Accessories

revos accessories – all that you need

We offer a wide range of accessories in our portfolio of heavy duty connectors, such as DIN rail mounting frames, knock-out cover plates, coding pins, cable glands, covers for our housings, labeling accessories, and the related tools.

Mounting frames for *revos* contact inserts

The mounting frames of the ***revos*** BASIC family are ideal for use in low-voltage switching systems. They are mounted directly to the 35x15 DIN rail according to DIN EN 50022 inside the control cabinet. Use of the DIN rail mounting frame on a 7.5 mm high DIN-rail 35 x 7.5 in accordance with DIN EN 50022 is only possible if the installation space behind it is free.

The system has the following advantages:

- Reduction of material and mounting costs
- Simple and trouble-free installation
- Wire harness assemblies possible
- Easy troubleshooting with hinged top that enables access to the back of the connector.
- Re-wiring is possible without disconnecting.

The robust contact inserts of the ***revos*** family in use worldwide are used for this purpose.
The following contact inserts are available:

- ***revos*** BASIC
  Size 6, 10,16, 24
- ***revos*** POWER
  Size 16, 24
- ***revos*** HD
  40- and 64-pole
- ***revos*** FLEX
  Size 6, 10, 16, 24
- ***revos*** BASIC EE
  Size 6, 10, 16, 24
- ***revos*** DD
  Size 6, 10, 16, 24

Mounting frames without contact inserts

Size 6

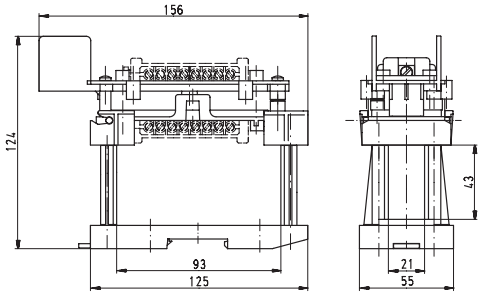
Description	Type	Part No.	P.U.
Mountig frame			
Size 6		Z5.574.0653.0	1
Size 10		Z5.574.1053.0	1
Size 16		Z5.574.1653.0	1
Size 24		Z5.574.2453.0	1
Size 2 x 6		Z5.574.1253.0	1
Technical data			
Installation	on TS 35x15 mounting rail		

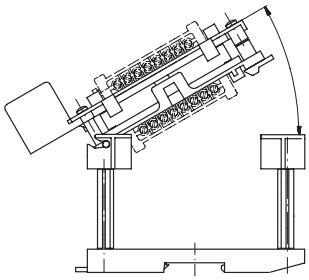
Description	Type	Part No.	P.U.
Accessories			
Mounting frame with base plate and installation bolts for open-bottom bases Size 6/10/16		Z5.574.0053.0	1
Mounting frame with base plate and installation bolts for open-bottom bases Size 24		Z5.574.0153.0	1

Dimensions

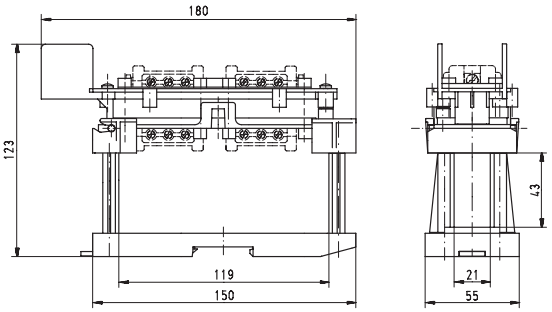
Mountig frame

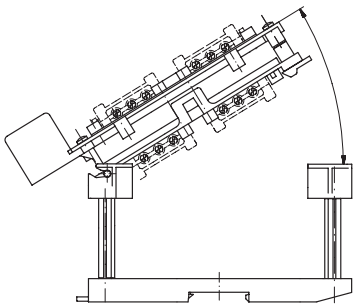
Size 6





Size 2 x 6





revos cover plates

Cover plates

Description	Type	Part No.	P.U.
Cover plates			
Size 6	Cover plate 6	07.416.6853.0	10
Size 10	Cover plate 10	07.416.6953.0	10
Size 16	Cover plate 16	07.416.7053.0	10
Size 24	Cover plate 24	07.416.7153.0	10

Technical data	
Material	Polyamide
Color	RAL 7032
Degree of protection	IP65
Flammability	UL94-V0

revos Cover plates are used to cover the cut-outs in partitions of control cabinets.

revos reducer plate

Reducer plate

Description	Type	Part No.	P.U.
Reducer plate			
GB 24/GB 6	Reduction plate 24 to 6	07.416.6353.0	10
GB 24/GB 10	Reduction plate 24 to 10	07.416.6453.0	10
GB 24/GB 16	Reduction plate 24 to 16	07.416.6553.0	10

Technical data	
Material	Polyamide
Color	RAL 7032
Degree of protection	IP65
Flammability	UL94-V0

revos reducer plate adapt the cut-outs of size 24 to sizes 6, 10 or 16.

Coding of *revos* multipole connectors

Each family of contact inserts has its unique design. Mismating of the different families' contact inserts is therefore impossible due to the design. However, if several connectors or the same size and family are mounted directly adjacent to one another, mismating may occur during start-up of the machine or system.

In order to avoid mismating we developed coding bolts, coding pins and female coding pieces that are to be assembled instead of the regular mounting screws of the contact inserts. Six different codings can be achieved when coding bolts are used.

Coding bolts of version A
Suitable for the following
contact inserts / multipole adapters:

- ***revos*** BASIC
- ***revos*** POWER
- ***revos*** HD
- ***revos*** FLEX
- ***revos*** Ex

that are mounted to the housing at the **front**.

Suitable for:

- Screw termination inserts with part numbers:
  70.2XX.XXXX.X
  70.3XX.XXXX.X
  70.4XX.XXXX.X
  72.2XX.XXXX.X
  72.3XX.XXXX.X
- Crimp termination inserts with part numbers:
  70.7XX.XXXX.X
  72.7XX.XXXX.X
  73.7XX.XXXX.X
- Spring clamp termination inserts with part numbers:
  70.5XX.XXXX.X
- Terminal block adapter inserts (mountable from the front) with part numbers:
  70.7XX.XXXX.X
  72.7XX.XXXX.X
  73.7XX.XXXX.X

Coding options also exist for combinations of screw and crimp inserts and terminal block adapters.

Coding bolts of version B
Suitable for the following
contact inserts / multipole adapters:

- ***revos*** BASIC
- ***revos*** POWER
- ***revos*** HD

that are mounted to the housing at the **rear**.
These are mainly multipole adapters that are mounted from the inside of the control cabinet.

Suitable for:

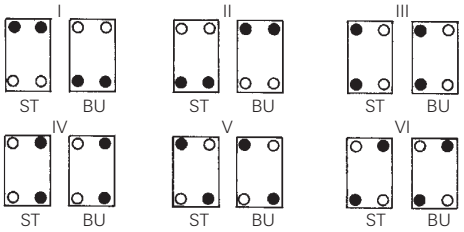
- Combination of screw, crimp, spring-type inserts and clamp adapters in connection with terminal block adapters (mountable from the back of the housing) with part numbers:
  70.9XX.XXXX.X
  72.9XX.XXXX.X
  73.1XX.XXXX.X

Six coding options by means of locking pins

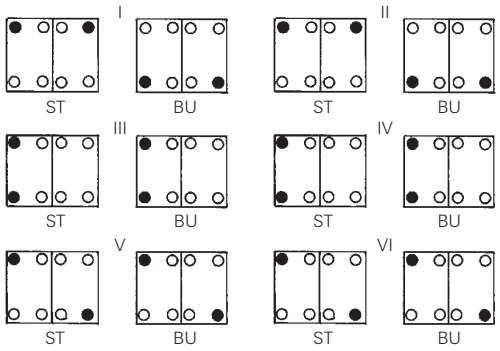
With the use of locking pins, there are a total of six combinations for 3, 6, 10, 16, 24-pin plug connectors

An additional six combinations are possible for the heavy duty connectors with two contact inserts (20, 26, 32 and 48-pin plug connectors).

One contact insert



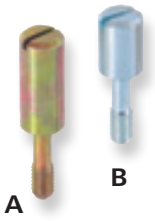
Two contact inserts



- Coding bolt
- Mounting screws

ST Male connector
BU Female connector

Coding bolt



Description	Part No.	P.U.
Coding bolt		
Version A	05.592.0621.0	100
Version B	05.513.4212.0	100

Technical data	
Material	zinc-plated steel
Color	shiny metal

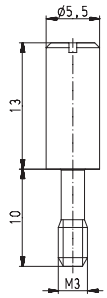
Screwdriver bit

Description	Part No.	P.U.
Screwdriver bit for lock bolt, version A + B		
Yellow marking	06.502.5510.0	1

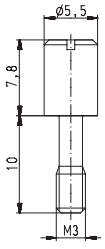
Technical data	
Material	Sleeve from 1.2210 115CrV3 (silver steel)
Sleeve	Hardened

Dimensions

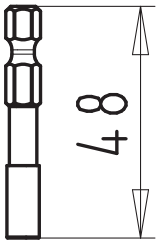
Version A



Version B



Screwdriver bit



Coding options for *revos* multipole connectors

72 coding options by means of coding pin, coding key and coding socket

Part No. for Version A
Suitable for the following contact inserts/ multipole adapters:

revos BASIC, ***revos*** POWER, ***revos*** HD, ***revos*** FLEX, ***revos*** Ex

that are mounted to the housing at the **front**.

Part No. for Version B
Suitable for the following contact inserts/ multipole adapters:

revos BASIC, ***revos*** POWER, ***revos*** HD

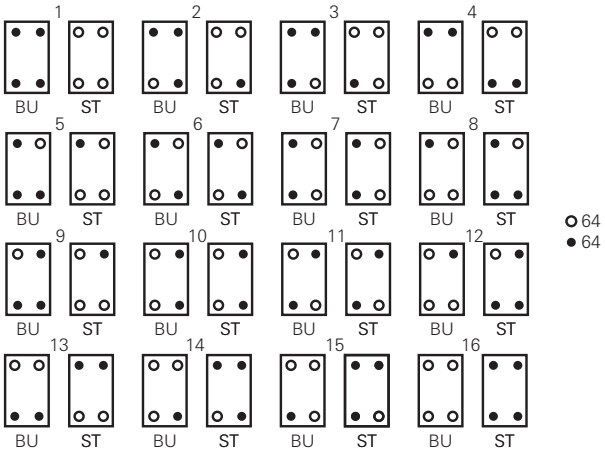
that are mounted to the housing at the **rear**.

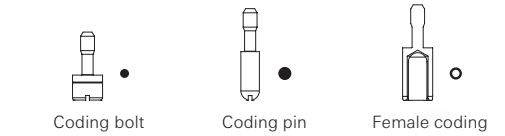
The use of coding pins and female coding pieces enables 16 different coding options.

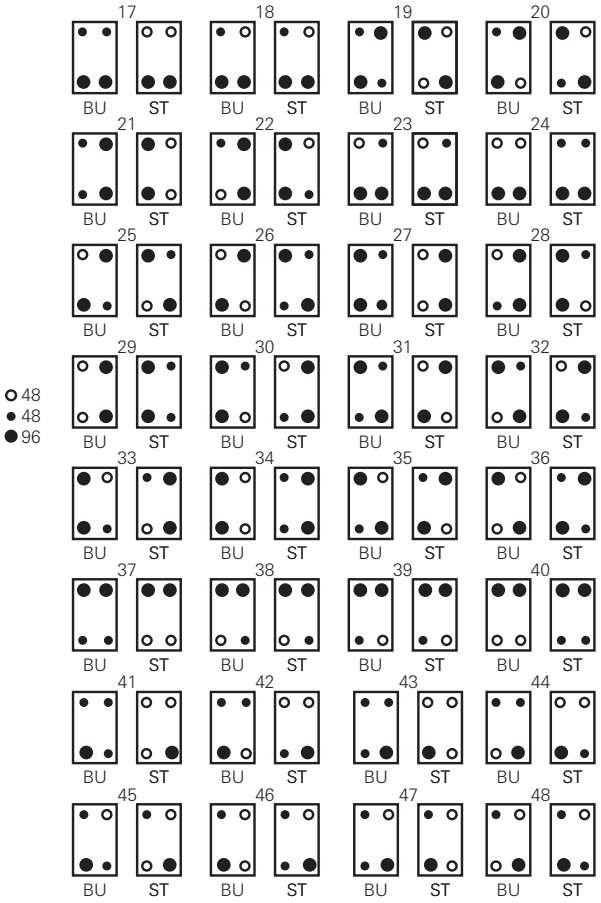
With an additional coding bolt up to 72 coding options are possible.

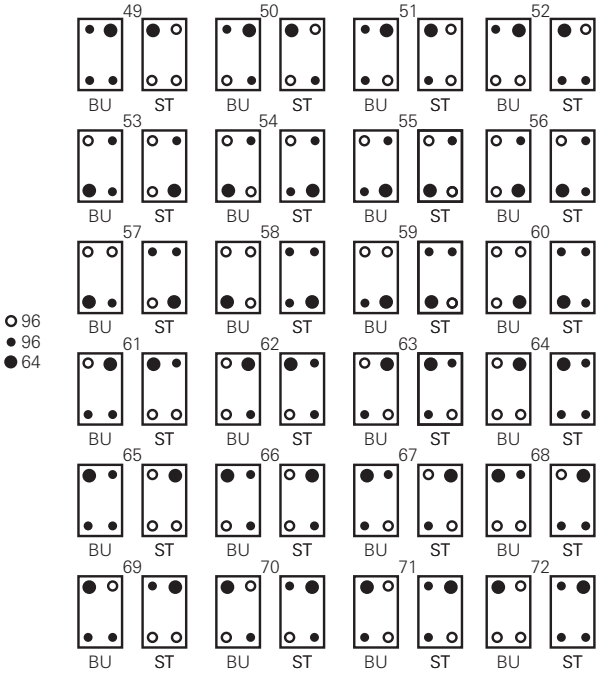
All mounting screws must be replaced by the coding components.

