JV series receptacle connector



**Notes:**

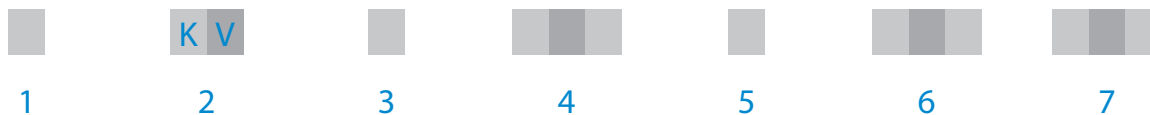
- 1) Type 2 and 0 extractors: Length (size A+27) <104 mm without extractor holding screws and eyelets on cover; >106.75 mm with screws and eyelets on cover.  
To simplify the drawing only type 2 extractor has been shown.

Cable clamp	Minimum length (A+27.00/A+32.50)	
	(A+27.00)	(A+32.50)
Ø10	76.50	82.00
Ø15	87.50	93.00
Ø20	98.50	104.00
Ø24	104.00	109.50

# How To Order



## "KV" series



1 Connector type	<input type="checkbox"/> P Plug <input type="checkbox"/> E Receptacle																
2 Series																	
3 Contacts surface treatment <i>(see page 20)</i>	<input type="checkbox"/> T Gold standard <input type="checkbox"/> H Gold as per MIL-DTL-55302																
4 Element progression before screw extractor <i>(see page 21÷42)</i>																	
5 Extractor <i>(see pages 43 and 44)</i>	<input type="checkbox"/> 2 Type 2: standard (2 steps) <input type="checkbox"/> 0 Type 0: special (2 steps)																
6 Element progression after screw extractor <i>(see page 21÷42)</i>																	
7 Quantity and dimensions of rectangular cable clamp <i>(only for plug)</i>	<table border="0"> <tr> <td><input type="checkbox"/> 1 <input type="checkbox"/> 3 <input type="checkbox"/> 3</td> <td>No. 1 cable clamp 9x33</td> <td><input type="checkbox"/> 1 <input type="checkbox"/> 0 <input type="checkbox"/> 0</td> <td>No. 1 cable clamp 13.50x33</td> </tr> <tr> <td><input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 0</td> <td>No. 1 cable clamp 9x50</td> <td><input type="checkbox"/> 1 <input type="checkbox"/> 0 <input type="checkbox"/> 1</td> <td>No. 1 cable clamp 13.50x50</td> </tr> <tr> <td><input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 3</td> <td>No. 2 cable clamp 9x33</td> <td><input type="checkbox"/> 2 <input type="checkbox"/> 0 <input type="checkbox"/> 0</td> <td>No. 2 cable clamp 13.50x33</td> </tr> <tr> <td><input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 0</td> <td>No. 2 cable clamp 9x50</td> <td><input type="checkbox"/> 2 <input type="checkbox"/> 0 <input type="checkbox"/> 1</td> <td>No. 2 cable clamp 13.50x50</td> </tr> </table>	<input type="checkbox"/> 1 <input type="checkbox"/> 3 <input type="checkbox"/> 3	No. 1 cable clamp 9x33	<input type="checkbox"/> 1 <input type="checkbox"/> 0 <input type="checkbox"/> 0	No. 1 cable clamp 13.50x33	<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 0	No. 1 cable clamp 9x50	<input type="checkbox"/> 1 <input type="checkbox"/> 0 <input type="checkbox"/> 1	No. 1 cable clamp 13.50x50	<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 3	No. 2 cable clamp 9x33	<input type="checkbox"/> 2 <input type="checkbox"/> 0 <input type="checkbox"/> 0	No. 2 cable clamp 13.50x33	<input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 0	No. 2 cable clamp 9x50	<input type="checkbox"/> 2 <input type="checkbox"/> 0 <input type="checkbox"/> 1	No. 2 cable clamp 13.50x50
<input type="checkbox"/> 1 <input type="checkbox"/> 3 <input type="checkbox"/> 3	No. 1 cable clamp 9x33	<input type="checkbox"/> 1 <input type="checkbox"/> 0 <input type="checkbox"/> 0	No. 1 cable clamp 13.50x33														
<input type="checkbox"/> 1 <input type="checkbox"/> 5 <input type="checkbox"/> 0	No. 1 cable clamp 9x50	<input type="checkbox"/> 1 <input type="checkbox"/> 0 <input type="checkbox"/> 1	No. 1 cable clamp 13.50x50														
<input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 3	No. 2 cable clamp 9x33	<input type="checkbox"/> 2 <input type="checkbox"/> 0 <input type="checkbox"/> 0	No. 2 cable clamp 13.50x33														
<input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 0	No. 2 cable clamp 9x50	<input type="checkbox"/> 2 <input type="checkbox"/> 0 <input type="checkbox"/> 1	No. 2 cable clamp 13.50x50														

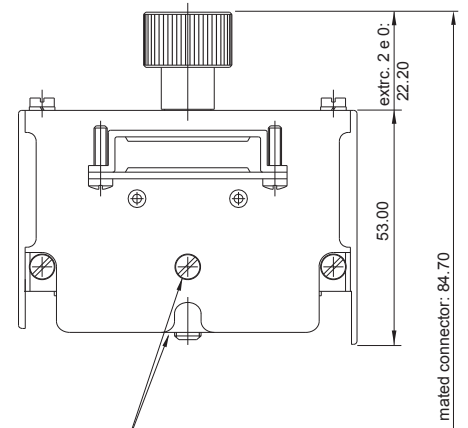
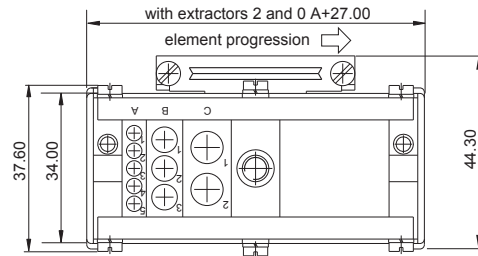
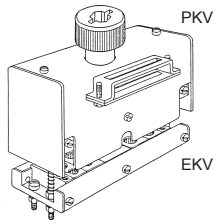
ex.: PKVT/3Am-2-3Am/250  
 (JV Series plug with 3 elements type Am, type 2 extractor, 3 elements type Am, two rectangular cable clamps 9x50, contact surface treatment T)



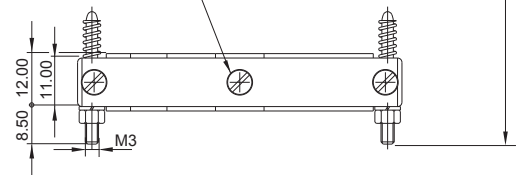
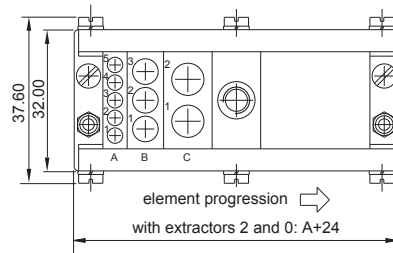
# “KV” series

Application: Cable interface with side clamp

## KV series plug connector



## KV series receptacle connector



**Notes:**

- 1) Type 2 and 0 extractors: Length (size A+27) <104 mm without extractor holding screws and eyelets on cover; > 103.75 mm with screws and eyelets on cover.  
To simplify the drawing only type 2 extractor has been shown.

Cable clamp	Minimum length (A+27.00/A+32.50)
133	49.00
100	
150	65.50
101	
233	95.75
200	
250	131.50
201	

# How To Order



## "V" series



1 Connector type	<b>P</b> Plug <b>E</b> Receptacle								
2 Series	<b>V 0</b> Without coding <b>V 1</b> With coding								
3 Contacts surface treatment <i>(see page 20)</i>	<b>T</b> Gold standard <b>H</b> Gold as per MIL-DTL-55302								
4 Element progression before screw extractor <i>(see page 21÷42)</i>									
5 Extractor <i>(see pages 43 and 44)</i>	<b>2</b> Type 2: standard (2 steps) <b>0</b> Type 0: special (2 steps)								
6 Element progression after screw extractor <i>(see page 21÷42)</i>									
7 Standard lengths <i>(sizes shown are those of covers)</i>	<table border="0"> <tr> <td><b>a</b> 5-2-5*</td> <td><b>b</b> 6-5-2-6.5*</td> <td><b>c</b> 7-2-6*</td> <td><b>d</b> 8-2-7*</td> </tr> <tr> <td><b>e</b> 9-2-9*</td> <td><b>f</b> 10-2-10*</td> <td><b>g</b> 8-2-8**</td> <td><b>h</b> 8-2-8***</td> </tr> </table> <p>* Progression <i>(in steps: 1 step = 5.50mm)</i> Extr. 2 or 0</p>	<b>a</b> 5-2-5*	<b>b</b> 6-5-2-6.5*	<b>c</b> 7-2-6*	<b>d</b> 8-2-7*	<b>e</b> 9-2-9*	<b>f</b> 10-2-10*	<b>g</b> 8-2-8**	<b>h</b> 8-2-8***
<b>a</b> 5-2-5*	<b>b</b> 6-5-2-6.5*	<b>c</b> 7-2-6*	<b>d</b> 8-2-7*						
<b>e</b> 9-2-9*	<b>f</b> 10-2-10*	<b>g</b> 8-2-8**	<b>h</b> 8-2-8***						
8 Quantity and size of cable clamp <i>(only for plug)</i>	<table border="0"> <tr> <td><b>1 0</b> No. 1 standard adjustable cable clamp</td> <td><b>2 0</b> No. 2 standard adjustable cable clamps</td> </tr> <tr> <td><b>1 1</b> No. 1 3/4" gas cable clamp</td> <td><b>2 1</b> No. 2 3/4" gas cable clamps</td> </tr> <tr> <td><b>1 2</b> No. 1 1" gas cable clamp</td> <td><b>2 2</b> No. 2 1" gas cable clamps</td> </tr> </table>	<b>1 0</b> No. 1 standard adjustable cable clamp	<b>2 0</b> No. 2 standard adjustable cable clamps	<b>1 1</b> No. 1 3/4" gas cable clamp	<b>2 1</b> No. 2 3/4" gas cable clamps	<b>1 2</b> No. 1 1" gas cable clamp	<b>2 2</b> No. 2 1" gas cable clamps		
<b>1 0</b> No. 1 standard adjustable cable clamp	<b>2 0</b> No. 2 standard adjustable cable clamps								
<b>1 1</b> No. 1 3/4" gas cable clamp	<b>2 1</b> No. 2 3/4" gas cable clamps								
<b>1 2</b> No. 1 1" gas cable clamp	<b>2 2</b> No. 2 1" gas cable clamps								
9 V1 series: coding	Leave blank if standard F6 coding is required								

ex.: PV1T/5Am-2-5Am/a10B4  
Series V1 plug receptacle (with coding), 5 elements type Am, type 2 extractor, 5 elements type Am, length a (84.20 mm.), one adjustable cable clamp, contact surface treatment T, B4 coding.

\* Plastic shell compliant to EN45545

\*\* 2 straight cable clamps

\*\*\* 2 45° cable clamps

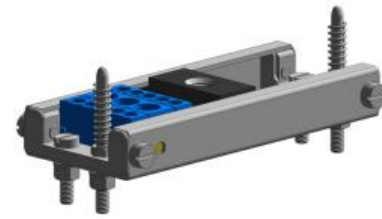
### Note

e, g, and h only can have 2 cable clamps (select 20, 21 and 22 only for line 8)

# “V” series – 1 cable clamp



V series 1 cable clamp plug connector

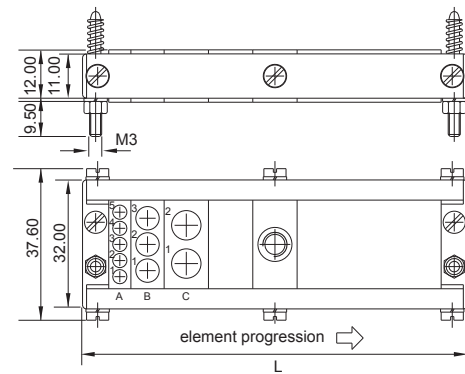
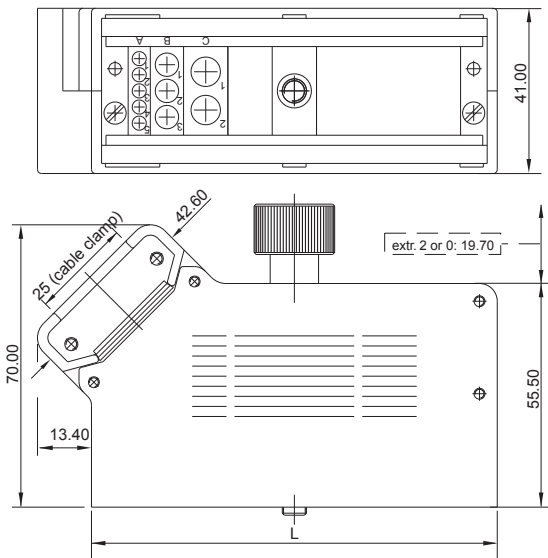


V0



V1

V series receptacle connector



**Notes:**

- 1) The progression is meant as number of steps (1 step= 5.50 mm)
- 2) Connectors with lengths “a-b-c” are supplied without screws or gloves for holding extractor
- 3) As an example, only connector length “b” with extractor type 2 is shown

**Notes:**

- 1) The progression is meant as number of steps (1 step= 5.50 mm)
- 2) Only type 2 extractor can be mounted.

## V series 1 cable clamp plug connector

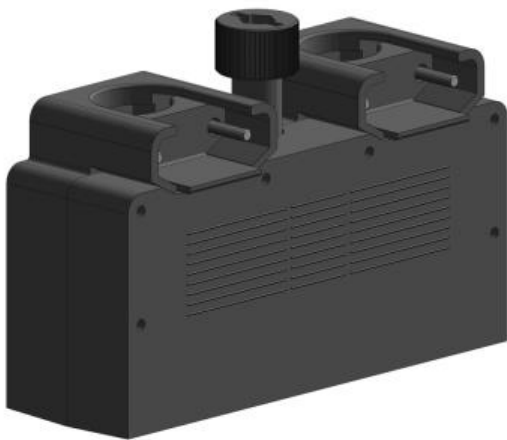
Length indication	Size L	Progression extr. 2 or 0
a	84.20	5-2-5
b	100.70	6.5-2-6.5
c	100.70	7-2-6
d	111.70	8-2-7
e	128.20	9-2-9
f	139.20	10-2-10

## V series receptacle connector

Length indication	Size L	Progression extr. 2 or 0
a	79.00	5-2-5
b	95.50	6.5-2-6.5
c	95.50	7-2-6
d	106.50	8-2-7
e	123.00	9-2-9
f	134.00	10-2-10

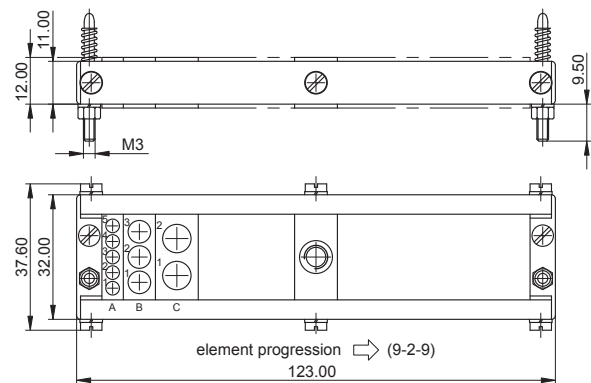
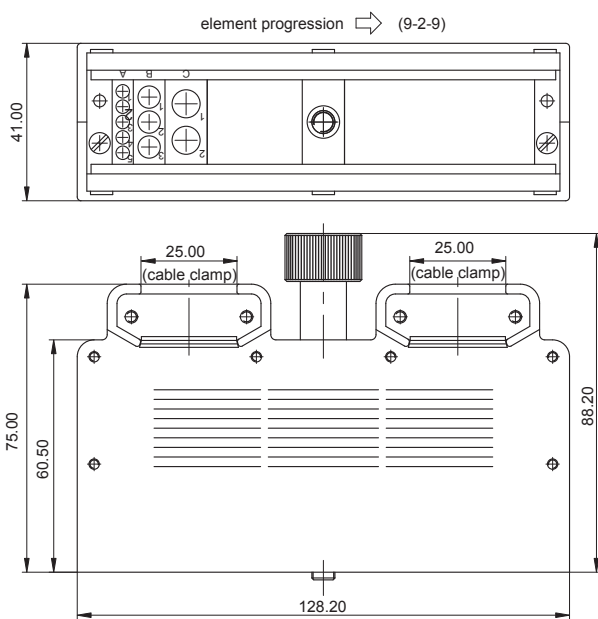
Dimensions are in mm  
Consult factory for spare parts ordering codes.

## "V" series – 2 cable clamps



V series 2 cable clamp plug connector

V series receptacle connector



**Notes:**

- 1) The progression is meant as number of steps (1 step= 5.50 mm)
- 2) Connectors with lengths "a-b-c" are supplied without screws or gloves for holding extractor
- 3) As an example, only connector length "b" with extractor type 2 is shown

**Notes:**

- 1) The progression is meant as number of steps (1 step= 5.50 mm)
- 2) Only type 2 extractor can be mounted.

V series 2 cable clamp plug connector

V series receptacle connector

Length indication	Size L	Progression extr. 2 or 0
e20	128.20	9-2-9
g20	117.20	8-2-8

Length indication	Size L	Progression extr. 2 or 0
e20	123.00	9-2-9
g20	112.00	8-2-8

Dimensions are in mm  
Consult factory for spare parts ordering codes.

