

PerforMore High-voltage connectors

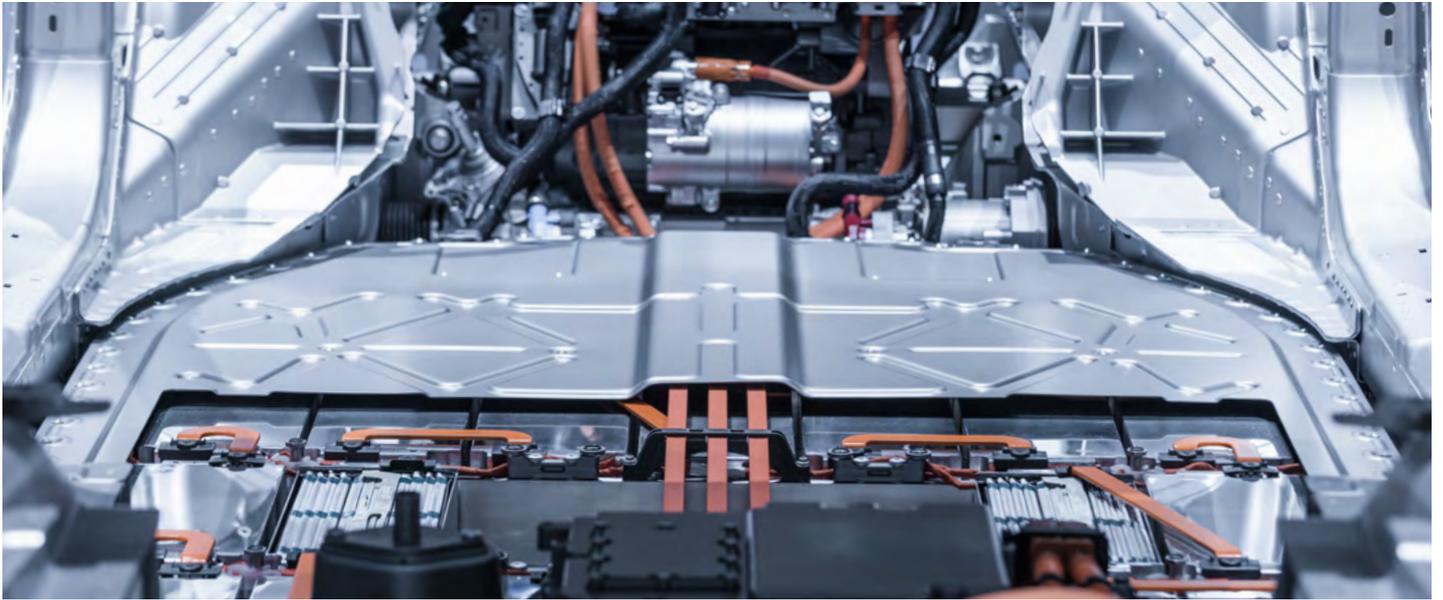
PerforMore | Industrial Connectors

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STÄUBLI ELECTRICAL CONNECTORS

Expert connections for quality performance



Stäubli Electrical Connectors is a global leader in pioneering contact technology. We are part of the Stäubli mechatronics group, the technology leader in connection solutions, robotics and textile machinery.

As a leading manufacturer of high-quality electrical contacts, connector systems and customized solutions, Stäubli offers decades of experience across numerous industries. With Stäubli as your partner, you can count on reliability, dedication and exceptional quality in everything we do.

Designed to meet the highest safety and quality standards, our extensive portfolio of products and services provide reliable, long-lasting performance. Our unique, proven MULTILAM technology ensures maximum efficiency, even in harsh and challenging environments. Suitable for all types of connections in industrial applications, Stäubli electrical connectors deliver high-voltage performance safely and reliably.



