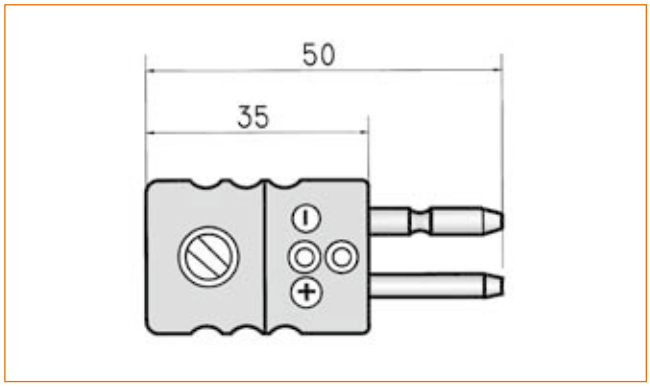
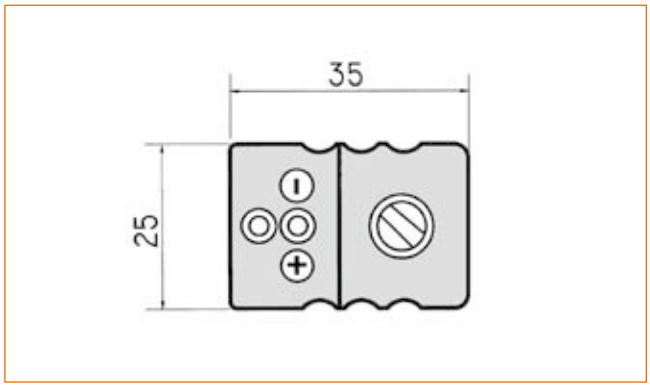
Standard plugs



Standard couplers



Application:
Plug-and-socket connectors for the measuring circuits of thermocouples and resistance thermometers. Solid pins ensure a reliable connection.

Mechanical structure:
– Casing made of plastic filled with fibre glass
– Pins and sleeves thermally stress-relieved
– Solid pins and spring-loaded sockets
– Reverse voltage protection through various pin thicknesses
– Central cover fastening facilitates assembly
– Internally separated conductors prevent short circuits
– Terminal screws enable fast connections

Conductor cross-section:
– Secure clamping from Ø 0.2 mm to Ø 2.0 mm
– Max. cable diameter of 8.0 mm

Thermal load:
– Max. 200°C

Code colours for the casing:
– All of the international colour codes are available:
DIN IEC, DIN 43710, ANSI, NFE, BS, JIS, etc.

Accessories:
– Strain reliefs, gaskets, splash protection, etc.

Type	J/L	K	S	B	N
Contact +	Fe	NiCr	Cu	Cu	Nicrosil
Contact -	CuNi	Ni	Alloy#11	Cu	Nisil

DIN IEC 584 colour coding

Casing colour	Black (type J)	Green	Orange	Grey	Pink
Plug	99-91440010-HJ00	99-91440010-HK00	99-91440010-HS00	99-91440010-HB00	99-91440010-HN00
Coupler	99-91441010-HJ00	99-91441010-HK00	99-91441010-HS00	99-91441010-HB00	99-91441010-HN00

DIN 43710 colour coding

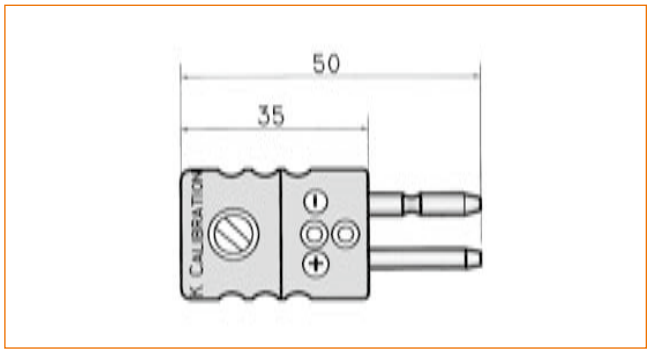
Casing colour	Blue (type L)	Green	-	White	-
Plug	99-91440020-HL00	99-91440020-HK00	-	On request	-
Coupler	99-91441020-HL00	99-91442020-HK00	-	On request	-

ANSI colour coding

Casing colour	Black	Yellow	Green	White	Orange
Plug	On request	99-91440030-HK00	99-91440030-HS00	On request	On request
Coupler	On request	99-91441030-HK00	99-91441030-HS00	On request	On request

The strain relief (accessories) fixes cables of varying diameters onto the plugs and the couplers.
Strain relief **Art. no. 99-91444000-0000**
Assembly is carried out by means of screwing it into the female thread in the plug-and-socket connector.

