



## Railway Flat Floating Connectors

- Railway flat floating connector
- Modularity mixed power, signal & coaxial contacts.
- Up to 70 signal contacts.
- Guiding pins.
- Rack/Panel applications (norm XPF61-005)
- One size only: 14 units (5.5mm)
- In compliance with NF F 61-032, SNCF norm approved.

## Technical Characteristics

MATERIALS AND PLATINGS		ENVIRONMENTAL	
Frame	Soft Steel (Zinc coated)	Temperature range	- 40 °C to 100 °C
Side flange	Polycarbonate	Fire classification	Exigence 2 following NF F 16-102
Insulator	Polycarbonate	Salt spray test	96 hours
Pin & socket body	Brass, Au/Ni	Acid withstanding	Following NF F 61-032 par. 11.4.6
Socket wires	Copper alloy, Au/Ni	Vibration Withstanding	5 g /25 to 250 Hz
Pin	Au/Ni	Insulator mechanical resistance	1000 N
Floating eyelets	Brass (Ni plated)	Max torque for auto threading screws	75 Ncm

ELECTRICAL CHARACTERISTICS			
Contact Ø	Ø 1.50	Ø 2.50	Ø 3.50
Creepage distance	1.85 mm	2.25 mm	4.05 mm
Clearance distance	1.25 mm	3.40 mm	5.40 mm
Working current	8 A	16 A	25 A
Insulation resistance	≥ 5.10 <sup>3</sup> MΩ		
Contact resistance	≤ 2.50 mΩ	≤ 1.00 mΩ	≤ 0.80 mΩ
Dielectric withstanding voltage	1500 Vrms	2000 Vrms	3000 Vrms
Contact Ø	Ø 1.50	Ø 2.50	Ø 3.50
Voltage rating	110 V	220 V	220 V
Contact holding back in the module	40 N	50 N	70 N
Maxi male contact mass	1.10 g	2.90 g	4.90 g
Maxi female contact mass	0.70 g	1.60 g	2.70 g
IF/SF* (Max value)	1.60N	9.00N	10.00N

