FAST MOVING TECHNOLOGY

STÄUBLI

Round connectors 16BL, Ø 16 mm, insulated

Powerline | Industrial Connectors

INTRODUCTION

Single-pole high current connector

Ø 16 mm, insulated, with bayonet locking system

The new 16BL single-pole high current connector system is designed for severe requirements in utilities and industrial environments.

It is the optimal solution for a wide range of applications requiring high current capacity such as mobile power supply and distribution, industrial power supply with current up to 630 A.

The innovative robust patented locking mechanism enables easy connecting and disconnecting and guarantees consequently a safe user handling. Additionally 12 color coding and 7 mechanical coding possibilities ensures operator safety by preventing possible mating errors.

Equipped with our tried and tested MULTILAM Technology, the 16BL connectors offer lowest contact resistance, high reliability and long-life operation. Designed according to the valid connector international standards, user safety and easy handling is guaranteed.

Reduced set for more simplicity

- Simplified combinations: 1 connector (socket) for 3 receptacles (plugs)
- Easy to plan, easy to install, easy to manage
- Less complexity, more simplicity

1000 V
630 A

Bayonet locking

Application example: Mobile power supply used in cases of electrical maintenance or power outage.

Overview of models

Plug

16BL-CP

Page 11

Socket

16BL-CS

Page 10

16BL-MP

Page 13

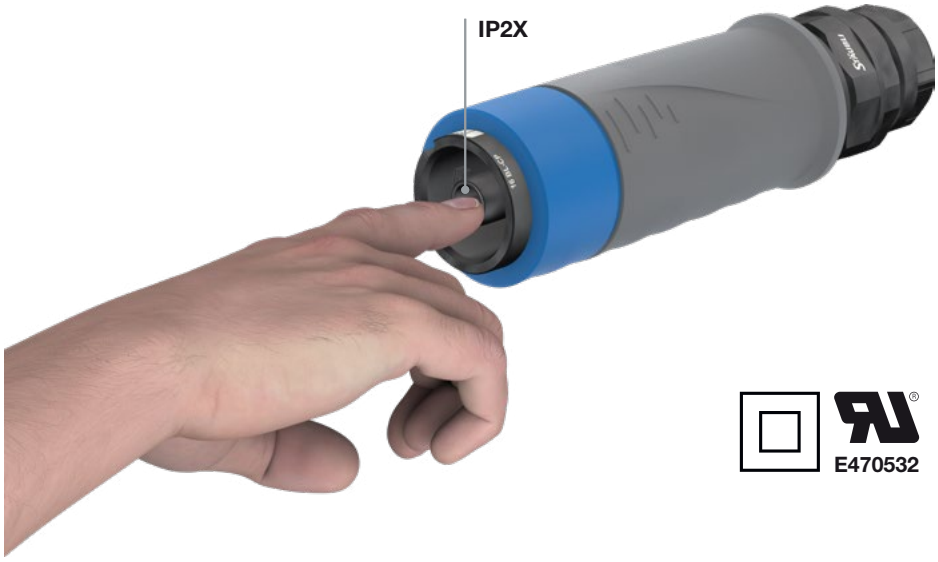
16BL-PP

Page 12

HIGH PERFORMANCE

Proven reliability

The new 16BL connector guarantees highest operator safety, compliance to the international standards and increased performance for higher operability. It is suitable for use under extreme environmental conditions while featuring long durability.



Safety and compliance

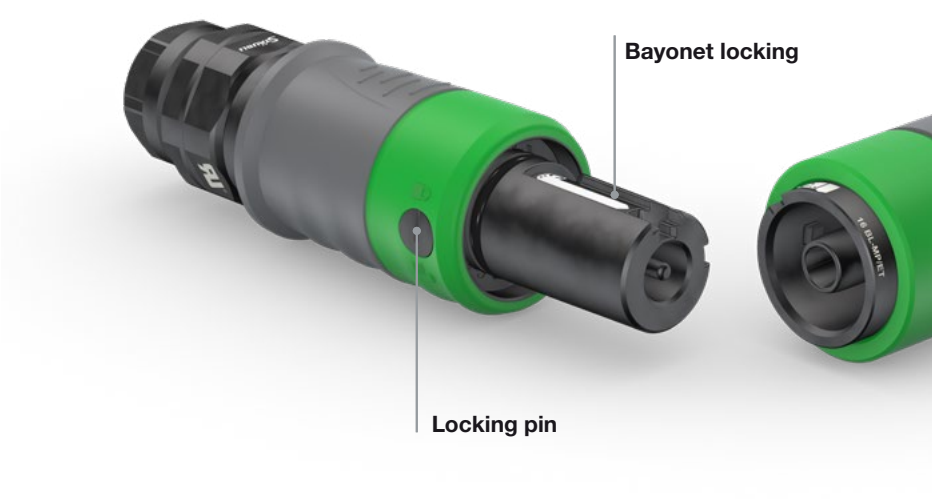
- **IP2X** touch protection
- Double (reinforced) **class II insulation**
- Developed in accordance to the **international standards:**
  IEC 61984, IEC 60664-1,
  IEC 60529, IEC 60512-5-2,
  IEC 61238-1, IEC 60068-2-52,
  UL 486A-486B, UL 94

Performance and operability

- **High current carrying capabilities up to 630 A**
- Increased Ingress Protection: **IP65, IP68, IP69** according to IEC 60529
- High temperature range,
  from **-40°C to +120°C**
- Thorough testing,
  e. g. **salt mist spray test**
- Universal connection solution for temporary power supply as well as industrial purposes

Increased safety

Superior mechanical properties combined to the use of the well-performed MULTILAM technology makes from 16BL system the appropriate connection solution when safety, robustness and durability are requested. The compact design of the system as well as the several cable connection possibilities it offers, facilitate its commissioning and integration.