Standard high-temperature plugs



Application:
Plug-and-socket connectors for the measuring circuits of thermocouples and resistance thermometers. Solid pins ensure a reliable connection.

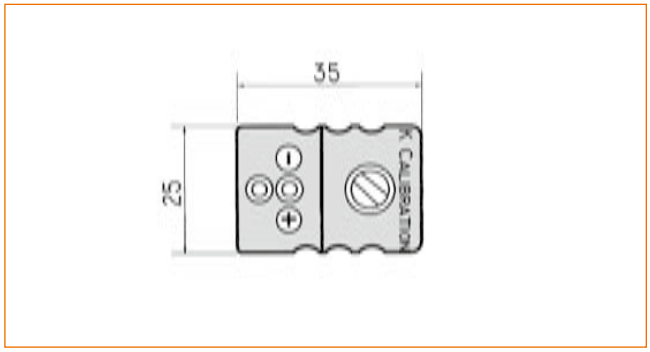
Mechanical structure:
– Casing made of temperature-resistant special plastic for high ambient temperatures
– Pins and sleeves thermally stress-relieved
– Solid pins and spring-loaded sockets
– Reverse voltage protection through various pin thicknesses
– Central cover fastening facilitates assembly
– Internally separated conductors prevent short circuits
– Terminal screws enable fast connections

Conductor cross-section:
– Secure clamping from Ø 0.2 mm to Ø 2.0 mm
– Max. cable diameter of 8.0 mm

Thermal load:
– Max. 350°C

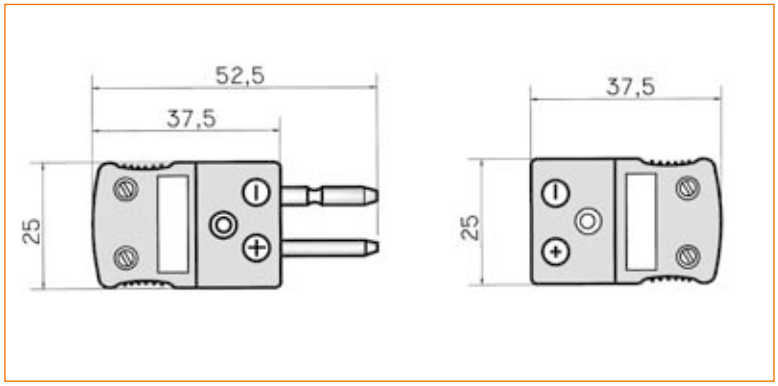
Colour coding:
– Casing brown, with element code

Standard high-temperature couplers



Type	J/L	K	S	B	N
Contact +	Fe	NiCr	Cu	Cu	Nicrosil
Contact -	CuNi	Ni	Alloy#11	Cu	Nisil
Plug	On request	99-91460010-HK00	99-91460010-HS00	99-91460010-HB00	99-91460010-HN00
Coupler	On request	99-91461010-HK00	99-91461010-HS00	99-91461010-HB00	99-91461010-HN00

Standard ceramic plugs/couplers



Type	K	S	B
Contact +	NiCr	Cu	Cu
Contact -	Ni	Alloy#11	Cu
Plug	99-91480010-HK00	99-91480010-HS00	99-91480010-HB00
Coupler	99-91481010-HK00	99-91481010-HS00	99-91481010-HB00

Application:
Plug-and-socket connectors for the measuring circuits of thermal elements and resistance thermometers. Solid pins ensure a reliable connection.

