

HK-003, HC SERIES

Modular Heavy-current connector

HK-003/0, HK-003/2 Heavy-current inserts



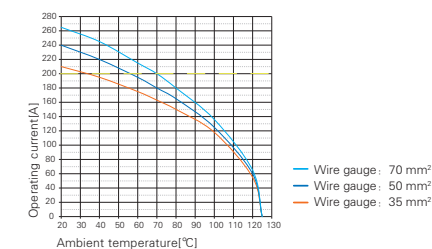
Technical characteristics

Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	[CE]
Inserts	
Number of contacts	3/0+PE, 3/2+PE
Electrical data acc. to EN 61 984	
Power area	
~ Rated current	200A
~ Rated voltage conductor	1150/2000V
~ Rated impulse voltage	8kV
~ Pollution degree	3
Pollution degree 2 also	200A 2000V 12kV 2
Signal area	
~ Rated current	16A
~ Rated voltage	400V
~ Rated impulse voltage	6kV
~ Pollution degree	3
Pollution degree 2 also	16A 500V 6kV 2
Insulation resistance	$\geq 10^{10} \Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life(mating cycles)	≥ 500
Contacts	
Material	copper alloy
Surface	silver
Contact resistance	$\leq 0.2m \Omega$
For stranded wire acc. to IEC 60 228 Class 5	
Axial screw termination	
Power contacts	
~ Wire gauge	35-70mm ²
~ AWG	2-00
~ Hexagonal driver	SW5
~ Stripping length	22mm
	mm ² 35 50 70
~ Tightening torque	N.m 8 9 10
PE contact	
~ Wire gauge	16-35mm ²
~ AWG	5-2
~ Hexagonal driver	SW4
~ Stripping length	14mm
~ Tightening torque	6Nm
Signal contact (only HK 3/2)	
~ Wire gauge	2.5mm ²
~ AWG	14
~ Stripping length	7mm
~ Tightening torque	0.5Nm

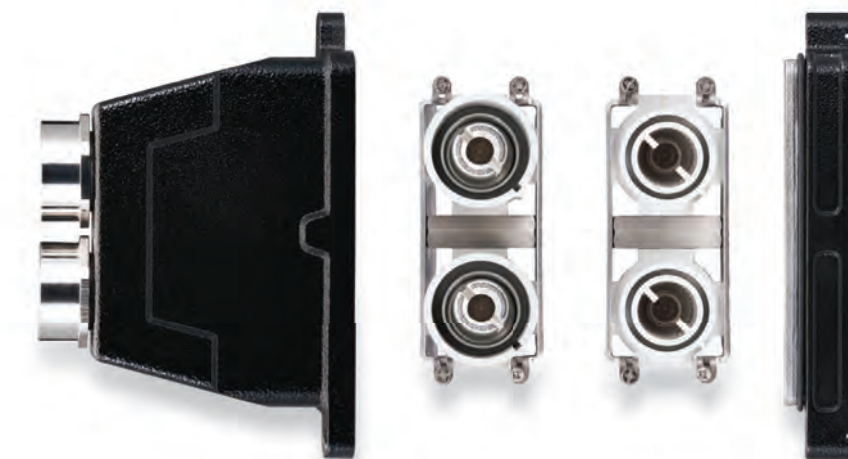
Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



24B Pressure tight hoods/housings with 1 modules



HK-003/0, HK-003/2 Heavy-current inserts

1150/2000V 200A 3/0 $\oplus$, 3/2+ $\oplus$

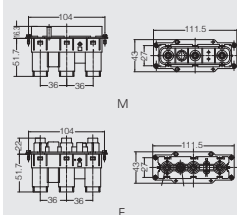
C €

Inserts

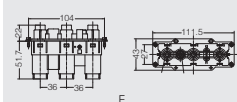
Hoods/Housings: size **Pressure tight** hoods/housings, please find the details on page 12-04~12-05.Axial screw terminal ¹⁾

Insert	Designation	Order No.
Male	HK-003/0-M	128 003 011 0001
Female	HK-003/0-F	128 003 021 0001

Distance for contact max. 21 mm

Axial screw terminal ¹⁾

Insert	Designation	Order No.
Male	HK-003/2-M	128 005 011 0001
Female	HK-003/2-F	128 005 021 0001