Robustness and longevity

- **Up to 5000 mating cycles**
- **Patented bayonet locking system** facilitates connection and disconnection
- **Locking pin** to prevent from accidental disconnection (can only be unlocked with a tool)
- **Colored grip sleeve** made of robust rubber material
- Both **visual and mechanical codings** increase safety

Easy handling, fast commissioning

- Compact sizing and reduced dimensions for user-friendly operation and space savings by integration into equipments.
- Fast and easy assembly and disassembly
- AxiClamp or conventional crimp cable termination possible

A wide range of accessories

Optimized operability

We provide 45° angled adapter for more flexibility:

- Compact sizing resulting in cost reduction of the integration
- Reduces the cable strain on the connector
- Easier connecting/disconnecting, especially when using larger size cables

An optional fixing band is especially designed for mounting on the cable reels of the power generator. This ensures a safe fixation and easy handling.

Increased safety

Micro-switch to monitor the connection status:

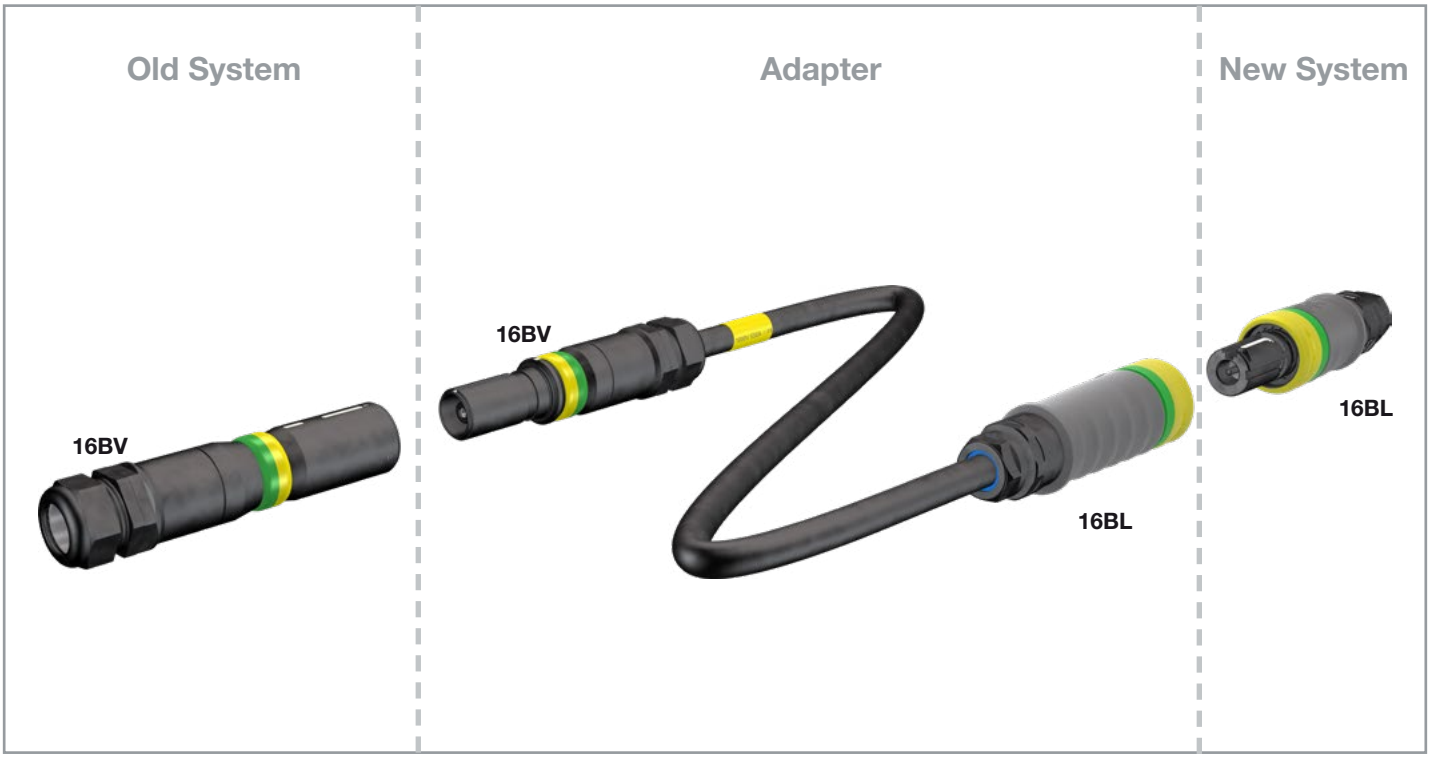
- The status of the change-over relay will change when the connector is properly engaged
- The operator can be advised by connecting the micro-switch to an additional warning indicator
- Compliant to IEC 61984 requirement

Long durability

Stäubli offers protective covers to guarantee high ingress protection:

- Protection of the connector in unmated condition (from humidity, dust, mud, oil, chemical agents, etc.)
- Increase both the safety and the longevity of the MULTILAM contact elements

Compatibility with existing 16BV systems



Integration of 16BL connectors into an existing 16BV system

The 16BL can be easily integrated into existing systems by using an adapter solution. Different sets available to cover all cases of applications (see page 18)

Replacement of 16BV panel receptacle connector

The replacement of ID/... connectors through the new 16BL connectors can be easily achieved without the need of adaption. The drilling plan dimensions are identical while additional fixing screws located on the front flange contribute to reinforce the stability and to reduce mechanichal strains on the panel after coupling.

TECHNICAL INFORMATION

Technical data

Technical data	
Rated voltage	1000 V AC/1500 V DC (IEC) 600 V AC/DC (UL)
Rated current	up to 630 A[1] (IEC) up to 380 A[1] (UL)
Degree of protection, mated unmated	IP65[2][3], IP68 (1 h/1 m), IP69 IP2X
Insulation material	PA
Metal part	CuZn, (Ag plated)
Temperature range	-40 °C … +120 °C
Salt mist spray test	672 h continuous acc. to IEC60068-2-11
MULTILAM, 16BL-CS/C	LAI
Contact resistance (MULTILAM)	≤25 µΩ
Short-circuit current, 1s/3s	up to 14 kA/up to 10kA
Surge current	up to 55 kA
Test voltage 50 Hz 1 min.	6.6 kV
Impuls voltage, 1.2 µs/50 µs (kV)	12 kV
Overvoltage category/Pollution degree (n)	CATIII/3
Insulation coordination kV/n	12/3
Shielding	No
Conductor cross section, crimping termination AxiClamp termination	70-240 mm² 2/0 AWG 500 MCM (incl. 535.3 MCM) 95-240 mm² 4/0 AWG 500 MCM
Nominal-Ø pin/socket	16 mm
Withdrawal/insertion force	114 N/300 N[4]
Max tightening torque, 16BL-PP, 16BL-MP	30 Nm
Mating cycles	1 000-5 000 depending on application conditions
Mounting, 16BL-PP/ET/C 16BL-MP/ET/C	Housings and panels optional: angled adapter direct on busbars
Type of termination 16BL-CS/C 16BL-CP/C 16BL-PP/ET/C 16BL-MP/ET/C	Crimping or AxiClamp Crimping or AxiClamp Cable lug Busbar/contact block
Compliant to	IEC 61984, IEC 60664-1, IEC 60529, IEC 60512-5-2, IEC 61238-1, IEC 60068-2-52, UL 486A-486B, UL 94

For further technical info, please see page 20.