\*IF/SF: Insertion and separation force according to NF F 61-032

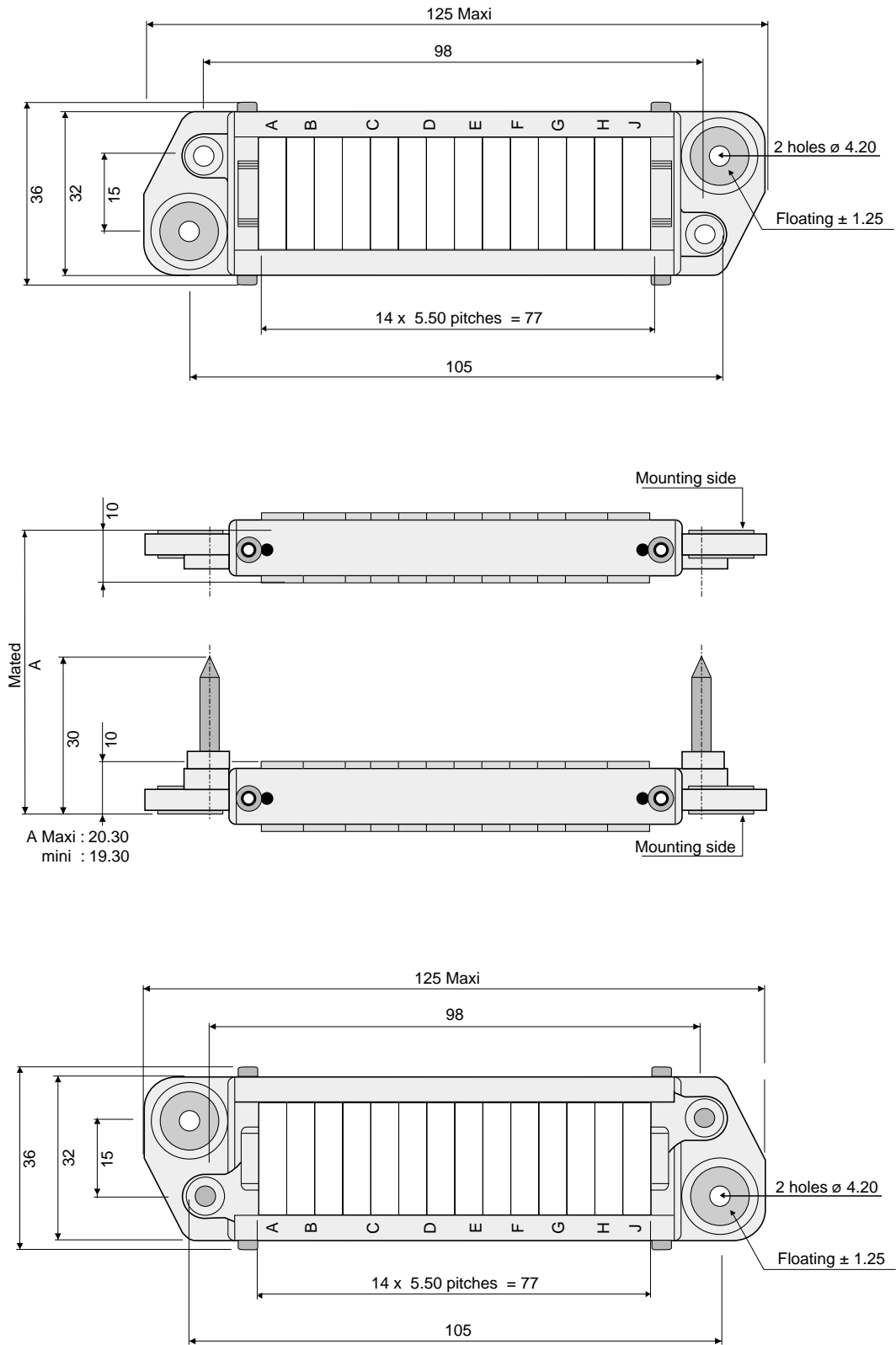
### Ordering information

		L	H	S	---	--	--	14
SERIES								
MODEL								
S	MARKED FRAME*							
LAYOUT(consult the facyory)								
Always receptacle P/N to use		Ex. : 102						
Layouts included L/RH								
Normalized		102	104	108	120	130	147	
Other		101	to		1--			
Layouts included L/ZH								
Normalized		302	320					
Other		301	to		3--			
PART - POLARITY								
01	Plug delivered without contact							
11**	Male plug delivered with contacts							
02	Receptacle delivered without contact							
20**	Female receptacle delivered with contacts							
TERMINATION STYLES								
00	Without contact	51	Wire wrap <input type="checkbox"/> 0.6					
20	Crimp termination	56	Wire wrap <input type="checkbox"/> 1					
30	Straight termination	62	Post termination					
14	PITCH NUMBER							

\* Only normalized layouts are marked with NF N 61-032

\*\* Only for non normalized layouts

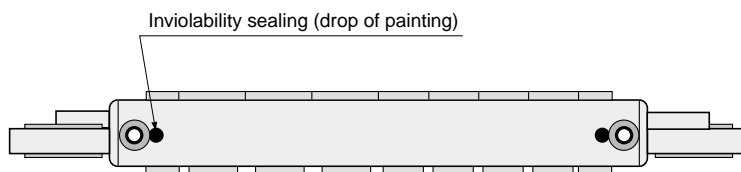
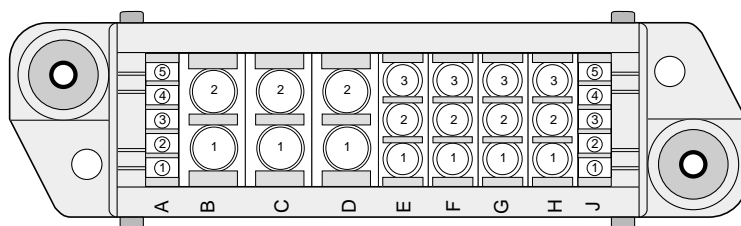
**Plug & receptacle dimensions**



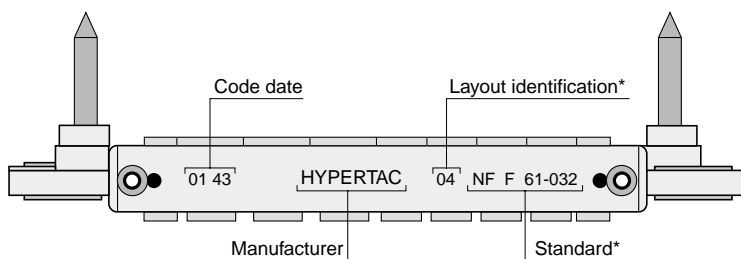
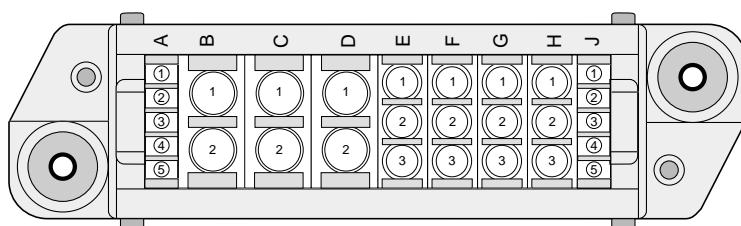
Dimensions are in mm

**Mounting exemple with L/RHA, L/UH, L/VM and L/VF modules**

**Receptacle cabling side view**



**Plug cabling side view**

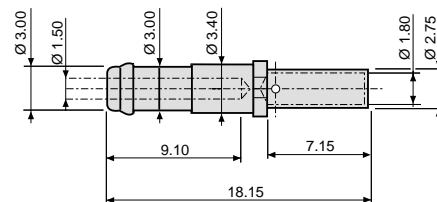
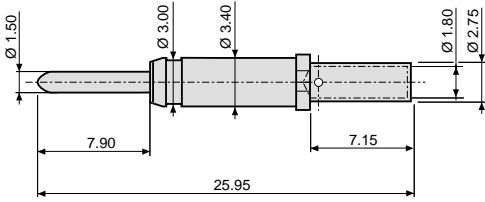