Stäubli Group

Swiss origins with over 130 years' experience



Global Expertise

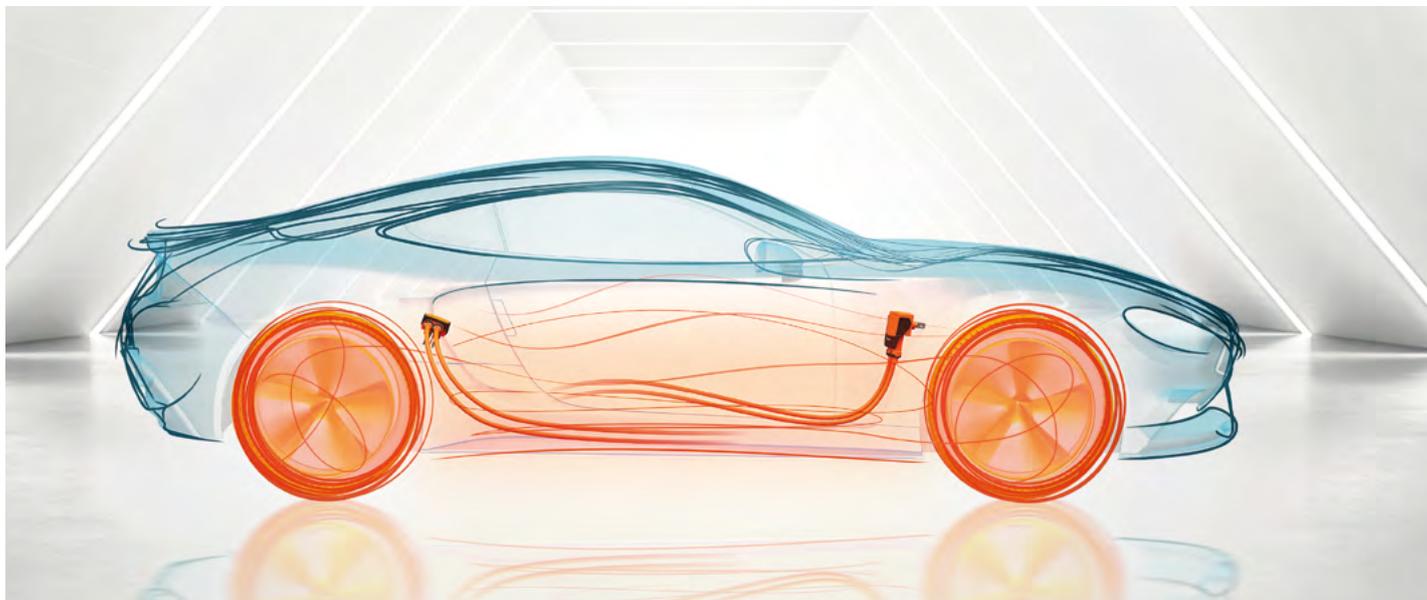
6,000 employees in 28 countries



MULTILAM

Extremely durable and reliable electrical contact

Applications and benefits



PerforMore: Connectors for electric powertrain systems.

Electric and hybrid powertrain systems require connectors that meet the highest safety, reliability and performance standards.

Stäubli designed and developed PerforMore connectors to fulfill even the most stringent requirements in electric vehicles based on LV-215 standards. Our compact two-pole connector is ideal for high-power charging (HPC) systems, high-voltage batteries, inverters and high-voltage distribution units (HVDU).

PerforMore can transmit continuous currents of up to 600 A with minimal power loss, dependent on the ambient temperature. The Ø 10 mm contact system features our proven MULTILAM technology which is ideally suited to the demanding requirements of the electric driveline – ensuring vibration resistance and high operating temperatures, among other things.

As long-standing collaborative partners in the automotive industry, we are always thinking a few steps ahead when developing reliable connectors for future-proof mobility. We strive to outperform even the most ambitious targets with tailored solutions to your specific requirements – even if it requires working on-site.

PerforMore connectors are integral components in on-board applications that require outstanding efficiency, safety and reliability. The high-voltage connectors for electric powertrain systems are the ideal choice for high-performance vehicles, commercial vehicles and mobile machinery.