Pressure tight hoods/housings

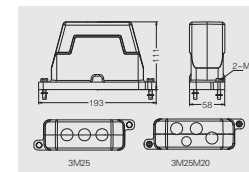
Degree of protection: IP68/IP69K

H version

Hoods, top entry, high construction



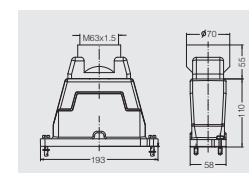
Thread	Designation	Order No.
Screw locking		
3M25	HP24B/H-TEH-2S-3M25	113 624 420 5036
3M25,M20	HP24B/H-TEH-2S-3M25M20	113 624 420 5040
Toggle locking		
3M25	HP24B/H-TEH-2T-3M25	113 624 440 5036
3M25,M20	HP24B/H-TEH-2T-3M25M20	113 624 440 5040



Hoods, top entry, high construction



Thread	Designation	Order No.
Screw locking		
M63	HP24B/H-TEH-2S-M63	113 624 420 5007
Toggle locking		
M63	HP24B/H-TEH-2T-M63	113 624 440 5007

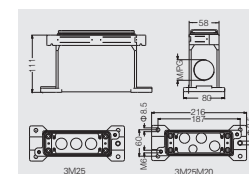


Surface mounted housings

high construction



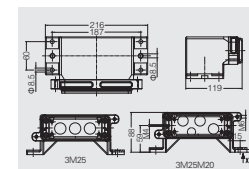
Thread	Designation	Order No.
Screw locking		
3M25	HP24B/H-SFH-2H-3M25	113 624 220 5036
3M25,M20	HP24B/H-SFH-2H-3M25M20	113 624 220 5040
Toggle locking		
3M25	HP24B/H-SFH-2T-3M25	113 624 240 5036
3M25,M20	HP24B/H-SFH-2T-3M25M20	113 624 240 5040



Surface mounted housings



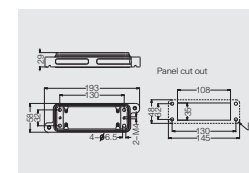
Thread	Designation	Order No.
Screw locking		
3M25	HP24B/H-BK-SE-2H-3M25	113 624 920 1036
3M25,M20	HP24B/H-BK-SE-2H-3M25M20	113 624 920 1040
M50	HP24B/H-BK-SE-2H-M50	113 624 920 1006
Toggle locking		
3M25	HP24B/H-BK-SE-2T-3M25	113 624 940 1036
3M25,M20	HP24B/H-BK-SE-2T-3M25M20	113 624 940 1040
M50	HP24B/H-BK-SE-2T-M50	113 624 940 1006



Bulkhead mounted housings



Thread	Designation	Order No.
Screw locking		
---	HP24B/H-BK-2H	113 624 320 1001
Toggle locking		
---	HP24B/H-BK-2T	113 624 340 1001

¹⁾ See P00-30-00-31 for the structural characteristics and description of Axial screw terminal.

Pressure tight hoods/housings

Degree of protection: IP68/IP69K

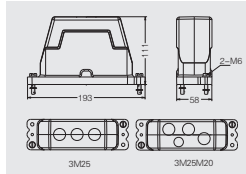
The following hoods/housings comply with the standards for rail transport industry in China.

H version

Hoods, top entry, high construction



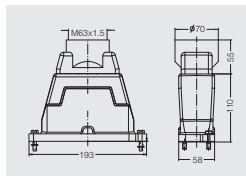
Thread	Designation	Order No.
	Screw locking	
3M25	HP24B/H-TEH-4S-3M25	113 624 430 5036
3M25,M20	HP24B/H-TEH-4S-3M25M20	113 624 430 5040



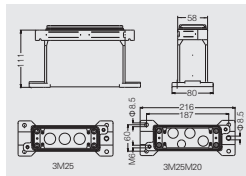
Hoods, top entry, high construction



Thread	Designation	Order No.
	Screw locking	
M63	HP24B/H-TEH-4S-M63	113 624 430 5007

Surface mounted housings
high construction

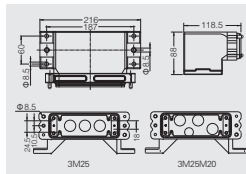
Thread	Designation	Order No.
	Screw locking	
3M25	HP24B/H-SFH-4H-3M25	113 624 230 5036
3M25,M20	HP24B/H-SFH-4H-3M25M20	113 624 230 5040