**Contacts - crimp terminations**

**Males**

**Females**

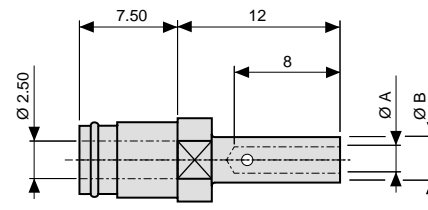
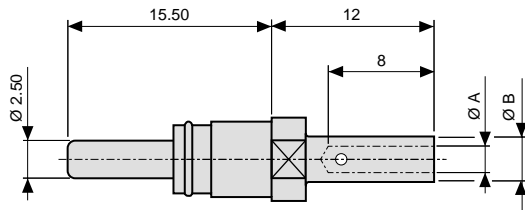
**Contacts Ø 1.50 AWG 24-22-20-18-16-14**



**Ref: 0150 761-20-OG**

**Ref: 0150 682-20-G1**

**Contacts Ø 2.50\***



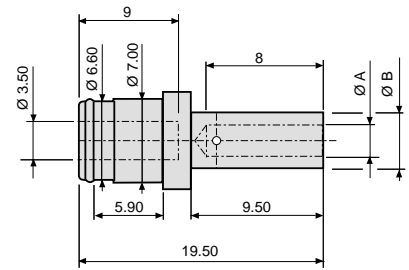
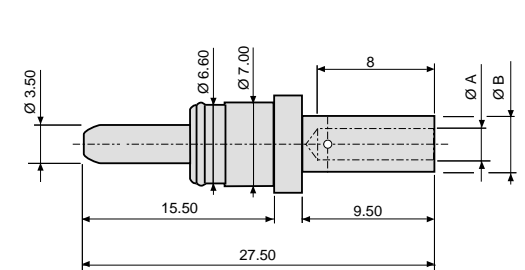
**Ref: 0250 181-22-OG**

**Ref: 0250 172-22-G1**

**Ref: 0250 201-23-OG**

**Ref: 0250 202-23-G1**

**Contacts Ø 3.50\***



**Ref: 0350 111-24-OG**

**Ref: 0350 112-24-G1**

**Ref: 0350 121-25-OG**

**Ref: 0350 122-25-G1**

**Ref: 0350 131-26-OG**

**Ref: 0350 132-26-G1**

**Ref: 0350 251-23-OG**

**Ref: 0350 302-23-G1**

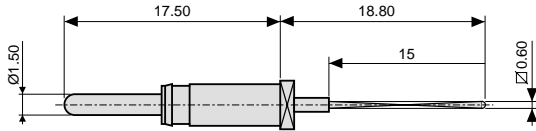
Reference	Ø A	Ø B	*AWG
<b>Ø 2.50</b>			
0250 181-22-OG	1.95	3.10	16-14
0250 172-22-G1			
0250 201-23-OG	1.50	3.10	22-20-18-16
0250 202-23-G1			
<b>Ø 3.50</b>			
0350 111-24-OG	2.10	4.10	14-13
0350 112-24-G1			
0350 121-25-OG	1.95	3.10	16-14
0350 122-25-G1			
0350 131-26-OG	1.50	3.10	22-17
0350 132-26-G1			
0350 251-23-OG	4.55	5.65	8
0350 302-23-G1			

Dimensions are in mm

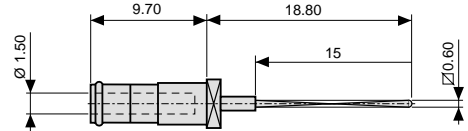
**Contacts Ø 1.50 - Wire wrap termination**