[1] Depending on model – detailed information from pages 20 to 21

[2] Also with protective cover in unmated condition

[3] Depending on the surface structure of the panel/tightness of installation (only for 16BL-PP/ET/C)

[4] The indicated value is considered for the first mating cycle and decreases progressively after use.

Coding possibilities

Mechanical coding

To avoid the risk of a wrong connection, 7 different mechanical codings (C1-C7) are available. The codings differ in the arrangement of the guide slots and guide pins. The coding number is engraved on the connector next to the marking.

Only plugs and sockets with the same coding number can be connected.

Color coding

12 different visual codings are available for a faster identification and safer connection.

Several color coding possibilities allow for use in all application cases (e. g. temporary power supply & industry) and in all local electrical wiring colors.

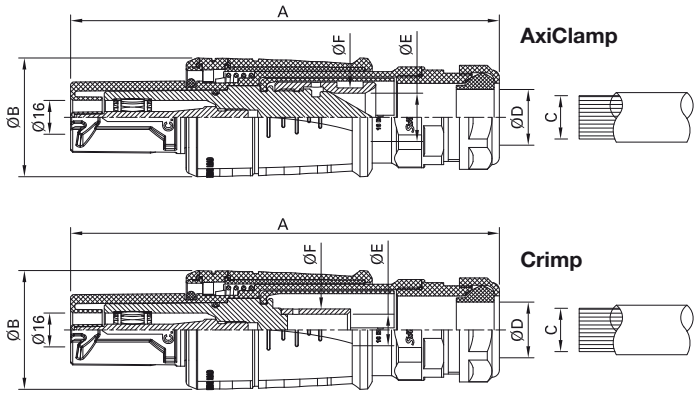
Region	Phase 1 (L1)	Phase 2 (L2)	Phase 3 (L3)	Neutral (N)	Ground (PE)	Reserve
Coding suggestion	C1	C2	C3	C4	C5	C6 C7
Europe						–
USA (120/ 208/ 240 V)						–
USA (277/ 480 V)						
China					( )	–

Color code according to HD 308 S2: 2001, IEC 60445:2017, NEC 2017.

FREE CONNECTORS

Socket 16BL-CS

With AxiClamp and crimp termination for cables class 5 and 6 [1)]



Order No.	Type	Termination	Dimensions (mm)		Conductor cross section			Ø-range of cable gland	Ø lead max.	A/F of AxiClamp sleeve	Crimp sleeve outside-Ø	Colors*
			A	B	C mm²	C AWG	C MCM	D mm	E mm	F mm		
15.0718C[2)]-*	16BL-CS/AX/M40/95-120-C…	AxiClamp	204	57	95-120	4/0	250	20-32	16	22	–	20
15.0719C[2)]-*	16BL-CS/AX/M40/150-185-C…	AxiClamp	204	57	150-185	–	300-350	20-32	20	27	–	21
15.0720C[2)]-*	16BL-CS/AX/M50/150-185-C…	AxiClamp	223	57	150-185	–	300-350	31-41	20	27	–	22
15.0721C[2)]-*	16BL-CS/AX/M50-240-C…	AxiClamp	223	57	240	–	450-500	31-41	23	28	–	23
15.0686C[2)]-*	16BL-CS/M32/70-C…	Crimp	202	57	70	2/0	–	15-25	13	–	17	24
15.0687C[2)]-*	16BL-CS/M40/95-C…	Crimp	204	57	95	4/0	–	20-32	15	–	20	25
15.0688C[2)]-*	16BL-CS/M40/120-C…	Crimp	204	57	120	–	250 (incl. 262.6)	20-32	17	–	22	26
15.0689C[2)]-*	16BL-CS/M40/150-C…	Crimp	204	57	150	–	300 (incl. 313.3)	20-32	19	–	25	27
15.0690C[2)]-*	16BL-CS/M40/185-C…	Crimp	204	57	185	–	350 (incl. 373.3)	20-32	21	–	27	28
15.0691C[2)]-*	16BL-CS/M50/150-C…	Crimp	223	57	150	–	300 (incl. 313.3)	31-41	19	–	25	29
15.0692C[2)]-*	16BL-CS/M50/185-C…	Crimp	223	57	185	–	350 (incl. 373.3)	31-41	21	–	27	30
15.0693C[2)]-*	16BL-CS/M50/240-C…	Crimp	223	57	240	–	500 (incl. 535.3)	31-41	24	–	30	31

Accessories (please order separately, see pages 14-16)

15.5881	16BL-CS/PC	Protective cover, see details on page 14
15.5883	16BL-CS/FIX	Fixing band with protective cover, see details on page 15

* Add the desired color code

[1)] According to IEC 60228 (DIN VDE 0295)

[2)] Add the mechanically coding number (C1-C7), standard coding C1

MA

Assembly instructions MA408

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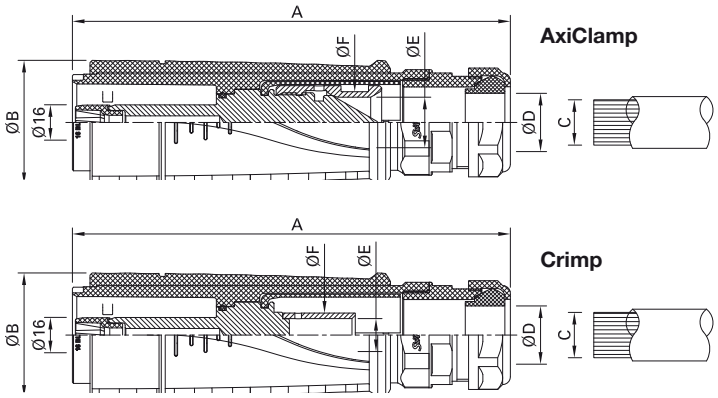
Plug 16BL-CP