# "V" series – 2 45° cable clamps



V series 2 45° cable clamp plug connector

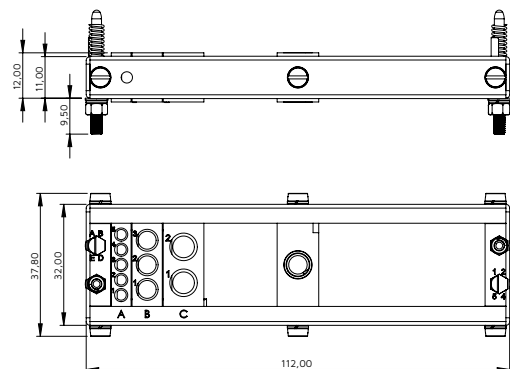
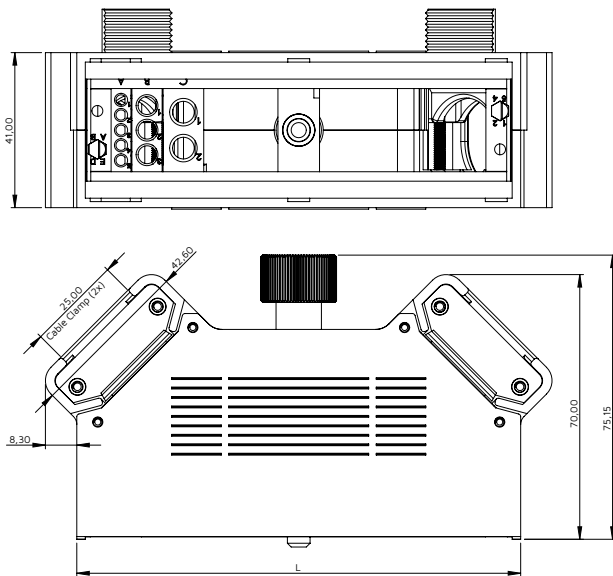


V0



V1

V series receptacle connector



**Notes:**

- 1) The progression is meant as number of steps (1 step= 5.50 mm)
- 2) Connectors with lengths "a-b-c" are supplied without screws or gloves for holding extractor
- 3) As an example, only connector length "b" with extractor type 2 is shown

## V series 2 45° cable clamp plug connector

Length indication	Size L	Progression extr. 2 or 0
h20	117.20	8-2-8

**Notes:**

- 1) The progression is meant as number of steps (1 step= 5.50 mm)
- 2) Only type 2 extractor can be mounted.

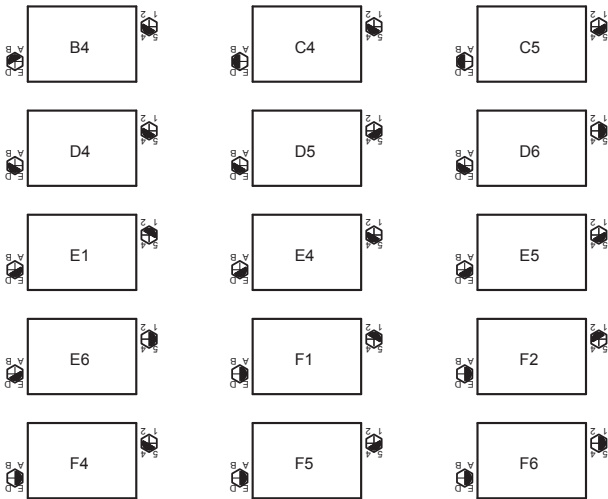
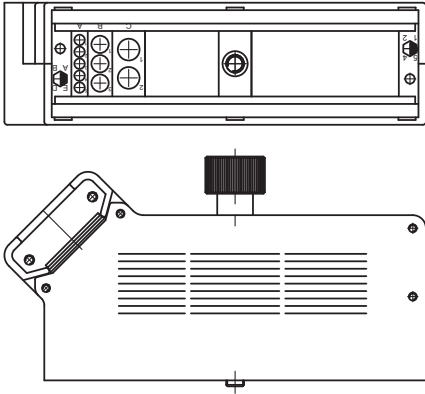
## V series receptacle connector

Length indication	Size L	Progression extr. 2 or 0
h20	112	8-2-8

Dimensions are in mm  
Consult factory for spare parts ordering codes.

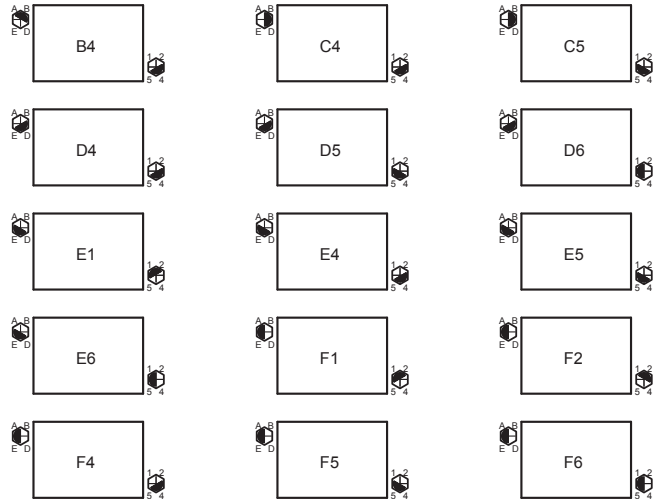
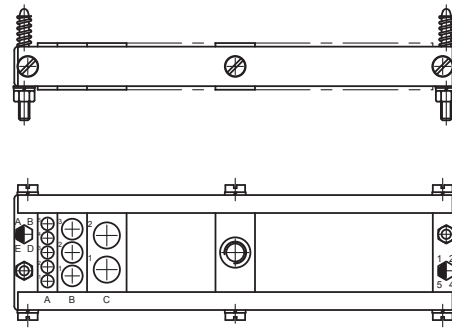
# "V" series

## V1 series connector: plug coding scheme



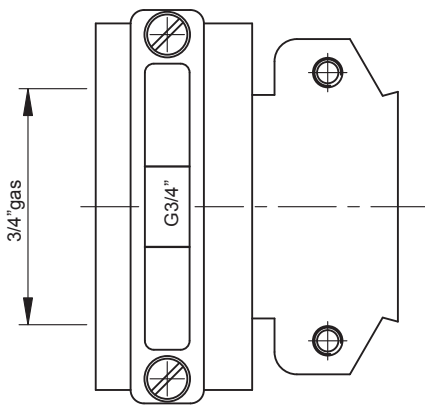
- No. 36 possible options of which 15 only are recommended (see above). The remaining 21 options (A1-A2-A3-A4-A5-A6-B1-B2-B3-B5-B6-C1-C2-C3-C6-D1-D2-D3-E2-E3-F3) do not codify the connector.
- As an example, only the plug connector with one cable clamp is shown.

## V1 series connector: receptacle coding scheme

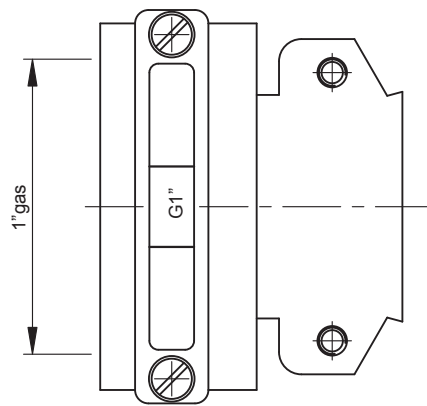


- No. 36 possible options of which 15 only are recommended (see above). The remaining 21 options (A1-A2-A3-A4-A5-A6-B1-B2-B3-B5-B6-C1-C2-C3-C6-D1-D2-D3-E2-E3-F3) do not codify the connector.

# Gas cable clamps



Type 1 cable clamp



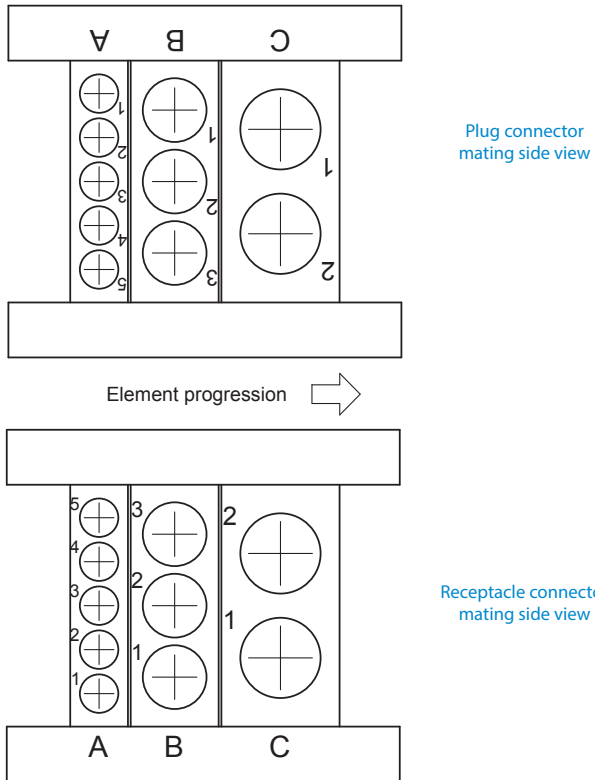
Type 2 cable clamp

Dimensions are in mm  
Consult factory for spare parts ordering codes.

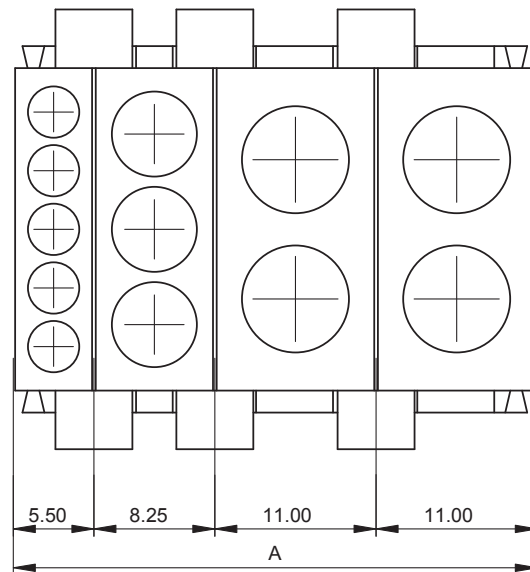
# General notes

## Progression and sum of contact elements

(for elements see details page 21 to 42)



The progression of the contact element is always from left to right with the element orientation (position numbering) as in drawing



Therefore a "step" is defined as the length used by each assembled element.

- an elementary step is defined as 5.50 mm
- the letter "A" is the sum of the dimensions of the contact elements.

## Contact plating

T reference	
Functional part (Mating Area)	0.25 $\mu\text{m}$ Gold per ASTM B-488 type II Grade C on 2 $\mu\text{m}$ Ni per QQ N-290
Termination area	0.15 $\mu\text{m}$ Gold per ASTM B-488 type II Grade C on 2 $\mu\text{m}$ Ni per QQ N-290

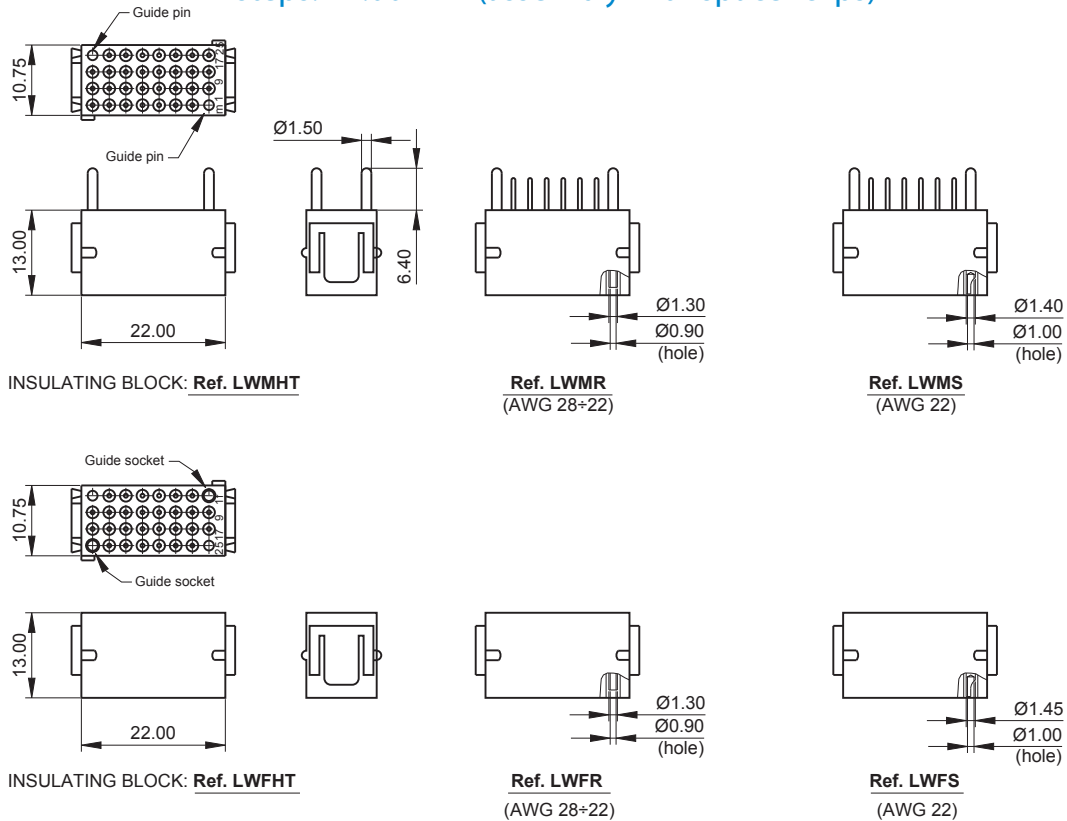
  

H reference	
Functional part (Mating Area)	1.27 $\mu\text{m}$ Gold per ASTM B-488 type II Grade C on 2 $\mu\text{m}$ Ni per QQ N-290
Termination area	0.15 $\mu\text{m}$ Gold per ASTM B-488 type II Grade C on 2 $\mu\text{m}$ Ni per QQ N-290

# Modules

## Type "LW" element (Ø0.60 removable contacts-clip)

2 steps: 11.00 mm (assembly with spacer clips)



Contacts are supplied not assembled

General specification	
Contact Retention <sup>(1)</sup>	>25 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<25 N
Weight (M/F)	9.2/13.2 g
Contact Resistance (1mA) <sup>(3)</sup>	<5 mΩ
Current Rating (25°C) <sup>(6)</sup>	4 A
Current rating at 95°C	3 A
UL Rating	-
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	1650 V r.m.s.
Cont/Hardware	1650 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	PPS

1) ref. MIL -STD-1344 Method 2007

2) ref. MIL -STD-1344 Method 2013.1

3) ref. MIL -STD-1344 Method 2004

4) ref. MIL -STD-1344 Method 3001.1

5) ref. MIL -STD-1344 Method 3003.1

6) ref. I.E.C. 512-3 Test 5b

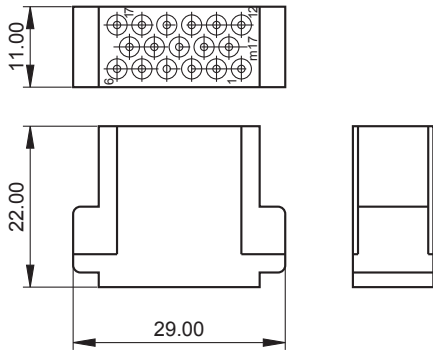
(I<sub>T</sub> = I<sub>25°C</sub>/10xSQRT (125-T))

Accessories/spare contact ref.	
Insertion Tool	S/MONT/1/0060
Extraction Tool	S/DEM/6/0060
Crimping Tool	AFM8
Positioner	S/S/1/0060
Spare contact Pin Ref.	12548 ref. LWMR
	12550 ref. LWMS
Spare contact Socket Ref.	12512 ref. LWFR
	12514 ref. LWFS

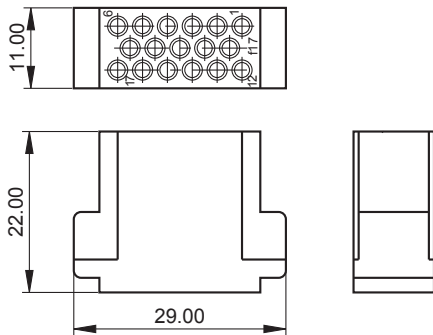


# Type "O" and "RO" element (Ø1.00 removable contacts-clip)

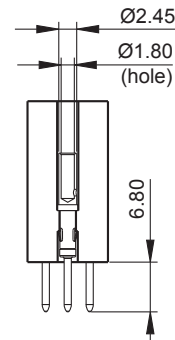
2 steps: 11.00 mm (assembly without spacer clips)



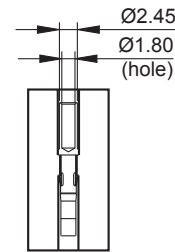
INSULATING BLOCK: **Ref. OHm and ROHm**



INSULATING BLOCK: **Ref. OHf and ROHf**



**Ref. ORm and RORm**  
(AWG 20÷16)



**Ref. ORf and RORf**  
(AWG 20÷16)

Contacts are supplied not assembled

General specification	
Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<19 N
Weight (M/F)	9.0/13 g
Contact Resistance (1mA) <sup>(3)</sup>	<2.5 mΩ
Current Rating (25°C) <sup>(6)</sup>	9 A
Current rating at 95°C	5 A
UL Rating	8 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	1800 V r.m.s.
Cont/Hardware	1800 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>103 MΩ
Cont/Hardware	>103 MΩ
Insulator's Material	
Type "O"	Nylon
Type "RO"	Nylon EN45545