Surface mounted housings



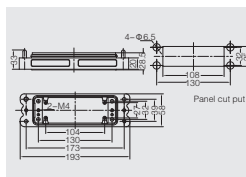
Thread	Designation	Order No.
	Screw locking	
3M25	HP24B/H-BK-SE-4H-3M25	113 624 930 1036
3M25,M20	HP24B/H-BK-SE-4H-3M25M20	113 624 930 1040
M50	HP24B/H-BK-SE-4H-M50	113 624 930 1006



Bulkhead mounted housings



Thread	Designation	Order No.
	Screw locking	
---	HP24B/H-BK-4H	113 624 330 1001



HC-250 Heavy-current inserts

Crimp terminal



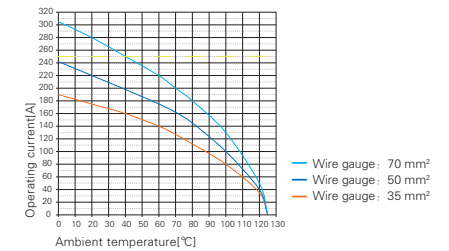
Technical characteristics

Specifications	DIN EN 60 664 DIN EN 61 984
Approvals	
Inserts	
Number of contacts	1,2,3,4,3+PE
Electrical data acc. to DIN EN 61 984	
Rated current	250A
--Rated voltage	2000V
--Rated impulse voltage	12kV
--Pollution degree	3
Insulation resistance	$\geq 10^{10} \Omega$
Material	polycarbonate
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life(mating cycles)	≥ 500
Contacts	
Material	Copper alloy
Surface	hard-silver plated
Contact resistance	$\leq 0.3 \text{ m}\Omega$
Crimp terminal	
-- mm ²	35 - 70 mm ²
Max. insulation diameter	18 mm
Crimp dies	acc. to DIN 46 325
Pressing force requirement	130 kN
Frame	
Material	stainless steel
Tightening torque of the M3 fixing screws	0.5 Nm

Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



24B Pressure tight hoods/housings with 4 modules

Assembly Details



Cut the cable head square and strip the insulation



The copper strands must be cleaned from dirt and oxide film



Copper strands must not be twisted



Check if the cable strand is inserted completely into the crimp ferrule of the contact

Pressure tight hoods/housings



Degree of protection: IP68/IP69K

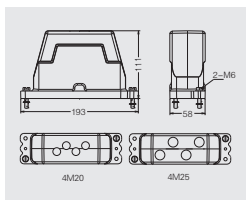
The following hoods/housings comply with the standards for rail transport industry in China.

H version

Hoods, top entry, high construction



Thread	Designation	Order No.
	Screw locking	
4M20	HP24B/H-TEH-4S-4M20	113 624 430 5038
4M25	HP24B/H-TEH-4S-4M25	113 624 430 5039

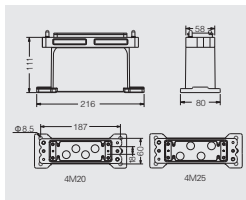


Surface mounted housings

high construction



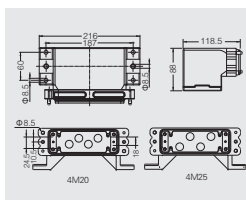
Thread	Designation	Order No.
	Screw locking	
4M20	HP24B/H-SFH-4H-4M20	113 624 230 5038
4M25	HP24B/H-SFH-4H-4M25	113 624 230 5039



Surface mounted housings



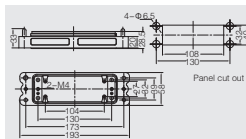
Thread	Designation	Order No.
	Screw locking	
4M20	HP24B/H-BK-SE-4H-4M20	113 624 930 1038
4M25	HP24B/H-BK-SE-4H-4M25	113 624 930 1039



Bulkhead mounted housings



Thread	Designation	Order No.
	Screw locking	
---	HP24B/H-BK-4H	113 624 330 1001

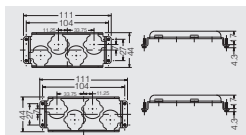


Frame

for 4 pins



Thread	Designation	Order No.
---	HF24B-004A-M	131 024 000 1011
---	HF24B-004A-F	131 024 000 1012



Pressure tight hoods/housings



Degree of protection: IP68/IP69K

The following hoods/housings comply with the standards for rail transport industry in China.