With AxiClamp and crimp termination for cables class 5 and 6[1)]



Order No.	Type	Termination	Dimensions (mm)		Conductor cross section			Ø-range of cable gland	Ø lead max.	A/F of AxiClamp sleeve	Crimp sleeve outside-Ø	Colors*
			A	B	C mm²	C AWG	C MCM	D mm	E mm	F mm		
15.0722C[2)]-*	16BL-CP/AX/M40/95-120-C…	AxiClamp	200	57	95-120	4/0	250	20-32	16	22	–	20
15.0723C[2)]-*	16BL-CP/AX/M40/150-185-C…	AxiClamp	200	57	150-185	–	300-350	20-32	20	27	–	21
15.0724C[2)]-*	16BL-CP/AX/M50/150-185-C…	AxiClamp	219	57	150-185	–	300-350	31-41	20	27	–	22
15.0725C[2)]-*	16BL-CP/AX/M50-240-C…	AxiClamp	219	57	240	–	450-500	31-41	23	28	–	23
15.0702C[2)]-*	16BL-CP/M32/70-C…	Crimp	197	57	70	2/0	–	15-25	13	–	17	24
15.0703C[2)]-*	16BL-CP/M40/95-C…	Crimp	200	57	95	4/0	–	20-32	15	–	20	25
15.0704C[2)]-*	16BL-CP/M40/120-C…	Crimp	200	57	120	–	250 (incl. 262.6)	20-32	17	–	22	26
15.0705C[2)]-*	16BL-CP/M40/150-C…	Crimp	200	57	150	–	300 (incl. 313.2)	20-32	19	–	25	27
15.0706C[2)]-*	16BL-CP/M40/185-C…	Crimp	200	57	185	–	350 (incl. 373.2)	20-32	21	–	27	28
15.0707C[2)]-*	16BL-CP/M50/150-C…	Crimp	219	57	150	–	300 (incl. 313.2)	31-41	19	–	25	29
15.0708C[2)]-*	16BL-CP/M50/185-C…	Crimp	219	57	185	–	350 (incl. 373.2)	31-41	21	–	27	30
15.0709C[2)]-*	16BL-CP/M50/240-C…	Crimp	219	57	240	–	500 (incl. 535.2)	31-41	24	–	30	31

Accessories (please order separately, see pages 14-16)

15.5882	16BL-CP/PC	Protective cover, see details on page 14
15.5884	16BL-CP/FIX	Fixing band with protective cover, see details on page 15

* Add the desired color code

[1)] According to IEC 60228 (DIN VDE 0295)

[2)] Add the mechanically coding number (C1-C7), standard coding C1

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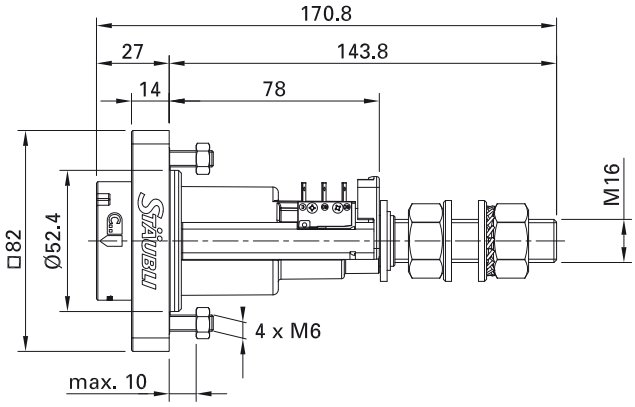
RECEPTACLES

Plug 16BL-PP

Panel receptacle, with threaded stud M16



Order No.	Type	Description	Colors *
14.0066C[1)]	16BL-PP/ET-C…	Plug, with threaded stud M16	–
Single parts (please order separately)			
14.5204-*	FR21	Coloured ring	20 21 22 23 24 25 26 27 28 29 30 31
Accessories (please order separately, see pages 14-16)			
15.5882	16BL-CP/PC	Protective cover with lanyard	
14.5252-*	PL-PC-1021SET	Protective cover, black with colored disc	20 21 22 23 24 25 26 27 28 29 30 31
14.0050	WA-ID/S21	Angled adapter	
14.0106	MSW-16BL-PP	Microswitch	

* Add the desired color code

[1)] Add the mechanically coding number (C1-C7), standard coding C1

MA

Assembly instructions MA409

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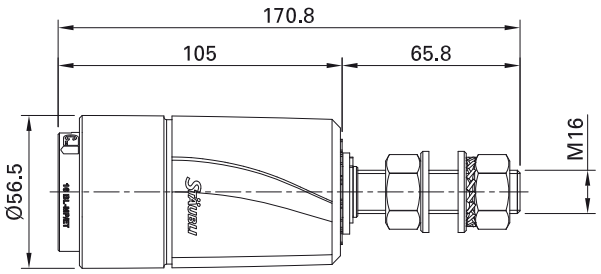
Plug 16BL-MP

Surface-mounting receptacle, with threaded stud M16



Order No.	Type	Description	Colors *
14.2055C[1] -*	16BL-MP/ET-C…	Plug, with threaded stud M16	20 21 22 23 24 25 26 27 28 29 30 31
Accessories (please order separately, see pages 14-16)			
15.5882	16BL-CP/PC	Protective cover	

* Add the desired color code

[1] Add the mechanically coding number (C1-C7), standard coding C1

MA

Assembly instructions MA410

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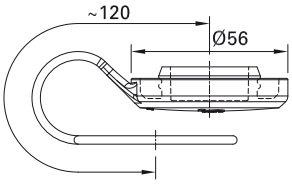
ACCESSORIES

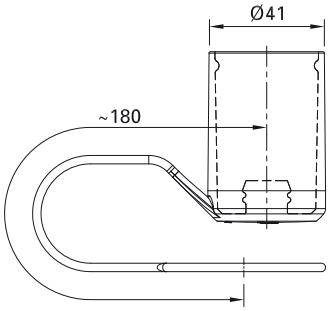
Protective cover

With lanyard. Used to protect the connectors from dust and water when unplugged. The cover is simply slipped onto the connector. A lanyard can be used to attach the cover to the insulation of the connectors.