With 15- or 25-pin plug connectors of the series 73.7 … 16 coding options result, because the coding pin cannot be used here.

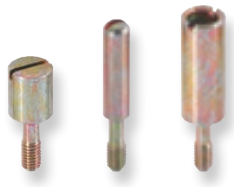








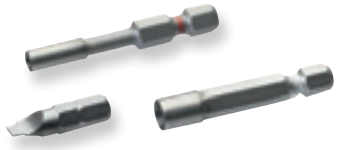
Coding bolt, Coding pin und Female coding piece



Description		Type	Part No.	P.U.
Version A	Coding bolt		05.576.6912.0	50
	Coding pin		05.576.6612.0	50
	Female coding piece		05.576.6712.0	50
Version B	Coding bolt		05.576.8512.0	50
	Coding pin		05.576.8312.0	50
	Female coding piece		05.576.8412.0	50

Technical data	
Material	zinc-plated steel
Color	shiny metal

Screwdriver bit

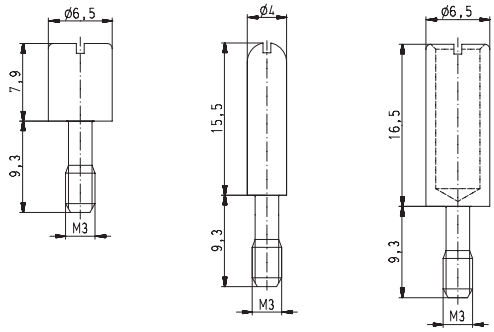


Description	Type	Part No.	P.U.
Screwdriver bit (white marking)	for female coding piece and bolt, version A + B	06.502.5410.0	1
Screwdriver bit (red marking)	for coding pin, version A + B	06.502.5310.0	1
Screwdriver blade	for female coding piece	05.567.5214.0	5

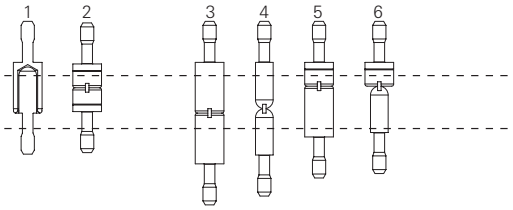
Technical data	
Werkstoff	Sleeve from 1.2210 115CrV3 (silver steel)
Sleeve	Hardened

Dimensions

Version A

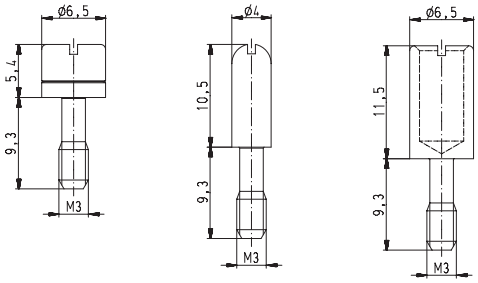


Coding plan:

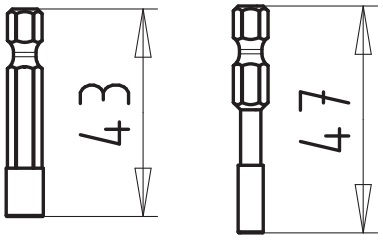


pluggable not pluggable

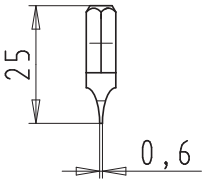
Version B



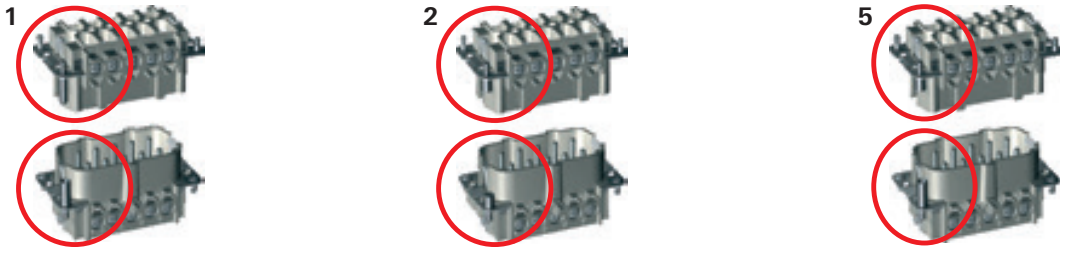
Screwdriver bit



Screwdriver blade



Example:



Coding between male and female connector matching

Coding between the coding bolts matching

Coding between the female connector and the coding bolt not matching

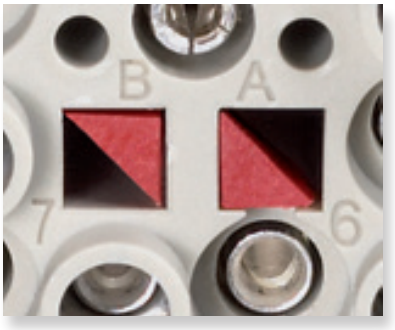
16 coding options for *revos* MINI 12-pole

Coding piece

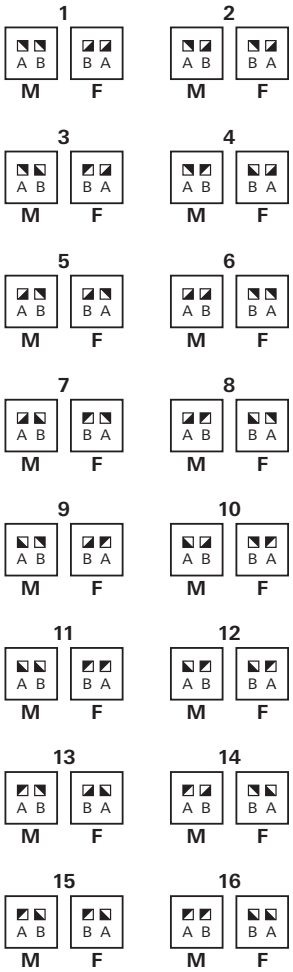
Description	Type	Part No.	P.U.
Coding piece			
	MIN KOD 12	05.568.0353.0	20

Technical data	
Material	Poyamide
Make-up	4 coding pieces on the web

If the MIN KOD coding piece is used, there are 16 coding options for the ***revos*** MINI 12-polig.

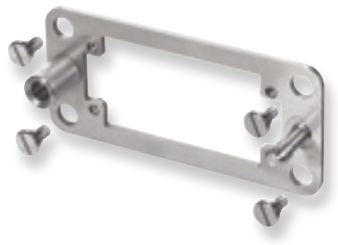


Coding schematic:



revos Docking frame

Docking frame

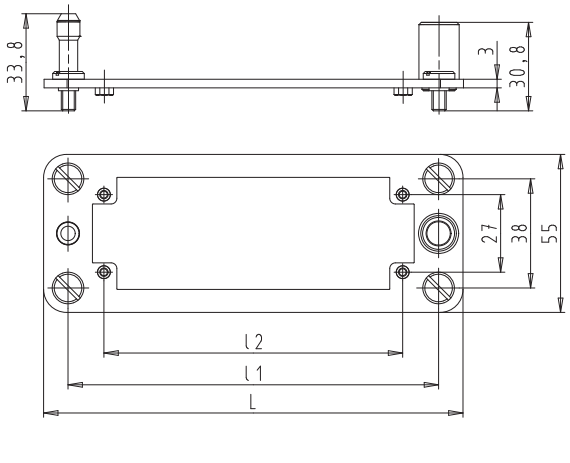


Description	Type	Part No.	P.U.
***revos* docking frame**			
Size 6	ADR 6	Z5.560.1019.0	1
Size 10	ADR 10	Z5.560.1119.0	1
Size 16	ADR 16	Z5.560.1219.0	1
Size 24	ADR 24	Z5.560.1319.0	1

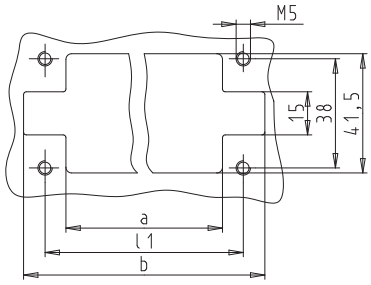
Technical data	
Material	
Docking frame	Stainless steel
Fastening screws	Steel, galvanized
Floating tolerance	
x-axis	±1.5 mm
y-axis	±1.5 mm
Mechanical life	
Mating cycles	500
Scope of supply	
	1 docking frame, including 4 fastening screws M3
System features	
	For use in combination with ***revos*** BASIC, POWER, FLEX and DD contact inserts
	Symmetric design and hence "mutually-pluggable"
	Installation type can alter the air gap and creepage distances, and therefore influence the rated voltage.
	Mounting wall must be earthed due to the floating frame

Dimensions

Dimensional drawing



Size	L [mm]	L1 [mm]	L2 [mm]	a [mm]	b [mm]
6	86	69	44	54.5	84
10	99	82	57	67.5	97
16	119.5	102.5	77.5	88	117.5
24	146	129	104	114.5	144



Metric cable glands

Cable glands IP68, plastic

Description	Type			Part No.	P.U.
Cable glands plastic					
	Cable Ø [mm]	SW [mm]	l [mm]		
M20x1,5	6 – 12	24	9	Z5.507.1353.0	10
M25x1,5	7 – 16	28	11	Z5.507.1553.0	10
M32x1,5	10 – 21	36	11	Z5.507.1753.0	10
M40x1,5	16 – 28	46	11	Z5.507.1953.0	1

Technical data	
Material	Polyamide
Color	RAL 7035
Degree of protection	IP68
Flammability	UL94-V0

Cable glands IP68, metal

Description	Type			Part No.	P.U.
Cable glands metal					
	Cable Ø [mm]	SW [mm]	l [mm]		
M20x1,5	8 – 13	22	6	Z5.507.1321.0	10
M25x1,5	11 – 18	27	7	Z5.507.1521.0	10
M32x1,5	15 – 21	34	8	Z5.507.1721.0	10
M40x1,5	19 – 27	44	8	Z5.507.1921.0	1

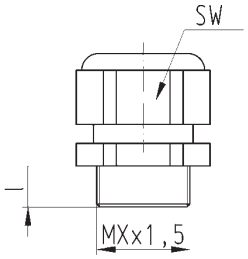
Technical data	
Material	nickel-plated brass
Color	-
Degree of protection	IP68
Flammability	-

Cable glands EMC IP68, metal

Description	Type			Part No.	P.U.
Cable glands metal					
	Cable Ø [mm]	SW [mm]	l [mm]		
M20x1,5	8 – 13	22	6	Z5.507.4821.0	1
M25x1,5	11 – 18	30	7	Z5.507.5021.0	1
M32x1,5	15 – 21	34	8	Z5.507.5221.0	1

Technical data	
Material	nickel-plated brass
Color	-
Degree of protection	IP68
Flammability	-

Dimensions



Strain relief, IP54

Metric cable glands

Cable glands, IP54, with strain relief

Description	Type			Part No.	P.U.
Cable glands metal					
	Cable Ø [mm]	SW [mm]	l [mm]		
M20x1.5	8.5 – 14	24	6	Z5.507.5821.0	1
M25x1.5	12 – 20	34	7	Z5.507.6021.0	1
M32x1.5	18 – 28	42	8	Z5.507.6221.0	1
M40x1.5	24 – 34	52	8	on request	

Technical data	
Material	nickel-plated brass
Color	-
Degree of protection	IP54
Flammability	-

Bushing, IP54

Description	Type			Part No.	P.U.
Bushing metal					
	Cable Ø [mm]	SW [mm]	l [mm]		
M16x1.5	2 – 10.5	-	6	Z5.507.2121.0	1
M20x1.5	3 – 14.5	-	6	Z5.507.2221.0	1
M25x1.5	7.5 – 19	-	7	Z5.507.2321.0	1
M32x1.5	15 – 26.5	-	8	Z5.507.2421.0	1

Technical data	
Material	nickel-plated brass
Color	-
Degree of protection	IP54
Flammability	-

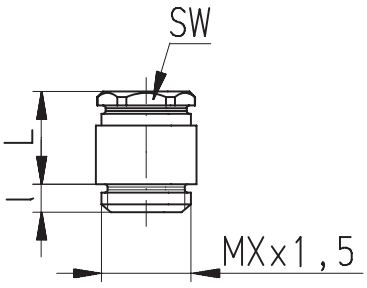
Strain relief, IP54

Description	Type			Part No.	P.U.
Cable glands metal					
	Cable Ø [mm]	SW [mm]	l [mm]		
M16x1.5	6 – 9	18	5	Z5.507.9521.0	10
M20x1.5	9 – 13.5	22	6	Z5.507.9621.0	10
M25x1.5	14 – 20	30	7	Z5.507.9721.0	10
M32x1.5	19 – 29	39	8	Z5.507.9821.0	10

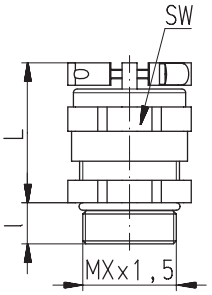
Technical data	
Material	nickel-plated brass
Color	-
Degree of protection	IP54
Flammability	-

Dimensions

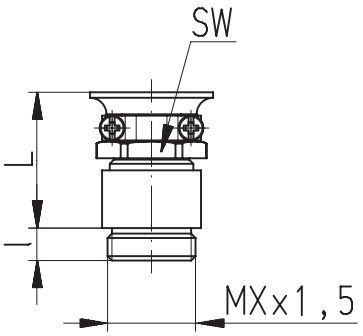
Cable glands, IP54, metal



Cable glands, IP54, with strain relief, metal



Strain relief, IP54, metal



Cable glands, Accessories

Reduction piece, nickel-plated brass

Description	Type			Part No.	P.U.
Reduction piece					
External thread [AG]	Internal thread [IG]	D [mm]	I [mm]		
M20x1.5	M16x1.5	22	6	05.507.9021.0	1
M25x1.5	M20x1.5	27	7	05.507.9121.0	1
M32x1.5	M25x1.5	34	8	05.507.9221.0	1
M40x1.5	M32x1.5	43	8	05.507.9321.0	1