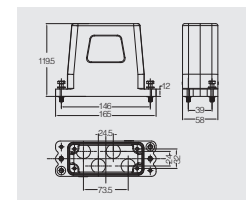
Only suitable for cable with 18mm diameter

H version

Hoods, top entry, high construction



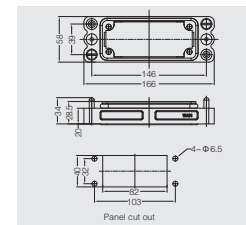
Thread	Designation	Order No.
	Screw locking	
4M25	HP16B/HE-TEH-4S-4M25	113 016 430 5003



Bulkhead mounted housings



Thread	Designation	Order No.
	Screw locking	
---	HP16B/HE-BK-4H	113 016 330 1002

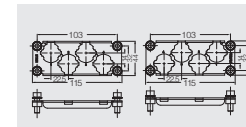


Frame

for 4 pins



Thread	Designation	Order No.
for 4 pins	HF16B-004A/E-M	131 016 000 1006
for 4 pins	HF16B-004A/E-F	131 016 000 1007





HC-350 Heavy-current inserts

Crimp terminal



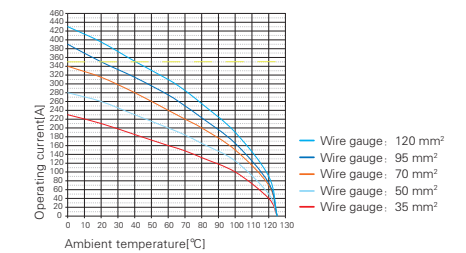
Technical characteristics

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	1,2,3,4
Electrical data acc. to EN 61 984	
without adapter	
– Rated current	350A
– Rated voltage	2000V
– Rated impulse voltage	12kV
– Pollution degree	3
with adapter	
– Rated voltage	4000V
– Rated impulse voltage	18kV
– Pollution degree	3
Insulation resistance	$\geq 10^{10} \Omega$
Material	polyamide
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life(mating cycles)	≥ 500
Contacts	
Material	copper alloy
Surface	hard-silver plated
Contact resistance	$\leq 0.3m\Omega$
Crimp terminal	
– mm ²	35 – 120mm ²
Max. insulation diameter	22mm
Crimp dies	acc. to DIN 46 235
Pressing force	130kN
Frame	
Material	stainless steel
Tightening torque of the M3 fixing screws	0.5 Nm
Tightening torque of the M4 fixing screws	1.5 Nm
Tightening torque of the M6 fixing screws	10 Nm

Current carrying capacity

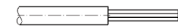
The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



24B Pressure tight hoods/housings with 3 modules

Assembly Details



Cut the cable head square and strip the insulation



The copper strands must be cleaned from dirt and oxide film



Copper strands must not be twisted



Check if the cable strand is inserted completely into the crimp ferrule of the contact

H version



Technical drawing of the 1000 Series LED light fixture. The front view shows a width of 193mm and a height of 111mm. The top mounting holes are spaced 100mm apart (labeled 100MPG). The side view shows a depth of 58mm and two mounting holes labeled 2-M6.

for 2 pins



H version



for 3 pins



Technical drawing of a mechanical part showing top and side views with dimensions:

- Top View:**
 - Overall width: 104
 - Overall height: 41.4
 - Internal width (between vertical lines): 27
 - Internal height (between horizontal lines): 11.1
 - Four circular features (possibly holes or mounting points) are located at the corners.
- Side View:**
 - Overall height: 15
 - Mounting holes are labeled **M3X10**.
 - The part has a flange at the bottom.



high construction

[illegible]

Pressure tight hoods/housings



Degree of protection: IP68/IP69K

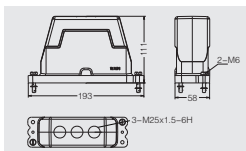
The following hoods/housings comply with the standards for rail transport industry in China.