Accessories/spare contact ref.	
Insertion Tool	Non Necessary
Extraction Tool	20652
Crimping Tool	AF8
Positioner	21765
Spare contact Pin Ref.	21868 ref. ORm
Spare contact Socket Ref.	21547 ref. ORf

1) ref. MIL -STD-1344 Method 2007

5) ref. MIL -STD-1344 Method 3003.1

2) ref. MIL -STD-1344 Method 2013.1

6) ref. I.E.C. 512-3 Test 5b

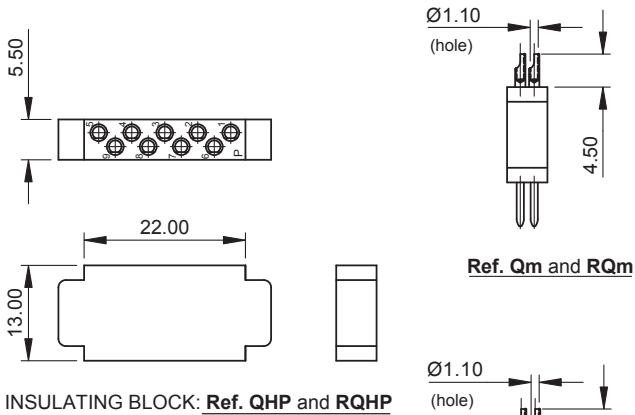
3) ref. MIL -STD-1344 Method 2004

(I<sub>T</sub> = I<sub>25°C</sub> / 10xSQRT (125-T))

4) ref. MIL -STD-1344 Method 3001.1

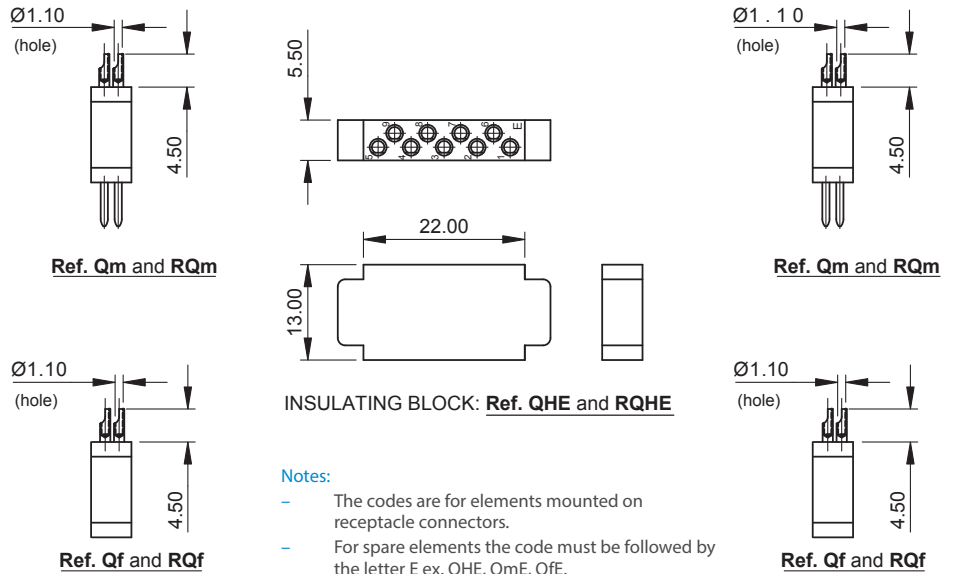
## Type "Q" and "RQ" element (Ø1.00 contacts)

1 steps: 5.50 mm (assembly without spacer clips)



### Notes:

- The codes are for elements mounted on plug connectors.
- For spare elements the code must be followed by the letter P ex. QHP, QmP, QfP.



### Notes:

- The codes are for elements mounted on receptacle connectors.
- For spare elements the code must be followed by the letter E ex. QHE, QmE, QfE.

### General specification

Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<15 N
Weight (M/F)	5.2/6.2 g
Contact Resistance (1mA) <sup>(3)</sup>	<2.5 mΩ
Current Rating (25°C) <sup>(6)</sup>	9 A
Current rating at 95°C	5 A
UL Rating	8 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	2000 V r.m.s.
Cont/Hardware	1500 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>103 MΩ
Cont/Hardware	>103 MΩ
Insulator's Material	
Type "Q"	DAP
Type "RQ"	PE EN45545

1) ref. MIL –STD-1344 Method 2007

2) ref. MIL –STD-1344 Method 2013.1

3) ref. MIL –STD-1344 Method 2004

4) ref. MIL –STD-1344 Method 3001.1

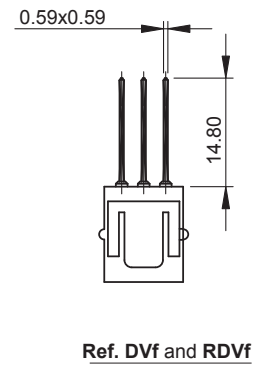
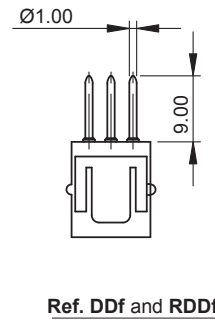
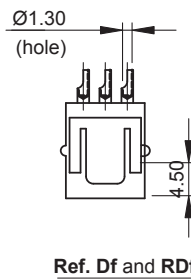
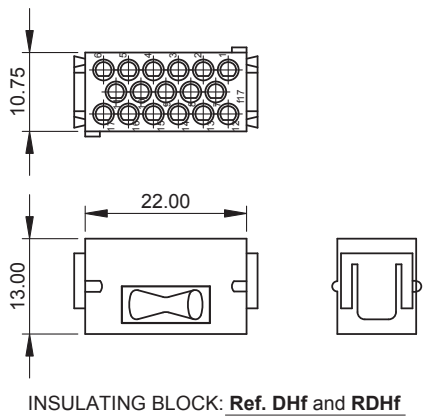
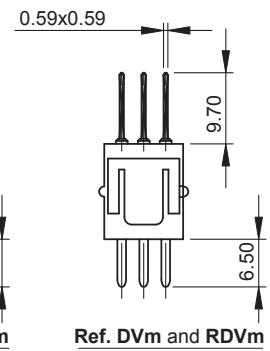
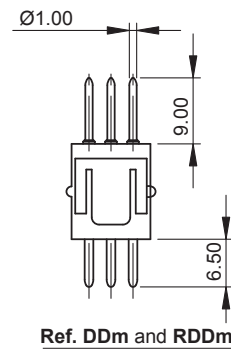
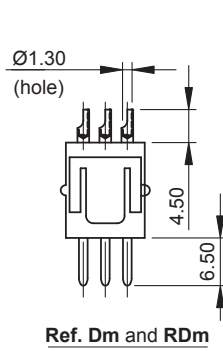
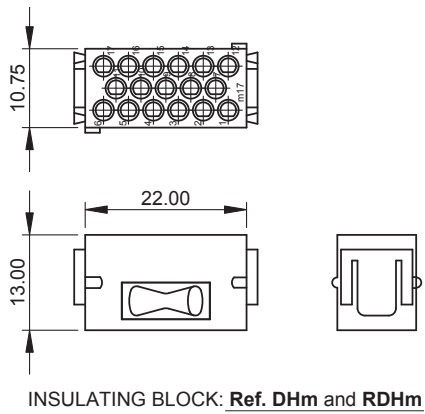
5) ref. MIL –STD-1344 Method 3003.1

6) ref. I.E.C. 512-3 Test 5b

(I<sub>T</sub>= 1.25°C/10xSQRT (125-T))

# Type "D" and "RD" element (Ø1.20 contacts)

2 steps: 11.00 mm (assembly with spacer clips)



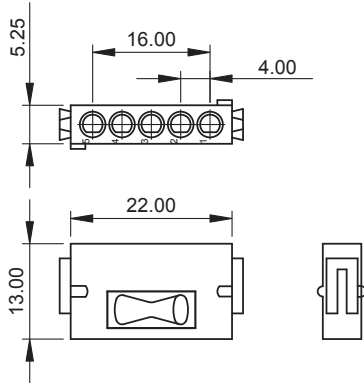
General specification	
Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<19 N
Weight (M/F)	9.0/13 g
Contact Resistance (1mA) <sup>(3)</sup>	<2.5 mΩ
Current Rating (25°C) <sup>(6)</sup>	9 A
Current rating at 95°C	5 A
UL Rating	8 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	1800 V r.m.s.
Cont/Hardware	1800 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
Type "D"	DAP
Type "RD"	PE EN45545

1) ref. MIL –STD-1344 Method 2007  
 2) ref. MIL –STD-1344 Method 2013.1  
 3) ref. MIL –STD-1344 Method 2004  
 4) ref. MIL –STD-1344 Method 3001.1

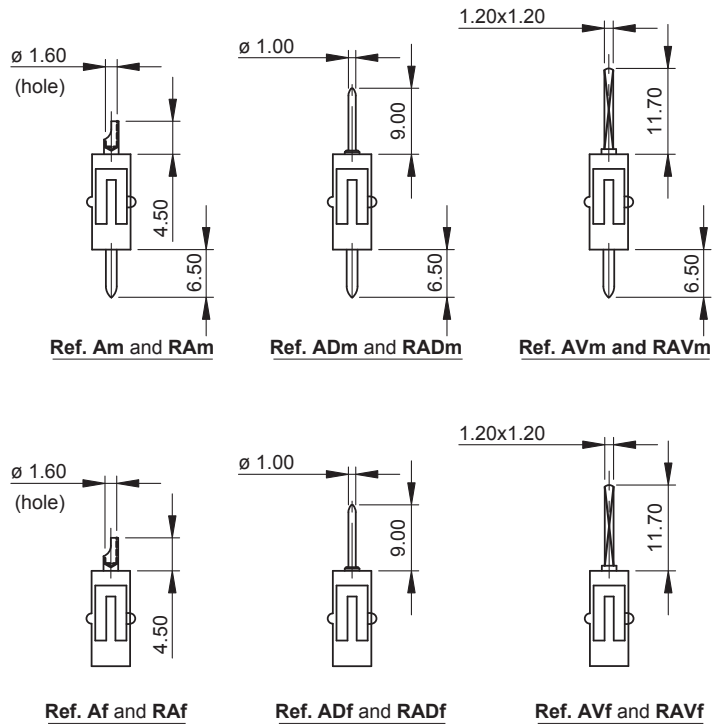
5) ref. MIL –STD-1344 Method 3003.1  
 6) ref. I.E.C. 512-3 Test 5b  
 (I<sub>T</sub>= 1.25<sup>c</sup>/10xSQRT (125-T))

# Type "A" and "RA" element (Ø1.50 contacts)

1 steps: 5.50 mm (assembly with spacer clips)



INSULATING BLOCK: **Ref. AH and RAH**



General specification	
Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<7.5 N
Weight (M/F)	6.2/4.3 g
Contact Resistance (1mA) <sup>(3)</sup>	<2.5 mΩ
Current Rating (25°C) <sup>(6)</sup>	20 A
Current rating at 95°C	11 A
UL Rating	8 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Con	2000 V r.m.s.
Cont/Hardware	2000 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
Type "A"	DAP
Type "RA"	PE EN45545

1) ref. MIL –STD-1344 Method 2007

2) ref. MIL –STD-1344 Method 2013.1

3) ref. MIL –STD-1344 Method 2004

4) ref. MIL –STD-1344 Method 3001.1

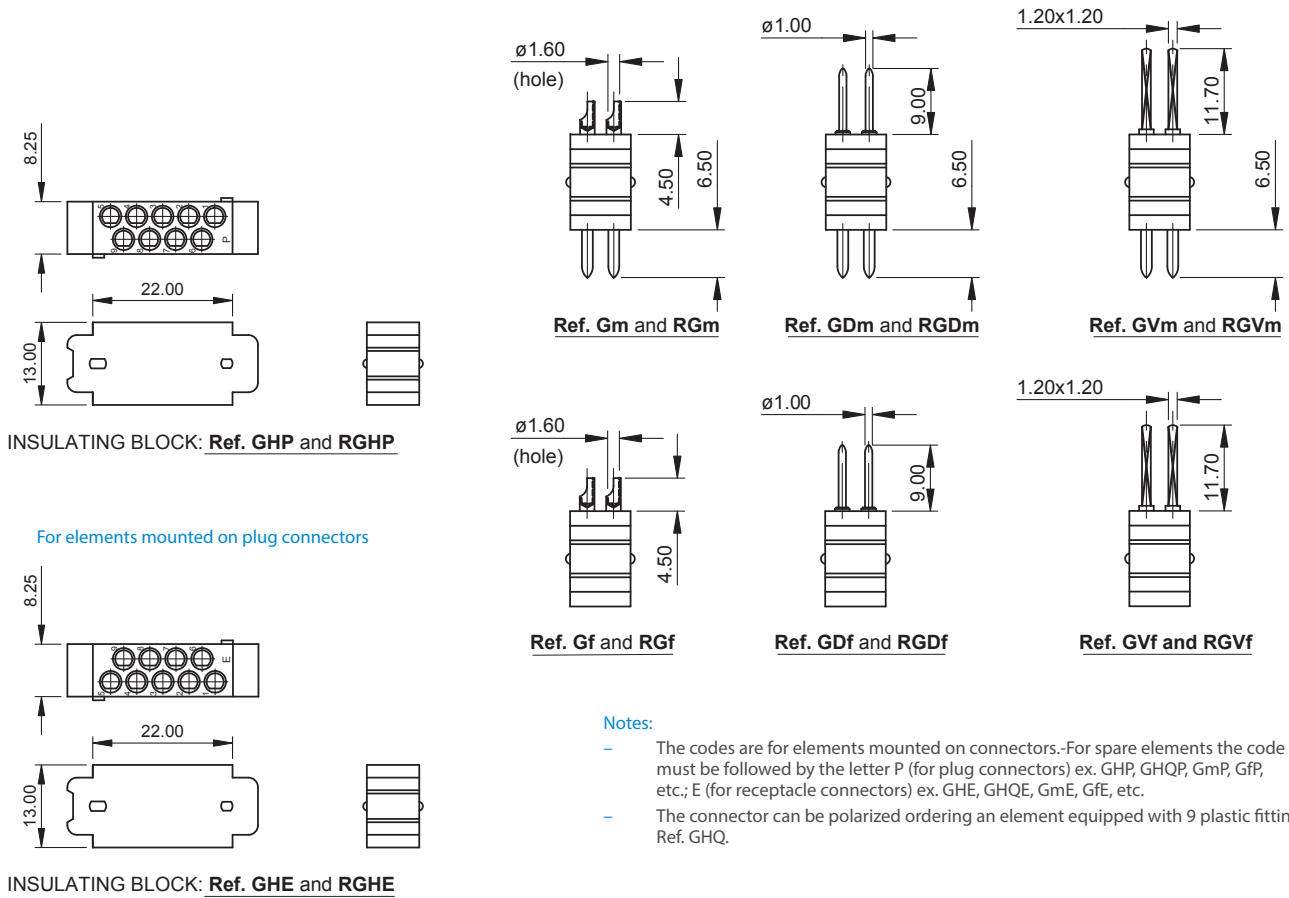
5) ref. MIL –STD-1344 Method 3003.1

6) ref. I.E.C. 512-3 Test 5b

(I<sub>T</sub> = 1.25°C/10xSQRT (125-T))

# Type "G" and "RG" element (Ø1.50 contacts)

1.5 steps: 8.25 mm (assembly without spacer clips)



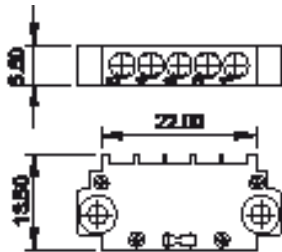
General specification	
Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<15 N
Weight (M/F)	12.2/8.9 g
Contact Resistance (1mA) <sup>(3)</sup>	<2.5 mΩ
Current Rating (25°C) <sup>(6)</sup>	15 A
Current rating at 95°C	8 A
UL Rating	8 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	2000 V r.m.s.
Cont/Hardware	1500 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
Type "G"	DAP
Type "RG"	PE EN45545

1) ref. MIL –STD-1344 Method 2007  
 2) ref. MIL –STD-1344 Method 2013.1  
 3) ref. MIL –STD-1344 Method 2004  
 4) ref. MIL –STD-1344 Method 3001.1

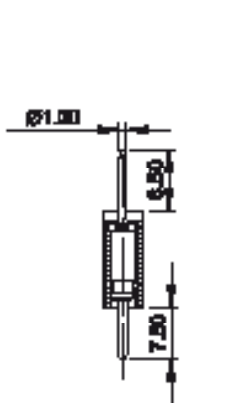
5) ref. MIL –STD-1344 Method 3003.1  
 6) ref. I.E.C. 512-3 Test 5b  
 (I<sub>T</sub>= 1.25°C/10xSQRT (125-T))

# Type "X", "RX" and "X1" element (Ø1.50 removable contacts-cloc)

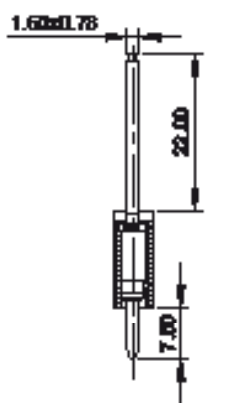
1 step: 5.50 mm (assembly without spacer clips)