**Males**

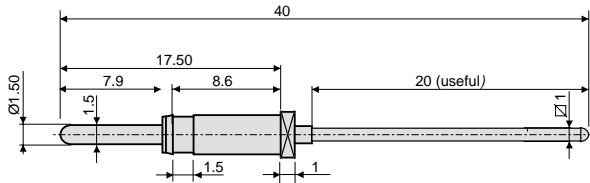
**Females**



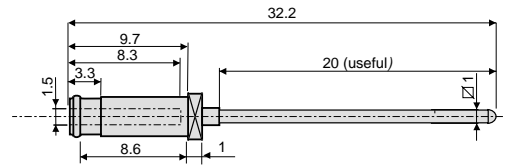
Ref: 0151 131-51-OG



Ref: 0151 132-51-G1

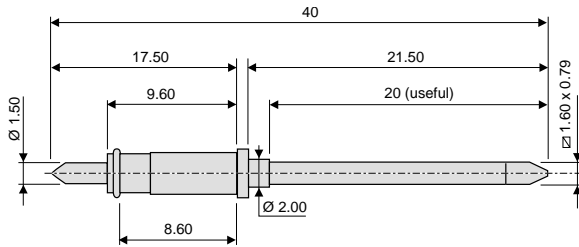


Ref: 0151 151-56-OG

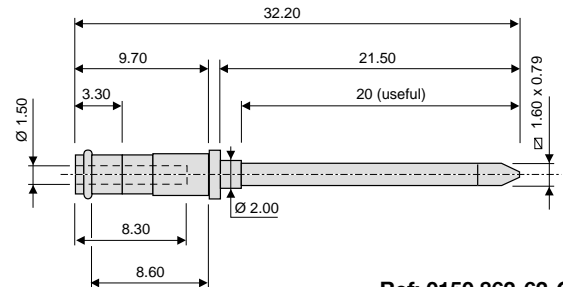


Ref: 0151 152-56-G1

**Contact Ø 1.50 - Post termination**

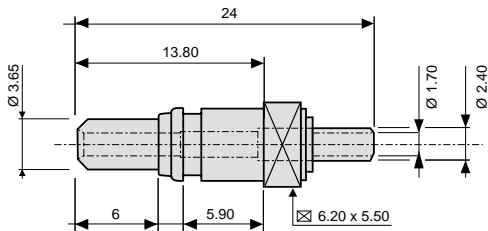


Ref: 0150 861-62-OG

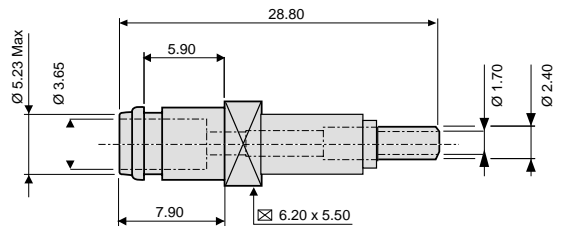


Ref: 0150 862-62-G1

**Coaxial contacts**



Ref: 0370 031-XB-U1



Ref: 0370 032-XB-U1

**TECHNICAL CHARACTERISTICS**

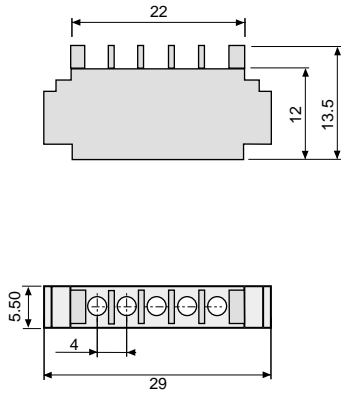
<b>Impedance</b>	cable KX22A (RG316) : 50 Ω, câble RG179B/U : 75 Ω	
<b>Curent rating</b>	3 A	
<b>Contact resistance</b>	Internal ≤ 10 milliΩ	External ≤ 0.8 milliΩ
<b>Insulation resistance</b>	> 5.10 <sup>3</sup> MΩ (500VDC)	
<b>Temperature range</b>	-40 °C + 100 °C	
<b>Contact life cycle</b>	> 5000	
<b>Standing wave ratio up to</b>	1.2 (500 MHz)	

Dimensions are in mm

**Modules**

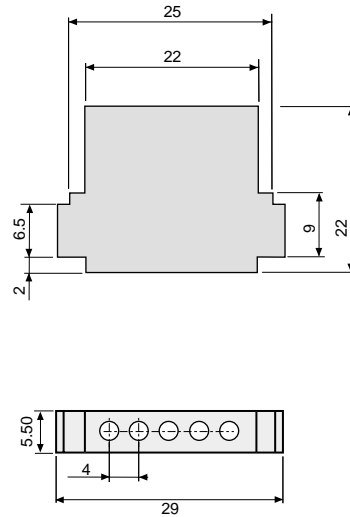
**5 x Ø 1.50**

**L/RH**



**Ref: L-- 515 00 00 RHA**

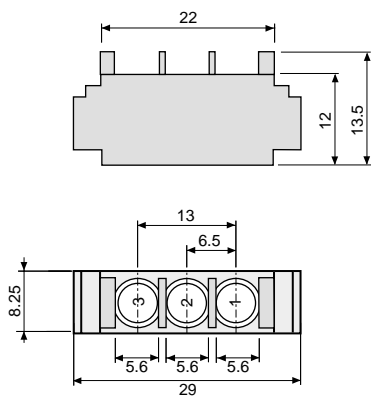
**L/ZH**



**Ref: L -- 515 00 00 ZHA**

**3 x Ø 2.50**

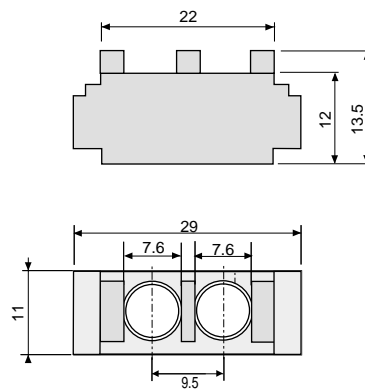
**L/SH**



**Ref: L-- 325 00 00 SH**

**2 x Ø 3.50**

**L/UH**



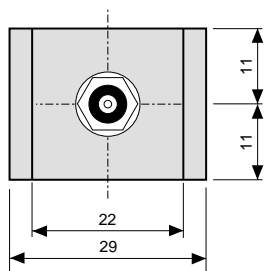
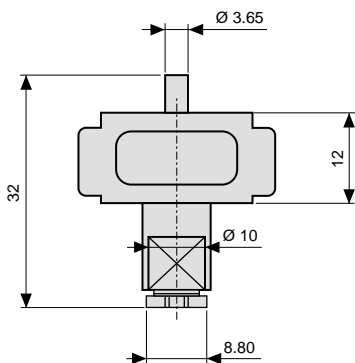
**Ref: L-- 235 00 00 UH**