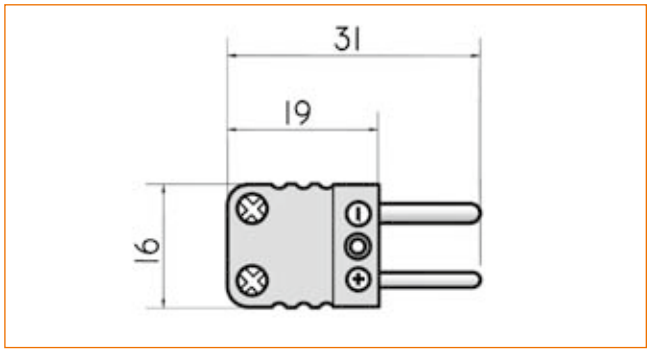
Mechanical structure:
– Ceramic casing for extremely high ambient temperatures
– Pins and sleeves thermally stress-relieved
– Solid pins and spring-loaded sockets
– Reverse voltage protection through various pin thicknesses
– Central cover fastening facilitates assembly
– Internally separated conductors prevent short circuits
– Terminal screws enable fast connections

Conductor cross-section:
– Secure clamping from Ø 0.2 mm to Ø 2.0 mm
– Max. cable diameter of 8.0 mm

Thermal load:
– Max. 650°C

Colour coding:
– Casing white, with element code

Miniature plugs



Application:
Plug-and-socket connectors for the measuring circuits of thermocouples and resistance thermometers. Solid pins ensure a reliable connection.

Mechanical structure:
– Casing made of plastic filled with fibre glass
– Pins and sleeves thermally stress-relieved
– Solid pins and spring-loaded sockets
– Reverse voltage protection through various pin widths
– Central cover fastening facilitates assembly
– Internally separated conductors prevent short circuits
– Terminal screws enable fast connections

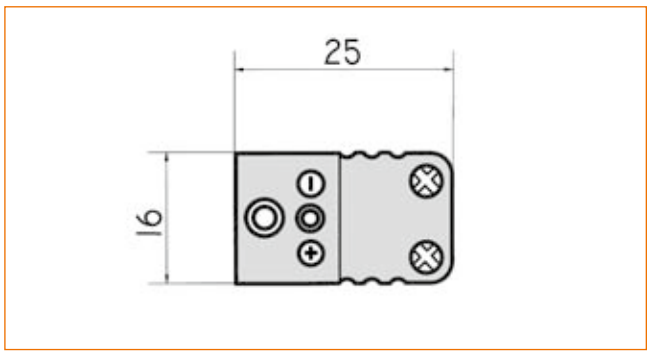
Conductor cross-section:
– Secure clamping from Ø 0.1 mm to Ø 0.6 mm
– Max. cable diameter of 4.5 mm

Thermal load:
– Max. 200°C

Code colours for the casing:
– All of the international colour codes are available:
DIN IEC, DIN 43710, ANSI, NFE, BS, JIS, etc.

Accessories:
– Strain reliefs, gaskets, splash protection, etc.

Miniature couplers



Type	J/L	K	S	B	N
Contact +	Fe	NiCr	Cu	Cu	Nicrosil
Contact -	CuNi	Ni	Alloy#11	Cu	Nisil

DIN IEC 584 colour coding

Casing colour	Black (type J)	Green	Orange	Grey	Pink
Plug	99-91450010-HJ00	99-91450010-HK00	99-91450010-HS00	99-91450010-HB00	99-91450010-HN00
Coupler	99-91451010-HJ00	99-91451010-HK00	99-91451010-HS00	99-91451010-HB00	99-91451010-HN00

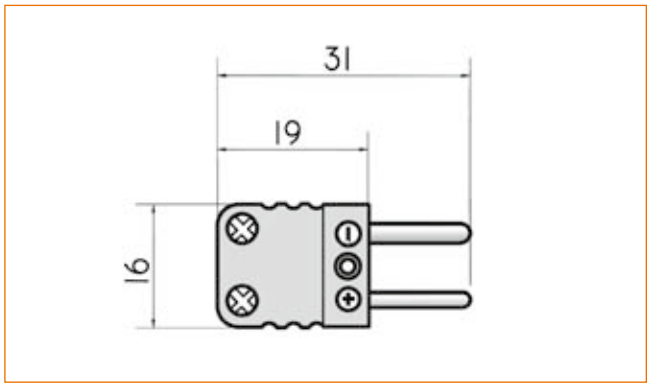
DIN 43710 colour coding

Casing colour	Blue (type L)	Green	-	White	-
Plug	99-91450020-HL00	99-91450020-HK00	-	On request	-
Coupler	99-91451020-HL00	99-91451020-HK00	-	On request	-