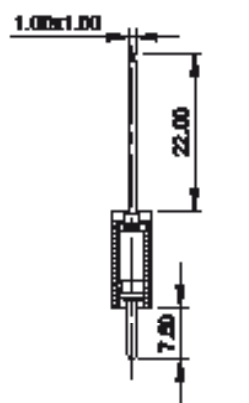
INSULATING BLOCK: Ref. XH and RXH



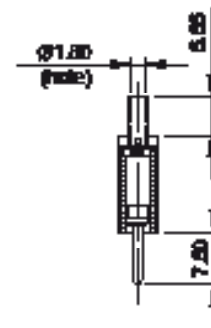
Ref. XIIa and RXIIa



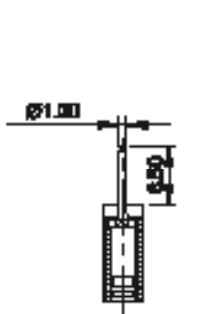
Ref. XIIb and RXIIb



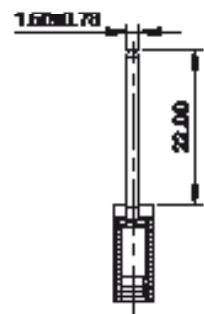
Ref. XIIc and RXIIc



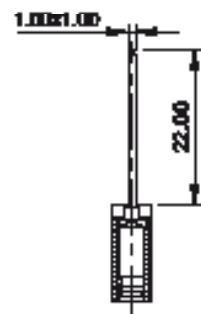
Ref. XIIr and RXIIr (AWG 16-20)  
(contacts are supplied not assembled)



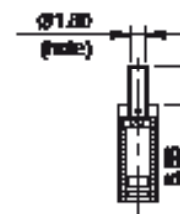
Ref. XIII and RXIII



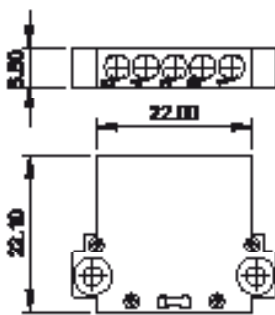
Ref. XIIIb and RXIIIb



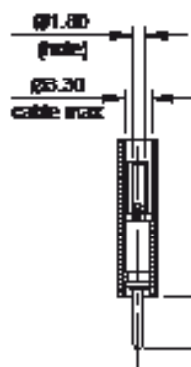
Ref. XIIIc and RXIIIc



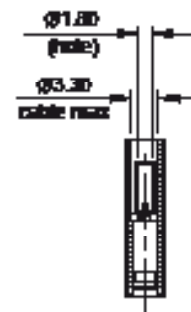
Ref. XIIIr and RXIIIr (AWG 16-20)  
(contacts are supplied not assembled)



INSULATING BLOCK: Ref. XIIH



Ref. XIIHa (AWG 16-20)  
(contacts are supplied not assembled)



Ref. XIIHb (AWG 16-20)  
(contacts are supplied not assembled)

## Type "X", "RX" and "X1" element (Ø1.50 removable contacts-cloc)

General specification	
Contact Retention <sup>(1)</sup>	>40 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<7.5 N
Weight (M/F)	6.4/4.6 g
Contact Resistance (1 mA) <sup>(3)</sup>	<2.5 mΩ
Current Rating (25°C) <sup>(6)</sup>	15 A
Current rating at 95°C	8 A
UL Rating	8 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	1600 V r.m.s.
Cont/Hardware	1600 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
Type "X"	Polycarbonate
Type "RX"	Polycarbonate EN45545
Type "X1"	Polycarbonate

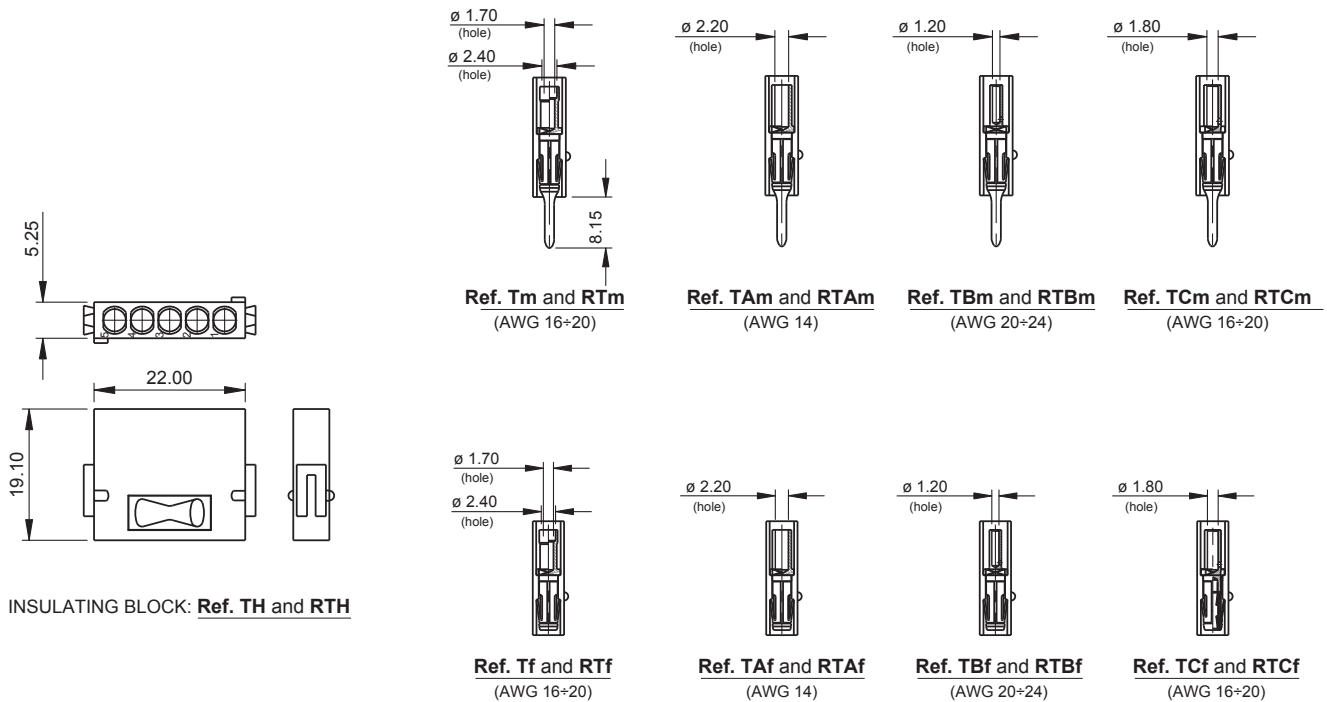
- 1) ref. MIL -STD-1344 Method 2007  
 2) ref. MIL -STD-1344 Method 2013.1  
 3) ref. MIL -STD-1344 Method 2004  
 4) ref. MIL -STD-1344 Method 3001.1

- 5) ref. MIL -STD-1344 Method 3003.1  
 6) ref. I.E.C. 512-3 Test 5b  
 (I<sub>T</sub>= 1.25°C/10xSQR (125-T))

Accessories/spare contact ref.	
Insertion Tool	S-0150-01
Extraction Tool	S-0150-01
Crimping Tool	AF8
Positioner	H463
Spare contact Pin Ref.	16480 ref. XDm
	16712 ref. XTm
	133-0150 ref. XVm
	15947 ref. XRm/XLm
Spare contact Socket Ref.	0150-132 ref. XDf
	0150-130 ref. XTf
	0150-133 ref. XVf
	16813 ref. XRf/XLf

# Type "T" and "RT" element (Ø1.50 removable contacts-clip)

1 steps: 5.50 mm (assembly with spacer clips)



Contacts are supplied not assembled

General specification	
Contact Retention <sup>(1)</sup>	>50 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<17 N
Weight (M/F)	7.4/5.7 g
Contact Resistance (1mA) <sup>(3)</sup>	<2.5 mΩ
Current Rating (25°C) <sup>(6)</sup>	20 A
Current rating at 95°C	11 A
UL Rating	8 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	5000 V r.m.s.
Cont/Hardware	1800 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
Type "T"	DAP
Type "RT"	PE EN45545

1) ref. MIL -STD-1344 Method 2007

2) ref. MIL -STD-1344 Method 2013.1

3) ref. MIL -STD-1344 Method 2004

4) ref. MIL -STD-1344 Method 3001.1

5) ref. MIL -STD-1344 Method 3003.1

6) ref. I.E.C. 512-3 Test 5b

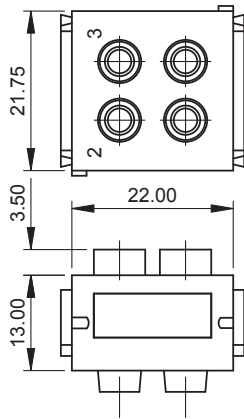
(I<sub>T</sub> = 1.25°C/10xSQRT (125-T))

Accessories/spare contact ref.	
Insertion Tool	Non Necessary
Extraction Tool	15808
Crimping Tool	AF8
Positioner	15807
Spare contact Pin Ref.	15835 ref. Tm
	18410 ref. TAm
	18747 ref. TBm
	19168 ref. TCm
Spare contact Socket Ref.	15837 ref. Tf
	18412 ref. TAf
	18748 ref. TBf
	19171 ref. TCf

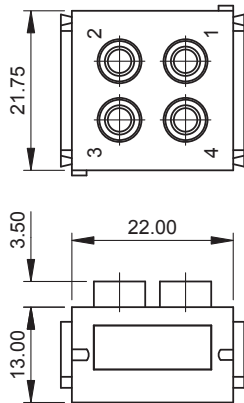


# Type "N" element (Ø2.00 contacts)

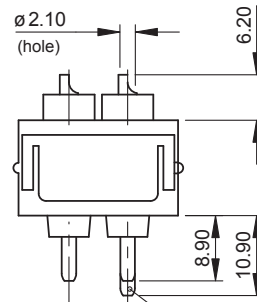
4 steps: 22.00 mm (assembly with spacer clips)



INSULATING BLOCK: **Ref. NHm**

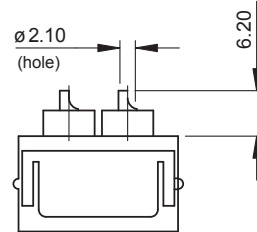


INSULATING BLOCK: **Ref. NHf**



**Ref. Nm**

The longer contact (mate first) drawing 13327 are mounted in position 4.



**Ref. Nf**

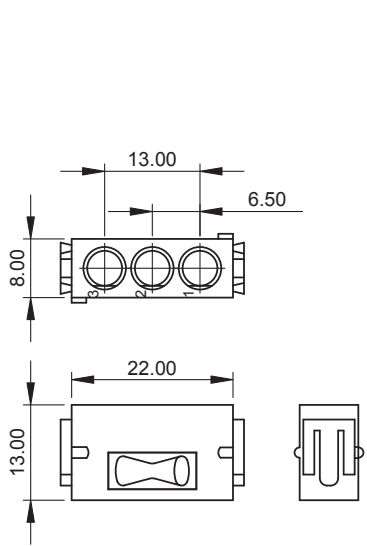
General specification	
Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<10 N
Weight (M/F)	11.5/9.5 g
Contact Resistance (1mA) <sup>(3)</sup>	<1.5 mΩ
Current Rating (25°C) <sup>(6)</sup>	31 A
Current rating at 95°C	17 A
UL Rating	-
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	4000 V r.m.s.
Cont/Hardware	4500 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	PPS

1) ref. MIL –STD-1344 Method 2007  
 2) ref. MIL –STD-1344 Method 2013.1  
 3) ref. MIL –STD-1344 Method 2004  
 4) ref. MIL –STD-1344 Method 3001.1

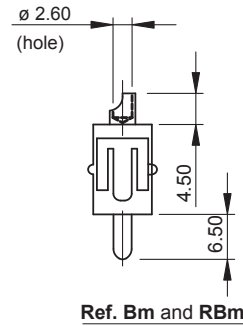
5) ref. MIL –STD-1344 Method 3003.1  
 6) ref. I.E.C. 512-3 Test 5b  
 (I<sub>T</sub>= 1 25°C/10xSQRT (125-T))

# Type "B" and "RB" element (Ø2.50 contacts)

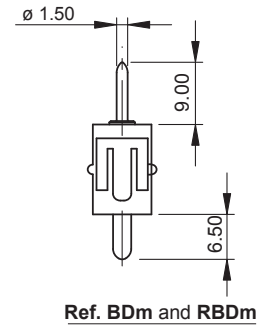
1.5 steps: 8.25 mm (assembly with spacer clips)



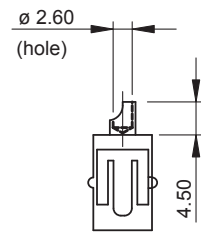
INSULATING BLOCK: **Ref. BH and RBH**



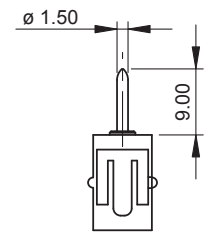
**Ref. Bm and RBm**



**Ref. BDm and RBDm**



**Ref. Bf and RBf**



**Ref. BDf and RBDf**

## General specification

Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<17 N
Weight (M/F)	10.4/7.4 g
Contact Resistance (1 mA) <sup>(3)</sup>	<1.0 mΩ
Current Rating (25°C) <sup>(6)</sup>	40 A
Current rating at 95°C	22 A
UL Rating	15 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	1600 V r.m.s.
Cont/Hardware	1600 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
Type "B"	DAP
Type "RB"	PE EN45545

1) ref. MIL –STD-1344 Method 2007

2) ref. MIL –STD-1344 Method 2013.1

3) ref. MIL –STD-1344 Method 2004

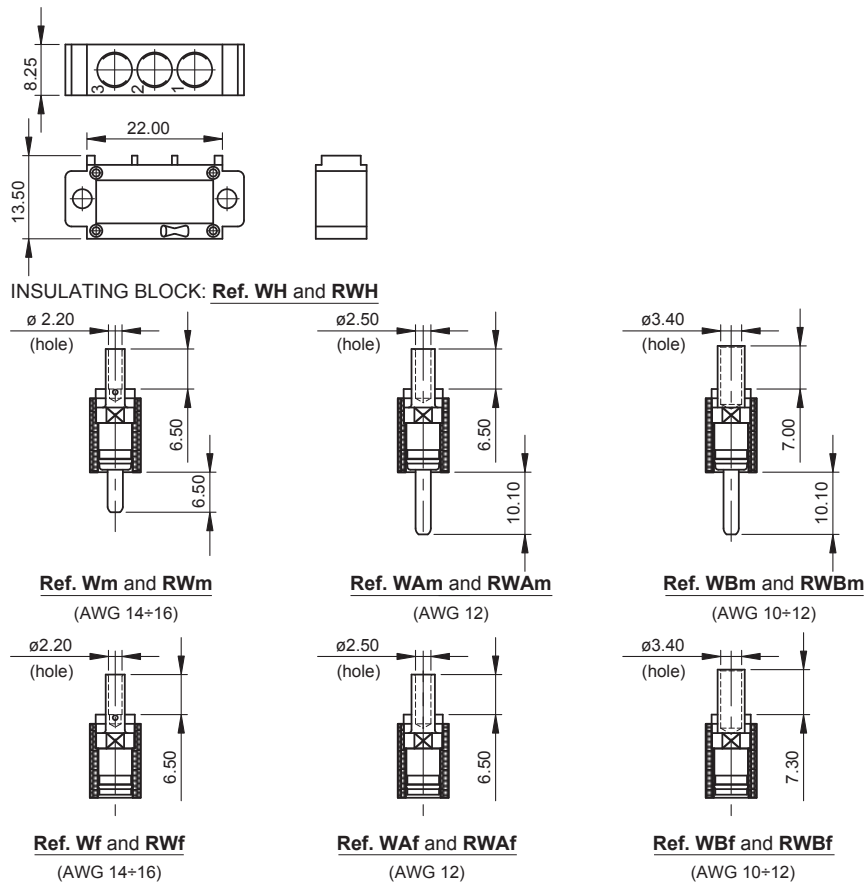
4) ref. MIL –STD-1344 Method 3001.1

5) ref. MIL –STD-1344 Method 3003.1

6) ref. I.E.C. 512-3 Test 5b  
(I<sub>T</sub> = 1.25°C/10xSQRT (125-T))

# Type "W" and "RW" element (Ø2.50 removable contacts-cloc)

1.5 steps: 8.25 mm (assembly without spacer clips)



Contacts are supplied not assembled

General specification	
Contact Retention <sup>(1)</sup>	>60 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<7.5 N
Weight (M/F)	6.5/10 g
Contact Resistance (1mA) <sup>(3)</sup>	<1.0 mΩ
Current Rating (25°C) <sup>(6)</sup>	35 A
Current rating at 95°C	19 A
UL Rating	15 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	2800 V r.m.s.
Cont/Hardware	2800 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
Type "W"	Nylon
Type "RW"	Polycarbonate EN45545

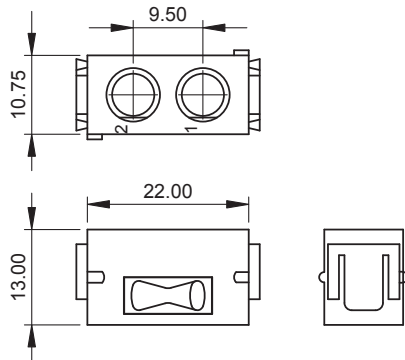
Accessories/spare contact ref.	
Insertion Tool	S-0250-01
Extraction Tool	S-0250-01
Crimping Tool	FT8
Positioner	SH463
Spare contact Pin Ref.	12318 ref. Wm
	17667 ref. WAm
	19684 ref. WBm
Spare contact Socket Ref.	16825 ref. Wf
	17669 ref. WAf
	19683 ref. WBf

1) ref. MIL -STD-1344 Method 2007  
 2) ref. MIL -STD-1344 Method 2013.1  
 3) ref. MIL -STD-1344 Method 2004  
 4) ref. MIL -STD-1344 Method 3001.1