Dimensions are in mm

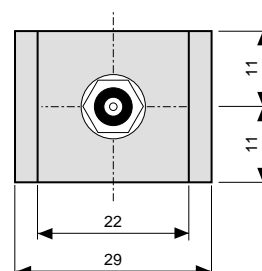
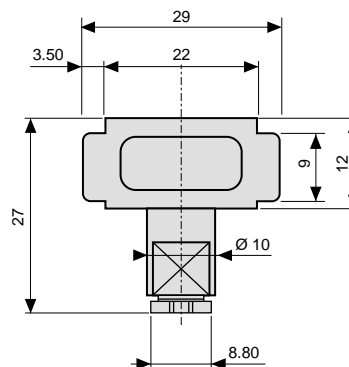
Modules

Modules equipped with contacts for KX15 coax cable

L/VM



L/VF



Ref: L-- 1CX 11 40 VM

Ref: L -- 1CX 20 40 VF

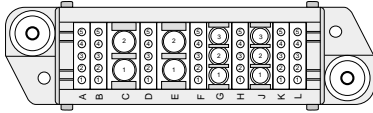
TECHNICAL CHARACTERISTICS

Impedance	50 Ω	Dielectric withstanding voltage internal 1000 Vrms external 4800 Vrms	
Curent rating	2 A	Temperature range	-40 °C + 100 °C
Contact resistance	Internal ≤ 10 milliΩ External ≤ 1 milliΩ	Module pitches number	4 as 22 mm
Insulation resistance	> 5.10 <sup>4</sup> MΩ (500 VDC)	Recommended cable	KX15

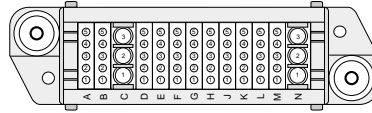
Dimensions are in mm

**Layouts**

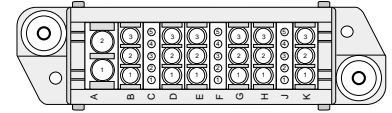
Layouts including Ø 1.50 mm contacts are equipped with L/ZH modules.



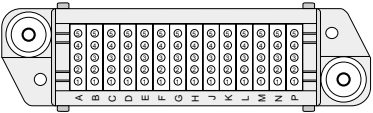
**Ref: 201/301** 7 modules L/ZH  
2 modules L/SH  
2 modules L/UH



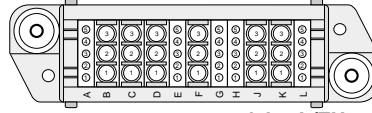
**Ref: 209/309** 11 modules L/ZH  
12 modules L/SH



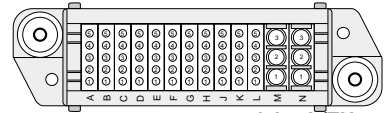
**Ref: 219/319** 3 modules L/ZH  
6 modules L/SH  
1 module L/UH



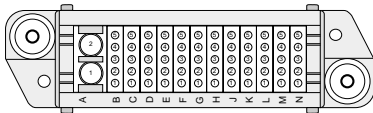
**Ref: 202/302** 14 modules L/ZH



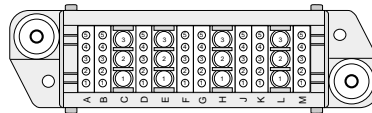
**Ref: 210/310** 5 modules L/ZH  
6 modules L/SH



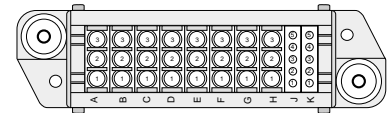
**Ref: 220/320** 11 modules L/ZH  
12 modules L/SH



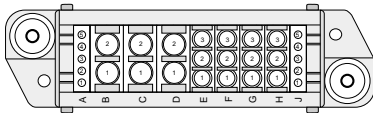
**Ref: 203/303** 12 modules L/ZH  
11 module L/UH



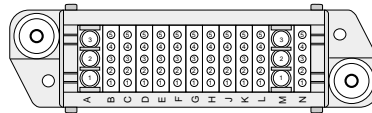
**Ref: 211/311** 8 modules L/ZH  
4 modules L/SH



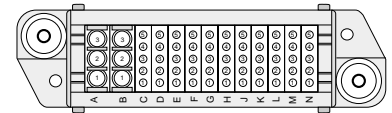
**Ref: 222/322** 2 modules L/ZH  
8 modules L/SH



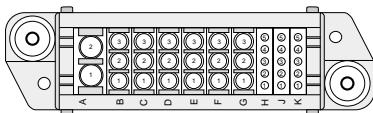
**Ref: 204/304** 2 modules L/ZH  
4 modules L/SH  
3 modules L/UH



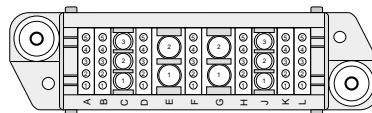
**Ref: 212/312** 11 modules L/ZH  
12 modules L/SH



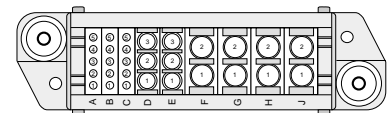
**Ref: 223/323** 11 modules L/ZH  
12 modules L/SH



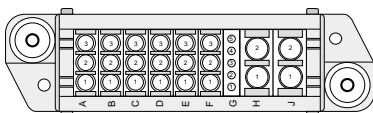
**Ref: 205/305** 3 modules L/ZH  
6 modules L/SH  
1 module L/UH