ANSI colour coding

Casing colour	Black	Yellow	Green	White	Orange
Plug	On request	99-91450030-HK00	99-91450030-HS00	On request	On request
Coupler	On request	99-91451030-HK00	99-91451030-HS00	On request	On request

Miniature high-temperature plugs



Application:
Plug-and-socket connectors for the measuring circuits of thermocouples and resistance thermometers. Solid pins ensure a reliable connection.

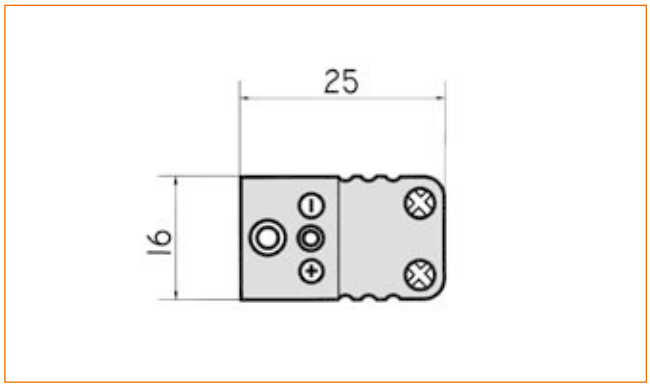
Mechanical structure:
– Casing made of temperature-resistant special plastic for high ambient temperatures
– Pins and sleeves thermally stress-relieved
– Solid pins and spring-loaded sockets
– Reverse voltage protection through various pin widths
– Central cover fastening facilitates assembly
– Internally separated conductors prevent short circuits
– Terminal screws enable fast connections

Conductor cross-section:
– Secure clamping from Ø 0.1 mm to Ø 0.6 mm
– Max. cable diameter of 4.5 mm

Thermal load:
– Max. 350°C

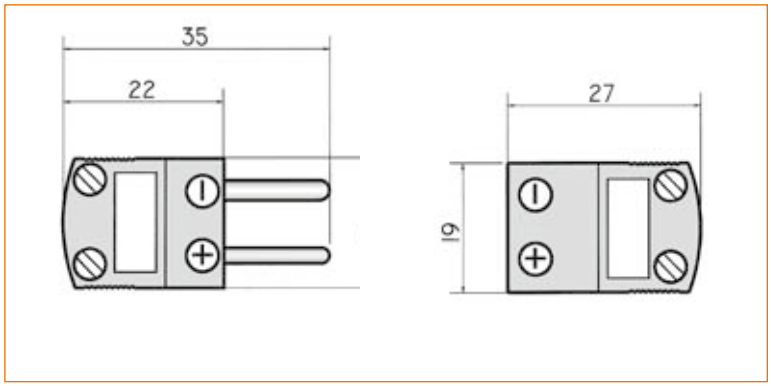
Colour coding:
– Casing brown, with element code

Miniature high-temperature couplers



Type	J/L	K	S	B	N
Contact +	Fe	NiCr	Cu	Cu	Nicrosil
Contact -	CuNi	Ni	Alloy#11	Cu	Nisil
Plug	On request	99-91470010-HK00	99-91470010-HS00	99-91470010-HB00	99-91470010-HN00
Coupler	On request	99-91471010-HK00	99-91471010-HS00	99-91471010-HB00	99-91471010-HN00

Miniature ceramic plugs/couplers



Type	J/L	K	S
Contact +	Fe	NiCr	Cu
Contact -	CuNi	Ni	Alloy#11
Plug	On request	99-91490010-HK00	99-91490010-HS00
Coupler	On request	99-91491010-HK00	99-91491010-HS00

Application:
Plug-and-socket connectors for the measuring circuits of thermocouples and resistance thermometers. Solid pins ensure a reliable connection.

