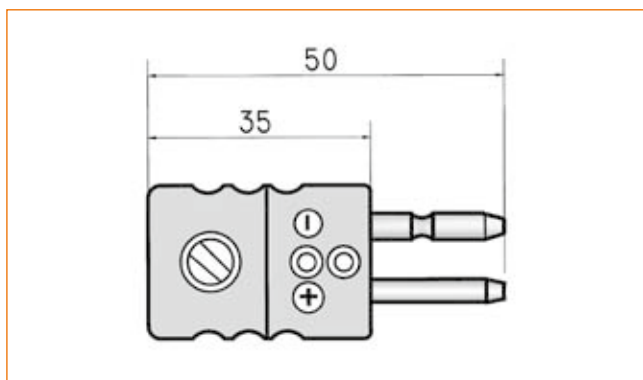




Standard plugs



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 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

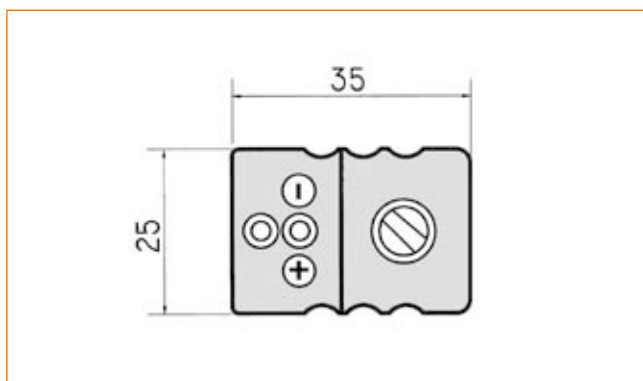
Code colours for the casing:

- All of the international colour codes are available:
DIN IEC, DIN 43710, ANSI, NFE, BS, JIS, etc.

Accessories:

- Strain reliefs, gaskets, splash protection, etc.

Standard 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	99-91440010-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

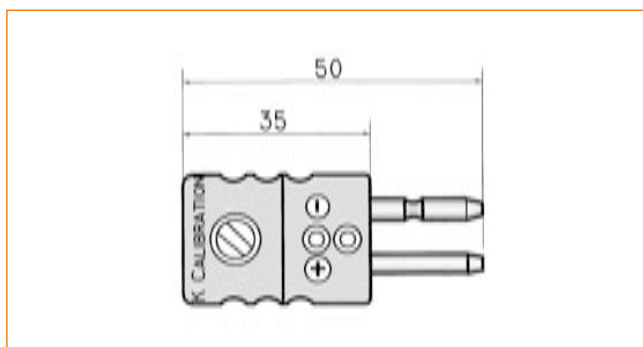
The strain relief (accessories) fixes cables of varying diameters onto the plugs and the couplers.

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

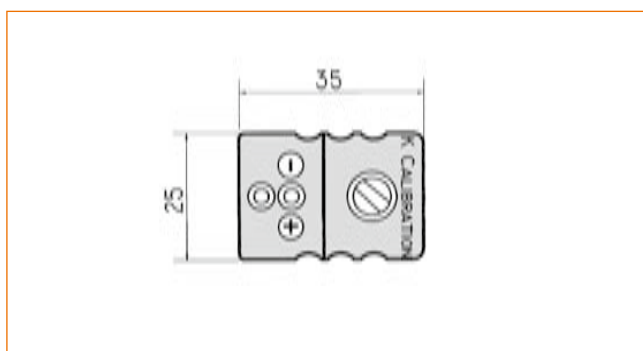
Thermal load:

- Max. 350°C

Colour coding:

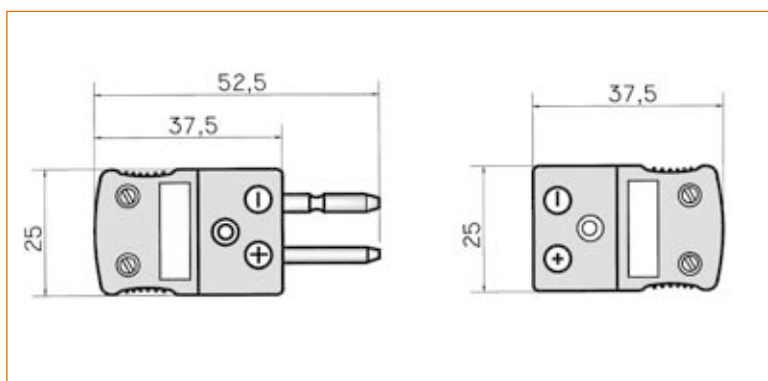
- Casing brown, with element code

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



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

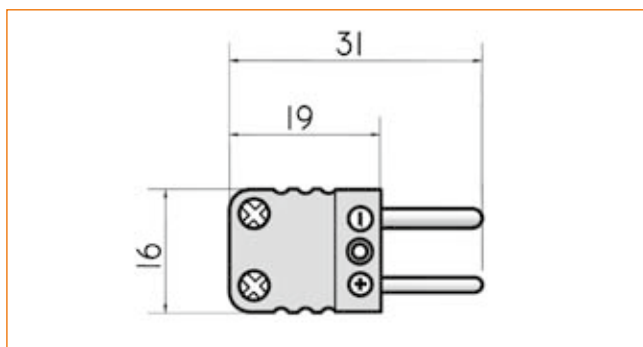
Colour coding:

- Casing white, with element code

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



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

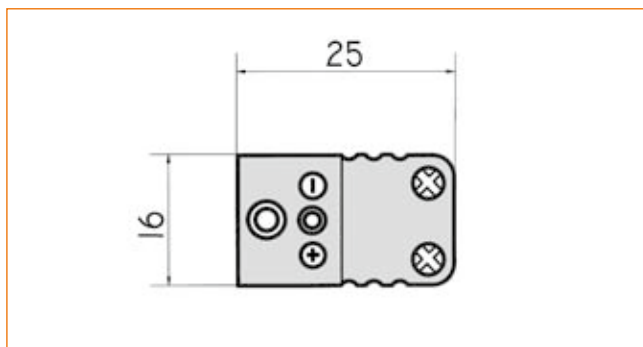
Code colours for the casing:

- 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

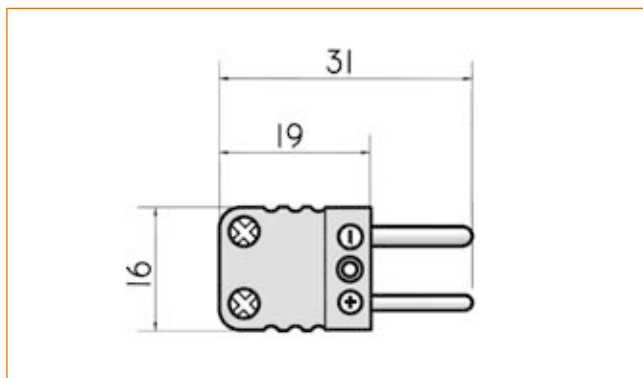
Casing colour	Blue (type L)	Green	-	White	-
Plug	99-91450020-HL00	99-91450020-HK00	-	On request	-
Coupler	99-91451020-HL00	99-91451020-HK00	-	On request	-

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

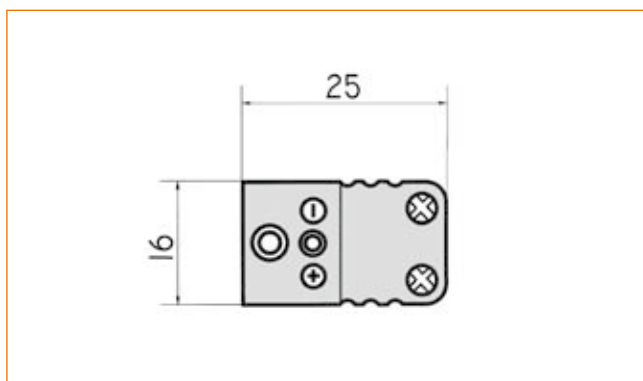
Thermal load:

- Max. 350°C

Colour coding:

- Casing brown, with element code

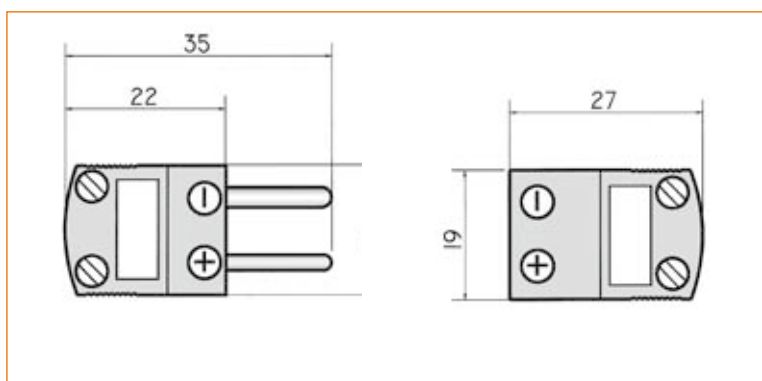
Miniature high-temperature couplers



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



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:

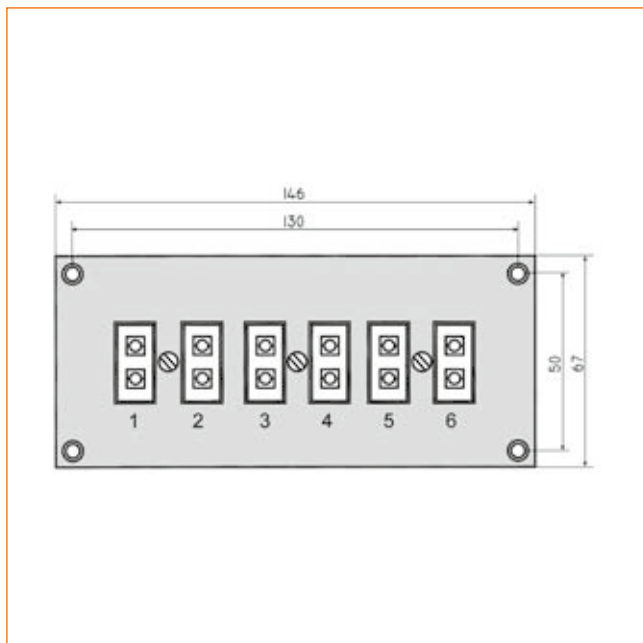
- Casing white, with element code

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

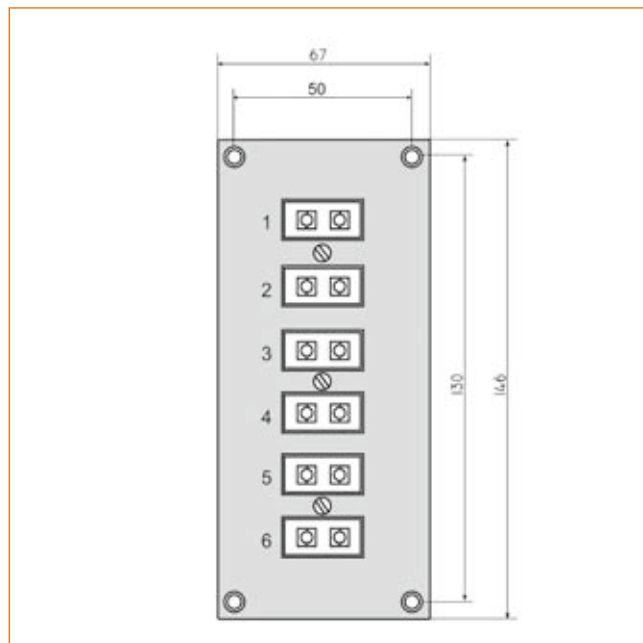
Plug	On request	99-91490010-HK00	99-91490010-HS00
Coupler	On request	99-91491010-HK00	99-91491010-HS00



Standard panels – horizontal



Standard panels - vertical



Horizontal model

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

Vertical model

Type	Dimensions	S to IEC	B to IEC	N to IEC
Colour	[mm]	"orange"	"grey"	"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:

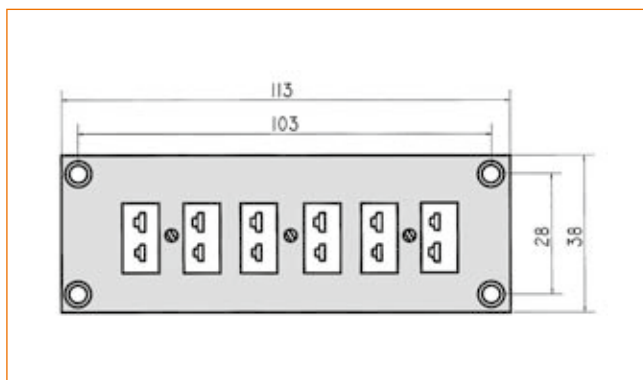
– Max. 200°C

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

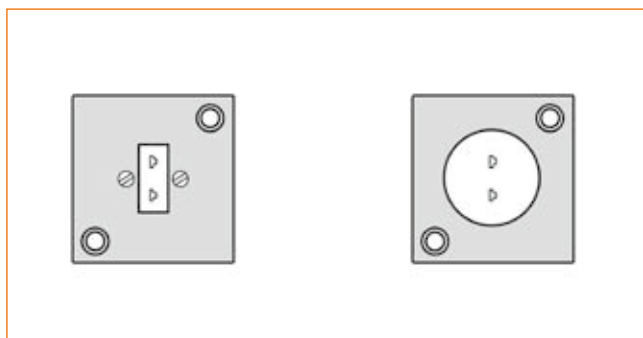
Mechanical structure:

- 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:

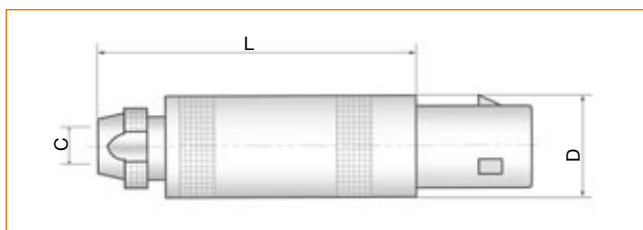
– Max. 200°C

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

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

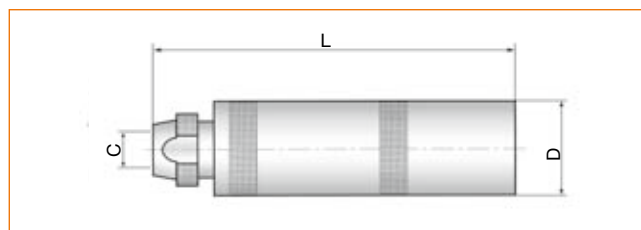
Case: Chromium-plated brass

Contacts: Gold-plated brass

Insulation: PEEK

Max. temperature: 250°C

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