PRODUCT OVERVIEW

PerforMore benefits at a glance

Specially designed to overcome the inherent challenges of handling, restricted installation space and increasing current carrying capacity, PerforMore provides reliable, uninterrupted connectivity.

Its compact dimensions allow more efficient use of the installation space while maintaining all the clearances and creepage distances required for high operating voltages. The integration is quick and easy to realize, and disassembly is safe and user-friendly thanks to the two-stage unlocking system.



Unique and patented MULTILAM contact technology

High current carrying capacity with compact dimensions

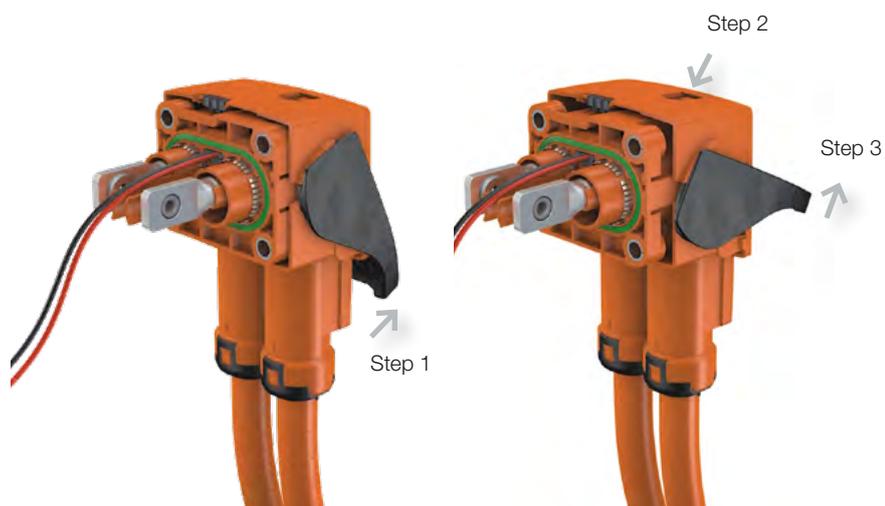
- Proven MULTILAM contact technology
- High performance in small size (10 mm)
- Lowest contact resistance
- Long-term reliability
- Space-saving, angled connector design

IP68, IP6K9K



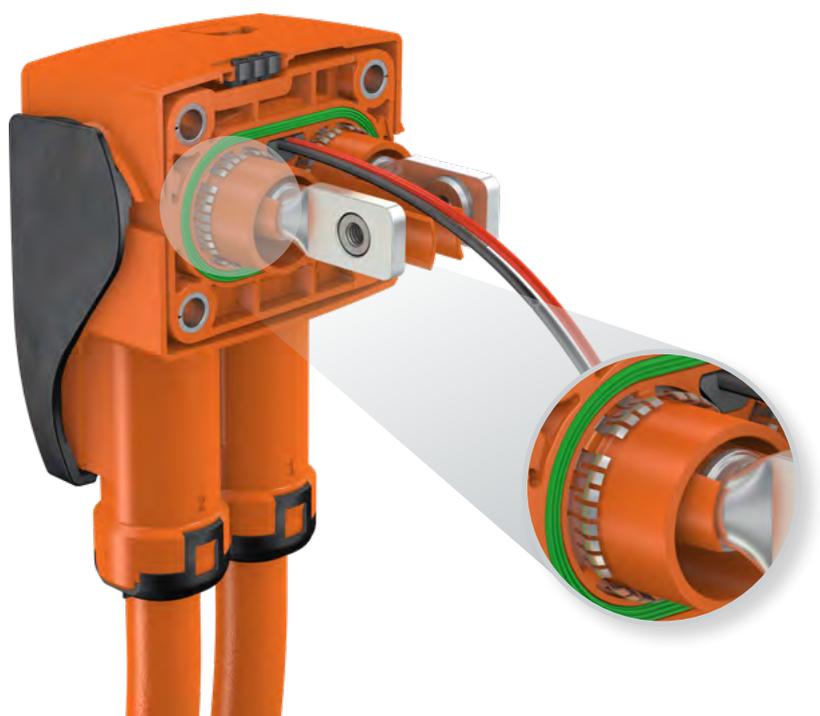
Robust, safe and reliable

- Protected against water and dust (IP68, IP6K9K) according to IEC 60529 in mated condition
- Protected against solid objects greater than 12.5 mm (IP2X) in mated condition
- Vibration resistant
- Suitable for operating temperatures up to 180 °C