H version

Hoods, top entry, high construction



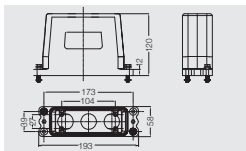
Thread	Designation	Order No.
3M25	HP24B/H-TEH-4S-3M25	113 624 430 5036



Hoods, top entry, high construction



Thread	Designation	Order No.
3M32	HP24B/H-TEHH-4S-3M32	113 624 430 5037

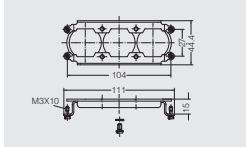


Frame, size 24B hoods/housings

for 3 pins



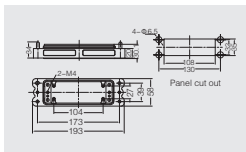
Thread	Designation	Order No.
---	HF24B-003C	131 024 000 1003



Bulkhead mounted housings



Thread	Designation	Order No.
---	HP24B/H-BK-4H	113 624 330 1001

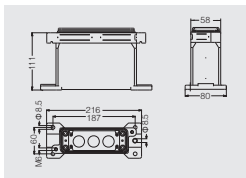


Surface mounted housings

high construction



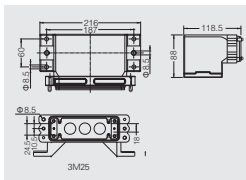
Thread	Designation	Order No.
3M25	HP24B/H-SFH-4H-3M25	113 624 230 5036



Surface mounted housings



Thread	Designation	Order No.
3M25	HP24B/H-BK-SE-4H-3M25	113 624 930 1036

Pressure tight hoods/housings
- enlarged

Degree of protection: IP68/IP69K

The following hoods/housings comply with the standards for rail transport industry in China.

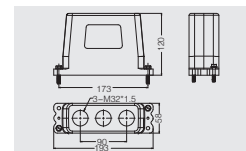
Only suitable for cable with 18mm diameter

H version

Hoods, top entry, high construction



Thread	Designation	Order No.
3M32	HP24B/H-TEHH-4S-3M32	113 624 430 5137

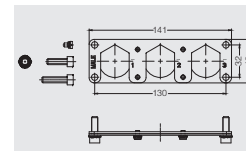


Male,Frame, size 24B hoods/housings

for 3 pins



Thread	Designation	Order No.
---	HF24B-003C/E-M	131 024 000 1005

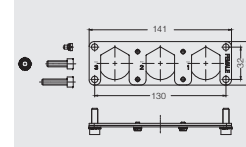


Female,Frame, size 24B hoods/housings

for 3 pins



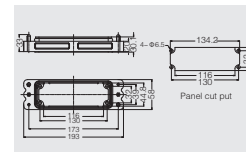
Thread	Designation	Order No.
---	HF24B-003C/E-F	131 024 000 1006



Bulkhead mounted housings



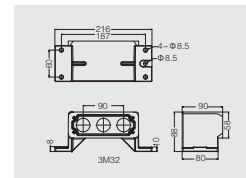
Thread	Designation	Order No.
---	HP24B/H-BK-4H	113 624 330 1101



Surface mounted housings



Thread	Designation	Order No.
3M32	HP24B/H-BK-SE-3M32	113 624 900 1137



Pressure tight hoods/housings
- enlarged

Degree of protection: IP68/IP69K

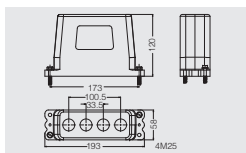
The following hoods/housings comply with the standards for rail transport industry in China.

Only suitable for cable with 18mm diameter

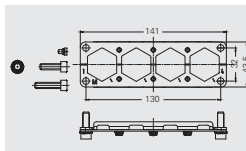
H version



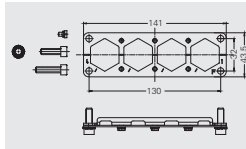
Thread	Designation	Order No.
	Screw locking	
4M25	HP24B/HE-TEHH-4S-4M25	113 624 430 5139



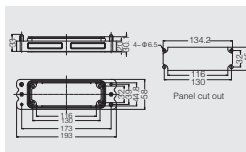
Thread	Designation	Order No.
M20 x 1.5	HF24B-004C/E-M	131 024 000 1009



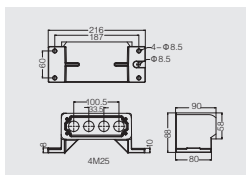
Thread	Designation	Order No.
M20 x 2	HF24B-004C/E-F	131 024 000 1010



Thread	Designation	Order No.
	Screw locking	
	HP24B/HE-BK-4H	113 624 330 1101



Thread	Designation	Order No.
	Screw locking	
	HP24B/HE-BK-SE-4M25	113 624 900 1139