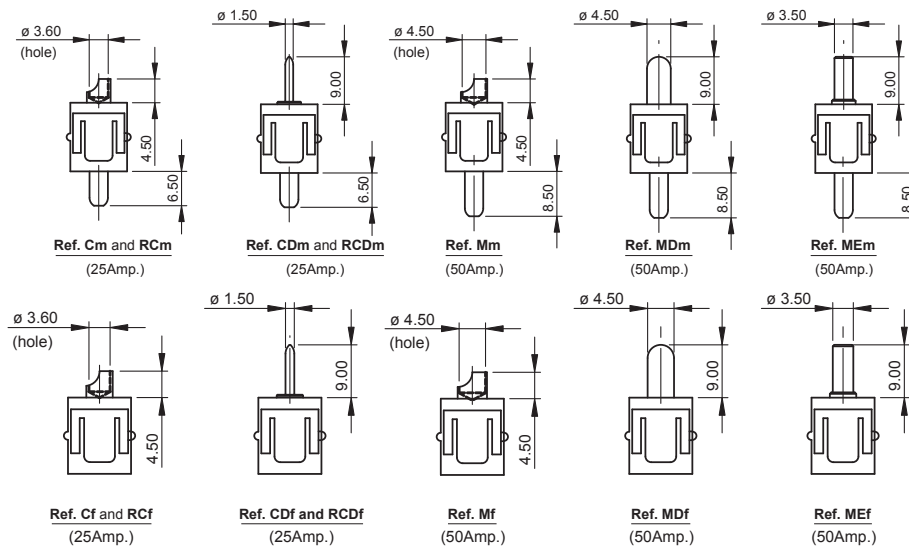
5) ref. MIL -STD-1344 Method 3003.1  
 6) ref. I.E.C. 512-3 Test 5b  
 (I<sub>T</sub> = I<sub>25°C</sub> / 10xSQRT (125-T))

## Type "C", "RC" and "M" element (Ø3.50 contacts)

2 steps: 11.00 mm (assembly with spacer clips)



INSULATING BLOCK: **Ref. CH** and **RCH**



### Type "C" and "RC" - General specification

Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<17 N
Weight (M/F)	12.2/8.9 g
Contact Resistance (1mA) <sup>(3)</sup>	<0.8 mΩ
Current Rating (25°C) <sup>(6)</sup>	57 A
Current rating at 95°C	31 A
UL Rating	25A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	2000 V r.m.s.
Cont/Hardware	2000 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
Type "C"	DAP
Type "RC"	PE EN45545

- 1) ref. MIL -STD-1344 Method 2007
- 2) ref. MIL -STD-1344 Method 2013.1
- 3) ref. MIL -STD-1344 Method 2004
- 4) ref. MIL -STD-1344 Method 3001.1

- 5) ref. MIL -STD-1344 Method 3003.1
- 6) ref. I.E.C. 512-3 Test 5b  
(I<sub>T</sub> = 1 25°C/10xSQR (125-T))

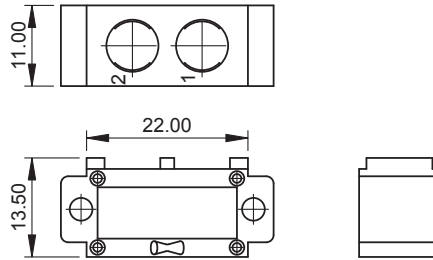
### Type "M" - General specification

Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<17 N
Weight (M/F)	12/8.9 g
Contact Resistance (1mA) <sup>(3)</sup>	<0.6 mΩ
Current Rating (25°C) <sup>(6)</sup>	86 A
Current rating at 95°C	47 A
UL Rating	50 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	2000 V r.m.s.
Cont/Hardware	2000 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
	DAP

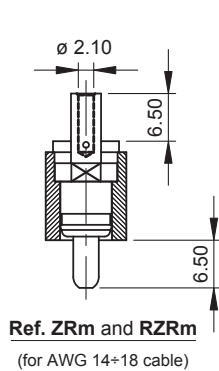
- 1) ref. MIL -STD-1344 Method 2007
- 2) ref. MIL -STD-1344 Method 2013.1
- 3) ref. MIL -STD-1344 Method 2004
- 4) ref. MIL -STD-1344 Method 3001.1
- 5) ref. MIL -STD-1344 Method 3003.1
- 6) ref. I.E.C. 512-3 Test 5b  
(I<sub>T</sub> = 1 25°C/10xSQR (125-T))

# Type "Z" and "RZ" element (Ø3.50 removable contacts-cloc)

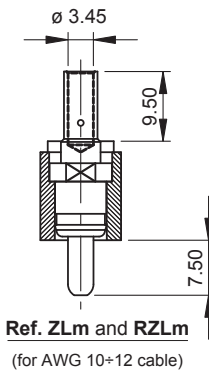
2 steps: 11.00 mm (assembly without spacer clips)



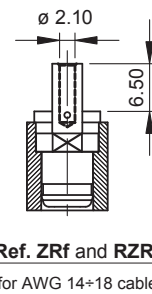
INSULATING BLOCK: **Ref. ZH and RZH**



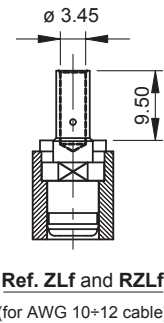
**Ref. ZRm and RZRm**  
(for AWG 14+18 cable)



**Ref. ZLm and RZLm**  
(for AWG 10+12 cable)



**Ref. ZRf and RZRf**  
(for AWG 14+18 cable)



**Ref. ZLf and RZLf**  
(for AWG 10+12 cable)

## Contacts are supplied not assembled

General specification	
Contact Retention <sup>(1)</sup>	>60 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<17 N
Weight (M/F)	12/7.9 g
Contact Resistance (1mA) <sup>(3)</sup>	<0.8 mΩ
Current Rating (25°C) <sup>(6)</sup>	37 A
Current rating at 95°C	20 A
UL Rating	25 or 50 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	2800 V r.m.s.
Cont/Hardware	2800 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
Type "Z"	Nylon
Type "RZ"	Polycarbonate EN45545

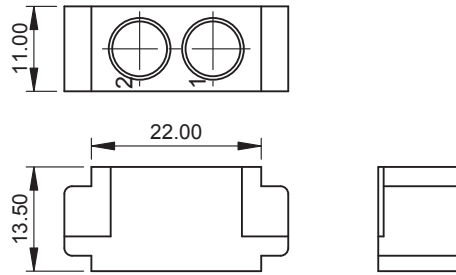
Accessories/spare contact ref.	
Insertion Tool	S-0350-01
Extraction Tool	S-0350-01
Crimping Tool	M310
Positioner	TP999
Spare contact Pin Ref.	
	12320 ref. ZRm
	16600 ref. ZLm
Spare contact Socket Ref.	
	16722 ref. ZRf
	16601 ref. ZLf

1) ref. MIL –STD-1344 Method 2007  
 2) ref. MIL –STD-1344 Method 2013.1  
 3) ref. MIL –STD-1344 Method 2004  
 4) ref. MIL –STD-1344 Method 3001.1

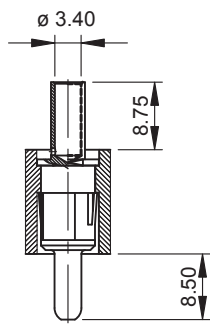
5) ref. MIL –STD-1344 Method 3003.1  
 6) ref. I.E.C. 512-3 Test 5b  
 (I<sub>T</sub>= I<sub>25°C</sub>/10xSQRT (125-T))

## Type "Z" and "RZ" element (Ø3.50 removable contacts-clip)

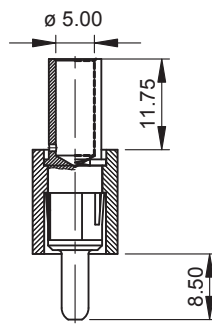
2 steps: 11.00 mm (assembly without spacer clips)



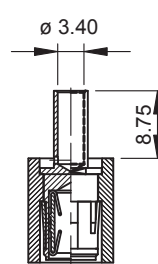
INSULATING BLOCK: **Ref. ZH1 and RZH1**



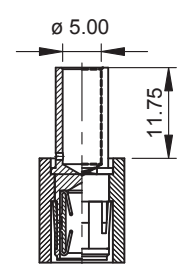
**Ref. ZAm and RZAm**  
(for AWG 10+12 cable)



**Ref. ZBm and RZBm**  
(for 10mm cable)



**Ref. ZAf and RZAf**  
(for AWG 10+12 cable)



**Ref. ZBf and RZBf**  
(for 10mm<sup>2</sup> cable)

General specification	
Contact Retention <sup>(1)</sup>	>60 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<17 N
Weight (M/F)	12/7.9 g
Contact Resistance (1mA) <sup>(3)</sup>	<0.8 mΩ
Current Rating (25°C) <sup>(6)</sup>	37 A
Current rating at 95°C	20 A
UL Rating	25 or 50 A
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	2800 V r.m.s.
Cont/Hardware	2800 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	
Type "Z"	Nylon
Type "RZ"	Polycarbonate EN45545

1) ref. MIL -STD-1344 Method 2007

2) ref. MIL -STD-1344 Method 2013.1

3) ref. MIL -STD-1344 Method 2004

4) ref. MIL -STD-1344 Method 3001.1

5) ref. MIL -STD-1344 Method 3003.1

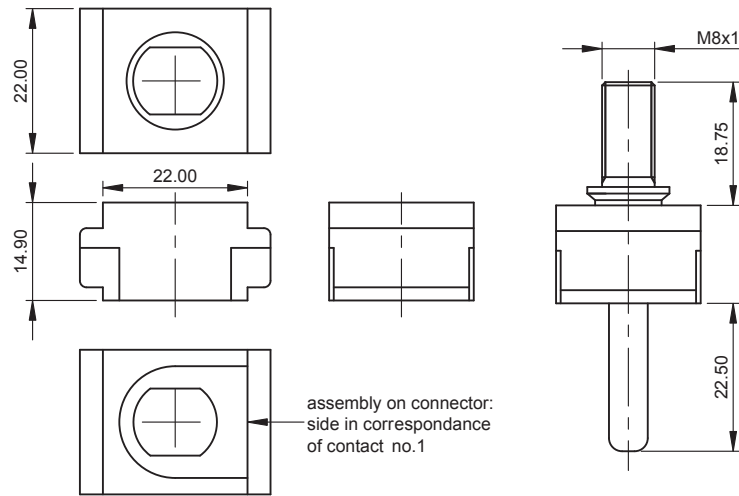
6) ref. I.E.C. 512-3 Test 5b

(I<sub>T</sub>= I<sub>25°C</sub>/10xSQR (125-T))

Accessories/spare contact ref.	
Insertion Tool	Not Necessary
Extraction Tool	20267
Crimping Tool	M310/WA23
Positioner	TP1290/M0601
Spare contact Pin Ref.	18972 ref. ZAm 19398 ref. ZBm
Spare contact Socket Ref.	16829 ref. ZAf 19395 ref. ZBf

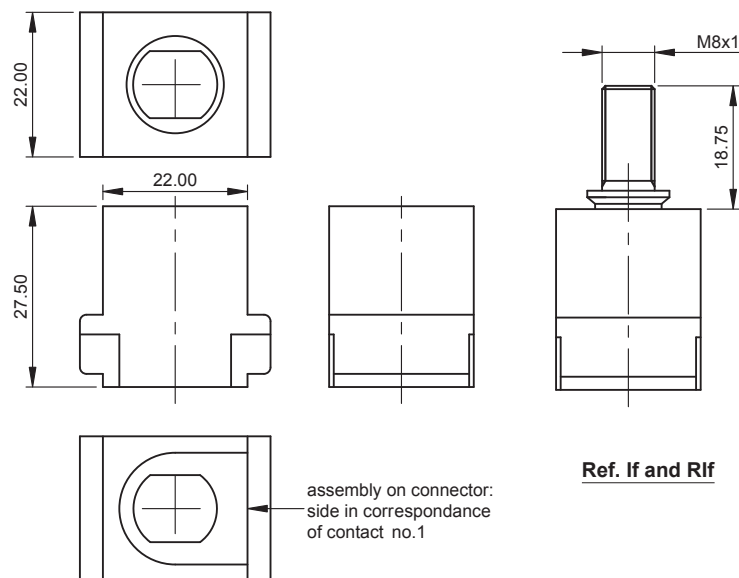
## Type "I" and "RI" element (Ø6.00 contacts)

4 steps: 22.00 mm (assembly without spacer clips)



INSULATING BLOCK: **Ref. IHm and RIHm**

**Ref. Im and RIIm**



INSULATING BLOCK: **Ref. IHf and RIHf**

**Ref. If and RIf**

General specification	
Contact Retention <sup>(1)</sup>	>100 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<20 N
Weight (M/F)	40/50 g
Contact Resistance (1mA) <sup>(3)</sup>	<0.3 mΩ
Current Rating (25°C) <sup>(6)</sup>	200 A
Current rating at 95°C	100 A
UL Rating	-
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	250 V r.m.s.
Cont/Hardware	250 V r.m.s.

General specification	
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>6</sup> MΩ
Cont/Hardware	>10 <sup>6</sup> MΩ
Insulator's Material	
Type "I"	Nylon
Type "RI"	Polycarbonate EN45545

1) ref. MIL -STD-1344 Method 2007

2) ref. MIL -STD-1344 Method 2013.1

3) ref. MIL -STD-1344 Method 2004

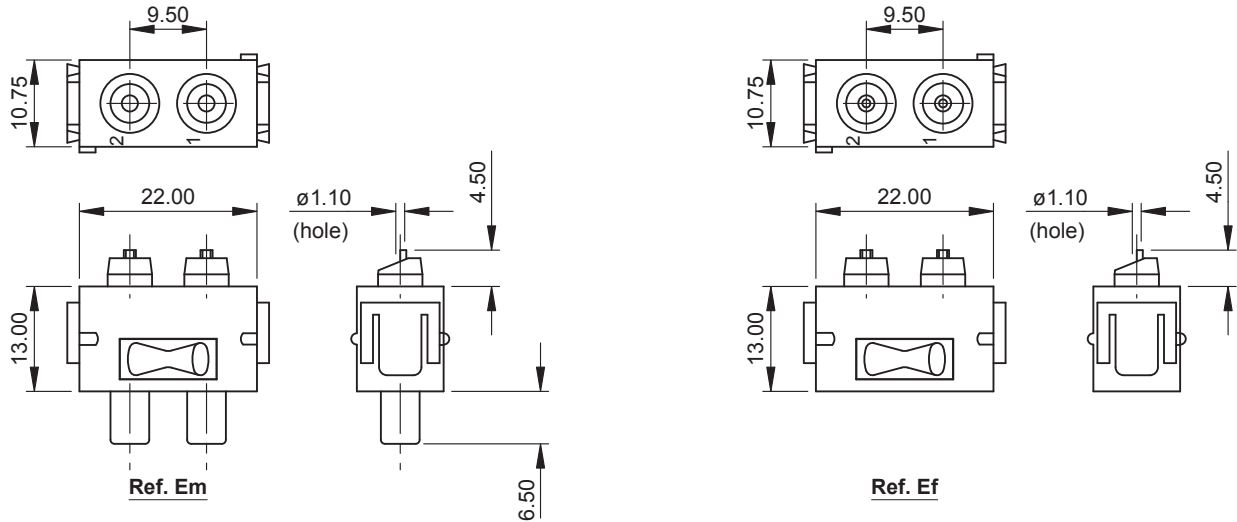
4) ref. MIL -STD-1344 Method 3001.1

5) ref. MIL -STD-1344 Method 3003.1

6) ref. I.E.C. 512-3 Test 5b  
(I<sub>T</sub>= 1 25°C/10xSQR (125-T))

## Type "E" element (shielded contacts)

2 steps: 11.00 mm (assembly with spacer clips)



### General specification

Contact Retention <sup>(1)</sup>	n/a
Mating & Unmating Force (Module) <sup>(2)</sup>	<40 N
Weight (M/F)	15/10.2 g
Contact Resistance (1 mA) <sup>(3)</sup>	<4 m $\Omega$ (inner) <0.6 m $\Omega$ (outer)
Current Rating (25°C) <sup>(6)</sup>	9 A
Current rating at 95°C	5 A
UL Rating	-
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	1300 V r.m.s.
Cont/Hardware	2500 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> M $\Omega$
Cont/Hardware	>10 <sup>3</sup> M $\Omega$
Insulator's Material	DAP

1) ref. MIL -STD-1344 Method 2007

2) ref. MIL -STD-1344 Method 2013.1

3) ref. MIL -STD-1344 Method 2004

4) ref. MIL -STD-1344 Method 3001.1

5) ref. MIL -STD-1344 Method 3003.1

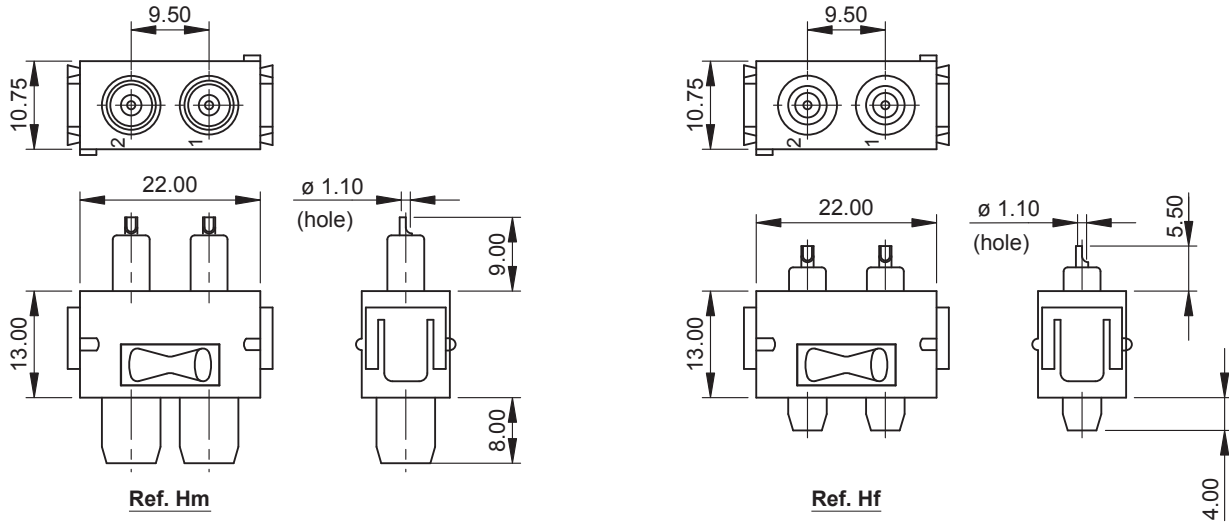
6) ref. I.E.C. 512-3 Test 5b

(I<sub>r</sub> = 1.25*c*/10xSQRT (125-T))