Technical data	
Material	nickel-plated brass
Color	-
Degree of protection	-
Flammability	-

Expansion piece, nickel-plated brass

Description	Type			Part No.	P.U.
Erweiterung					
External thread [AG]	Internal thread [IG]	D [mm]	I [mm]		
M16x1.5	M20x1.5	22	5	05.507.8621.0	1
M20x1.5	M25x1.5	27	6	05.507.8721.0	1
M25x1.5	M32x1.5	34	7	05.507.8821.0	1
M32x1.5	M40x1.5	43	8	05.507.8921.0	1

Technical data	
Material	nickel-plated brass
Color	-
Degree of protection	-
Flammability	-

Adapter for PG-metric conversion

Description	Type			Part No.	P.U.
Adapter PG					
External thread [AG]	Internal thread [IG]	D [mm]	I [mm]		
PG 13.5	M20x1.5	26	6.5	05.507.7621.0	1
PG 16	M20x1.5	24	6.5	05.507.7721.0	1
PG 21	M25x1.5	30	7	05.507.7821.0	1

Technical data	
Material	nickel-plated brass
Color	-
Degree of protection	-
Flammability	-

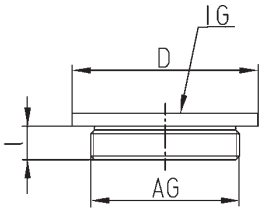
Adapter for metric-PG conversion

Description	Type			Part No.	P.U.
Adapter metrisch					
External thread [AG]	Internal thread [IG]	D [mm]	I [mm]		
M20x1.5	PG 13.5	22	6	05.507.8121.0	1
M20x1.5	PG 16	24	6	05.507.8221.0	1
M25x1.5	PG 21	30	7	05.507.8321.0	1
M32x1.5	PG 29	39	8	05.507.8421.0	1

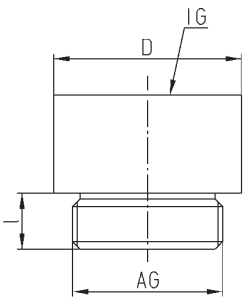
Technical data	
Material	nickel-plated brass
Color	-
Degree of protection	-
Flammability	-

Dimensions

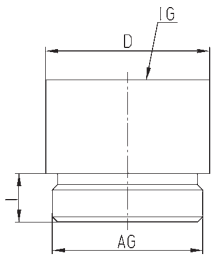
Reduction piece, nickel-plated brass



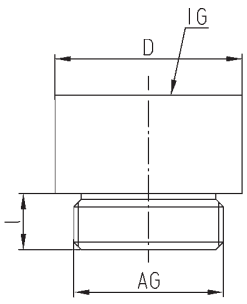
Expansion piece, nickel-plated brass



Adapter for PG-metric conversion



Adapter for metric-PG conversion



Cable glands, Accessories

Blind piece with gasket, brass

Description	Type			Part No.	P.U.
Blind piece brass					
Thread [AG]	D [mm]	l [mm]			
M20x1.5	22	6.5		05.507.4021.0	1
M25x1.5	28	7		05.507.4121.0	1
M32x1.5	35	8		05.507.4221.0	1
M40x1.5	44	8.5		on request	

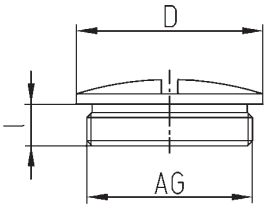
Technical data	
Material	nickel-plated brass
Color	Metalic
Degree of protection	IP68
Flammability	-

Blind piece with gasket, plastic

Description	Type		Part No.	P.U.
Blind piece plastic				
Thread [AG]	D [mm]	l [mm]		
M20x1.5	24	6	05.507.4053.0	1
M25x1.5	30	7	05.507.4153.0	1
M32x1.5	38	8	05.507.4253.0	1
M40x1.5	48	9	05.507.4353.0	1

Technical data	
Material	Polyamide
Color	gray, RAL 7035
Degree of protection	IP68
Flammability	UL94-V0

Dimensions



Protective covers without locking levers for *revos* BASIC Housings

Protective covers without locking levers

Double locking lever Size 10

without gasket with tether cord and loop

Double locking lever Size 16

without gasket with tether cord

Double locking lever Size 10

with gasket

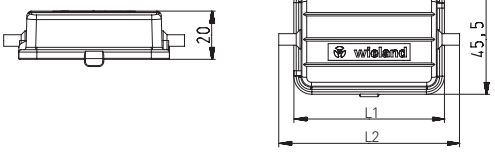
Description	Type	Part No.	P.U.
***revos* protective cover**			
for single locking lever, without gasket			
Size 6	BAS AD DI 06	07.409.7056.0	10
Size 10	BAS AD DI 10	07.428.5553.0	10
Size 16	BAS AD DI 16	07.428.5653.0	10
Size 24	BAS AD DI 24	07.428.5753.0	10
with tether cord + loop			
Size 6	BAS AD DI 06 FSR	Z7.416.1556.0	10
for single locking lever, with gasket			
Size 6	BAS AD DB 06	Z7.427.8053.0	10
with tether cord + loop			
Size 6	BAS AD DJ 06 FSR	Z7.429.0453.0	10
for double locking lever, without gasket			
Size 10	BAS AD DA 10	07.409.7156.0	10
Size 16	BAS AD DA 16	07.409.7256.0	10
Size 24	BAS AD DA 24	07.409.7356.0	10
with tether cord			
Size 10	BAS AD DA 10 FS	Z7.409.8756.0	10
Size 16	BAS AD DA 16 FS	Z7.409.8856.0	10
Size 24	BAS AD DA 24 FS	Z7.409.8956.0	10
with tether cord + loop			
Size 10	BAS AD DA 10 FSR	Z7.416.1656.0	10
Size 16	BAS AD DA 16 FSR	Z7.416.1756.0	10
Size 24	BAS AD DA 24 FSR	Z7.416.1856.0	10
for double locking lever, with gasket			
Size 10	BAS AD DB 10	Z7.427.8153.0	10
Size 16	BAS AD DB 16	Z7.427.8253.0	10
Size 24	BAS AD DB 24	Z7.427.8353.0	10
with tether cord			
Size 10	BAS AD DB 10 FS	Z7.429.0153.0	10
Size 16	BAS AD DB 16 FS	Z7.429.0253.0	10
Size 24	BAS AD DB 24 FS	Z7.429.0353.0	10
with tether cord + loop			
Size 10	BAS AD DB 10 FSR	Z7.429.0553.0	10
Size 16	BAS AD DB 16 FSR	Z7.429.0653.0	10
Size 24	BAS AD DB 24 FSR	Z7.429.0753.0	10

Technical data	
Material/Gasket	Polyamide/NBR
Color	silver gray, RAL 7001
Degree of protection	IP65
Flammability	UL94-V0

Dimensions

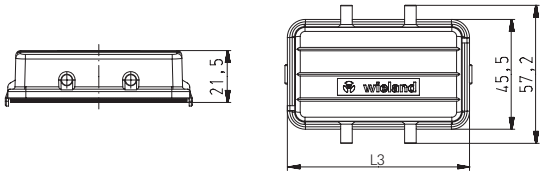
Single locking lever without clamp

Size	L1 [mm]	L2 [mm]
6	62.5	75
10	75.5	90
16	96	110.5
24	122.5	137

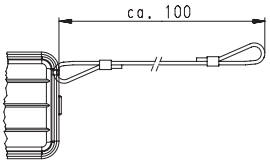


Double locking lever without clamp

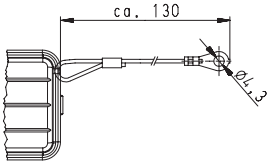
Size	L3 [mm]
10	75.5
16	96
24	122.5



tether cord



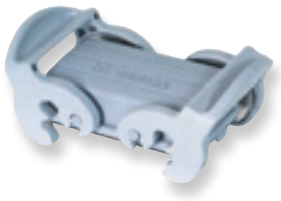
tether cord + loop



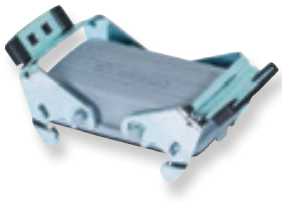
Protective covers with locking levers for *revos* BASIC Housings

Protective covers with locking levers

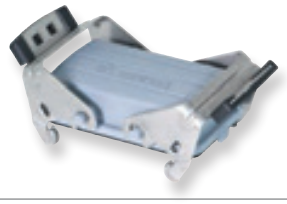
Double locking lever
Size 10
Plastic locking levers, with gasket



Double locking lever
Size 10
steel locking levers, with gasket



Double locking lever
Size 10
stainless steel locking levers, with gasket



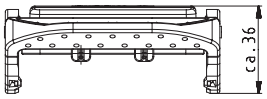
Description	Type	Part No.	P.U.
***revos* protective cover**			
for single locking lever, with gasket			
plastic locking levers			
Size 6	BAS AD DH 06 PA	Z7.428.1153.0	10
Size 10	BAS AD DH 10 PA	Z7.428.5553.0	10
Size 16	BAS AD DH 16 PA	Z7.428.5653.0	10
Size 24	BAS AD DH 24 PA	Z7.428.5753.0	10
steel locking levers			
Size 6	BAS AD DH 06 ST	Z7.428.1110.0	10
stainless steel locking levers			
Size 6	BAS AD DG 06 VA	Z7.428.1119.0	10
for single locking lever, without gasket			
plastic locking levers			
Size 6	BAS AD DG 06 PA	Z7.428.1553.0	10
steel locking levers			
Size 6	BAS AD DG 06 ST	Z7.428.1510.0	10
stainless steel locking levers			
Size 6	BAS AD DG 06 VA	Z7.428.1519.0	10
for double locking lever, with gasket			
plastic locking levers			
Size 10	BAS AD DD 10 PA	Z7.428.1253.0	10
Size 16	BAS AD DD 16 PA	Z7.428.1353.0	10
Size 24	BAS AD DD 24 PA	Z7.428.1453.0	10
steel locking levers			
Size 10	BAS AD DD 10 ST	Z7.428.1210.0	10
Size 16	BAS AD DD 16 ST	Z7.428.1310.0	10
Size 24	BAS AD DD 24 ST	Z7.428.1410.0	10
stainless steel locking levers			
Size 10	BAS AD DD 10 VA	Z7.428.1219.0	10
Size 16	BAS AD DD 16 VA	Z7.428.1319.0	10
Size 24	BAS AD DD 24 VA	Z7.428.1419.0	10
for double locking lever, without gasket			
plastic locking levers			
Size 10	BAS AD DC 10 PA	Z7.428.1653.0	10
Size 16	BAS AD DC 16 PA	Z7.428.1753.0	10
Size 24	BAS AD DC 24 PA	Z7.428.1853.0	10
steel locking levers			
Size 10	BAS AD DC 10 ST	Z7.428.1610.0	10
Size 16	BAS AD DC 16 ST	Z7.428.1710.0	10
Size 24	BAS AD DC 24 ST	Z7.428.1810.0	10
stainless steel locking levers			
Size 10	BAS AD DC 10 VA	Z7.428.1619.0	10
Size 16	BAS AD DC 16 VA	Z7.428.1719.0	10
Size 24	BAS AD DC 24 VA	Z7.428.1819.0	10

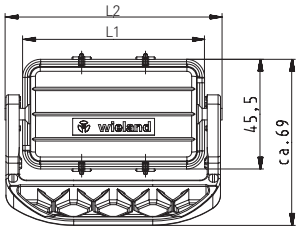
Technical data	
Material/Gasket	Polyamide/NBR
Color	silver gray, RAL 7001
Degree of protection	IP65
Flammability	UL94-V0

Dimensions

Single locking lever with clamp, plastic

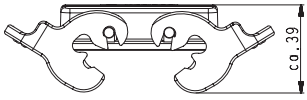
Size	L1 [mm]	L2 [mm]
6	62.5	75
10	75.5	90
16	96	110.5
24	122.5	137

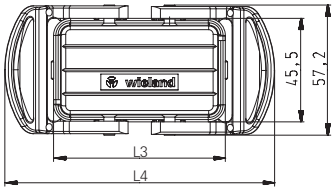




Double locking lever with clamp, plastic

Size	L3 [mm]	L4 [mm]
10	75.5	119
16	96	140
24	122.5	166





Protective cover for *revos* BASIC Housings Size 32

Protective covers without locking levers, without gasket

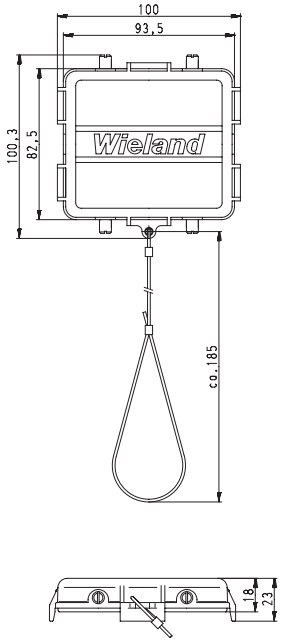
Protective covers with locking levers, with gasket

Description	Type	Part No.	P.U.
revos **protective cover with tether cord + loop**			
without locking levers, without gasket			
Size 32	BAS AD DA 32 FS ST	Z7.419.6228.0	10
with locking levers, with gasket			
Size 32	BAS AD DD 32 FS ST	Z7.419.6128.0	10