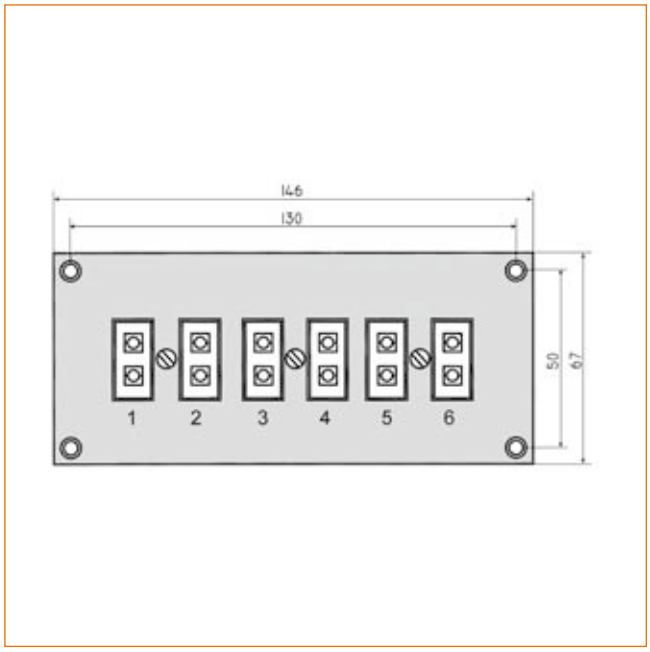
Mechanical structure:
– Ceramic casing for extremely high ambient temperatures
– Pins and sleeves thermally stress-relieved
– Solid pins and spring-loaded sockets
– Reverse voltage protection through various pin widths
– Central cover fastening facilitates assembly
– Internally separated conductors prevent short circuits
– Terminal screws enable fast connections

Conductor cross-section:
– Secure clamping from Ø 0.1 mm to Ø 0.5 mm
– Max. cable diameter of 3.6 mm

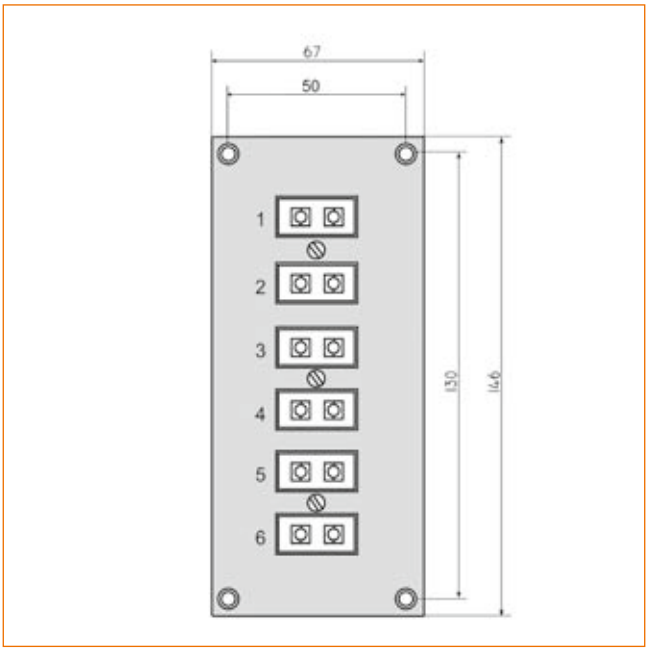
Thermal load:
– Max. 650°C

Colour coding:
– Casing white, with element code

Standard panels – horizontal



Standard panels - vertical



Horizontal model

Type Dimensions Colour [mm]	J to IEC "black"	L to DIN "blue"	K to IEC "green"	
1 measuring circuit	38 x 38	98-91442111-HJ01	98-91442121-HL01	98-91442111-HK01
6 measuring circuits	146 x 67	98-91442111-HJ06	98-91442121-HL06	98-91442111-HK06
12 measuring circuits	260 x 67	98-91442111-HJ12	98-91442121-HL12	98-91442111-HK12
24 measuring circuits	260 x 115	98-91442111-HJ24	98-91442121-HL24	98-91442111-HK24