## Type "H" element (high voltage contacts)

2 steps: 11.00 mm (assembly with spacer clips)



General specification	
Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<20 N
Weight (M/F)	7.4/5.8 g
Contact Resistance (1 mA) <sup>(3)</sup>	<3.5 mΩ
Current Rating (25°C) <sup>(6)</sup>	9 A
Current rating at 95°C	5 A
UL Rating	-
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	8000 V r.m.s.
Cont/Hardware	8000 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Insulator's Material	DAP

1) ref. MIL –STD-1344 Method 2007

2) ref. MIL –STD-1344 Method 2013.1

3) ref. MIL –STD-1344 Method 2004

4) ref. MIL –STD-1344 Method 3001.1

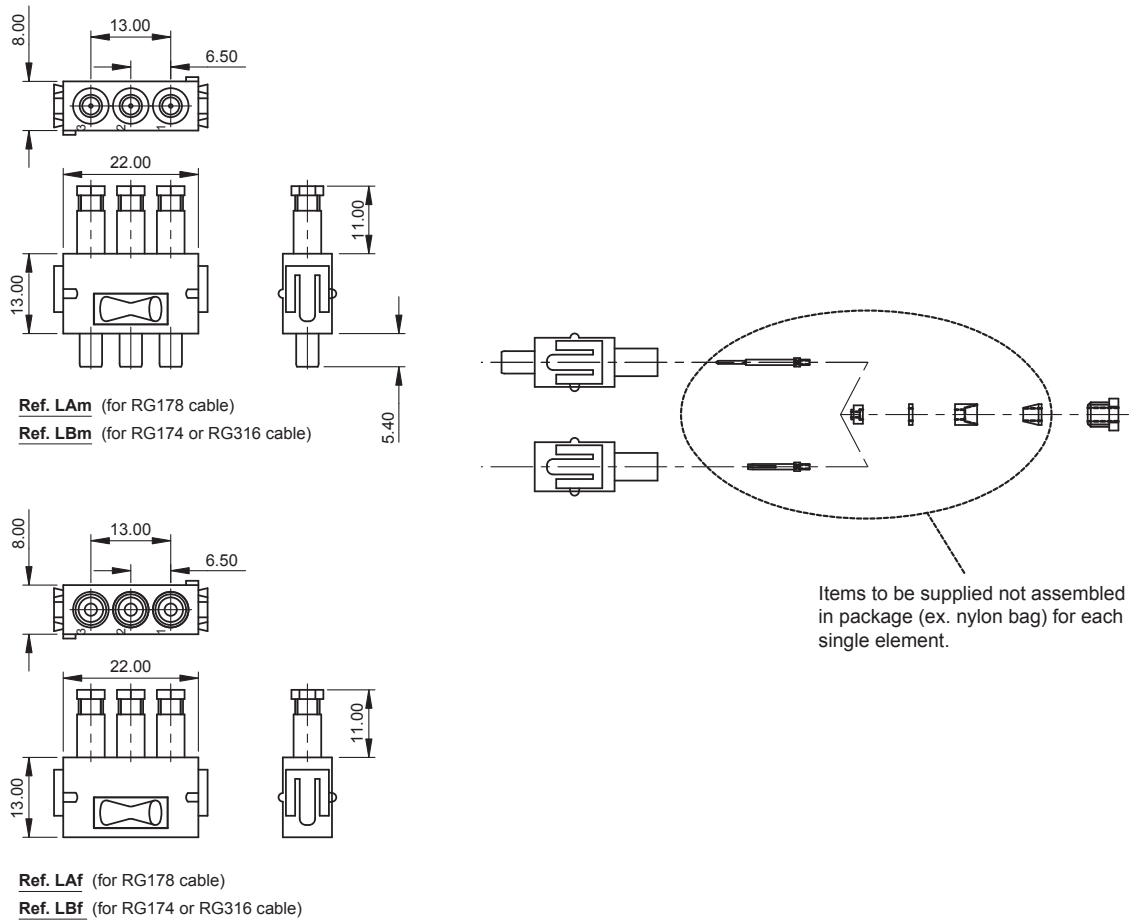
5) ref. MIL –STD-1344 Method 3003.1

6) ref. I.E.C. 512-3 Test 5b

(I<sub>r</sub> = 1.25°C/10xSQR (125-T))

## Type "L" element (coaxial contacts – consult factory)

1.5 steps: 8.25 mm (assembly with spacer clips)



General specification	
Contact Retention <sup>(1)</sup>	>40 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<20 N
Weight (M/F)	8.9/11 g
Contact Resistance (1mA) <sup>(3)</sup>	<2.5 mΩ
Dielectric Withstanding Voltage <sup>(4)</sup>	
Inner Cont/Outer Cont	1000 V r.m.s.
Outer Cont/Hardware	1500 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Inner Cont/Outer Cont	>10 <sup>3</sup> MΩ
Outer Cont/Hardware	>10 <sup>3</sup> MΩ
Standing Wave ratio (3.9 GHz) <sup>(6)</sup>	<1.1
Impedance	50 Ω
Insulator's Material	DAP

1) ref. MIL –STD-1344 Method 2007

2) ref. MIL –STD-1344 Method 2013.1

3) ref. MIL –STD-1344 Method 2004

4) ref. MIL –STD-1344 Method 3001.1

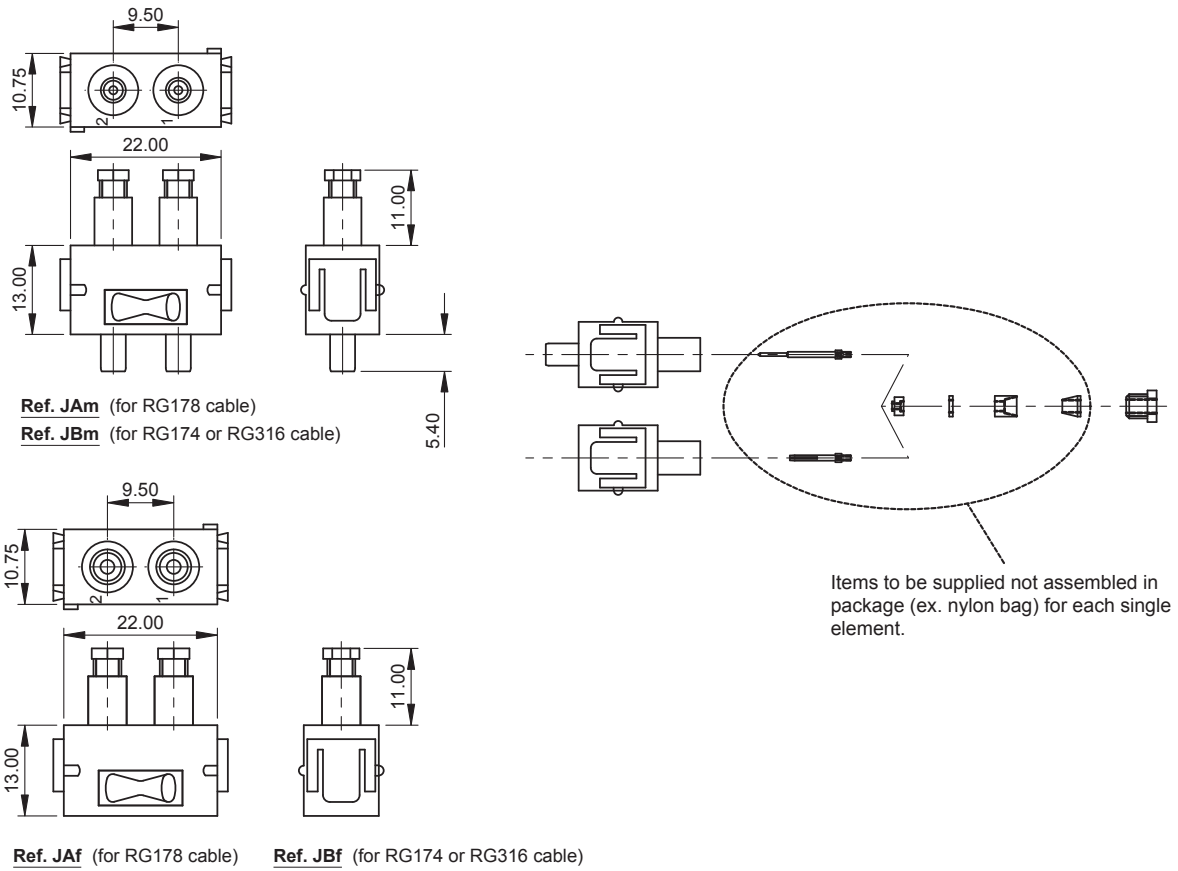
5) ref. MIL –STD-1344 Method 3003.1

6) ref. I.E.C. 512-3 Test 5b

(I<sub>r</sub> = 1.25V/10xSQRT (125-T))

## Type "J" element (coaxial contacts)

2 steps: 11.00 mm (assembly with spacer clips)



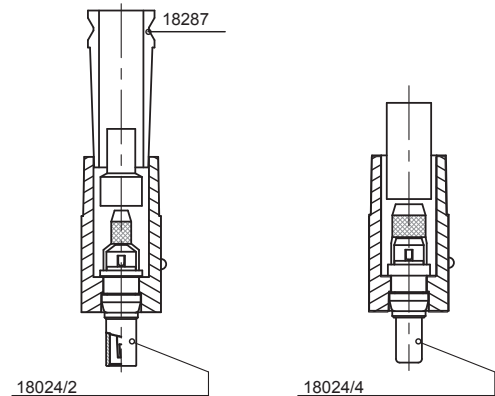
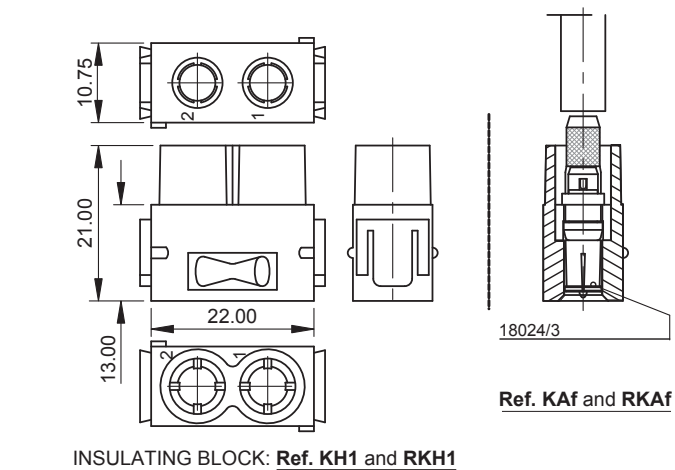
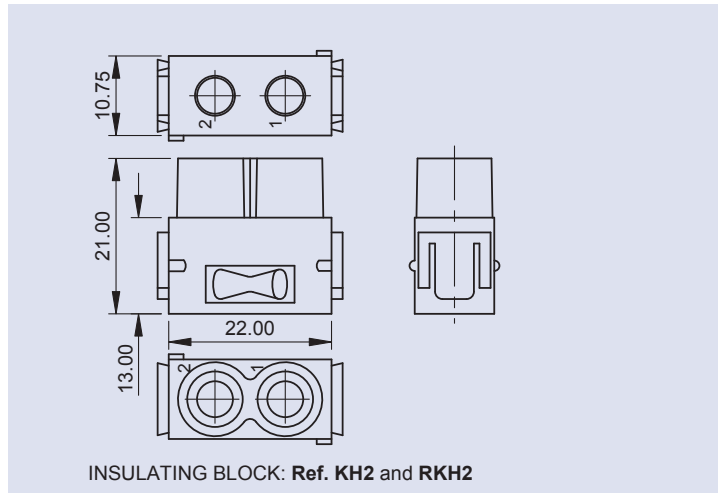
General specification	
Contact Retention <sup>(1)</sup>	>70 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<13 N
Weight (M/F)	11.5/12.8 g
Contact Resistance (1 mA) <sup>(3)</sup>	<2.5 mΩ
Dielectric Withstanding Voltage <sup>(4)</sup>	
Inner Cont/Outer Cont	1000 V r.m.s.
Outer Cont/Hardware	1000 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Inner Cont/Outer Cont	>10 <sup>3</sup> MΩ
Outer Cont/Hardware	>10 <sup>3</sup> MΩ
Standing Wave ratio (3.9 GHz) <sup>(6)</sup>	<1.1
Impedance	50 Ω
Insulator's Material	DAP

1) ref. MIL -STD-1344 Method 2007  
 2) ref. MIL -STD-1344 Method 2013.1  
 3) ref. MIL -STD-1344 Method 2004  
 4) ref. MIL -STD-1344 Method 3001.1

5) ref. MIL -STD-1344 Method 3003.1  
 6) ref. I.E.C. 512-3 Test 5b  
 (I<sub>r</sub> = 1.25V / 10xSQRT (125-T))

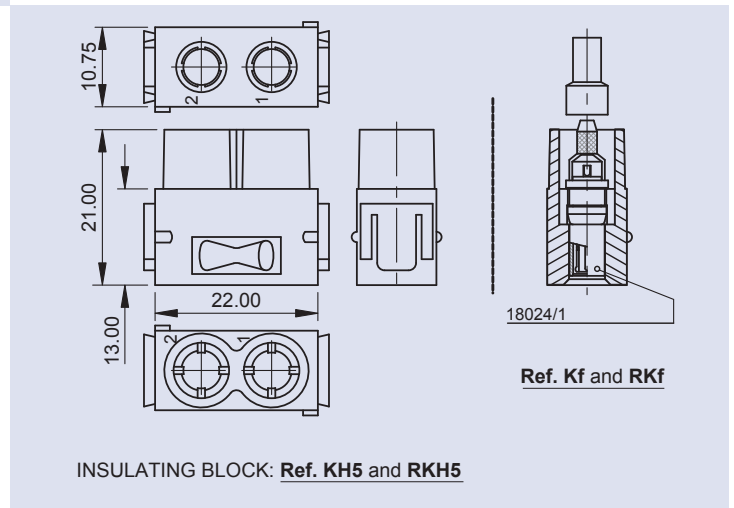
## Type "K" and "RK" element (coaxial contacts)

2 steps: 11.00 mm (assembly with spacer clips)



Ref. Km and RKm

Ref. KAm and RKAm



Ref. Kf and RKf

General specification	
Contact Retention <sup>(1)</sup>	>40 N
Mating & Unmating Force (Module) <sup>(2)</sup>	<15 N
Weight (M/F)	7.0/7.2 g
Contact Resistance (1 mA) <sup>(3)</sup>	<5.0 mΩ
Dielectric Withstanding Voltage <sup>(4)</sup>	
Cont/ Cont	1000 V r.m.s.
Cont/Hardware	2000 V r.m.s.
Insulation Resistance (500 Vdc) <sup>(5)</sup>	
Cont/ Cont	>10 <sup>3</sup> MΩ
Cont/Hardware	>10 <sup>3</sup> MΩ
Standing Wave ratio (3.9 GHz) <sup>(6)</sup>	<1.2
Impedance	50 Ω
Insulator's Material	
Type "K"	DAP
Type "RK"	PE EN45545