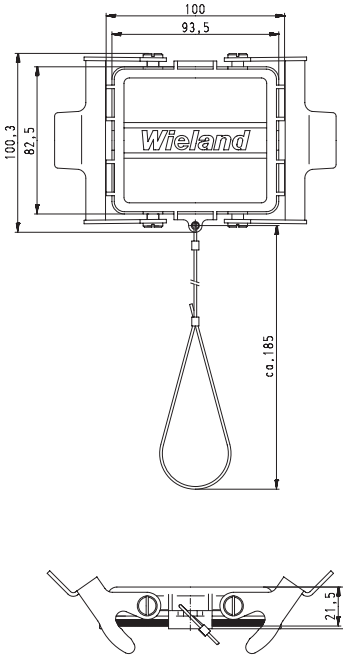
Technical data	
Material	Die cast aluminum
Surface	Silicon-free
Locking levers	Zinc-plated steel
Gasket	NBR
Degree of protection	IP65

Dimensions

Protective covers without locking levers



Protective cover with locking levers



Protective cover for *revos* BASIC Housings Size 6–24

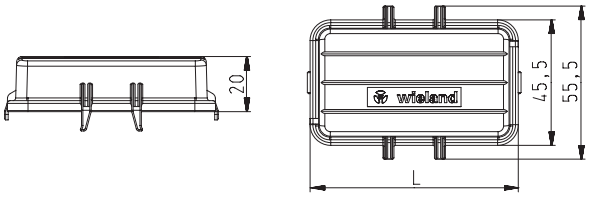
Protective cover latchable

Description	Type	Part No.	P.U.
Protective cover rastbar			
Size 6/6H	BAS AD DK 06	Z7.409.7056.0	10
Size 10/10H	BAS AD DL 10	Z7.409.7156.0	10
Size 16/16H	BAS AD DL 16	Z7.409.7256.0	10
Size 24/24H	BAS AD DL 24	Z7.409.7356.0	10

Technical data	
Material	Polyamide
Color	RAL 7001
Degree of protection	-
Flammability	-

Dimensions

Protective cover latchable



Protective cover for *revos* MINI Housings

Protective cover without gasket

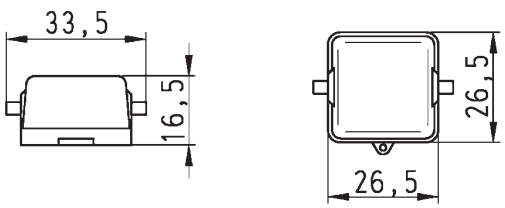
Protective cover with gasket (on the inside)

Description	Type	Part No.	P.U.
Protective cover for *revos* MINI Housings			
without gasket for male insert			
plastic	MIN AD DA 7 P	07.417.6753.0	10
Metal	MIN AD DA 7 Z	07.417.6729.0	10
with gasket for female insert			
plastic	MIN AD DB 7 P	07.417.6853.0	10
Metal	MIN AD DB 7 Z	07.417.6829.0	10

Technical data	
Material	Die cast zinc alloy/Polyamide
Surface	Silicon-free
Locking levers	-
Gasket	NBR
Degree of protection	IP65

Dimensions

Protective cover



Tools and Accessoires

Crimping tool kit

Description	Type	Part No.	P.U.
Crimping tool for *revos* contacts			
Crimping tool without crimping die and positioner		95.101.0800.0	1
Accessoires for crimping tool see page 284.			

For assignment of contacts to crimping tool see page 295.

Stripping tool

Description	Type	Part No.	P.U.
Tool			
Stripping tool	0.08 – 10mm² / 28 – 7 AWG	95.350.0100.0	1

Screwdriver

Description	Type	Part No.	P.U.
Tool			
Screwdriver	Blade 0.6x3.5 form “B“	06.502.4000.0	5

For use with contact inserts and multipole adapters with spring clamp connection

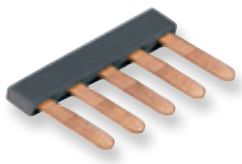
Axial screwdriver

Description	Type	Part No.	P.U.
Tool			
Axial screwdriver	POW AXIALSHR ISK SW2	05.502.4500.0	5

Extraction tool

Description	Type	Part No.	P.U.
Tool			
Extraction tool	HD	05.502.0000.0	1
Extraction tool	500/690V-SER.	05.502.3500.0	1
Extraction tool		05.502.4400.0	1

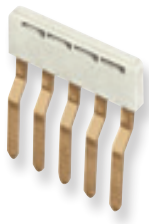
Jumper bar for *revos* BASIC multipole adapters



Description	Type	Part No.	P.U.
Insulated jumper bar for *revos* BASIC multipole adapters			
Number of poles			
2-pole		Z7.256.0227.0	10
3-pole		Z7.256.0327.0	10
4-pole		Z7.256.0427.0	10
5-pole		Z7.256.0527.0	10
6-pole		Z7.256.0627.0	10
7-pole		Z7.256.0727.0	10
8-pole		Z7.256.0827.0	10
9-pole		Z7.256.0927.0	10
10-pole		Z7.256.1027.0	10
11-pole		Z7.256.1127.0	10
12-pole		Z7.256.1227.0	10

Technical data	
Material	Polyamide
Rated voltage	500 V
Rated current	16 A

Jumper bar for *revos* HD multipole adapters



Description	Type	Part No.	P.U.
Insulated jumper bar for *revos* HD multipole adapters			
Number of poles			
2-pole		Z7.258.1225.0	10
3-pole		Z7.258.1325.0	10
4-pole		Z7.258.1425.0	10
5-pole		Z7.258.1525.0	10
6-pole		Z7.258.1625.0	10
7-pole		Z7.258.1725.0	10
8-pole		Z7.258.1825.0	10
9-pole		Z7.258.1925.0	10
10-pole		Z7.258.2025.0	10

Technical data	
Material	Polyamide
Rated voltage	250 V
Rated current	10 A

Marking tag carriers

Marking tag carriers for multipole adapters

Description		Type	Part No.	P.U.
Marking tag carriers, complete				
40-pole			Z4.242.3753.0	10
64-pole			Z4.242.4053.0	10
Marking tags				
Single tag, max. 3-digits				
unmarked	marking field 8.3x4.5 mm	9705 A	04.242.0850.0	500
marked	marking field 8.3x4.5 mm	9705 A B	04.842.0850.0	500
Single tag, max. 8-digits				
unmarked	marking field 14x4.5 mm	9705 AL	04.242.1553.0	500
marked	marking field 14x4.5 mm	9705 AL B	04.842.1553.0	500
Marking strip with 12 tags, 6.7 mm spacing				
unmarked	marking field 8.3x6.45 mm	9705A/6,7/12	04.242.6753.0	25
marked	Please indicate the required	9705A/6,7/12 B	04.842.6753.0	25
marked	1 – 9	9705A/6,7/12 B 1- 9	99.000.0920.8	25
Marking strip with 12 tags, 6.7 mm spacing				
6-pole	marked 1 – 6	9705A/6,7/2X 6 B 1- 6	99.002.0920.8	25
10-pole	marked 1 – 10	9705A/6,7/12 B 1-10	99.003.0920.8	25
16-pole	marked 1 – 16	9705A/6,7/2X12 B 1-16	99.004.0920.8	25
24-pole	marked 1 – 24	9705A/6,7/2X12 B 1-24	99.005.0920.8	25

45° Marking tag carrier

Description		Type	Part No.	P.U.
Marking tag carriers				
2x4-digits, 45°		9705 A/4 W	04.242.2853.0	200
Marking tags				
Single tag, max. 3-digits				
unmarked	marking field 8.3x4.5 mm	9705 A	04.242.0850.0	500
marked	marking field 8.3x4.5 mm	9705 A B	04.842.0850.0	500
Single tag, max. 8-digits				
unmarked	marking field 14x4.5 mm	9705 AL	04.242.1553.0	500
marked	marking field 14x4.5 mm	9705 AL B	04.842.1553.0	500
Marking strip with 12 tags, 6.7 mm spacing				
unmarked	marking field 8.3x6.45 mm	9705A/6,7/12	04.242.6753.0	25
marked	Please indicate the required	9705A/6,7/12 B	04.842.6753.0	25
marked	1 – 9	9705A/6,7/12 B 1- 9	99.000.0920.8	25
Marking strip with 12 tags, 6.7 mm spacing				
6-pole	marked 1 – 6	9705A/6,7/2X 6 B 1- 6	99.002.0920.8	25
10-pole	marked 1 – 10	9705A/6,7/12 B 1-10	99.003.0920.8	25
16-pole	marked 1 – 16	9705A/6,7/2X12 B 1-16	99.004.0920.8	25
24-pole	marked 1 – 24	9705A/6,7/2X12 B 1-24	99.005.0920.8	25

90° Marking tag carrier

Description		Type	Part No.	P.U.
Marking tag carriers				
6-digits, 90°		9705 A/6,7/6-90GRAD	04.242.3053.0	200
complete for				
6-pole multipole adapters		9705 A/6,7/9-90GRAD 3	04.242.3353.0	50
10-pole multipole adapters		9705 A/6,7/6-90GRAD 5	04.242.3453.0	50
16-pole multipole adapters		9705 A/6,7/6-90GRAD 8	04.242.3553.0	25
24-pole multipole adapters		9705 A/6,7/6-90GRAD12	04.242.3653.0	25
Marking tags				
Single tag, max. 3-digits				
unmarked	marking field 8.3x4.5 mm	9705 A	04.242.0850.0	500
marked	marking field 8.3x4.5 mm	9705 A B	04.842.0850.0	500
Single tag, max. 8-digits				
unmarked	marking field 14x4.5 mm	9705 AL	04.242.1553.0	500
marked	marking field 14x4.5 mm	9705 AL B	04.842.1553.0	500
Marking strip with 12 tags, 6.7 mm spacing				
unmarked	marking field 8.3x6.45 mm	9705A/6,7/12	04.242.6753.0	25
marked	Please indicate the required	9705A/6,7/12 B	04.842.6753.0	25