HC-650 Heavy-current inserts

Axial screw terminal



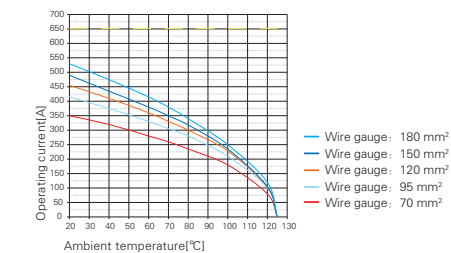
Technical characteristics

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	1,2,3
Electrical data acc. to EN 61 984	
without adapter	
–Rated current	650A
–Rated voltage	2000V
–Rated impulse voltage	12kV
–Pollution degree	3
with adapter	
–Rated voltage	4000V
–Rated impulse voltage	18kV
–Pollution degree	3
Insulation resistance	≥10 ¹⁰ Ω
Material	polyamide
Limiting temperatures	–40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life(mating cycles)	≥500
Contacts	
Material	copper alloy
Surface	silver
Contact resistance	≤ 0.2m Ω
For stranded wire acc. to IEC 60 228 Class 5	
Axial screw termination	
– Wire gauge	35–70/70–120/150–185mm ²
– MCM	138 – 236 / 300 – 350
– Stripping length	23–25
– Max. cable diameter	26.5mm
– Tightening torque	Nm ² 35 50 70 95 120 150 185 Nm 8 10 12 14 16 17 19
Screw terminal	
– Thread	M12
– Tightening torque	8–18Nm
Frame	
Material	stainless steel
Tightening torque of the M3 fixing screws	0.5Nm

Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



24B Pressure tight hoods/housings with 2 modules

HC-650 Heavy-current inserts

4000V 650A

Inserts

Hoods/Housings: size **Pressure tight** hoods/housings, please find the details on page 12-24~12-26.

Axial screw terminal¹⁾



Insert	Wire gauge	Designation	Order No.
Male	35~70mm ²	HC650.70-M(35~70mm ²)	131 001 011 0203
	70~120mm ²	HC650.120-M(70~120mm ²)	131 001 011 0201
	150~185mm ²	HC650.185-M(150~185mm ²)	131 001 011 0202
Female	35~70mm ²	HC650.70-F(35~70mm ²)	131 001 021 0203
	70~120mm ²	HC650.120-F(70~120mm ²)	131 001 021 0201
	150~185mm ²	HC650.185-F(150~185mm ²)	131 001 021 0202

Assembly details

Step 1: Strip cable to 23+2 mm

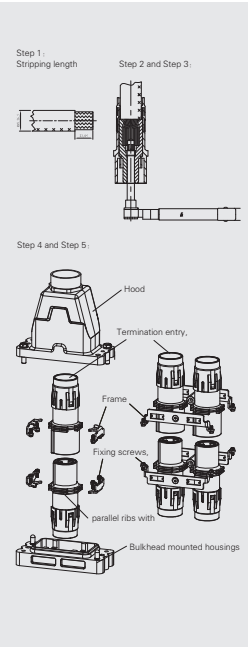
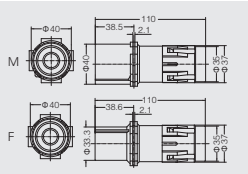
Step 2: Push conductor through the cable gland and the housing. Push the stripped end of the conductor into the termination entry of the module until the insulation touches the contact.

Step 3: To tighten the axial screw, a hexagonal wrench size 8 is needed. Insert the hexagonal wrench on the mating side of the contact. At the same time, push the conductor over the axial screw. The locking screw has to be tightened with the recommended tightening torque that is determined by the conductor's cross section.

Step 4: Once the modules are terminated, they are mounted into the housing by using two metal frames (tightening torque of the fixing screws = 0.5 Nm). The modules have 4 pegs formed by 2 parallel ribs (each peg shapes like a "H"). Each rib takes 1 pole frame, where the lateral link has to go into the relief of the frame. The 2 pole frames have 2 cutouts on the wall which get fitted to the "H"-shaped pegs (see figure). The heads of the screws have to face the mating direction of the module. Coding can be established by rotating the contact by 90 degrees. Therefore it is important that the corresponding modules are assembled in the correct position otherwise mating is not possible.

Step 5: After assembling the modules in the housing, the tightening torque of the locking screw can be checked and corrected if necessary.

Step 6: After final assembly of the contacts, the user should ensure that the cable is adequately strain relieved to protect the contact from radial stress.