Horizontal model

Type Colour	Dimensions [mm]	S to IEC "orange"	B to IEC "grey"	N to IEC "violet"
1 measuring circuit	38 x 38	98-91442111-HS01	98-91442111-HB01	98-91442111-HN01
6 measuring circuits	146 x 67	98-91442111-HS06	98-91442111-HB06	98-91442111-HN06
12 measuring circuits	260 x 67	98-91442111-HS12	98-91442111-HB12	98-91442111-HN12
24 measuring circuits	260 x 115	98-91442111-HS24	98-91442111-HB24	98-91442111-HN24

Vertical model

Type Colour	Dimensions [mm]	J to IEC "black"	L to DIN "blue"	K to IEC "green"
6 measuring circuits	72 x 116	98-91442211-HJ06	98-91442221-HL06	98-91442211-HK06

Vertical model

Type Colour	Dimensions [mm]	S to IEC "orange"	B to IEC "grey"	N to IEC "violet"
6 measuring circuits	72 x 116	98-91442211-HS06	98-91442211-HB06	98-91442211-HN06

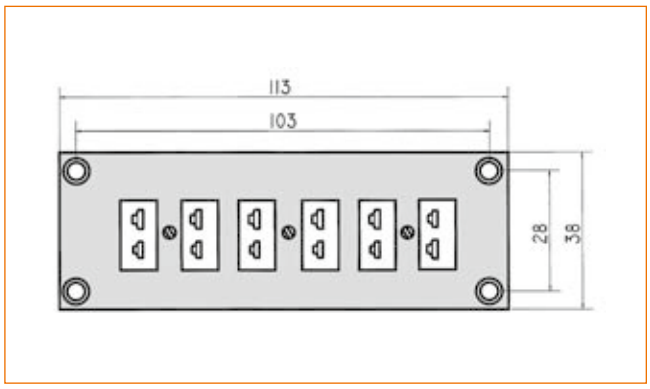
Application:
For permanent installation on control panels and casings of any kind for inserting standard plugs.

Conductor cross-section:
– Secure clamping from Ø 0.2 mm to Ø 2.0 mm

Thermal load:
– Max. 200°C

Mechanical structure:
– Aluminium front panel, anodised, protected against corrosion.
– Measuring circuits numbered, abrasion-resistant, smudge-proof
– Fastenings made of stainless steel and nickel-plated brass
– Assembly and construction design prevent the assembled built-in couplers from being pushed in or pressed out.
– Slanted connection planes enable access for the wires to be connected and disconnected while installed.
– Only a few screws need to be removed in order to replace individual built-in couplers
– Standard panels for 1 to 6 measuring circuits

Miniature panels – horizontal:



Application:
For permanent installation on control panels and casings of any kind for inserting miniature plugs.

Conductor cross-section:
– Secure clamping from Ø 0.1 mm to Ø 0.6 mm

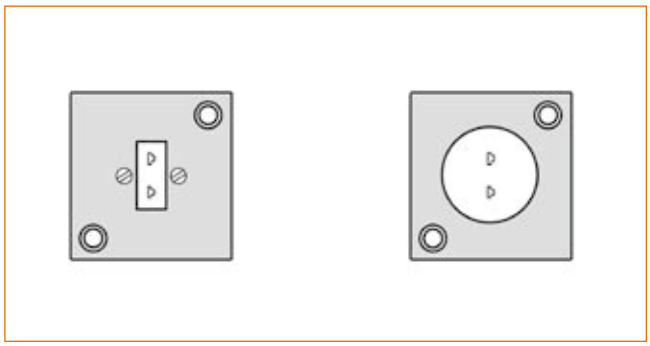
Thermal load:
– Max. 200°C

Mechanical structure:
– Aluminium front panel, anodised, protected against corrosion
– Measuring circuits numbered, abrasion-resistant, smudge-proof
– Fastenings made of stainless steel and nickel-plated brass
– Assembly and construction design prevent the assembled built-in couplers from being pushed in or pressed out.
– Slanted connection planes enable access for the wires to be connected and disconnected while installed.
– Only a few screws need to be removed in order to replace individual built-in couplers
– Standard panels for 1 to 6 measuring circuits