Marking tags

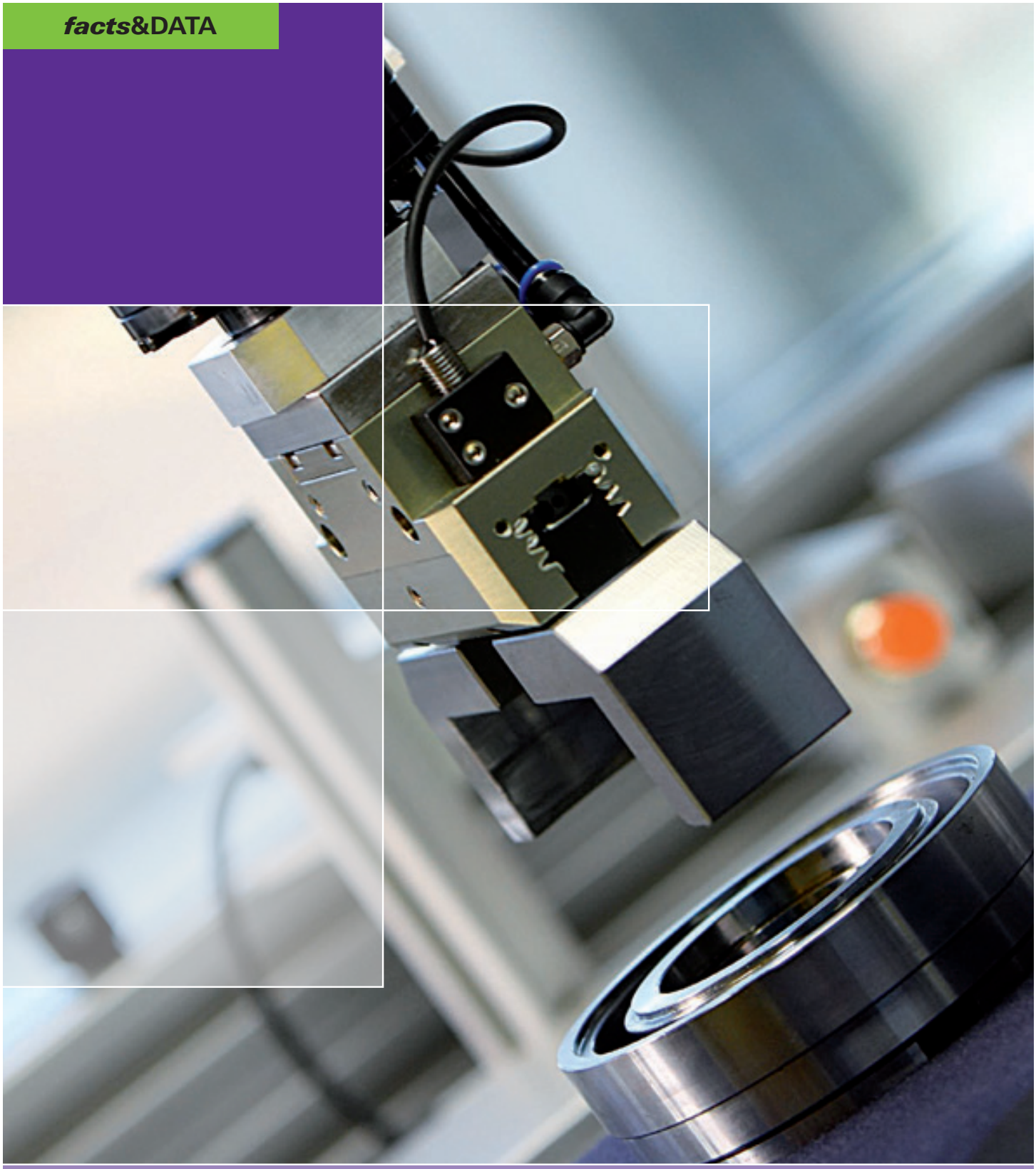
Tear-off marking strip

Description	Contents	Type	Part No.	P.U.
Marking tags-Ast				
unmarked		9704 A	04.241.1150.0	25
marked with the same number				
	10x “1“	9704 A/1 B	04.841.1150.0	25
	10x “2“	9704 A/2 B	04.841.1250.0	25
	10x “3“	9704 A/3 B	04.841.1350.0	25
	10x “4“	9704 A/4 B	04.841.1450.0	25
	10x “5“	9704 A/5 B	04.841.1550.0	25
	10x “6“	9704 A/6 B	04.841.1650.0	25
	10x “7“	9704 A/7 B	04.841.1750.0	25
	10x “8“	9704 A/8 B	04.841.1850.0	25
	10x “9“	9704 A/9 B	04.841.1950.0	25
	10x “0“	9704 A/0 B	04.841.2050.0	25
marked with consecutive numbers	1 2 3 4 5 6 7 8 9 0	9704 A/1-0 B	04.841.2150.0	25
marked with the same uppercase letters				
	10x “A“	9704 A/AG B	04.841.2250.0	25
	10x “B“	9704 A/BG B	04.841.2350.0	25
	10x “C“	9704 A/CG B	04.841.2450.0	25
	10x “D“	9704 A/DG B	04.841.2550.0	25
	10x “E“	9704 A/EG B	04.841.2650.0	25
	10x “F“	9704 A/FG B	04.841.2750.0	25
	10x “G“	9704 A/GG B	04.841.2850.0	25
	10x “H“	9704 A/HG B	04.841.2950.0	25
	10x “I“	9704 A/IG B	04.841.3050.0	25
	10x “J“	9704 A/JG B	04.841.3150.0	25
	10x “K“	9704 A/KG B	04.841.3250.0	25
	10x “L“	9704 A/LG B	04.841.3350.0	25
	10x “M“	9704 A/MG B	04.841.3450.0	25
	10x “N“	9704 A/NG B	04.841.3550.0	25
	10x “O“	9704 A/OG B	04.841.3650.0	25
	10x “P“	9704 A/PG B	04.841.3750.0	25
	10x “Q“	9704 A/QG B	04.841.3850.0	25
	10x “R“	9704 A/RG B	04.841.3950.0	25
	10x “S“	9704 A/SG B	04.841.4050.0	25
	10x “T“	9704 A/TG B	04.841.4150.0	25
	10x “U“	9704 A/UG B	04.841.4250.0	25
	10x “V“	9704 A/VG B	04.841.4350.0	25
	10x “W“	9704 A/WG B	04.841.4450.0	25
	10x “X“	9704 A/XG B	04.841.4550.0	25
	10x “Y“	9704 A/YG B	04.841.4650.0	25
	10x “Z“	9704 A/ZG B	04.841.4750.0	25

Marking tags

Tear-off marking strip

Description	Contents	Type	Part No.	P.U.
marked with the same lowercase letters				
	10x “a“	9704 A/AK B	04.841.4850.0	25
	10x “b“	9704 A/BK B	04.841.4950.0	25
	10x “c“	9704 A/CK B	04.841.5050.0	25
	10x “d“	9704 A/DK B	04.841.5150.0	25
	10x “e“	9704 A/EK B	04.841.5250.0	25
	10x “f“	9704 A/FK B	04.841.5350.0	25
	10x “g“	9704 A/GK B	04.841.5450.0	25
	10x “h“	9704 A/HK B	04.841.5550.0	25
	10x “i“	9704 A/IK B	04.841.5650.0	25
	10x “j“	9704 A/JK B	04.841.5750.0	25
	10x “k“	9704 A/KK B	04.841.5850.0	25
	10x “l“	9704 A/LK B	04.841.5950.0	25
	10x “m“	9704 A/MK B	04.841.6050.0	25
	10x “n“	9704 A/NK B	04.841.6150.0	25
	10x “o“	9704 A/OK B	04.841.6250.0	25
	10x “P“	9704 A/PK B	04.841.6350.0	25
	10x “q“	9704 A/QK B	04.841.6450.0	25
	10x “r“	9704 A/RK B	04.841.6550.0	25
	10x “s“	9704 A/SK B	04.841.6650.0	25
	10x “t“	9704 A/TK B	04.841.6750.0	25
	10x “u“	9704 A/UK B	04.841.6850.0	25
	10x “v“	9704 A/VK B	04.841.6950.0	25
	10x “w“	9704 A/WK B	04.841.7050.0	25
	10x “x“	9704 A/XK B	04.841.7150.0	25
	10x “y“	9704 A/YK B	04.841.7250.0	25
	10x “z“	9704 A/ZK B	04.841.7350.0	25
marked with the same symbols				
	10x “+“	9704 A/+ B	04.841.7450.0	25
	10x “-“	9704 A/- B	04.841.7550.0	25
	10x “/“	9704 A// B	04.841.7650.0	25
	10x “.“	9704 A/. B	04.841.7750.0	25
Large packs				
Same numbers = 10 x 25 strips = 2500 tags	1 1 1 ... 0 0 0	111..BIS 000..	04.841.9050.0	1
Uppercase letters = 26 x 25 strips = 6500 tags	A A A ... Z Z Z	A BIS Z GB	04.841.9150.0	1
Lowercase letters = 26 x 25 strips = 6500 tags	a a a ... z z z	A BIS Z KB	04.841.9250.0	1

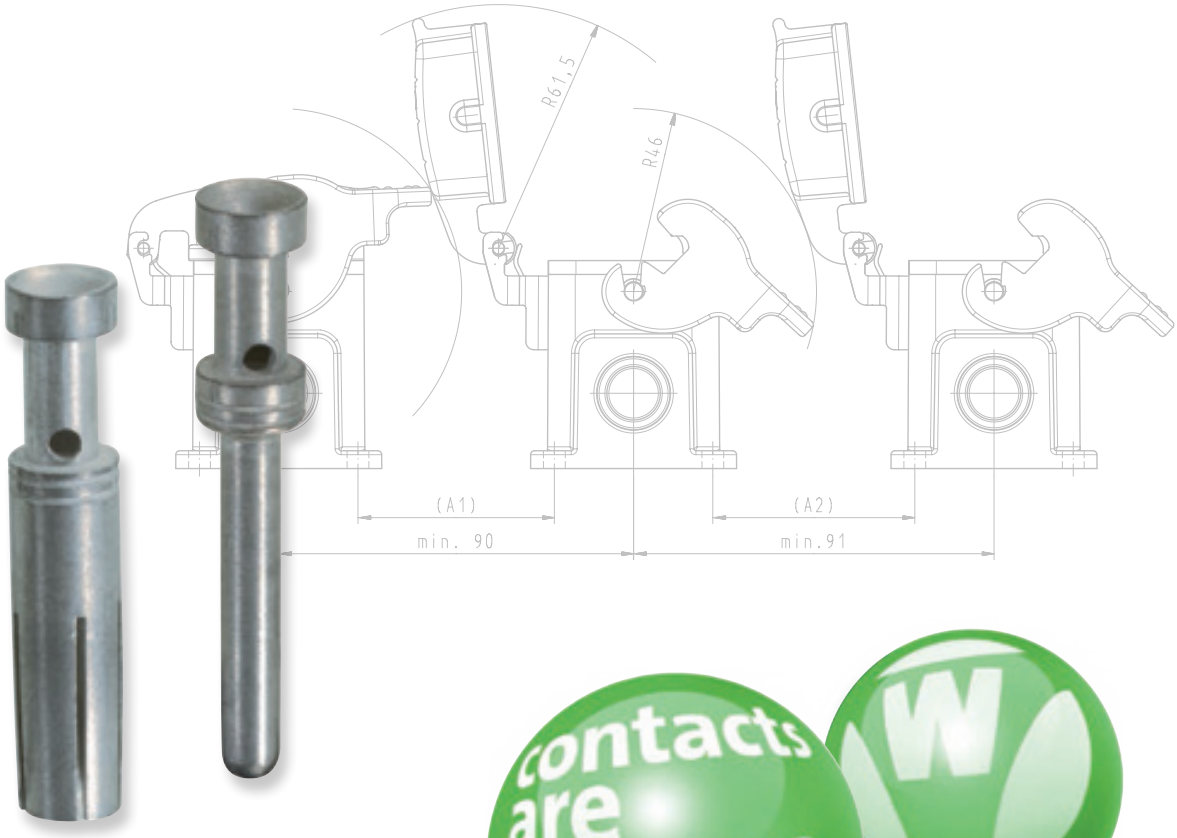


revos facts&DATA

On the following pages, you will find all important information on our ***revos*** products.

But our Wieland customer service team is also happy to help you, at telephone number +49 951 9324-991.

We look forward to hearing from you.



Conductor connections

Rated connection capacity and suitable conductor

Table 1: (EN 60 999-1: 2000): Relationship between rated connection capacity and diameter of the conductor

Rated connection capacity	Theoretical diameter of the largest conductor							Connectable conductor	
	Metric			AWG					
	Rigid		Flexible	Rigid			Flexible	Rigid	Flexible
	Solid	Multistrand			Solid	Multistrand	Multistrand		
mm^2	mm	mm	mm	Conductor size	mm	mm	mm		
0.2	0.51	0.53	0.61	24	0.54	0.61	0.64		
0.34	0.63	0.66	0.8	22	0.68	0.71	0.80		
0.5	0.9	1.1	1.1	20	0.85	0.97	1.02		
0.75	1.0	1.2	1.3	18	1.07	1.23	1.28		
1.0	1.2	1.4	1.5	-	-	-	-	Must be set in the relevant product standard	
1.5	1.5	1.7	1.8	16	1.35	1.55	1.60		
2.5	1.9	2.2	2.3 [a]	14	1.71	1.95	2.08		
4.0	2.4	2.7	2.9 [a]	12	2.15	2.45	2.70		
6.0	2.9	3.3	3.9 [a]	10	2.72	3.09	3.36		
10.0	3.7	4.2	5.1	8	3.34	3.89	4.32		
16.0	4.6	5.3	6.3	6	4.32	4.91	5.73		
25.0	-	6.6	7.8	4	5.45	6.18	7.26		
35	-	7.9	9.2	2	6.87	7.78	9.02		
					[b]	[b] / Class B	[c] / Class I, K, M		

Note: The diameters of the largest rigid and flexible conductors are based on Table 1 in accordance with IEC 60 228A and IEC 30 344 and for AWG conductors on ASTM B 172-71 [4], ICEA Publication S-19-81 [5], ICEA Publication S-66-524 [6], and ICEA Publication S-66-516 [7]

[a] Dimensions only for flexible cables of class 5 in accordance with IEC 60 228A.
[b] Nominal diameter + 5%
[c] Largest diameter for each of the three classes I, K, M, + 5%

Theoretical diameter of the largest conductor and relationship between rated cross section and connectable conductors

Table 2: (EN 60 999-2: 2003): Relationship between rated cross section and diameter of the conductors

Rated cross section	Theoretical diameter of the largest conductor		Connectable conductor	
	Metric			
	Rigid	Flexible [a]	Rigid	Flexible
	Multistrand			
mm^2	mm	mm		
50	9.1	11.0		
70	11.0	13.1		
95	12.9	15.1		
-	-	-	Must be set in the relevant product standard	
120	14.5	17.0		
150	16.2	19.0		
185	18.0	21.0		
-	-	-		
240	20.6	24.0		
300	23.1	27.0		

Note: The diameters of the largest rigid and flexible conductors are based on Table 1 and Table 3 of IEC 60 228A.

[a] Dimensions only for flexible conductors of class 5 in accordance with IEC 60 228A.

Conductor connections

Standard cross sections of round copper conductors AWG/metric

Metric size ISO	Comparison between AWG/kcmil and metric sizes		
mm²	AWG	kcmil	mm²
0.1 *	28		0.081
0.14 *	26		0.128
0.2	24		0.205
-	22		0.324
0.5	20		0.519
0.75	18		0.82
1	-		-
1.5	16		1.3
2.5	14		2.1
4	12		3.3
6	10		5.3
10	8		8.4

Metric size ISO	Comparison between AWG/kcmil and metric sizes		
mm²	AWG	kcmil	mm²
16	6		13.3
25	4		21.2
.5	2		33.6
50	(1/0) 0		53.5
70	(2/0) 00		67.4
95	(3/0) 000		85
-	(4/0) 0000		107.2
120		250	127
150		300	152
185		350	177
240		500	253
300		600	304

* not standardized

Composition and dimensions of single, multi, fine and extra-fine-wire conductors made of copper

Extract from DIN VDE 0295 (06.92)

Nominal cross section	Solid		Multistrand		Fine strand	
	Maximum dimension diameter	Number of wires	Maximum dimension diameter	Number of wires	Maximum dimension diameter	Reference number of wires
mm²		mm	-	mm		
0.5	0.9	1	-	-	1.1	16
0.75	1.0	1	-	-	1.3	24
1	1.2	1	-	-	1.5	32
1.5	1.5	1	-	-	1.8	30
2.5	1.9	1	-	-	2.3	50
4	2.4	1	-	-	2.9	56
6	2.9	1	-	-	3.9	84
10	3.7	1	4.2	7	5.1	80
16	4.6	1	5.3	7	6.3	126
25	-	-	6.6	7	7.8	196
35	-	-	7.9	7	9.2	276
50	-	-	9.1	19	11	396
70	-	-	11	19	13.1	360
95	-	-	12.9	19	15.1	475
120	-	-	14.5	37	17	608
150	-	-	16.2	37	19	756
185	-	-	18	37	21	925
240	-	-	20.6	61	24	1224

Current load capacity of cables or lines

Recommended values for current load capacity of cables or lines for fixed installation and open-air installation should be taken from DIN VDE 0298 Part4/08.2003

Current load capacity

Current load capacity of terminal blocks / industrial connectors
(for terminal blocks) For copper conductors, the following tables apply:
Test current in accordance with DIN EN 60 947-7-1/VDE 0611 Part 01:2010

Table 4: Value of the test current for heating, aging and voltage drop test for metric conductor sizes

Rated cross section mm²	0.2	0.34	0.5	0.75	1	1.5	2.5	4	6	10	16
Test current A	4	5	6	9	13.5	17.5	24	32	41	57	76

Rated cross section mm²	25	35	50	70	95	120	150	185	240	300
Test current A	101	125	150	192	232	269	309	353	415	520

The rated cross section of a terminal block is the manufacturer-specified value of the connectable conductor cross section to which specific thermal, mechanical and electrical requirements refer.