16BL-CP/PC



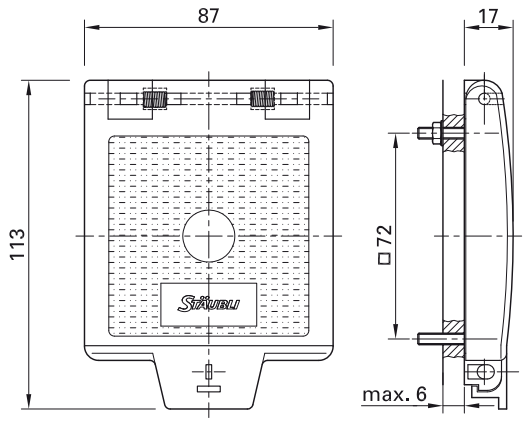
16BL-CS/PC



Order No.	Type	suitable for	IP degree	MA Assembly instructions
15.5882	16BL-CP/PC	16BL-CP... (page 11)	IP65, IP68	MA408
15.5881	16BL-CS/PC	16BL-CS... (page 10)	IP65, IP68	MA408

Protective cover

For panel receptacles. The covers are spring-loaded hinged covers for panel receptacles. To cover the not engaged receptacles to keep out dirt and splashing water. Can be locked with a padlock (not available from ECS). Color coding is provided through color coding discs.



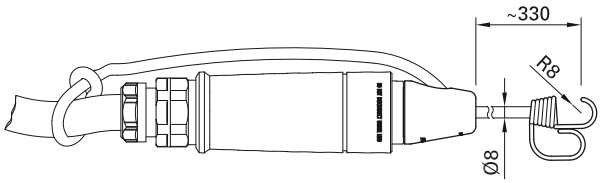
Order No.	Type	suitable for	IP degree	MA Assembly instructions	Colors*
14.5252-*	PL-PC-1021SET	16BL-PP/ET-C... (page 12)	IP65	MA036	20 21 22 23 24 25 26 27 28 29 30 31

* Add the desired color code

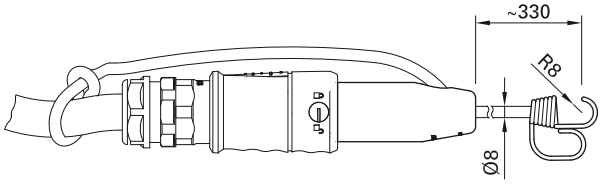
Fixing band with protective cover

To ensure safe and easy fixation of the 16BL-CP and 16BL-CS connectors by attaching them on the cable reel or on other points of attachment

16BL-CP/FIX



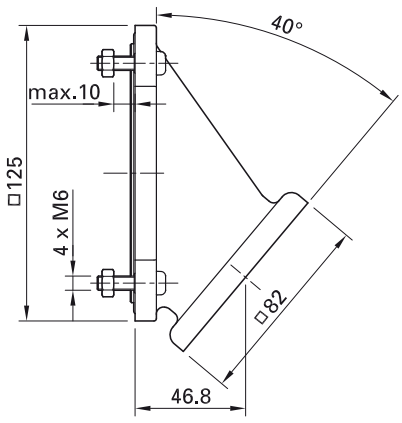
16BL-CS/FIX



Order No.	Type	suitable for	IP degree	MA Assembly instructions
15.5884	16BL-CP/FIX	16BL-CP... (page 11)	–	MA408
15.5883	16BL-CS/FIX	16BL-CS... (page 10)	–	MA408

Angled adapter

The angled adapter is an accessory which allows a more space-saving installation of the 16BL-PP/ET-C... than the standard version. The transverse forces that can be exerted on the connector by the lead are also minimized.



Order No.	Type	suitable for	IP degree	MA Assembly instructions
14.0050	WA-ID/S21	16BL-PP/ET-C... (page 12)	IP65	MA409

Microswitch

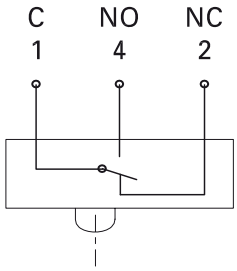
For standard compliance and increased safety

The use of an interlock device (e. g. microswitch) prevents from connection under load and ensures the user to be compliant with the IEC 61984 requirements.

The 16BL-PP/ET-C can be equipped with a microswitch to show the state of the plug-in connection. The microswitch is a changeover switch with 3 flat connecting tabs 2.8 mm x 0.5 mm. The microswitch switches immediately before the locking device engages, indicating that the plug connection is made.

Rated:

- for IEC purposes: 6 A, 250 V AC
- for UL purposes: 5 A, 125/250 V AC
  1 A, 48 V DC



Order No.	Type	suitable for
14.0106	MSW-16BL-PP	16BL-PP/ET-C... (see page 12), will be mounted with 2 screws (included in delivery)

MA

Assembly instructions MA409

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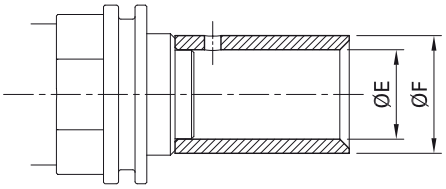
CRIMPING/AXICLAMP

Crimping

Stäubli recommends ELPRESS hexagonal crimping pliers. The Stäubli crimping sleeves and ELPRESS crimping tools are designed for crimping class 5 [1] and 6 [1] flexible conductors. The crimping tools may be obtained from third-party suppliers.