Type	Dimensions	J to IEC	L to DIN	K to IEC
Colour		**“black”**	**“blue”**	**“green”**
1 measuring circuit	38 x 38	98-91452111-HJ01	98-91452121-HL01	98-91452111-HK01
6 measuring circuits	113 x 38	98-91452111-HJ06	98-91452121-HL06	98-91452111-HK06
12 measuring circuits	203 x 38	98-91452111-HJ12	98-91452121-HL12	98-91452111-HK12
24 measuring circuits	203 x 76	98-91452111-HJ24	98-91452121-HL24	98-91452111-HK24

Type	Dimensions	S to IEC	B to IEC	N to IEC
Colour		**“orange”**	**“grey”**	**“violet”**
1 measuring circuit	38 x 38	98-91452111-HS01	98-91452111-HB01	98-91452111-HN01
6 measuring circuits	113 x 38	98-91452111-HS06	98-91452111-HB06	98-91452111-HN06
12 measuring circuits	203 x 38	98-91452111-HS12	98-91452111-HB12	98-91452111-HN12
24 measuring circuits	203 x 76	98-91452111-HS24	98-91452111-HB24	98-91452111-HN24

Standard miniature panel jacks – rectangular and round:



Application:
For permanent installation on control panels and casings of any kind for inserting miniature plugs.

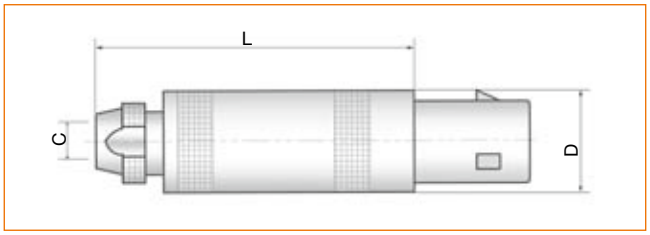
Conductor cross-section:
– Secure clamping from Ø 0.1 mm to Ø 0.6 mm

Thermal load:
– Max. 200°C

Type	J to IEC	L to DIN	K to IEC
Colour	**“black”**	**“blue”**	**“green”**
Rectangular	98-91456011-HJ00	98-91456021-HL00	98-91456011-HK00
Round	98-91456012-HJ00	98-91456022-HL00	98-91456012-HK00

Type	S to IEC	B to IEC	N to IEC
Colour	**“orange”**	**“grey”**	**“violet”**
Rectangular	98-91456011-HS00	98-91456011-HB00	98-91456011-HN00
Round	98-91456012-HS00	98-91456012-HB00	98-91456012-HN00

Plug, Lemo*)



Lemo plug Size 0, L=34.5 mm D=9.0 mm C=4.2 mm

No. of poles	Collet	Article number
2	4.2 mm - cable collet	98-91420202-0042
2	4.7 mm - cable collet	98-91420202-0047
2	1.6 mm - thermal collet	98-91420222-0016
2	2.1 mm - thermal collet	98-91420222-0021
2	3.0 mm - thermal collet	98-91420222-0030
4	4.2 mm - cable collet	98-91420204-0042
4	4.7 mm - cable collet	98-91420204-0047
4	1.6 mm - thermal collet	98-91420224-0016
4	2.1 mm - thermal collet	98-91420224-0021
4	3.0 mm - thermal collet	98-91420224-0030

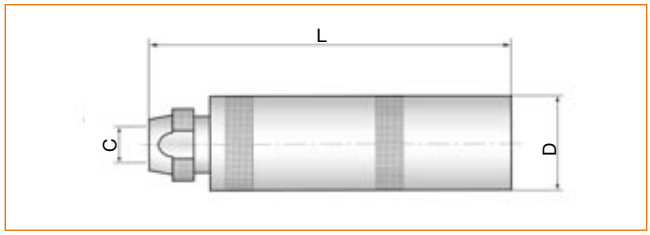
Lemo plug Size 1, L=42,5 mm D=12,0 mm C=6,2 mm