The rated connection capacity of a terminal block is a range and/or number of rated cross sections that the terminal block is intended for; it is specified individually for each terminal. The conductors can be rigid (solid or multistranded) or flexible. The specifications refer to unprepared conductor ends without ferrules and comprise the largest and smallest connectable conductor cross section. In general, two conductors of the same cross section and structure can be connected.

For terminal blocks with additional function, the rated current is established by the manufacturer according to the requirements of the additional function. Additional functions can be given by plug connections, disconnection points, fuses, relays or electronic components. The current load capacity of other terminals is established and evaluated based on the above determinations or in accordance with EN 60 999/VDE 0609 Part 1 or EN 60 998-1/VDE 0613 Part 1 or EN 60 335-1/DIN VDE 0700 Part 1, if applicable.

The current load capacity for plug connectors is determined and established based on DIN EN 61 984/VDE 0627: 2009 and DIN EN 175 301-801: 2007, if applicable.

During proper use, the contact inserts of the ***revos*** series must not be inserted or removed under load or when live.
The contact inserts of the ***revos*** series are type-tested according to UL 1977 and C22.2 NO 182.1 and must not be inserted or removed when under load.

Tightening torque

Tightening torque of screw connections

Extract from EN 60 947-1

Tightening torque for proving the mechanical tightness of screw connections

Table 4: Tightening torques for proving the mechanical tightness of screw connections/terminals

Thread diameter		Tightening torque (Nm)		
Metric standard values	Diameter range	I	II	III
1.6	1.6	0.05	0.1	0.1
2.0	1.6 to 2.0	0.1	0.2	0.2
2.5	2.0 to 2.8	0.2	0.4	0.4
3.0	2.8 to 3.0	0.25	0.5	0.5
-	3.0 to 3.2	0.3	0.6	0.6
3.5	3.2 to 3.6	0.4	0.8	0.8
4	3.6 to 4.1	0.7	1.2	1.2
4.5	4.1 to 4.7	0.8	1.8	1.8
5	4.7 to 5.3	0.8	2.0	2.0
6	5.3 to 6.0	1.2	2.5	3.0
8	6.0 to 8.0	2.5	3.5	6.0
10	8.0 to 10.0	-	4.0	10.0
12	10 to 12	-	-	14.0
14	12 to 15	-	-	19.0
16	15 to 20	-	-	25.0
20	20 to 24	-	-	36.0
24	24	-	-	50.0

Column I: Applies for screws without heads that do not protrude from the thread hole and for screws that can only be tightened with screwdrivers with an edge narrower than the screw's thread core diameter.

Column II: Applies for nuts and screws that are tightened with screwdrivers.

Column III: Applies for nuts and screws that can be tightened with tools other than screwdrivers.

Explanations of applications in hazardous areas

revos Ex-multipole connectors are designed for special applications in hazardous areas. Their use in zone 0 for intrinsic circuits has been approved by the DEKRA EXAM test institute. The housings for the multipole connectors are manufactured from die cast zinc alloy.

Operating instructions for the connector series „revos Ex…“

A pluggable connection consists of a hood, a base as well as a female and male insert.

Installation of a pluggable connection must be prepared as follows:

– Closed bottom housings must be fixed with screws to a flat surface using the available bore holes.
– Open-bottom housings must be fixed with screws to a flat surface using the available bore holes. Before fixing the housing to the surface, ensure that the seal fixed to the base at the time of delivery is mounted correctly.
– The female insert and male insert must be screwed into the hood (or alternatively screwed into the base) using the screws already attached to the frame of the male or female connector.
– The cables are connected to the male connectors and female connectors using the screw connection with a torque of 0.5 Nm.

The components are made ready for operation by plugging the hood and base together and latching them.

The relevant connectors must be mounted to device in a way that at least protection degree IP 54 according to EN 60529 is ensured.

The „revos Ex“ connectors are designed for use in an ambient temperature range at installation site of –20°C bis +60°C.

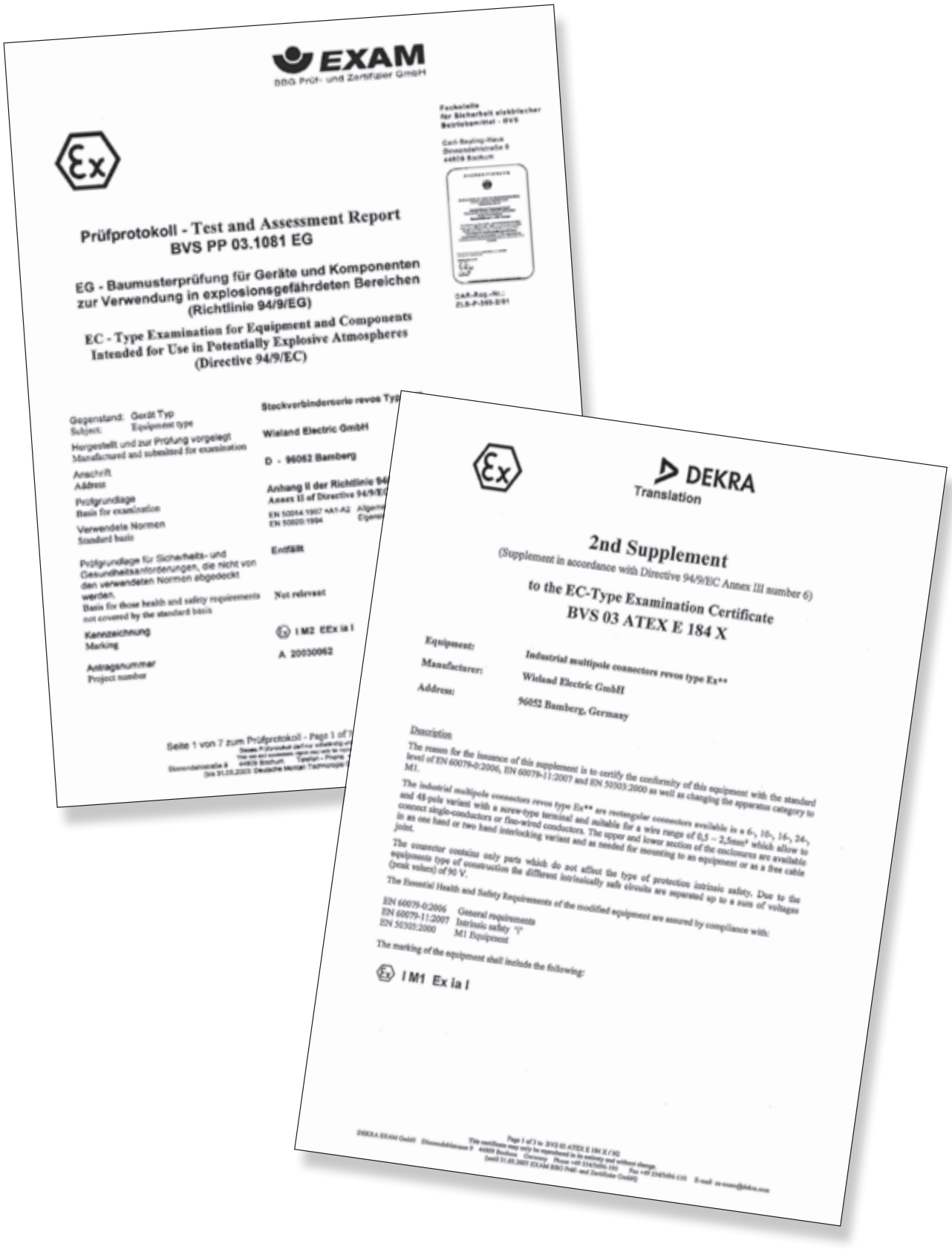
Usage note:
The “revos Ex” plug connector series can be used with a rated voltage of 90 V and a permissible cable cross-section of 0.5 mm2 to 2.5 mm^2 for the following application areas according to ATEX directive 94/9/EC and the EN 60079-0:2006, EN 60079-11:2007 and EN 50303:2000 standards:

Ex I M1 Ex ia I

Proof is provided by the marking of the Ex area on the individual components of the connector.

Permissible conductor cross section: 1.5 mm^2 to	2.5 mm^2	to	16 A
	1.0 mm^2	to	10 A
	0.75 mm^2	to	6 A
	0.5 mm^2	to	3 A

Wieland Electric GmbH
Brennerstraße 10-14
D-96052 Bamberg
Germany



EXAM
BBG Prüf- und Zertifizier GmbH

Prüfprotokoll - Test and Assessment Report
BVS PP 03.1081 EG

EG - Baumusterprüfung für Geräte und Komponenten zur Verwendung in explosionsgefährdeten Bereichen (Richtlinie 94/9/EG)

EC - Type Examination for Equipment and Components Intended for Use in Potentially Explosive Atmospheres (Directive 94/9/EC)

Gegenstand: Gerät Typ
Subject: Equipment type
Stockverbinderserie revos Typ

Hergestellt und zur Prüfung vorgelegt
Manufactured and submitted for examination
Wieland Electric GmbH

Anschrift
Address
D - 96052 Bamberg

Prüfgrundlage
Basis for examination
Anhang II der Richtlinie 94/
Annex II of Directive 94/9/E

Verwendete Normen
Standard basis
EN 50014:1997 +A1-A2
EN 50020:1994

Prüfgrundlage für Sicherheits- und Gesundheitsanforderungen, die nicht von den verwendeten Normen abgedeckt werden.
Basis for those health and safety requirements not covered by the standard basis
Entfällt
Not relevant

Kennzeichnung
Marking
I M2 EEx ia I

Antragsnummer
Project number
A 20030062

Seite 1 von 7 zum Prüfprotokoll - Page 1 of 7

DEKRA
Translation

2nd Supplement
(Supplement in accordance with Directive 94/9/EC Annex III number 6)
to the EC-Type Examination Certificate
BVS 03 ATEX E 184 X

Equipment: Industrial multipole connectors revos type Ex**
Manufacturer: Wieland Electric GmbH
Address: 96052 Bamberg, Germany

Description

The reason for the issuance of this supplement is to certify the conformity of this equipment with the standard level of EN 60079-0:2006, EN 60079-11:2007 and EN 50303:2000 as well as changing the apparatus category to M1.

The industrial multipole connectors revos type Ex** are rectangular connectors available in a 6-, 10-, 16-, 24-, and 48-pole variant with a screw-type terminal and suitable for a wire range of 0,5 – 2,5mm² which allow to connect single-conductors or fine-wired conductors. The upper and lower section of the enclosures are available in as one hand or two hand interlocking variant and as needed for mounting to an equipment or as a free cable joint.

The connector contains only parts which do not affect the type of protection intrinsic safety. Due to the equipments type of construction the different intrinsically safe circuits are separated up to a sum of voltages (peak values) of 90 V.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

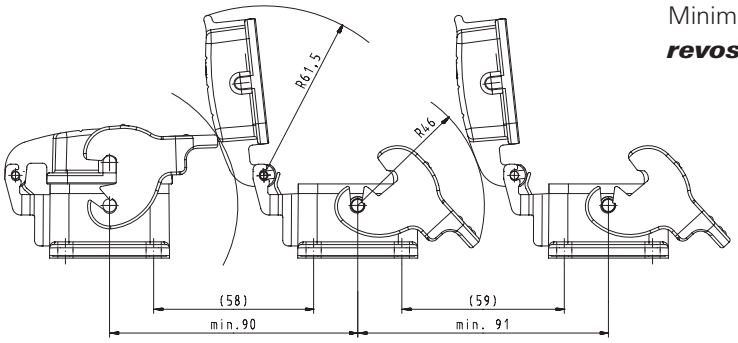
EN 60079-0:2006 General requirements
EN 60079-11:2007 Intrinsic safety 'i'
EN 50303:2000 M1 Equipment

The marking of the equipment shall include the following:

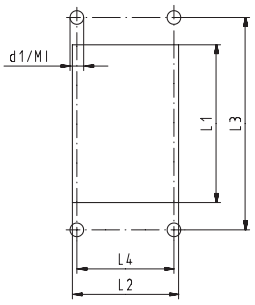
I M1 Ex ia I

Page 1 of 3 to BVS 03 ATEX E 184 X / 02

revos BASIC single locking lever
Installation spacing and mounting dimensions

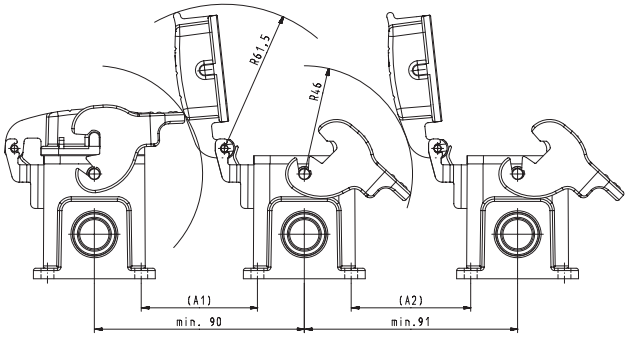


Minimum installation spacing for
revos BASIC open-bottom bases



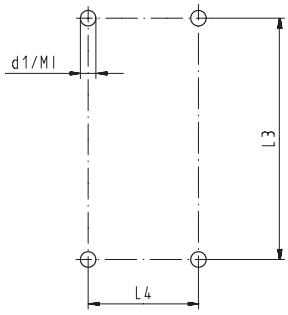
Mounting diagram for **revos** BASIC
open-bottom bases of size 6 to 48

Size		6	10	16	24	48
Cut-out	L1	52	65	85.5	112	117
	L2	35	35	35	35	81
Installation spacing	L3	70	83	103	130	148
	L4	32	32	32	32	70
	d1	4.3	4.3	4.3	4.3	6.4
	M	M4	M4	M4	M4	M6



Minimum installation spacing for **revos** BASIC
closed-bottom bases of size 6 to 24