Elpress 1311-C or V1311C-A



Socket/Pin	Crimping die	for cable class (acc. to IEC 60228)	Conductor cross section		Inside-Ø crimping sleeve	Ouside-Ø crimping sleeve
			mm²	AWG/MCM	E mm	F mm
S+P-16BL70	B17 (V1330)	5/6	70	AWG 2/0	13	17
S+P-16BL95	B20 (V1330)	5/6	95	AWG 4/0	15	20
S+P-16BL120	B22 (V1330)	5/6	120	250 MCM (incl. 262.6 MCM)	17	22
S+P-16BL150	B25 (V1330)	5/6	150	300 MCM (incl. 313.3 MCM)	19	25
S+P-16BL185	13CB27	5/6	185	350 MCM (incl. 373.7 MCM)	21	27
S+P-16BL240	13CB30	5/6	240	500 MCM (incl. 535.3 MCM)	24	30

MA

Assembly instructions MA408, MA069

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[1] According to IEC 60228, DIN VDE 0295

Advantages of AxiClamp system

- Assembly possible with standard tools
- Reusable several times
- Compatible with different cable cross sections
- Time and cost savings

MA

Assembly instructions MA408

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Adapter 16BV – 16BL

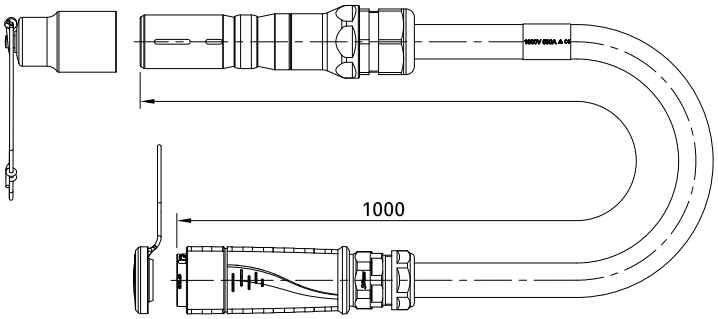
Plug and play adapter for compatibility with existing 16BV systems

ADAP/16BV/16BL/SET4/EU – Set for Europe, Type: 16BV Plug/16BL Plug

Existing 16BV systems can be fast and easily connected to the new 16BL connectors by using the dedicated plug and play adapter.

The right choice for your application has to be selected according to the configuration of the installation. Several sets of adapters are available according to the most used connector combinations in the different regions. Each set is constituted with the convenient number of adapters depending on the number of conductors used regionally.

Special versions can be manufactured upon request.



Order No.	Type	Region	Side 16BV		Side 16BL		Conductors/codings [1]					Cable [2] length	Max. operating temp
							L1	L2	L3	N	PE		
			Plug	Socket	Plug	Socket	C1	C2	C3	C4	C5		
15.2553	ADAP/16BV/16BL/SET1/CN	China	×		×						–	1 m	80 °C
15.2554	ADAP/16BV/16BL/SET3/CN			×		×							
15.2555	ADAP/16BV/16BL/SET1/EU	Europe	×		×							1 m	80 °C
15.2556	ADAP/16BV/16BL/SET2/EU			×	×								
15.2557	ADAP/16BV/16BL/SET3/EU			×		×							
15.2558	ADAP/16BV/16BL/SET4/EU		×			×							
15.2559	ADAP/16BV/16BL/SET1/DE	Germany	×		×							1 m	80 °C
15.2560	ADAP/16BV/16BL/SET2/DE			×	×								
15.2561	ADAP/16BV/16BL/SET3/DE			×		×							
15.2562	ADAP/16BV/16BL/SET4/DE		×			×							
15.2563	ADAP/16BV/16BL/SET1/CH	Switzer-land	×		×							1 m	80 °C
15.2564	ADAP/16BV/16BL/SET2/CH			×	×								
15.2565	ADAP/16BV/16BL/SET3/CH			×		×							
15.2566	ADAP/16BV/16BL/SET4/CH		×			×							

Note:
Please check before ordering that the cable of the standard plug and play adapter is able to suit to your operating conditions. Criteria like e. g. temperature, chemical resistance, frequencies level must be in particular carefully observed. Please contact your local Stäubli partner in case of support needs.

[1] The mechanical coding is only considered for the 16BL connectors

[2] Pre-assembled, with crimp terminations, cable type PUR class 5, cross-section 240 mm²

TECHNICAL DATA

Technical data 16BL connectors

Page	Order no.	Type	General data							
			Termination	Conductor cross section Cu			Ø range of cable gland	Ø lead max.	A/F of AxiClamp sleeve	Crimp sleeve outside-Ø
				mm²	AWG	MCM	D mm	E mm	F mm	
10	**15.0718C…-***	16BL-CS/AX/M40/95-120-C…	AxiClamp	95-120	4/0	250	20-32	16	22	–
10	**15.0719C...-***	16BL-CS/AX/M40/150-185-C…	AxiClamp	150-185		300-350	20-32	20	27	–
10	**15.0720C...-***	16BL-CS/AX/M50/150-185-C…	AxiClamp	150-185		300-350	31-41	20	27	–
10	**15.0721C...-***	16BL-CS/AX/M50-240-C…	AxiClamp	240		450-500	31-41	23	28	–
10	**15.0686C...-***	16BL-CS/M32/70-C…	Crimp	70	2/0		15-25	13	–	17
10	**15.0687C...-***	16BL-CS/M40/95-C…	Crimp	95	4/0		20-32	15	–	20
10	**15.0688C...-***	16BL-CS/M40/120-C…	Crimp	120		250 (incl. 262.6)	20-32	17	–	22
10	**15.0689C...-***	16BL-CS/M40/150-C…	Crimp	150		300 (incl. 313.3)	20-32	19	–	25
10	**15.0690C...-***	16BL-CS/M40/185-C…	Crimp	185		350 (incl. 373.3)	20-32	21	–	27
10	**15.0691C...-***	16BL-CS/M50/150-C…	Crimp	150		300 (incl. 313.3)	31-41	19	–	25
10	**15.0692C...-***	16BL-CS/M50/185-C…	Crimp	185		350 (incl. 373.3)	31-41	21	–	27
10	**15.0693C...-***	16BL-CS/M50/240-C…	Crimp	240		500 (incl. 535.3)	31-41	24	–	30
11	**15.0722C...-***	16BL-CP/AX/M40/95-120-C…	AxiClamp	95-120	4/0	250	20-32	16	22	–
11	**15.0723C...-***	16BL-CP/AX/M40/150-185-C…	AxiClamp	150-185		300-350	20-32	20	27	–
11	**15.0724C...-***	16BL-CP/AX/M50/150-185-C…	AxiClamp	150-185		300-350	31-41	20	27	–
11	**15.0725C...-***	16BL-CP/AX/M50-240-C…	AxiClamp	240		450-500	31-41	23	28	–
11	**15.0702C...-***	16BL-CP/M32/70-C…	Crimp	70	2/0		15-25	13	–	17
11	**15.0703C...-***	16BL-CP/M40/95-C…	Crimp	95	4/0		20-32	15	–	20
11	**15.0704C...-***	16BL-CP/M40/120-C…	Crimp	120		250 (incl. 262.6)	20-32	17	–	22
11	**15.0705C...-***	16BL-CP/M40/150-C…	Crimp	150		300 (incl. 313.3)	20-32	19	–	25
11	**15.0706C...-***	16BL-CP/M40/185-C…	Crimp	185		350 (incl. 373.3)	20-32	21	–	27
11	**15.0707C...-***	16BL-CP/M50/150-C…	Crimp	150		300 (incl. 313.3)	31-41	19	–	25
11	**15.0708C...-***	16BL-CP/M50/185-C…	Crimp	185		350 (incl. 373.3)	31-41	21	–	27
11	**15.0709C...-***	16BL-CP/M50/240-C…	Crimp	240		500 (incl. 535.3)	31-41	24	–	30
12	**14.0066C…**	16BL-PP/ET-C								
13	**14.2055C…-***	16BL-MP/ET-C								