1) ref. MIL -STD-1344 Method 2007

2) ref. MIL -STD-1344 Method 2013.1

3) ref. MIL -STD-1344 Method 2004

4) ref. MIL -STD-1344 Method 3001.1

5) ref. MIL -STD-1344 Method 3003.1

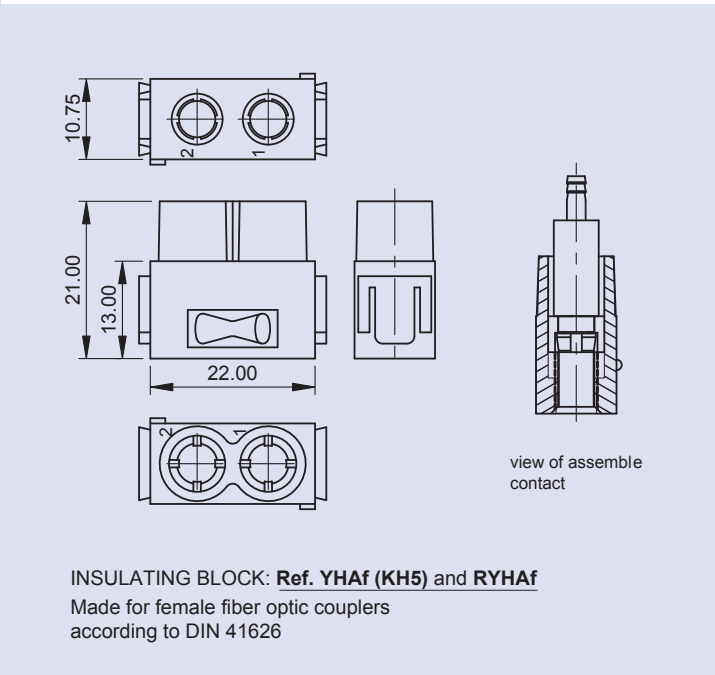
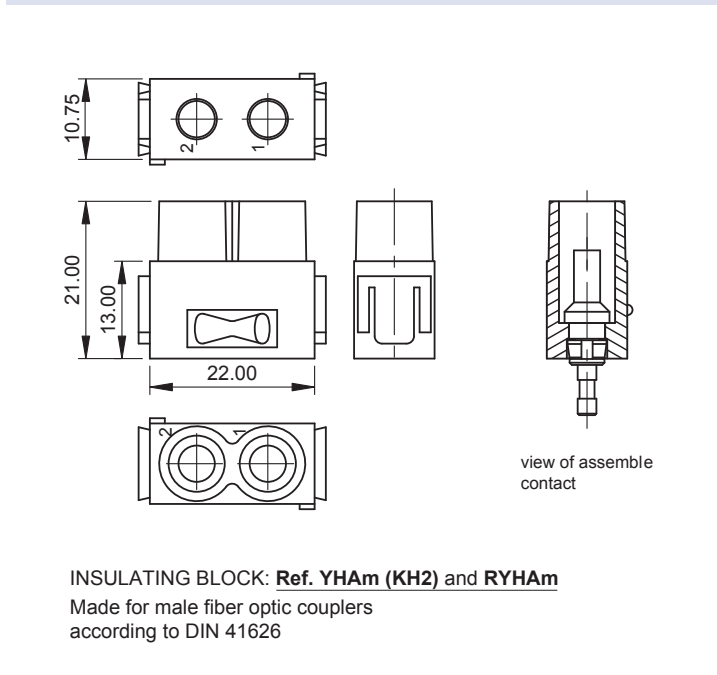
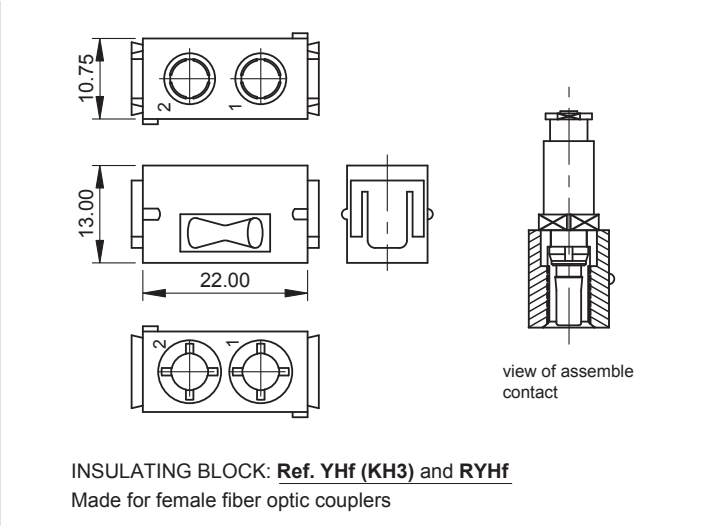
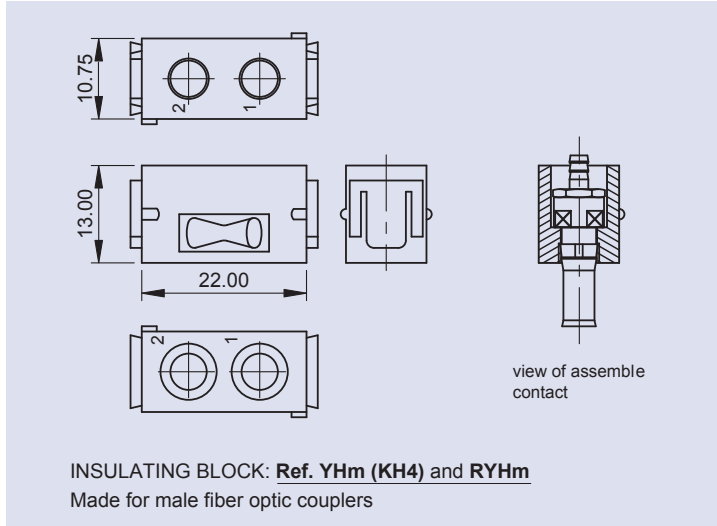
6) ref. I.E.C. 512-3 Test 5b

(It= 1.25°C/10xSQRT (125-T))

Accessories				
Ref.	18024/1	18024/2	18024/3	18024/4
Cable	RG316/ RG174	RG316/ RG174	RG58	RG58
Crimping tool	M0576	M0576	M0576	M0576
Positioner	M0577	M0577	11W.150.106	11W.150.106
Extraction tool	M0578	M0578	11W.101.000	11W.101.000

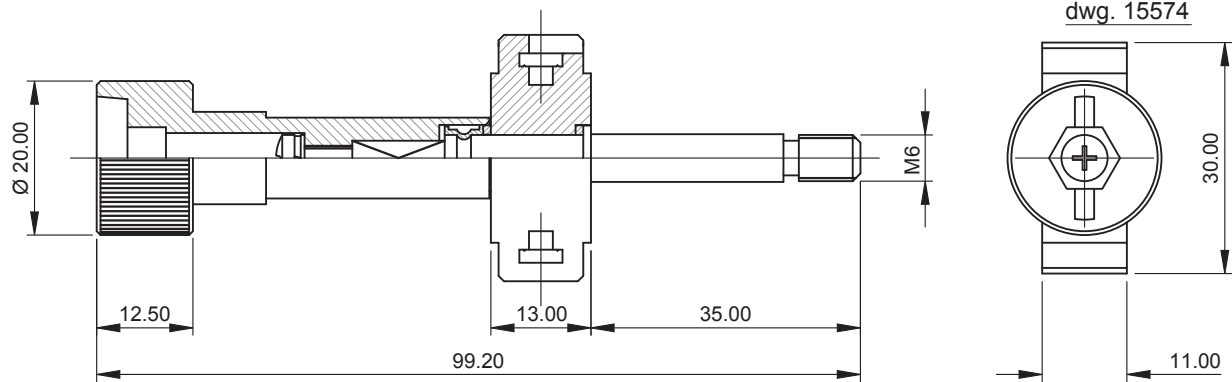
## Type "Y" and "RY" element (for fibre optic couplers)

2 steps: 11.00 mm (assembly with spacer clips)

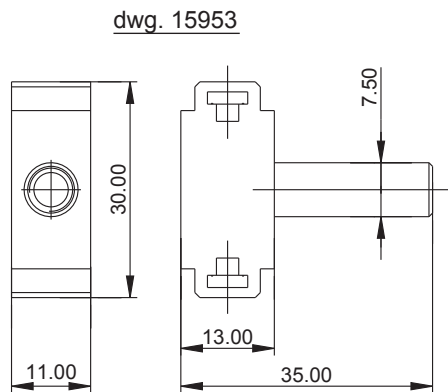


## Type "O" jackscrew

Plug side connector 2 steps: 11.00 mm



Receptacle side connector 2 steps: 11.00 mm

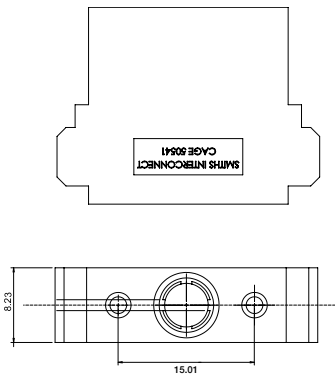
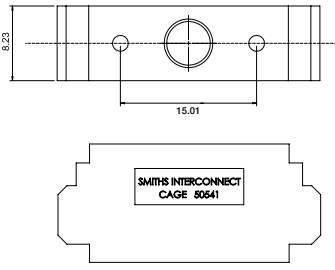


### Note

Preferred for "BV" series

# Type "F" (Fibre Optic & Coax or Power Module)

1.5 units, 2 butt joint fibre optic contacts & 1 Coaxtac or 1 power (25 A) contact

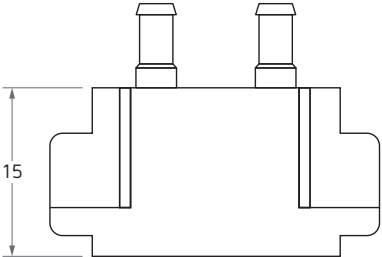
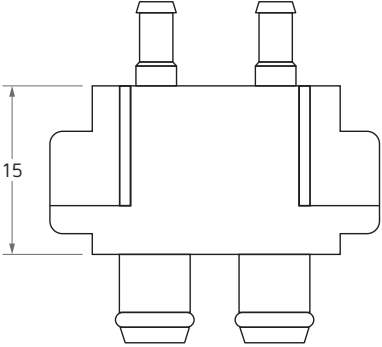
Module	Gender	Module Part Number	Contact part numbers (sold separately)
 <p>LLF</p>	Female Empty Block	LFFHT	<p><b>FOR FEMALE MODULE:</b></p> <p>Fibre Optic:</p> <p>Socket terminus 1.3 mm 62.5/125 um multimode</p> <p>FO cable</p> <ul style="list-style-type: none"> <li>Contact p/n: 853-0011788-001</li> <li>Protective cap: 218-0000508</li> </ul> <p>Coaxtac coaxial contacts:</p> <ul style="list-style-type: none"> <li>p/n for RG316 (crimp):                             <ul style="list-style-type: none"> <li>- YCX0315-002AH</li> </ul> </li> <li>p/n for RG316DB (crimp):                             <ul style="list-style-type: none"> <li>- YCX0315-019AH</li> </ul> </li> <li>p/n for RG405 or T-Flex 405 (solder):                             <ul style="list-style-type: none"> <li>- YCX0315-001AH</li> </ul> </li> </ul> <p>Hypertac Power Contacts (25A):</p> <ul style="list-style-type: none"> <li>p/n for 12-14 AWG crimp socket:                             <ul style="list-style-type: none"> <li>- YSK025-031AH</li> </ul> </li> </ul>
 <p>LFM</p>	Male Empty Block	LFMHT	<p><b>FOR MALE MODULE:</b></p> <p>Fibre Optic:</p> <p>Pin terminus for 1.3 mm 62.5/125 um multimode</p> <p>FO cable</p> <ul style="list-style-type: none"> <li>Contact p/n: 238533-0000 (dust cap included)</li> </ul> <p>Coaxtac coaxial contacts</p> <ul style="list-style-type: none"> <li>p/n for RG316 (crimp):                             <ul style="list-style-type: none"> <li>- YCX0315-004H</li> </ul> </li> <li>p/n for RG316DB (crimp):                             <ul style="list-style-type: none"> <li>- YCX0315-018H</li> </ul> </li> <li>p/n for RG405 or T-Flex 405 (solder):                             <ul style="list-style-type: none"> <li>- YCX0315-003H</li> </ul> </li> </ul> <p>Hypertac Power Contacts (25A)</p> <ul style="list-style-type: none"> <li>p/n for 12-14 AWG crimp pin:                             <ul style="list-style-type: none"> <li>- YPN025-024H</li> </ul> </li> </ul>

**Notes:**

1. Contacts are not included with the insulators, must be purchased separately and installed in the insulator modules after termination.
2. Insulator material: polyetherimide, black
3. Coax tools:
  - Centre conductor: AFM8 crimper & T1957 positioner
  - Outer conductor: HX3 crimper & T1958 (T2019 for RG316DB) die set
  - Extraction tool: T1982

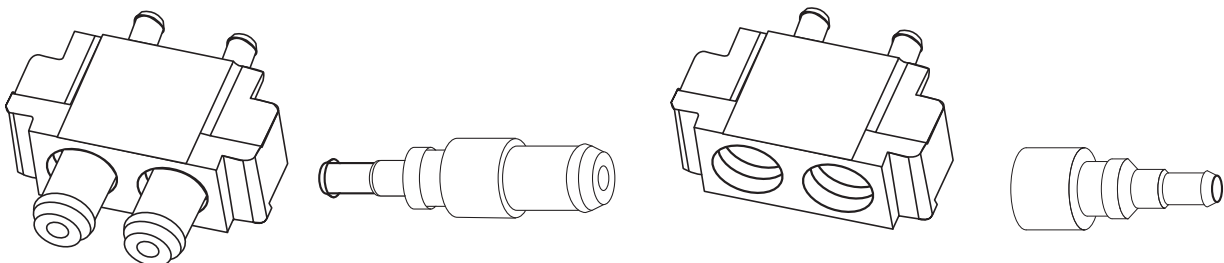
## Type "PN" (Pneumatic\*)

2 units, 2 pneumatic contacts

Module	Gender	Part Number	Tubing ID	Contact
	Female	PNF	4 mm	M0918 Nominal ID 2.5 mm
	Male	PNM	4 mm	M0919 Nominal ID 2.5 mm

### Notes:

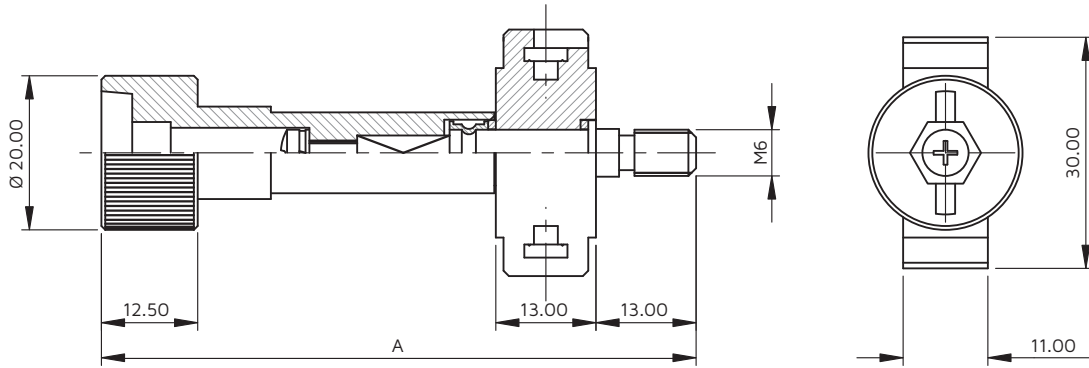
- \* Operating medium: Compressed air in accordance with ISO8573-1:2010 [7:-:-]  
Note on operating and pilot medium: Lubricated operation possible





## Type "2" jackscrew

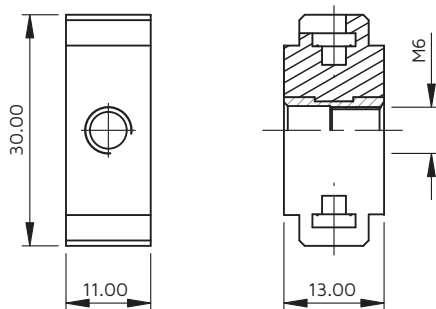
Plug side connector 2 steps: 11.00 mm



Application	A	Ref. Dwg
All series	77.20	15373
Series V - 2 cable clamps	90.20	15374

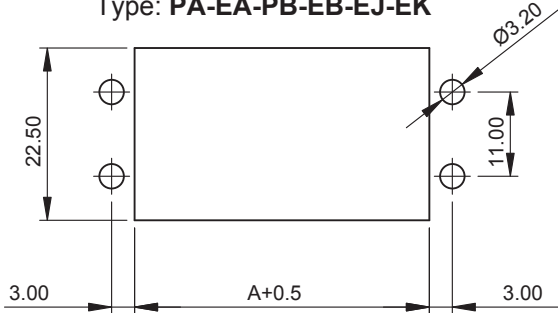
Receptacle side connector 2 steps: 11.00 mm