HVIL with two-stage unlocking system

- A time interval between disconnection of high-voltage interlocking loop (HVIL) and power contacts ensures:
 - Even in the first stage of the unlocking process, the HVIL is interrupted
 - The live contacts are disconnected only at the second step of the unlocking procedure
- Protection against accidental disconnection, which could result in life-threatening arc flashes



High-quality EMC shielding

- A high number of contact points ensures high shielding effectiveness
- 360° shielding: Even distribution of shield contacts around the power contact



Mechanical and color coding

- Choose from four different mechanical coding options to prevent incorrect mating of connectors
- Color coding system to ensure safety and easy recognition of associated connector pairs



Quick, easy and safe installation

- Cable assembly suitable for all types of production (small and large series)
- Simple installation thanks to pre-assembled cables that only allow one mounting direction
- Predefined structural shape prevents incorrect mating for increased safety
- Reduces installation time with a majority of the connector being pre-assembled on delivery

Technical data

General data	
Rated current LV-215	600 A @ 40 °C (df 1) ¹⁾ 475 A @ 70° C (df 0.9) ¹⁾ 400 A @ 85 °C (LV-215, df 0.8) ¹⁾²⁾
Rated voltage	DC 1000 V
Conductor cross-section	50 mm ² / 70 mm ² / 95 mm ² according to LV-216-2 Shielded, High-Voltage, Sheathed Cables for Motor Vehicles and their Electric Drives
Degree of protection, mated unmated	IP6K9K, IP68 (1 m; 1 h) IP2X
Connection type pin	Screw connection
Connection type socket	Crimp connection Welding connection
Test voltage	AC 4260 V, 1 min/50 Hz
Shielding, according to LV215-2	90 dB (5 mΩ/m) at 2 MHz 84 dB (10 mΩ/m) at 30 MHz 75 dB (30 mΩ/m) at 100 MHz 65 dB (80 mΩ/m) at 300 MHz
Ambient temperature	Welding connection: -40 °C to +140 °C Crimp connection: -40 °C to +120 °C
Temperature limit, upper lower	Welding connection: +180 °C Crimp connection: +120 °C -40 °C
Vibrations	Test IX: Commercial vehicle, unsprung masses) (ISO16750-3)

Instructions for order numbers with coding or color code

For certain products, additional codes must be included with our order numbers:

15.0727 C ...-*	
15.0727 C1 -*	Coding 1
15.0727 C2 -*	Coding 2
15.0727 C3 -*	Coding 3
15.0727 C4 -*	Coding 4
15.0727 C ...-*	
15.0727 C ...- 21	 black
15.0727 C ...- 23	 blue
15.0727 C ...- 25	 green