HC-650 Heavy-current inserts

Crimp terminal



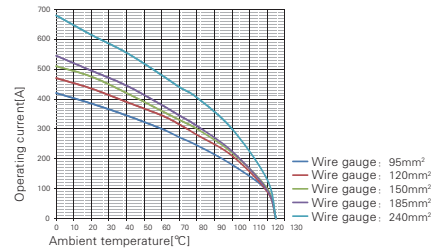
Technical characteristics

Specifications	DIN EN 60 664 DIN EN 61 984
Inserts	
Number of contacts	1,2,3
Electrical data acc. to EN 61 984	
without adapter	
- Rated current	650A
- Rated voltage	2000V
- Rated impulse voltage	12kV
- Pollution degree	3
with adapter	
- Rated voltage	4000V
- Rated impulse voltage	18kV
- Pollution degree	3
Insulation resistance	≥ 10 ¹⁰ Ω
Material	polyamide
Limiting temperatures	-40°C...+125°C
Flammability acc. to UL 94	V0
Mechanical working life(mating cycles)	≥ 500
Contacts	
Material	copper alloy
Surface	hard-silver plated
Contact resistance	≤ 0.3m Ω
Crimp terminal	
- mm ²	240mm ²
Max. insulation diameter	32mm
Pressing force requirement	130kN
Frame	
Material	stainless steel
Tightening torque of the M3 fixing screws	0.5 Nm
Tightening torque of the M4 fixing screws	1.5 Nm
Tightening torque of the M6 fixing screws	10 Nm

Current carrying capacity

The current carrying is limited by maximum temperature of materials for inserts and contacts including terminals

Control and test procedures according to DIN EN 60512-5



24B Pressure tight hoods/housings with 2 modules

Assembly Details



Cut the cable head square and strip the insulation



The copper strands must be cleaned from dirt and oxide film



Copper strands must not be twisted



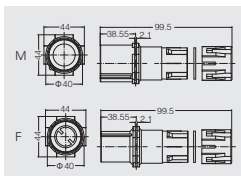
Check if the cable strand is inserted completely into the crimp ferrule of the contact

¹⁾ See P00-30-00-31 for the structural characteristics and description of Axial screw terminal.

4000V 650A

Hoods/Housings: size **Pressure tight** hoods/housings, please find the details on page 12-24~12-26.

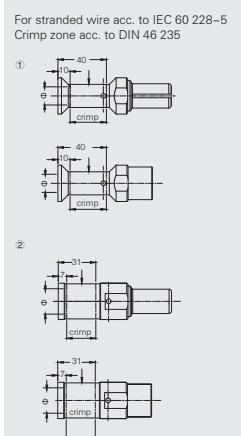
Order crimp contacts separately



Crimp contacts 650A (with crown spring), for HC650 inserts.

Contact resistance $\leq 0.3\text{m}\Omega$

silver plated



Tool

Manual hydraulic clamp

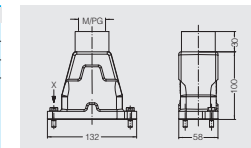


NO.	Wire gauge	Φ	Stripping length
①	95 mm ²	13.5 mm	42 mm
	120 mm ²	15.5 mm	42 mm
	150 mm ²	17 mm	42 mm
②	185 mm ²	19.4 mm	46 mm
	240 mm ²	22.5 mm	46 mm

Degree of protection: IP68/IP69K

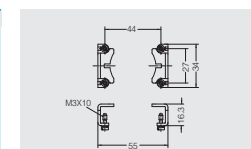
H version

Hoods, top entry, high construction

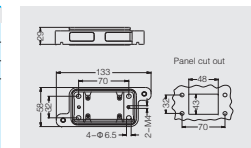


Frame, size 6B hoods/housings

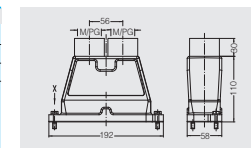
for 1 pins



Bulkhead mounted housings

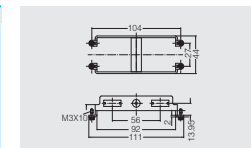


Hoods, top entry, high construction

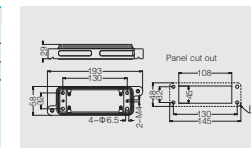


Frame, size 24B hoods/housings

for 2 pins



Bulkhead mounted housings



Notes: The tools for crimp terminal may influence the product quality and stability. Please select the tools recognized by our company.