No. of poles	Collet	Article number
2	3.7 mm - cable collet	98-91421202-0037
2	4.7 mm - cable collet	98-91421202-0047
2	1.6 mm - thermal collet	98-91421222-0016
2	2.2 mm - thermal collet	98-91421222-0022
2	3.1 mm - thermal collet	98-91421222-0031
2	4.6 mm - thermal collet	98-91421222-0046
2	6.1 mm - thermal collet	98-91421222-0061
4	3.7 mm - cable collet	98-91421204-0037
4	4.7 mm - cable collet	98-91421204-0047
4	1.6 mm - thermal collet	98-91421224-0016
4	2.2 mm - thermal collet	98-91421224-0022
4	3.1 mm - thermal collet	98-91421224-0031
4	4.6 mm - thermal collet	98-91421224-0046
4	6.1 mm - thermal collet	98-91421224-0061

Lemo plug Size 2, L=52,0 mm D=14,8 mm C=8,5 mm

No. of poles	Collet	Article number
2	5.2 mm - cable collet	98-91422202-0052
2	7.2 mm - cable collet	98-91422202-0072
2	3.1 mm - thermal collet	98-91422222-0031
2	4.6 mm - thermal collet	98-91422222-0046
2	6.1 mm - thermal collet	98-91422222-0061
4	5.2 mm - cable collet	98-91422204-0042
4	7.2 mm - cable collet	98-91422204-0047
4	3.1 mm - thermal collet	98-91422224-0031
4	4.6 mm - thermal collet	98-91422224-0046
4	6.1 mm - thermal collet	98-91422224-0061

Coupling, Lemo*)



Lemo coupler Size 0, L=33,5 mm D=8,9 mm C=4,2 mm

No. of poles	Collet	Article number
2	4.2 mm - cable collet	98-91420302-0042
2	4.7 mm - cable collet	98-91420302-0047
2	1.6 mm - thermal collet	98-91420322-0016
2	2.1 mm - thermal collet	98-91420322-0021
2	3.0 mm - thermal collet	98-91420322-0030
4	4.2 mm - cable collet	98-91420304-0042
4	4.7 mm - cable collet	98-91420304-0047
4	1.6 mm - thermal collet	98-91420324-0016
4	2.1 mm - thermal collet	98-91420324-0021
4	3.0 mm - thermal collet	98-91420324-0030

Lemo coupler Size 1, L=40,5 mm D=11,0 mm C=6,2 mm

No. of poles	Collet	Article number
2	3.7 mm - cable collet	98-91421302-0037
2	4.7 mm - cable collet	98-91421302-0047
2	1.6 mm - thermal collet	98-91421322-0016
2	2.2 mm - thermal collet	98-91421322-0022
2	3.1 mm - thermal collet	98-91421322-0031
2	4.6 mm - thermal collet	98-91421322-0046
2	6.1 mm - thermal collet	98-91421322-0061
4	3.7 mm - cable collet	98-91421304-0037
4	4.7 mm - cable collet	98-91421304-0047
4	1.6 mm - thermal collet	98-91421324-0016
4	2.2 mm - thermal collet	98-91421324-0022
4	3.1 mm - thermal collet	98-91421324-0031
4	4.6 mm - thermal collet	98-91421324-0046
4	6.1 mm - thermal collet	98-91421324-0061

Lemo coupler Size 2, L=50,0 mm D=14,8 mm C=8,5 mm

No. of poles	Collet	Article number
2	5.2 mm - cable collet	98-91422302-0052
2	5.2 mm - cable collet	98-91422302-0072
2	3.1 mm - thermal collet	98-91422322-0031
2	4.6 mm - thermal collet	98-91422322-0046
2	6.1 mm - thermal collet	98-91422322-0061
4	5.2 mm - cable collet	98-91422304-0042
4	7.2 mm - cable collet	98-91422304-0047
4	3.1 mm - thermal collet	98-91422324-0031
4	4.6 mm - thermal collet	98-91422324-0046
4	6.1 mm - thermal collet	98-91422324-0061

Lemo plugs and couplers for connection to sheath thermo-couples, resistance thermometers and supply lines

Case:	Chromium-plated brass
Contacts:	Gold-plated brass
Insulation:	PEEK
Max. temperature:	250°C

*) Lemo plug-and-socket connections Size 3 and panel jacks Sizes 1 and 2 available on request.