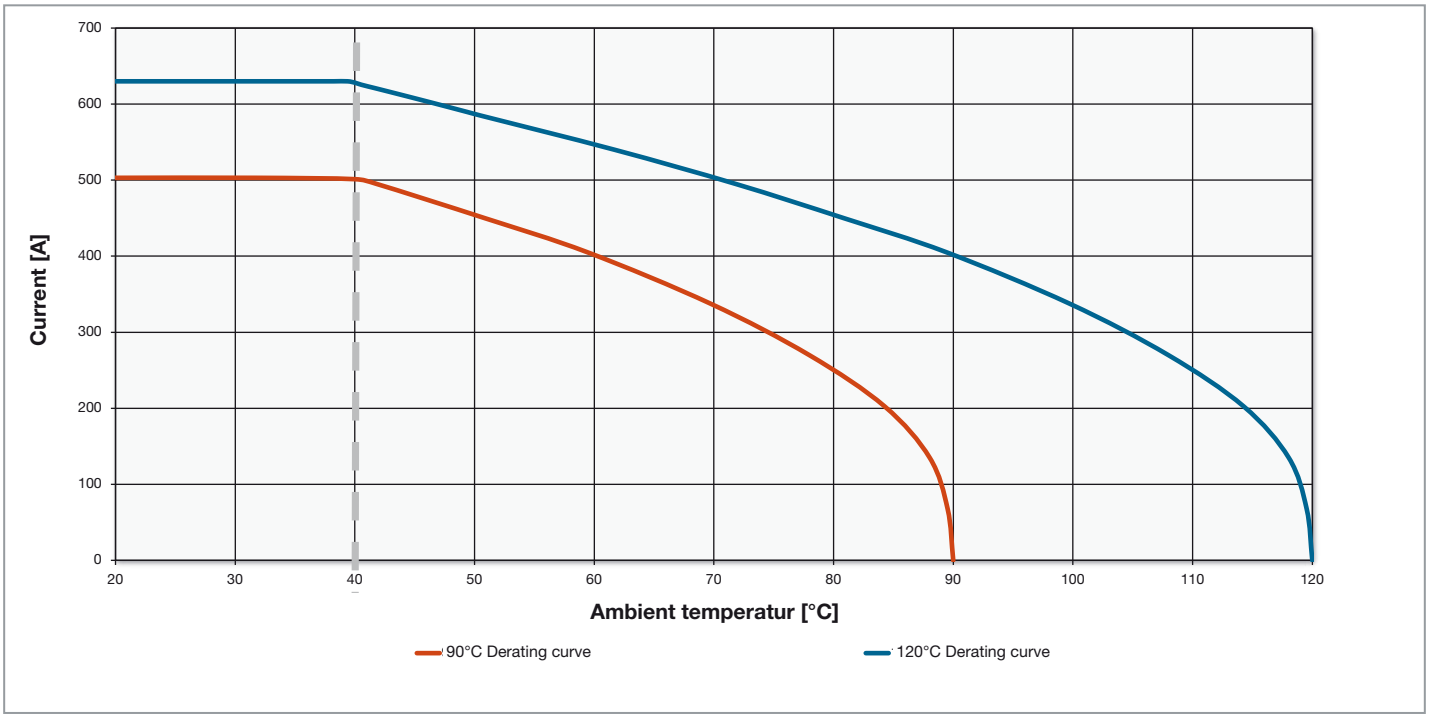
[1] The indicated value is only valid for the connector itself. The max rating current has to be determined by considering also the connected cable. Please refer to the derating diagrams on page 22.

[2] The indicated value is only valid for the highest cable cross section of the connector. For the lower cross sections, please refer to the rated current given for the crimp version e.g. for a connector 15.0718C…-* used for an IEC application: 500 A for a 120 mm² cable cross section, 430 A for a 95 mm² cable cross section