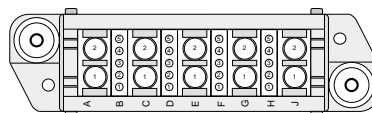
**Ref: 213/313** 7 modules L/ZH  
2 modules L/SH  
2 modules L/UH



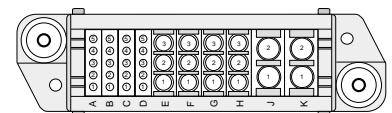
**Ref: 224/324** 3 modules L/ZH  
2 modules L/SH  
4 modules L/UH



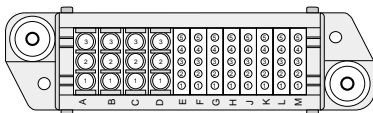
**Ref: 206/306** 1 module L/ZH  
6 modules L/SH  
2 modules L/UH



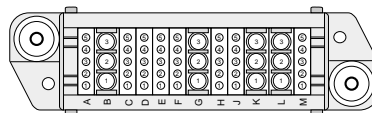
**Ref: 215/315** 4 modules L/ZH  
5 modules L/UH



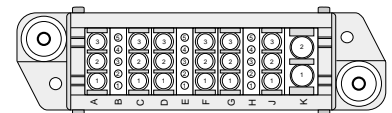
**Ref: 225/325** 4 modules L/ZH  
4 modules L/SH  
2 modules L/UH



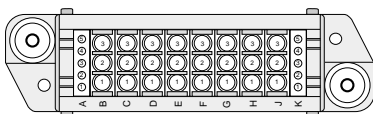
**Ref: 207/307** 8 modules L/ZH  
4 modules L/SH



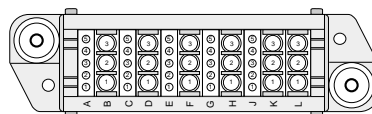
**Ref: 216/316** 8 modules L/ZH  
4 modules L/SH



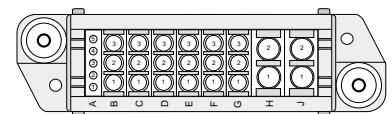
**Ref: 226/326** 3 modules L/ZH  
6 modules L/SH  
1 module L/UH



**Ref: 208/308** 2 modules L/ZH  
8 modules L/SH



**Ref: 217/317** 5 modules L/ZH  
6 modules L/SH



**Ref: 227/327** 1 module L/ZH  
6 modules L/SH  
2 modules L/UH

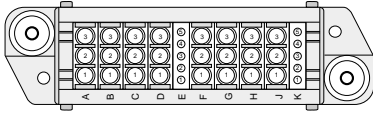
**Notes**

Only receptacle layouts are represented  
Termination side view

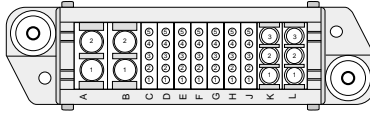
Dimensions are in mm

### Layouts

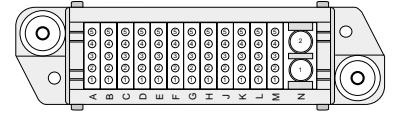
Layouts including Ø 1.50 mm contacts are equipped with L/ZH modules.



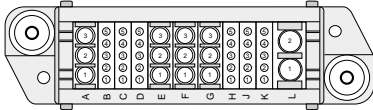
Ref: 229/329 2 modules L/ZH  
8 modules L/SH



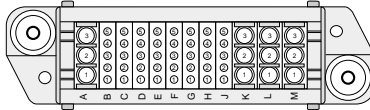
Ref: 237/337 7 modules L/ZH  
2 modules L/SH  
2 modules L/UH



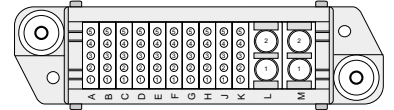
Ref: 246/346 12 modules L/ZH  
11 module L/UH



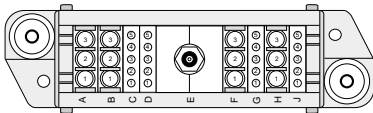
Ref: 230/330 6 modules L/ZH  
4 modules L/SH  
1 module L/UH



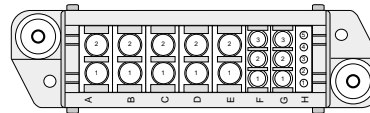
Ref: 238/338 8 modules L/ZH  
4 modules L/SH



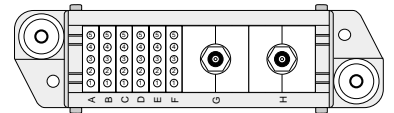
Ref: 247/347 10 modules L/ZH  
12 modules L/UH



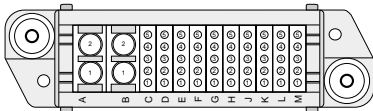
Ref: 231/331 4 modules L/ZH  
4 modules L/SH  
1 module L/V-



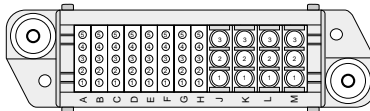
Ref: 239/339 1 module L/ZH  
2 modules L/SH  
5 modules L/UH