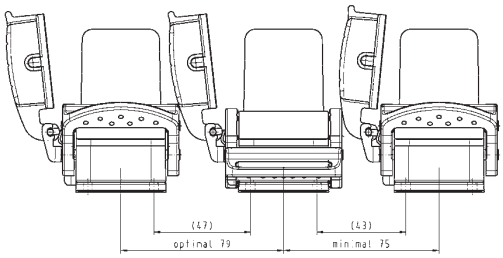
Size		6	10	16	24
Installation spacing	A1	50	50	45	45
	A2	51	51	46	46



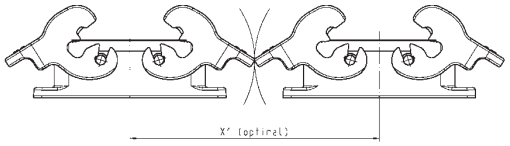
Mounting diagram for **revos** BASIC
closed-bottom bases of size 6 to 48

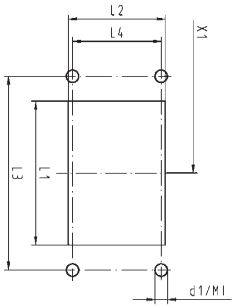
Size		6	6H	10	10H	16	24	48
Installation spacing	L3	70	70	82	82	105	132	111
	L4	40	45	40	45	45	45	106
	d1	5.3	5.5	5.3	5.5	5.3	5.3	6.5
	M	M5	M5	M5	M5	M5	M5	M6

revos BASIC double locking lever
Installation spacing and mounting dimensions



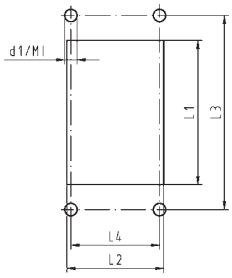
Minimum installation spacing for ***revos*** BASIC open-bottom bases of size 10 to 24





Mounting diagram for ***revos*** BASIC open-bottom bases of size 10 to 32

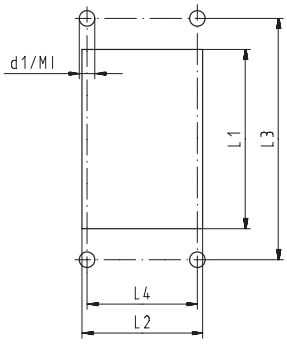
Size		10	16	24	32
Cut-out	L1	65	85.5	112	86
	L2	35	35	35	71
Installation spacing	L3	83	103	130	110
	L4	32	32	32	65
Minimum Montageabstand	X1	121	139	166	
	d1	4.3	4.3	4.3	5.5
	M1	M4	M4	M4	M5



Mounting diagram for ***revos*** BASIC open-bottom bases of size 10 to 24

Size		10	10H	16	24
Befestigungsab-stände	L3	82	82	105	132
	L4	40	45	45	45
	d1	5.5	5.5	5.5	5.5
	M1	M5	M5	M5	M5

EMC housings, cut-out and mounting dimensions

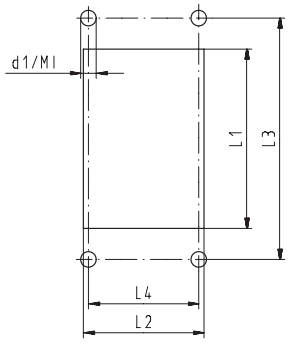


Mounting diagram for ***revos*** EMC open-bottom bases of size 6 to 24

Size		6	10	16	24
Cut-out	L1	52	65	85.5	112
	L2	35	35	35	35
Installation spacing	L3	70	83	103	130
	L4	32	32	32	32
	d1	4.3	4.3	4.3	4.3
	M1	M4	M4	M4	M4

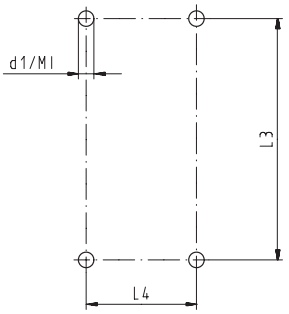
revos HD

Housing line, cut-outs and mounting dimensions



Mounting diagram for **revos** HD open-bottom bases of size 10/15, 16/25 and 32/50

Size		10/15	16/25	32/50
Cut-out	L1	56	72	82
	L2	23	23	49
Installation spacing	L3	70	86	92
	L4	17.5	17.5	42
	d1	3.3	3.3	4.3
	M1	M3	M3	M4



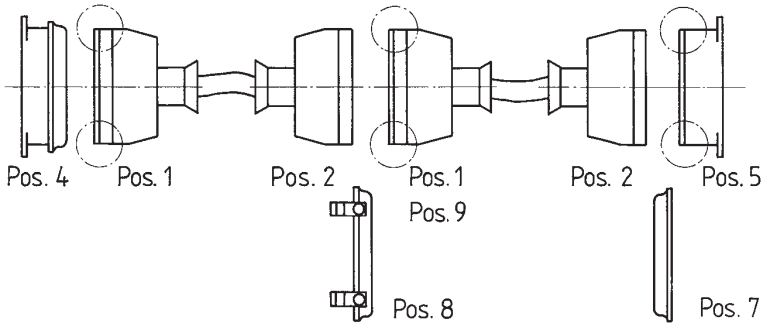
Mounting diagram for **revos** HD closed-bottom bases of size 10/15, 16/25 and 32/50

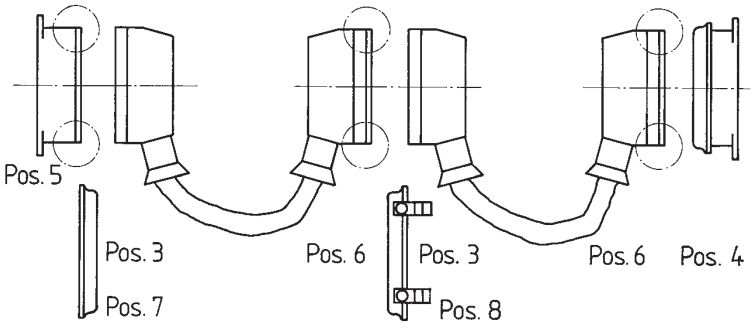
Size		10/15	16/25	32/50
Installation spacing	L3	48	64	94
	L4	40	40	46
	d1	4.3	4.3	4.3
	M1	M4	M4	M4

Installation example for *revos*
Multipole hoods for cable-to-cable couplings

Size	Thread	Hood Pos. 1	Hood Pos. 2	Hood Pos. 3	Bottom-base Pos. 4	Bottom-base Pos. 5	Hood Pos. 6
6	M20	99.741.3329.7	70.352.0636.4	70.350.0636.4	99.700.3329.7	70.320.0628.9	99.731.3329.7
	M25	99.742.3329.7	70.354.0636.4	70.353.0636.4	–	–	99.732.3329.7
10	M20	99.743.3329.7	70.352.1036.4	70.350.1036.4	99.706.3329.7	70.320.1028.9	99.733.3329.7
	M25	99.744.3329.7	70.354.1036.4	70.353.1036.4	–	–	99.734.3329.7
16	M25	99.745.3329.7	70.352.1636.4	70.350.1636.4	99.702.3329.7	70.320.1628.9	99.735.3329.7
	M32	99.746.3329.7	70.354.1636.4	70.353.1636.4	–	–	99.736.3329.7
24	M25	99.747.3329.7	70.352.2436.4	70.350.2436.4	99.704.3329.7	70.320.2428.9	99.737.3329.7
	M32	99.748.3329.7	–	–	–	–	99.738.3329.7
48	M32	70.372.4836.4	70.375.4836.4	70.350.4828.4	–	70.320.4828.9	–
	M40	70.374.4836.4	70.376.4836.4	–	–	–	–

Handling instructions for the connectors are available in section on page 288.





Crimping tool

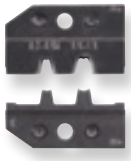
Description	Type	Part No.	P.U.
Tool			
Crimping tool in the case		95.101.0800.0	
Crimping die	"A"	05.502.2000.0	1
Crimping die	"B"	05.502.2100.0	1
Crimping die	"C"	05.502.2200.0	1
Crimping die	"D"	05.502.2300.0	1
Crimping die	"E"	05.502.2400.0	1
Crimping die	"F"	05.502.2600.0	1
Crimping die	"G"	05.502.4900.0	1
Crimping die	"H"	05.502.5000.0	1
Contact positioner	1	05.502.3100.0	1
Contact positioner	2	05.502.3200.0	1
Contact positioner	3	05.502.3300.0	1
Contact positioner	4	05.502.3800.0	1
Contact positioner	5	05.502.5100.0	1
Contact positioner	6	05.502.5200.0	1

Crimping die "A"

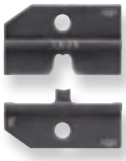
Crimping die "B"

Crimping die "C"

Crimping die "D"



Crimping die "E"



Crimping die "F"

Crimping die "g"

Crimping die "h"

Contact positioner 1

Contact positioner 2

Contact positioner 3

Contact positioner 4

Contact positioner 5

Contact positioner 6

Assignment of contacts to appropriate crimping tool

Part No.			Wire range						Suitable for																					
Female	Male	Contact diameter	mm²	AWG	Surface	Stripping length mm	Crimping die	Contact positioner	revos BASIC	revos MOT	revos MINI Q5	revos MINI (7+8-pole)	revos MINI Q12	revos HD	revos FLEX (Modul 3-pole)	revos FLEX (Modul 4-pole)	revos FLEX (Modul 5-pole)	revos FLEX (Modul 5-pole)	revos FLEX High-voltage-module	revos FLEX (Modul 10-pole)	revos FLEX RJ45	revos DD	revos FLEX (Modul 20-pole)	revos BASIC switching contact	revos SLIDE	Extraction tool
02.123.7001.0	05.543.7001.0	2.5	0.5	20	Au0,8	7	B	3	●	●	●															05.502.3500.0
02.123.7001.7	05.543.7001.7	2.5	0.5	20	Au2	7	B	3	●	●	●															05.502.3500.0
02.123.7002.0	05.543.7002.0	2.5	0.5	20	Ag	7	B	3	●	●	●															05.502.3500.0
02.123.7021.0	05.543.7021.0	2.5	0.5	20	Sn	7	B	3	●	●	●															05.502.3500.0
02.123.7101.0	05.543.7101.0	2.5	0.75-1.0	18	Au0,8	7	B	3	●	●	●															05.502.3500.0
02.123.7101.7	05.543.7101.7	2.5	0.75-1.0	18	Au2	7	B	3	●	●	●															05.502.3500.0
02.123.7102.0	05.543.7102.0	2.5	0.75-1.0	18	Ag	7	B	3	●	●	●															05.502.3500.0
02.123.7121.0	05.543.7121.0	2.5	0.75-1.0	18	Sn	7	B	3	●	●	●															05.502.3500.0
02.123.7201.0	05.543.7201.0	2.5	1.5	16	Au0,8	7	B	3	●	●	●															05.502.3500.0
02.123.7201.7	05.543.7201.7	2.5	1.5	16	Au2	7	B	3	●	●	●															05.502.3500.0
02.123.7202.0	05.543.7202.0	2.5	1.5	16	Ag	7	B	3	●	●	●															05.502.3500.0
02.123.7221.0	05.543.7221.0	2.5	1.5	16	Sn	7	B	3	●	●	●															05.502.3500.0
02.123.7301.0	05.543.7301.0	2.5	2.5	14	Au0,8	7	B	3	●	●	●															05.502.3500.0
02.123.7301.7	05.543.7301.7	2.5	2.5	14	Au2	7	B	3	●	●	●															05.502.3500.0
02.123.7302.0	05.543.7302.0	2.5	2.5	14	Ag	7	B	3	●	●	●															05.502.3500.0
02.123.7321.0	05.543.7321.0	2.5	2.5	14	Sn	7	B	3	●	●	●															05.502.3500.0
02.123.7401.0	05.543.7401.0	2.5	4	12	Au0,8	7	B	3	●	●	●															05.502.3500.0
02.123.7401.7	05.543.7401.7	2.5	4	12	Au2	7	B	3	●	●	●															05.502.3500.0
02.123.7402.0	05.543.7402.0	2.5	4	12	Ag	7	B	3	●	●	●															05.502.3500.0
02.123.7421.0	05.543.7421.0	2.5	4	12	Sn	7	B	3	●		●															05.502.3500.0
02.124.0900.0	05.544.0900.0	1.58	0.2-0.56	24-20	Sn	4	E	2				●		●												05.502.0000.0
02.124.0929.0	05.544.0929.0	1.58	0.2-0.56	24-20	Sn	4	E	2				●		●												05.502.0000.0
02.124.1000.0	05.544.1000.0	1.58	0.75-1.50	18-16	Sn	4	E	2				●		●												05.502.0000.0
02.124.1029.0	05.544.1029.0	1.58	0.75-1.50	18-16	Sn	4	E	2				●		●												05.502.0000.0
02.124.1400.0	05.544.1400.0	1.58	0.5-1.50	20-16	Au	4	E	2				●		●												05.502.0000.0
02.124.1429.0	05.544.1429.0	1.58	0.5-1.50	20-16	Au	4	E	2				●		●												05.502.0000.0
02.125.2929.8	05.544.1829.8	3.6	1.5	16	Ag	10	B	none							●											05.502.0910.0
02.125.3029.8	05.544.1929.8	3.6	2.5	14	Ag	10	B	none							●											05.502.0910.0
02.125.3129.8	05.544.3129.8	3.6	4	12	Ag	10	D	1							●											05.502.0910.0
02.125.3229.8	05.544.3229.8	3.6	6	10	Ag	10	D	1							●											05.502.0910.0
02.125.3329.8	05.544.3329.8	3.6	10	8	Ag	10	D	1							●											05.502.0910.0
02.125.3429.8	05.544.3429.8	2.5	0.5-1.5	20-16	Ag	4	C	2								●	●									05.502.0610.0
02.125.3529.8	05.544.3529.8	2.5	1.5-2.5	16-14	Ag	4	C	2								●	●									05.502.0610.0
02.125.3629.7	05.544.3629.7	2.5	0.5	20	Au	8	B	1										●	●							05.502.0810.0
02.125.3629.8	05.544.3629.8	2.5	0.5	20	Ag	8	B	1										●	●							05.502.0810.0
02.125.3729.7	05.544.3729.7	2.5	0.75-1.0	18	Au	8	B	1										●	●							05.502.0810.0
02.125.3729.8	05.544.3729.8	2.5	0.75-1.0	18	Ag	8	B	1										●	●							05.502.0810.0
02.125.3829.8	05.544.3829.8	2.5	1.5	16	Ag	8	B	1										●	●							05.502.0810.0
02.125.3929.7	05.544.3929.7	2.5	2.5	14	Au	8	B	1										●	●							05.502.0810.0
02.125.3929.8	05.544.3929.8	2.5	2.5	14	Ag	8	B	1										●	●							05.502.0810.0
02.125.4029.8	05.544.4029.8	2.5	4	12	Ag	8	B	1										●	●							05.502.0810.0
02.125.4129.7	05.544.4129.7	1.6	0.14-0.37	26-22	Au	8	B	1					●								●	●	●			05.502.0710.0
02.125.4129.8	05.544.4129.8	1.6	0.14-0.37	26-22	Ag	8	B	1					●								●	●	●			05.502.0710.0
02.125.4229.7	05.544.4229.7	1.6	0.5	20	Au	8	B	1					●								●	●	●			05.502.0710.0
02.125.4229.8	05.544.4229.8	1.6	0.5	20	Ag	8	B	1					●								●	●	●			05.502.0710.0
02.125.4329.7	05.544.4329.7	1.6	0.75-1.0	18	Au	8	B	1					●								●	●	●			05.502.0710.0
02.125.4329.8	05.544.4329.8	1.6	0.75-1.0	18	Ag	8	B	1					●								●	●	●			05.502.0710.0
02.125.4429.7	05.544.4429.7	1.6	1.5	16	Au	8	B	1					●								●	●	●			05.502.0710.0
02.125.4429.8	05.544.4429.8	1.6	1.5	16	Ag	8	B	1					●								●	●	●			05.502.0710.0
02.125.4529.7	05.544.4529.7	1.6	2.5	14	Au	8	B	1					●								●	●	●			05.502.0710.0
02.125.4529.8	05.544.4529.8	1.6	2.5	14	Ag	8	B	1					●								●	●	●			05.502.0710.0
02.125.4629.7	05.544.4629.7	1.0	0.09-0.25	28-24	Au	3	A	4																●		05.502.0410.0
02.125.4729.7	05.544.4729.7	1.0	0.25-0.5	24-20	Au	3	A	4																●		05.502.0410.0
	05.543.9021.0	2.5	0.5	20	Sn	7	B	3																	●	05.502.3500.0
	05.543.9121.0	2.5	0.75-1.0	18	Sn	7	B	3																	●	05.502.3500.0
	05.543.9221.0	2.5	1.5	16	Sn	7	B	3																	●	05.502.3500.0
	05.543.9321.0	2.5	2.5	14	Sn	7	B	3																	●	05.502.3500.0
	05.543.9421.0	2.5	4	12	Sn	7	B	3																	●	05.502.3500.0
02.125.1121.0	05.544.5621.0	1.65	1.5	16	Ag	3	B	3																		●	05.502.3500.0
Z7.280.4227.0		1.6			Ag	6	F						●													05.502.0710.0