Mechanical data					Electrical data [1]										
Nominal dia. pin/ socket	Withdrawal force	Insertion force	Max. tightening torque	MULTILAM	Rated current		Rated voltage			Contact resistance	Rated short-circuit current		Rated peak current	Test voltage 50 Hz 1 min	Insulation coordination
mm	N	N	Nm		A		V			µΩ	kA		kA	kV	kV/n
					IEC [1]	UL	IEC (AC)	IEC (DC)	UL		1s	3s			
16	114	300	-	LAIA	500 [2]	255 [2]	1000	1500	600	25	14	8.2	55	6.6	12/3
16	114	300	-	LAIA	630 [2]	310 [2]	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	630 [2]	310 [2]	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	630	380	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	350	175	1000	1500	600	25	10.4	6	55	6.6	12/3
16	114	300	-	LAIA	430	200	1000	1500	600	25	14	8.2	55	6.6	12/3
16	114	300	-	LAIA	500	255	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	580	285	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	630	310	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	580	285	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	630	310	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	630	380	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	500 [2]	255 [2]	1000	1500	600	25	14	8.2	55	6.6	12/3
16	114	300	-	LAIA	630 [2]	310 [2]	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	630 [2]	310 [2]	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	630	380	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	350	175	1000	1500	600	25	10.4	6	55	6.6	12/3
16	114	300	-	LAIA	430	200	1000	1500	600	25	14	8.2	55	6.6	12/3
16	114	300	-	LAIA	500	255	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	580	285	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	630	310	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	580	285	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	630	310	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	-	LAIA	630	380	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	30	LAIA	630	380	1000	1500	600	25	14	10	55	6.6	12/3
16	114	300	30	LAIA	630	380	1000	1500	600	25	14	10	55	6.6	12/3

Derating diagrams

Derating 16BL connectors with 240 mm² cable, max. temperature 90°C/120°C



The derating diagram shown above was determined by Electrical Connectors Stäubli AG according to IEC 60512-5-2. The diagram relate to the metal parts in the interior of the plug connector combination.

The diagrams show values of the current ratings which apply when used at differing ambient temperatures.

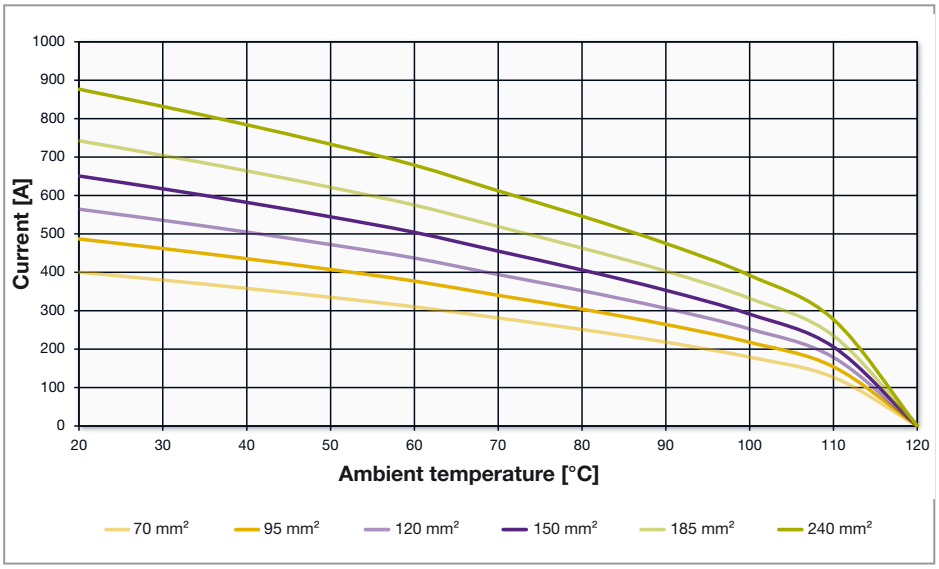
Note: In order to operate the plug connector at its maximum temperature (max. 120°C on the metal part), an appropriate cable must be used. A reduction factor of 0.9 has been taken as a base.

Max. rated current of 16BL connector according to the cross section of the used cable
(@ 40°C with a derating factor of 0.9)

The indicated values are applied to the connector used in combination with a cable able to withstand 120°C (e.g. Radox ®).

Cable cross section	Max. rated current
mm²	A
70	350
95	430
120	500
150	580
185	630
240	630

Derating for insulated copper conductors, max. 120 °C

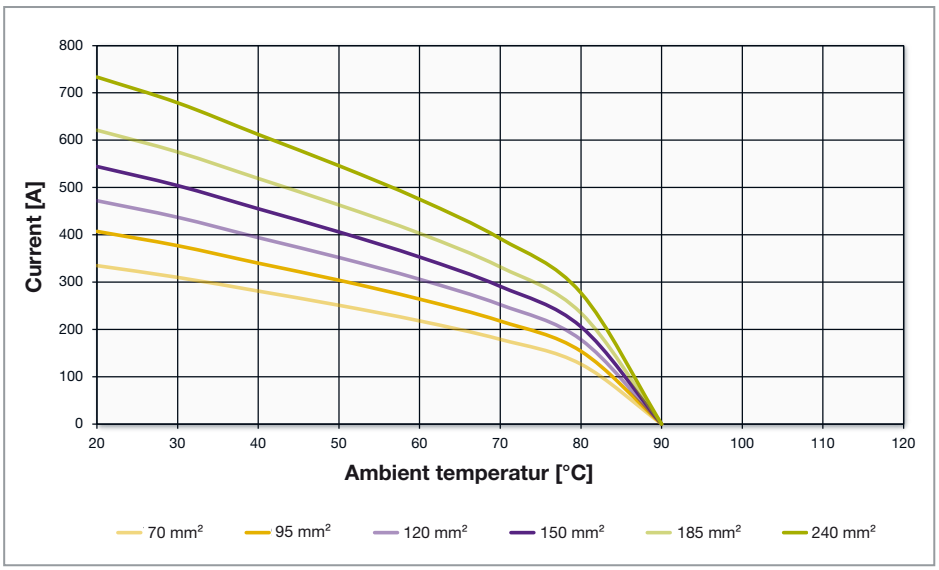


Derating for insulated copper conductors (IEC 60364-5-52) with max. temperature 120°C, (e. g. RADOX®)

Note

The current capacity of a connector cannot be higher than that of the connected cable

Derating for insulated copper conductors, max. 90°C



Derating for insulated copper conductors (IEC 60364-5-52) with max. temperature 90°C, (e. g. PUR)

Note

The current capacity of a connector cannot be higher than that of the connected cable

Derating for electrical machines

When used in the electrical equipment of machines the standard IEC 60204-1 “Safety of machinery” applies in place of IEC 60364-5-52. This standard gives the permissible current-carrying capacity of PVC insulated Cu conductors for continuous operation when used with machines and based on an ambient air temperature of 40° C for various methods of installation. In addition reduction factors which apply for the bundling of wires and cables under these conditions are provided.

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