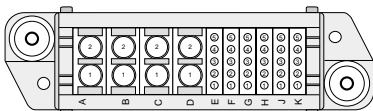
Ref: 250/350 6 modules L/ZH  
2 modules L/V-



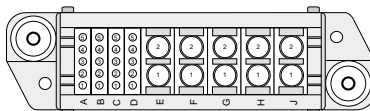
Ref: 232/332 10 modules L/ZH  
2 modules L/UH



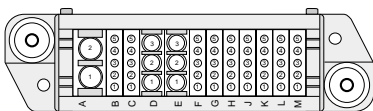
Ref: 240/340 8 modules L/ZH  
4 modules L/SH



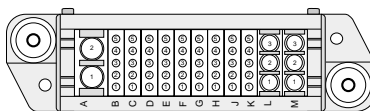
Ref: 233/333 6 modules L/ZH  
4 modules L/UH



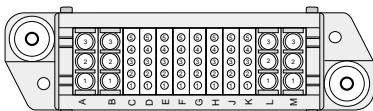
Ref: 241/341 4 modules L/ZH  
5 modules L/UH



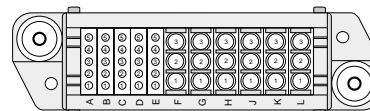
Ref: 234/334 9 modules L/ZH  
2 modules L/SH  
1 module L/UH



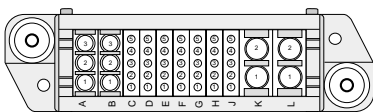
Ref: 242/342 9 modules L/ZH  
2 modules L/SH  
1 module L/UH



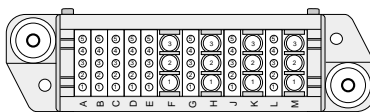
Ref: 235/335 8 modules L/ZH  
4 modules L/SH