Selection criteria and characteristics of the different contact platings tin, silver and gold

Contact platings

The core of an electric plug connection is the contact pair, consisting of the socket and plug contacts. Contacts are produced almost exclusively from copper alloys, and Wieland Electric GmbH uses contact platings made of tin, silver and gold, depending on the product specification:

Tin is corrosion-resistant; silver offers favorable conditions at high current and with cyclical switching processes; gold offers protection against aggressive environmental conditions.

Tin-plated

- ***revos*** – 16 A plug connector in screw and crimp design are available in all three surface platings, tin, silver and gold.
- ***revos*** – 16 A plug connectors with spring clamp contacts are available with silver-plating
- ***revos*** – 16 A multipole adapters are normally available tin-plated.
- ***revos*** – hybrid plug connectors are normally supplied in a tin version for I ≤ 16 A in and in a silver-plated version for I > 16 A.

Silver-plated

Gold-plated

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We are there for you

Phone +49 951 9324 991
Fax +49 951 9326 991
AT.TS@wieland-electric.com

Inserts with tin-plated contacts:

Offers excellent resistance to the corrosive gases SO_2 and H_2S. Tin-plated contacts are especially well suited for transmitting low voltages and current in the millivolt and µA range, but also for typical signal voltages, such as 24 V and lower ampere, or network voltage and corresponding current.

Inserts connectors with silver-plated contacts:

Silver-plated contacts extend the operating life of the plug connector when there is strong current, in particular with cyclical motor start-up current that is markedly above the nominal current of the plug connectors. For example, in use on plastic injection molding machines that switch current on and off within seconds. Silver-plated contacts have proven themselves when the maximum current load capacity limit of 16 A was almost surpassed. Here, too, longer life cycles can be achieved.

In the range of high contact temperatures (> 100 °C), silver-plated contacts are preferable to tin-plated contacts.

Aging of silver contacts due to the influence of industrial atmospheres.

During the lifetime of the silver contacts, a silver sulfide layer can form due to the increased affinity of silver for sulfur, which is present in industrial atmospheres in small amounts. Through the chemical reaction of the silver with the gaseous sulfur in the surrounding air, brown to black layers arise, which result in coloring of the surface.

The chemical reaction of the silver surfaces on the plug systems of Wieland Electric GmbH can be delayed by passivating the silver-plated surfaces at the factory with an additional layer. This passivation protects the silver temporarily from a reaction with the gaseous sulfur in the surrounding air. Every currently known passivation layer will protect the silver surface for a limited time only, and a silver sulfide layer, including a black-brown coloration, will form.

This soft layer is extremely thin and is broken through when the contacts are mated. As a result, low transmission resistance is assured, even for colored contacts. This has been proven in numerous examinations in our laboratory.

Inserts connectors with gold-plated contacts:

In areas where high signal precision is required and the signals are transmitted through extremely small current and low voltage, signal distortions can occur with silver contacts with a silver sulfide layer. To simplify, the following values can be used: For current < 5 mA and voltages up to 5 V, tin-plated or gold-plated contacts are recommended.

But for extreme applications, only gold-plated contacts should be used.

Conclusion:

Fundamentally, tin-plated contacts are very good or better suited than silver-plated contacts for all types of signal current. For stronger current, when used with high ambient temperatures or a cyclical electric current, longer service lives can be expected with silver-plated contacts. Gold-plated contacts should be used in the range of very low voltage and current.

Wieland has decades of experience in the area of pluggable connection technology. We offer the best-possible contact with the optimal plating for every application.

Definition of the IP degrees of protection

For applications in industrial environments, degrees of protections and standards were defined that specify the environmental impact regarding contact, protection against foreign bodies and humidity to which a system can be exposed without being damaged. The degrees of protection are defined in the IP standard of DIN EN 60 529: degrees of protection achieved through housings (IP code).

The IP code consists of a two-digit number that indicates the relevant protection degree. The first digit specifies the protection degree for the protection against contact and foreign bodies while the second digit specifies the protection against water and humidity.

Practical notes:

For "normal" industrial systems where multipole connectors are used in closed factory halls, protection according to IP54 is normally offered = protected against dust + protected against splashing water. This protection is normally completely sufficient. For systems in outdoor applications (vehicles, snow guns, etc.) we recommend protection according to IP65 = dustproof + protected against jets of water. A protection according to IP67 or IP68 is required for only a few outdoor applications unless a continuous immersion of the components cannot be avoided.

The following tables are to describe the protection degrees in detail:

Table 1: Protection against contact and foreign bodies

1st	Protection against accidental contact	Protection against foreign bodies
0	No protection	No protection
1	Protection against contact with large parts of the body, for example the back of the hand	Protection against foreign bodies with a diameter of 50 mm and larger.
2	Protection against contact with the finger of 12.5 mm and larger.	Protection against foreign bodies with a diameter of 12.5 mm and larger.
3	Protection against contact with tools and wires larger than 2.5 mm	Protection against foreign bodies with a diameter of 2.5 mm and larger.
4	Protection against contact with tools and wires larger than 1 mm	Protection against foreign bodies with a diameter of 1 mm and larger.
5	Complete protection against accidental contact	Protection against dust: Penetration of dust is not fully prevented, but dust must not penetrate to such an extent that the equipment's functionality or safety is restricted in any way
6	Complete protection against accidental contact	Dustproof: No penetration of dust possible with a negative pressure of 20 mbar.

Definition of the IP degrees of protection

Table 2: Water protection

2nd	Protection against ingress of water
0	No protection
1	Protection against dripping water: Dripping water falling vertically must not have a damaging effect
2	Protection against dripping water up to a tilt of 15°: Dripping water falling vertically must not have a damaging effect, if the equipment is tilted by up to 15°.
3	Protection against spraying water: Water that is sprayed in an angle of up to 60° must not have any damaging effect
4	Protection against splashing water: Water spraying from all directions towards the equipment must not have any damaging effect
5	Protection from jets of water: Jets of water directed towards the equipment from all directions must not have any damaging effect
6	Protection from powerful jets of water: Powerful jets of water that are directed towards the housing from all directions must not have any damaging effect.
7	Protection from temporary immersion in water: Water must not ingress in a quantity that has a damaging effect, if the housing is temporarily immersed in water under standardized pressure and time conditions
8	Protection from continuous immersion in water: Water must not ingress in a quantity that has a damaging effect, if the housing is continuously immersed in water under conditions agreed upon between the manufacturer and the user. The conditions must however be more severe than for key figure 7.
9 K	Protected against ingress of water from all directions, even with highly increased pressure against the housing. (High-pressure/steam jet cleaner, 80–100 bar)

Definition of the IP degrees of protection

Degrees of protection against water, designated by the second index number

The second index number defines the level of protection provided by the housing against damaging influences on the equipment resulting from the intrusion of water.

Table 3 gives short descriptions and definitions for the degrees of protection defined by the second index number.

Degrees of protection listed in this table may only be determined using the second index number and not through reference to the brief description or definition.

Up to the second index number 6, the description means that the requirements for all lower index numbers are also fulfilled.

A housing designated with just the second index number 7 or 8 is considered unsuitable for exposure to jet-spray water (designated with the second index number 5 or 6) and does not need to meet the requirements of index numbers 5 or 6, unless equipped with a double designation according to the following table:

Table 3: Degrees of protection

The housing meets the test for			
jet-spray water, second index number	Temporary/permanent submersion second index number	Description and label	Area of application
5	7	IPX5 / IPX7	Multipurpose
6	7	IPX6 / IPX7	Multipurpose
5	8	IPX5 / IPX8	Multipurpose
6	8	IPX6 / IPX8	Multipurpose
	7	IPX7	Restricted
	8	IPX8	Restricted

Housings for **"multipurpose"** use, as specified in the last column, must meet the requirements, both when exposed to jet-spray water or when temporarily or permanently submerged.

Housings for **"restricted"** use, as specified in the last column, are considered suitable only for temporary or permanent submersion and unsuitable for exposure to jet-spray water.

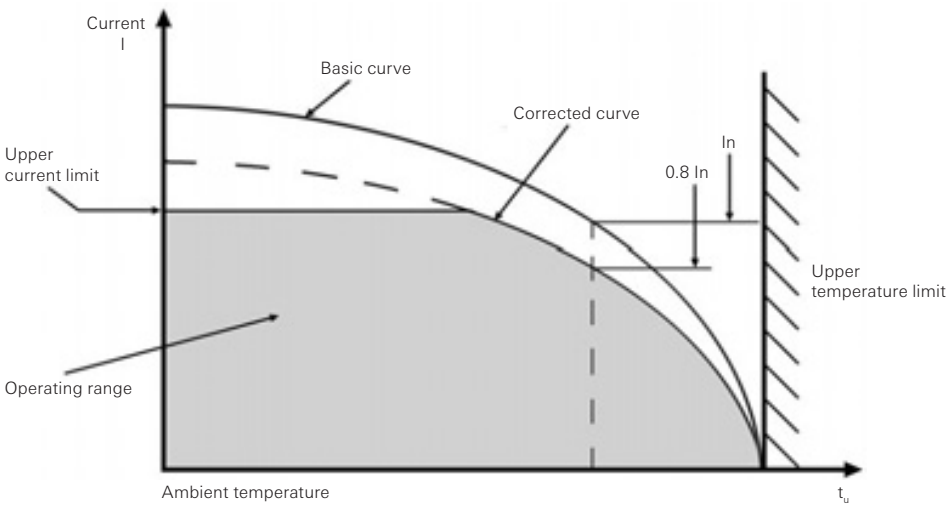
Derating behavior of *revos* industrial multipole connectors

Like any other connector, the ***revos*** industrial multipole connector also faces a reduction in the values for the current carrying capability when the ambient temperature rises.

This behavior is called derating behavior. Basic information on the derating behavior of connectors is provided in standard DIN EN 60 512 sec. 3.

Each contact insert is characterized by its rated current, among other things. The rated current is the current that a connector can carry in an ambient temperature of 40°C, simultaneously continued (not intermittent) over all contacts without exceeding the permissible upper temperature limit.

The derating curve shows the maximum current I at the given ambient temperature without the connector exceeding the upper temperature limit.



Curve of current carrying capability derived from the basic curve Source DIN EN 60 512-5-2-2003

Information on how to change over from PG to metric threads

Basic legal conditions

The European standard EN 50 262 "Metric Cable Glands for Electrical Installation" was ratified on April 01, 1989 by CENELEC (European Committee for Electrotechnical Standardization) and put into force.

Basic legal conditions

The big difference in the new EN standard is it has the character of a safety standard.
As a building standard it only defines the metric thread and its lead.

PG threads are available on request!