dwg. 15301

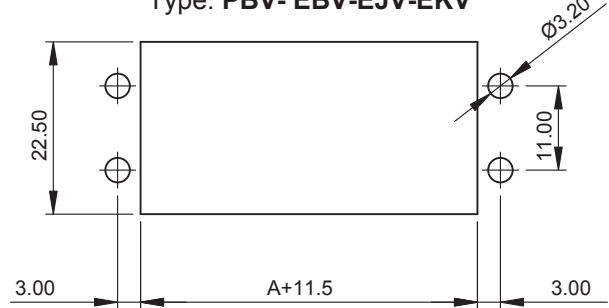


# Panel cut-out

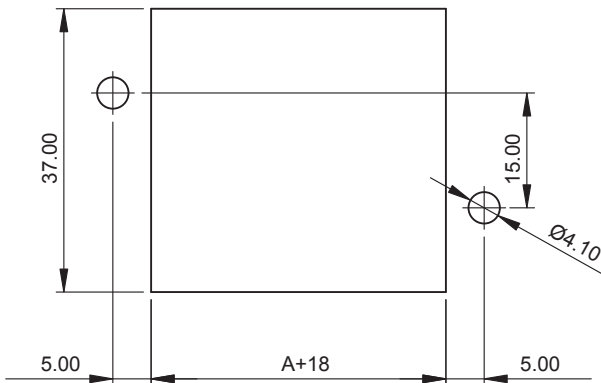
Type: PA-EA-PB-EB-EJ-EK



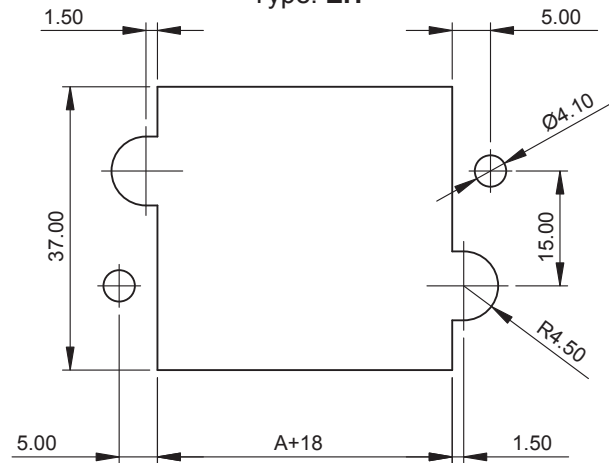
Type: PBV-EBV-EJV-EKV



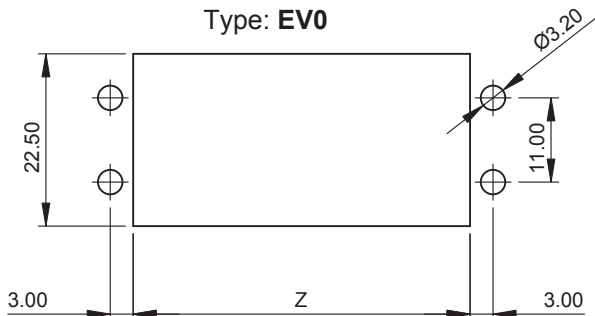
Type: PH



Type: EH

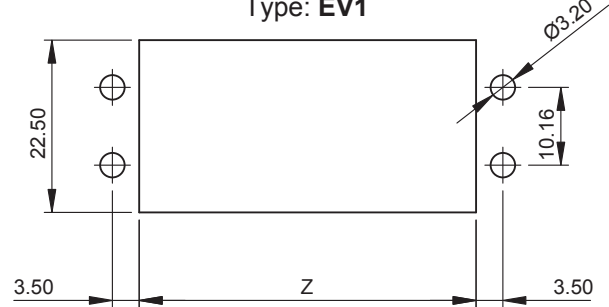


Type: EV0

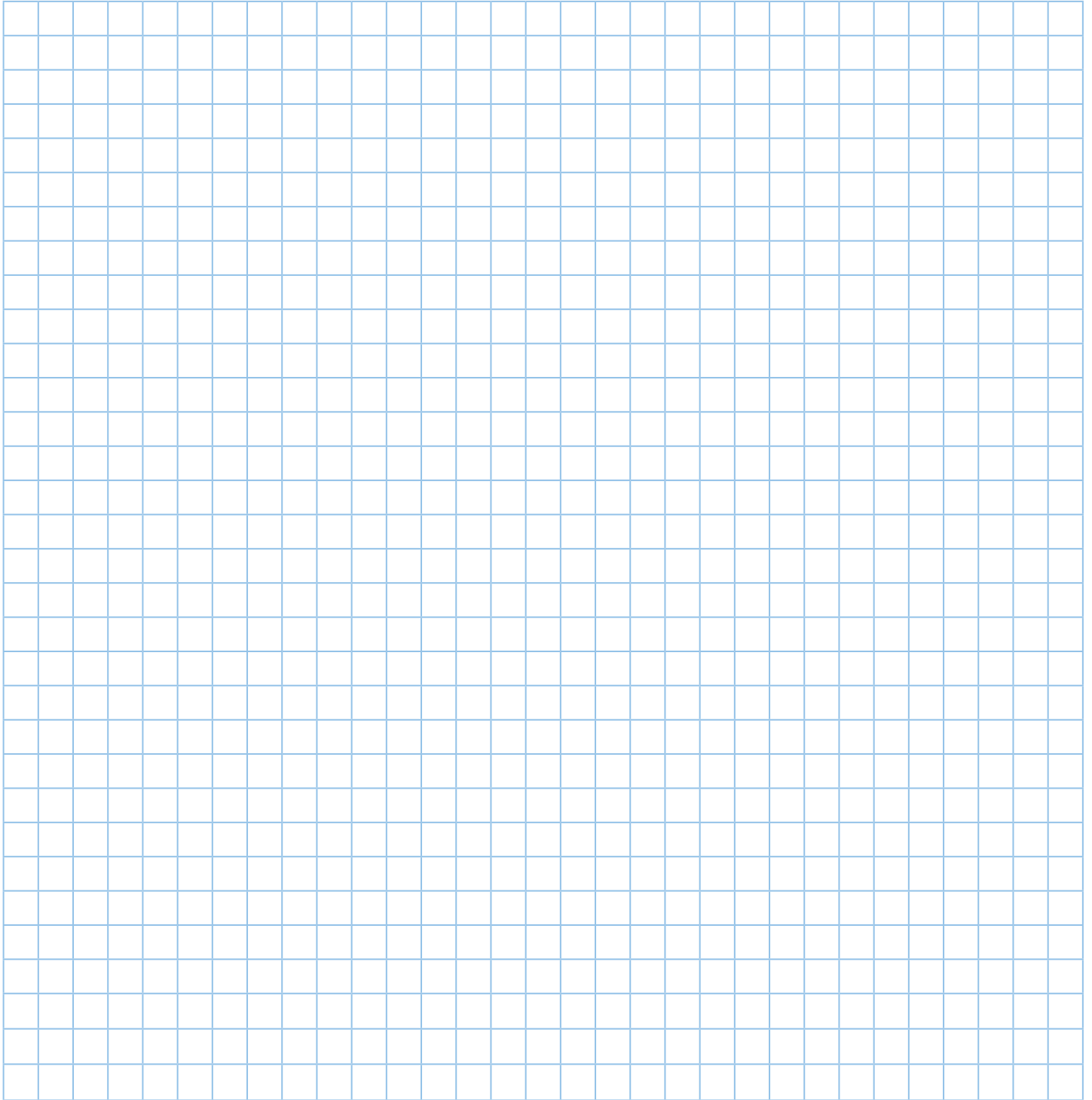


EV0 length-indication "a": Z= 66.5  
 EV0 length-indication "b": Z= 83.0  
 EV0 length-indication "c": Z= 83.0  
 EV0 length-indication "d": Z= 94.0  
 EV0 length-indication "e": Z= 110.5  
 EV0 length-indication "f": Z= 121.5

Type: EV1



EV1 length-indication "a": Z= 66.5  
 EV1 length-indication "b": Z= 83.0  
 EV1 length-indication "c": Z= 83.0  
 EV1 length-indication "d": Z= 94.0  
 EV1 length-indication "e": Z= 110.5  
 EV1 length-indication "f": Z= 121.5



Notes:

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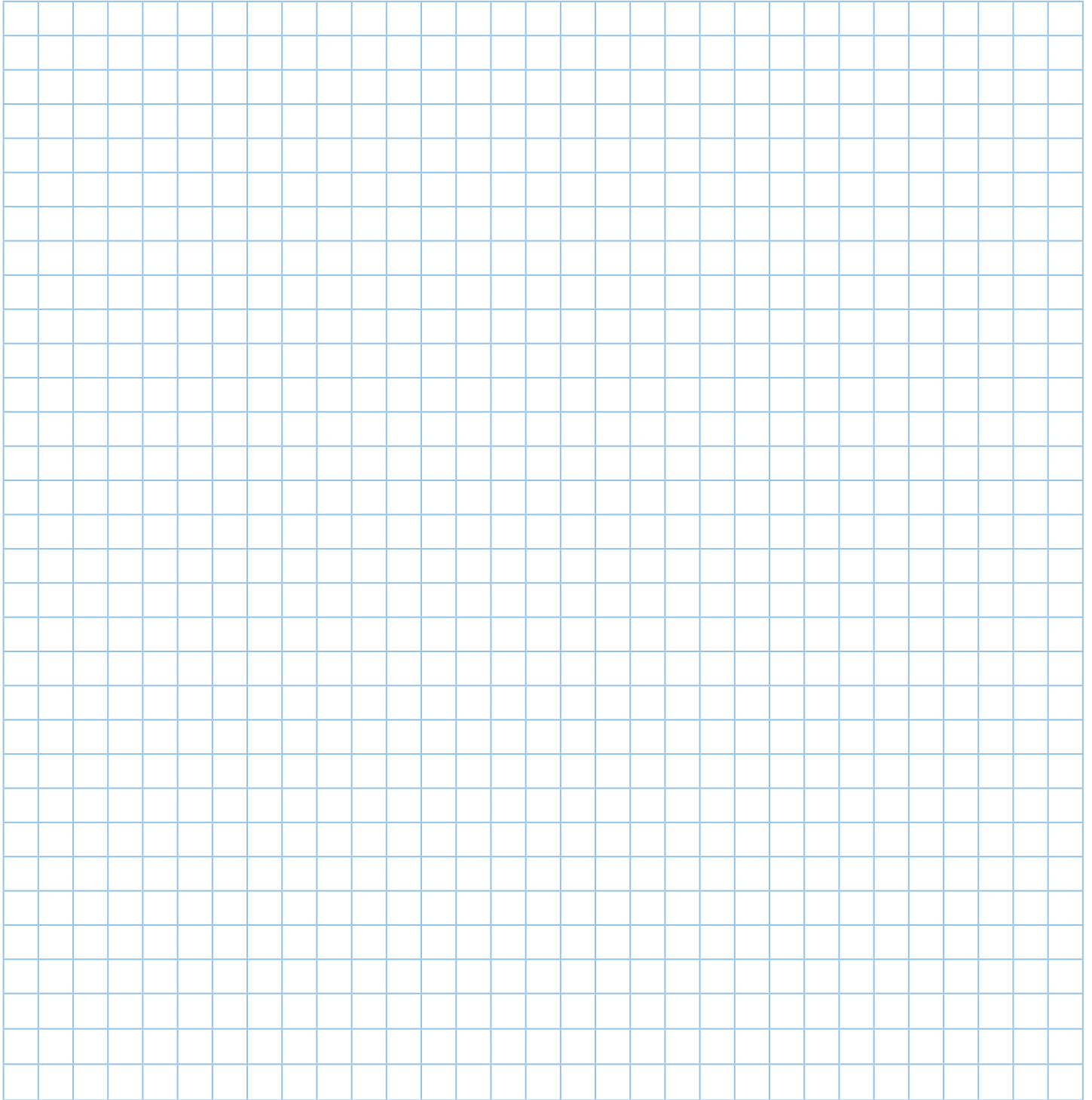
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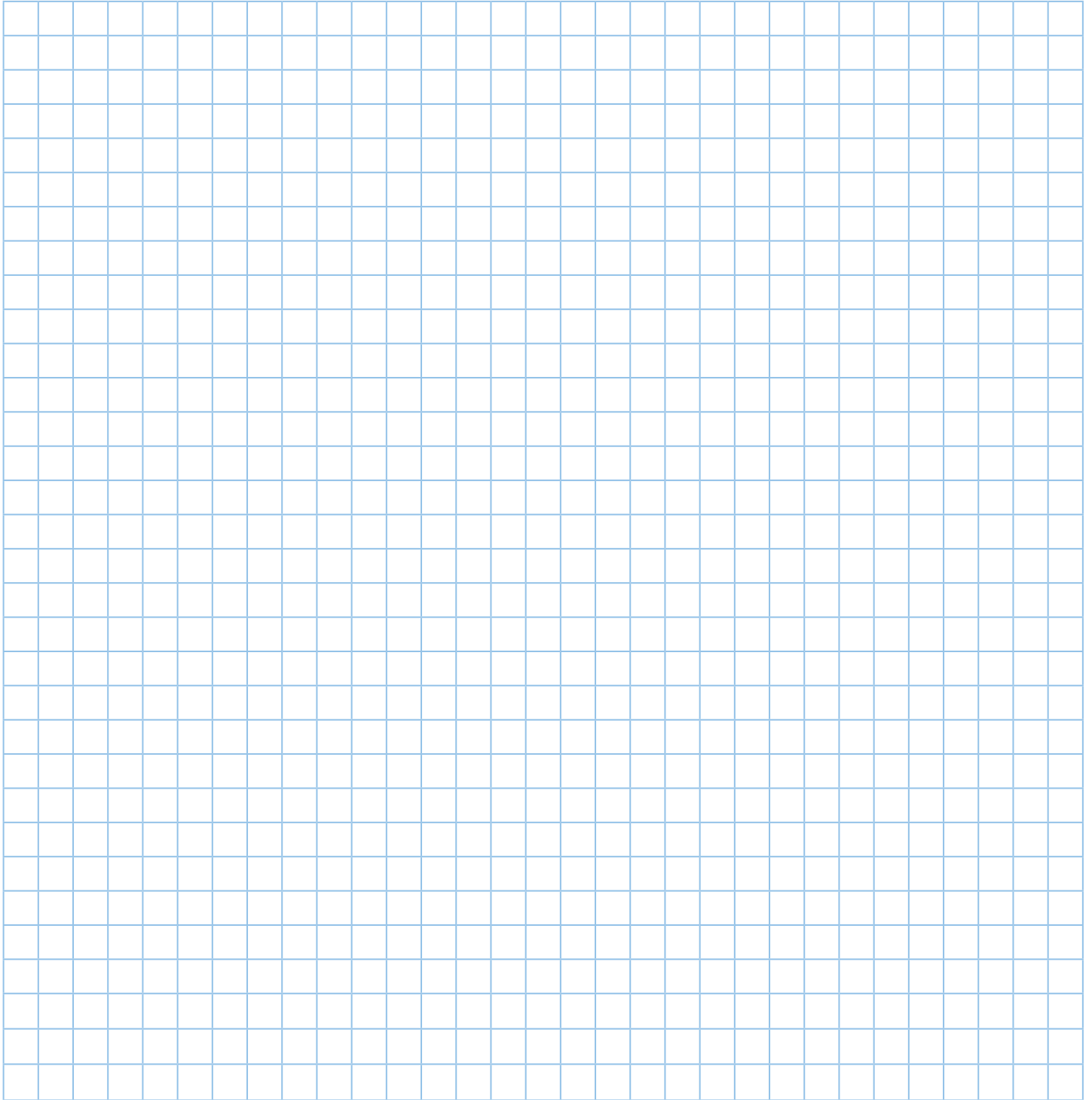
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Notes:

Five horizontal lines provided for taking notes.



Notes:

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## Disclaimer

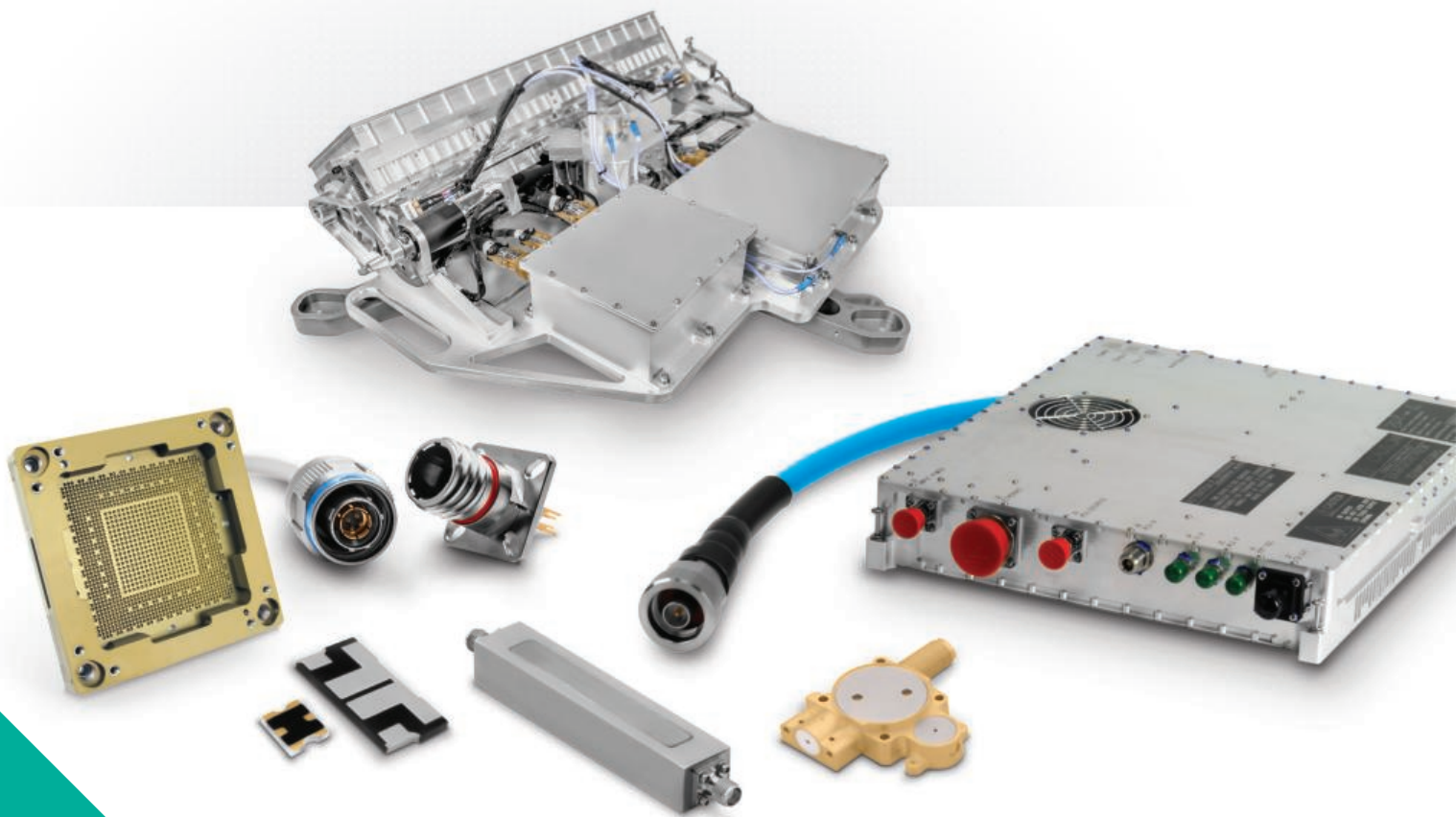
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      - Ferrite Components & Assemblies
        - RF Filter Components & Assemblies
        - Integrated Microwave Assemblies
        - Millimetre-Wave Solutions
          - RF Components
          - Test Sockets and WLCSP Probe Heads
          - Time & Frequency Systems

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