Ref: 243/343 5 modules L/ZH  
6 modules L/SH



Ref: 236/336 7 modules L/ZH  
2 modules L/SH  
2 modules L/UH



Ref: 245/345 8 modules L/ZH  
4 modules L/SH

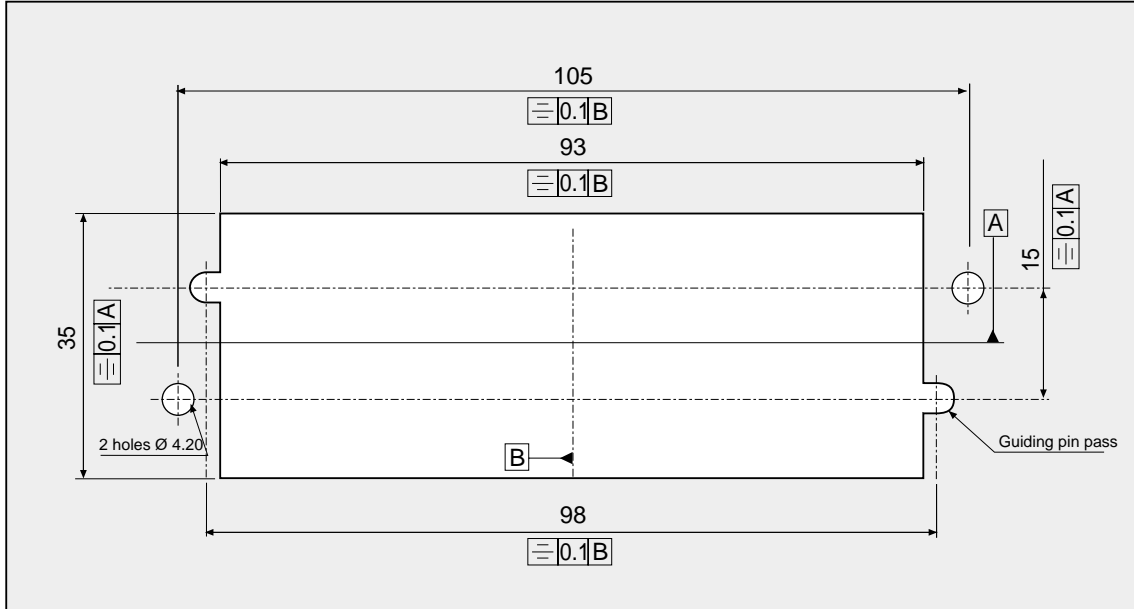
**Notes**

Only receptacle layouts are represented termination side view

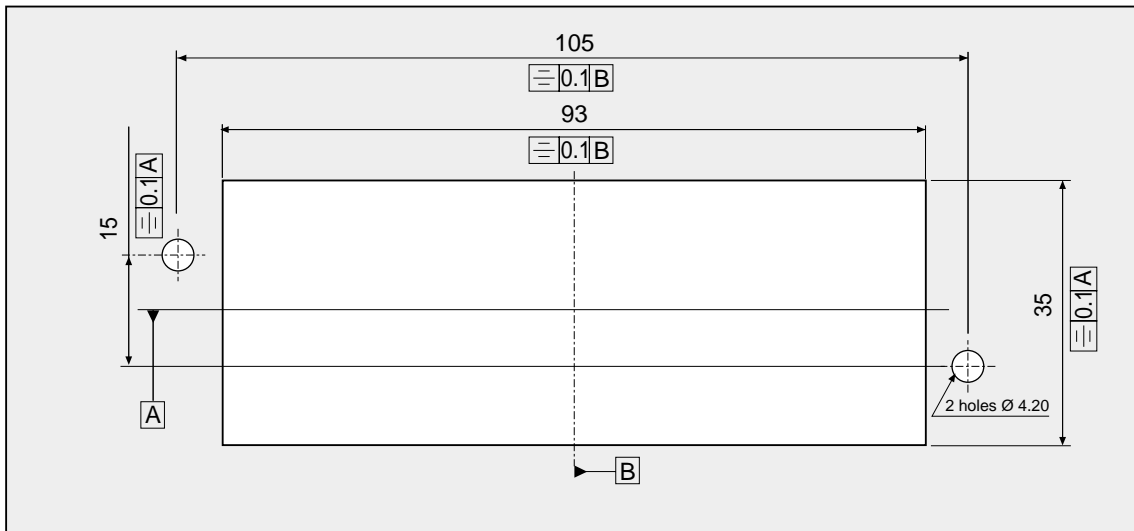
Dimensions are in mm

**Panel cut-out**

**Receptacle panel cutting**



**Plug panel cutting**



Dimensions are in mm

### Crimping tools

Contact part number	Crimp tool	AWG	Wire cross section	Positioner	Tool turret	Selector position	
0150 682-20-G1 0150 761-20-OG	ASTRO TOOL TGV 101	24	0.22	SS.015000002 HYPERTAC	ASTRO TOOL	2	
		22	0.34			3	
		20	0.60			4	
		18	0.93			5	
		16	1.34			6	
		14	1.91			7	
		DANIELS FT8	24			0.22	DANIELS
	22		0.34		3		
	20		0.60		4		
	18		0.93		SH 463 red	5	
	16		1.34		6		
	14		1.91		7		
	ASTRO TOOL MS 3191/1		22		0.34	Without	2
		20	0.60		3		
		18	0.93		4		
16		1.34	5				
14		1.91	6				
0250 181-22-OG 0250 172-22-G1		ASTRO TOOL TGV 101	16	1.34	ASTRO TOOL		6
			15	1.50			6
	15		1.82	7			
	14		1.91	TGV 202 blue		7	
	14		2.00	7			
	DANIELS FT8	16	1.34	DANIELS	6		
		15	1.5	6			
		15	1.82	7			
		14	1.91	SH 463 blue	7		
		14	2.00	7			
0250 201-23-OG 0250 202-23-G1	ASTRO TOOL TGV 101	22	0.34	ASTRO TOOL	5		
		20	0.60		6		
		18	0.93		6		
		18	1.00		TGV 202 blue	6	
		16	1.34		6		
	DANIELS FT8	22	0.34	DANIELS	5		
		20	0.60	6			
		18	0.93	6			
		18	1.00	SH 463 blue	6		
		16	1.34	6			
0350 111-24-OG 0350 112-24-G1	DANIELS M317	14	1.91	Without	DANIELS	3	
		14	2.00		TP 805	3	
		13	2.50		4		
	ASTRO TOOL TGV 515	14	1.91		ASTRO TOOL	3	
		14	2.00		TGV 503	3	
		13	2.50		4		
0350 121-25-OG 0350 122-25-G1	DANIELS M317	16	1.34	Without	DANIELS	2	
		15	1.50		TP 805	2	
		14	1.91		3		
		14	2.00		3		
	ASTRO TOOL TGV 515	16	1.34		ASTRO TOOL	2	
		15	1.50		TGV 503	2	
		14	1.91		3		
		14	2.00		3		
		0350 131-26-OG 0350 132-26-G1	DANIELS M317		22	0.38	Without
20	0.60			TP 805	1		
18	0.93			2			
18	1.00			2			
ASTRO TOOL TGV 515	22		0.38	ASTRO TOOL	1		
	20		0.60	TGV 503	1		
	18		0.93	2			
	18		1.00	2			
0350 251-23-OG 0350 302-23-G1	ASTRO TOOL TGV 515	8	8.98	M22520/1,05	4		
	DANIELS M300 BT	8	8.98	M22520/1,05	4		

Dimensions are in mm

**Tools - Insertion and extraction tools**

Contact Ø	MALES		FEMALES	
	Part number	Part number	Insertion tool	Extracting tool
1.50	0150 761-20-OG	0150 682-20-G1	S_059 <sup>(1)</sup>	S__072
			SM-0150000002 <sup>(2)</sup>	
			SM-0150000003 <sup>(3)</sup>	
			SM-0150000000 <sup>(4)</sup>	
2.50	0250 181-22-OG	0250 172-22-G1	SE-0250000001	S__078
	0250 201-23-OG	0250 202-23-G1		
3.50	0350 111-24-OG	0350 112-24-G1	SE-0350000001	S__083 <sup>(5)</sup>
	0350 121-25-OG	0350 122-25-G1		
	0350 131-26-OG	0350 132-26-G1		
	0350 251-23-OG	0350 302-23-G1		

(1) straight tool

(2) unwedge tool

(3) bent tool

(4) 3 tool kit

(5) tool for Ø 1.50, 2.50 et 3.50 contacts