Assembly instructions **MA416, MA416-1, MA416-2**

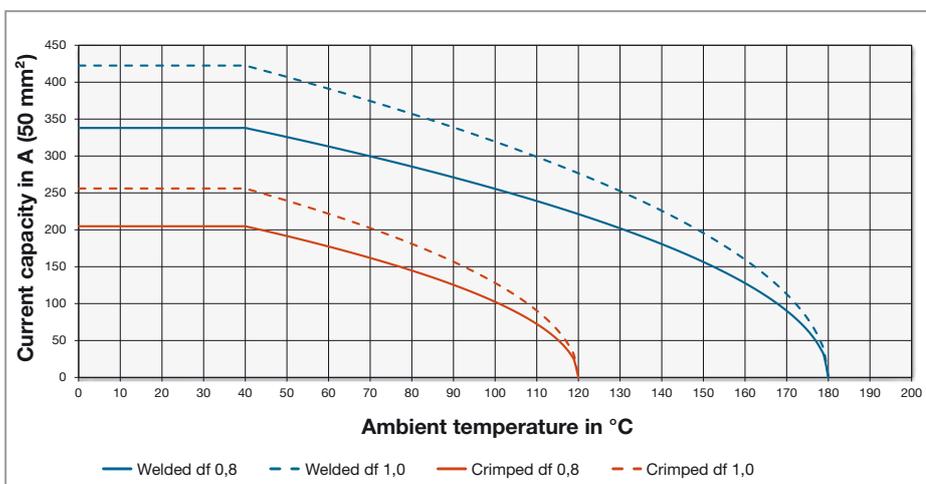
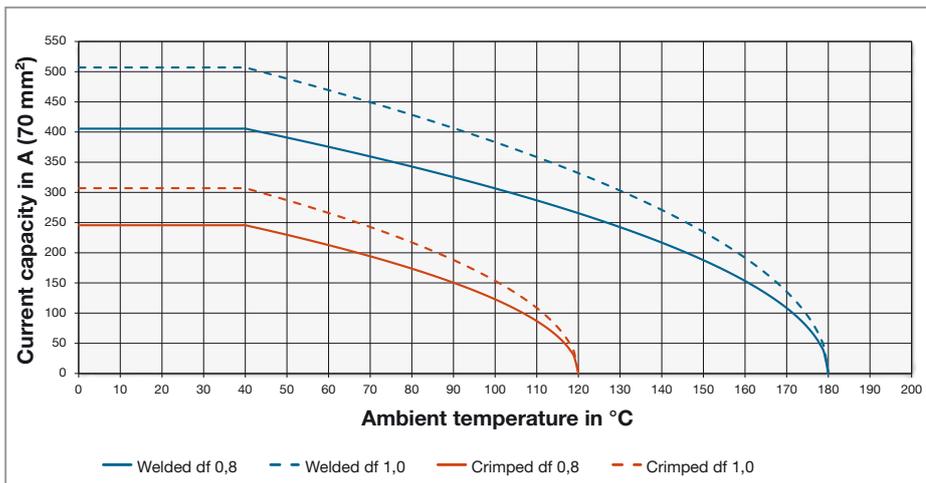
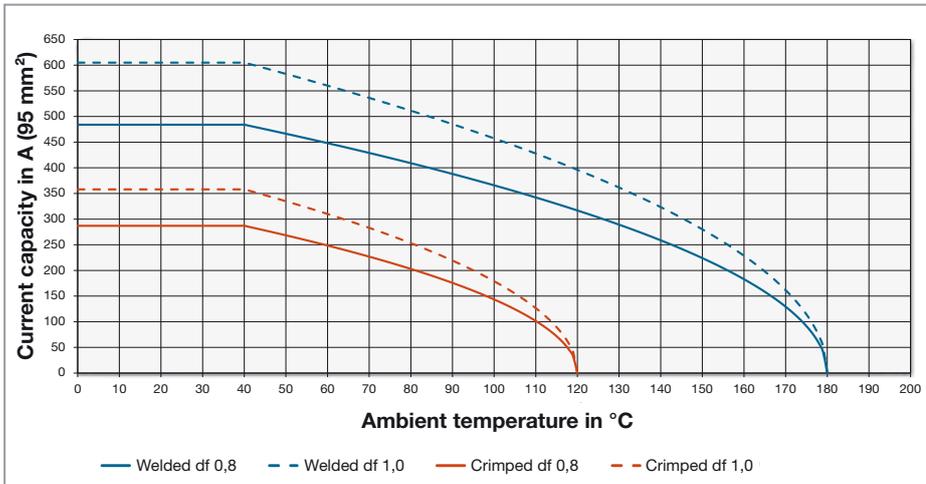
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¹⁾ Depends on cable and connection type, df = derating factor

²⁾ According to LV215 which refers to IEC 60512-5-2, df of 0,8 is based on this standard

Derating diagram

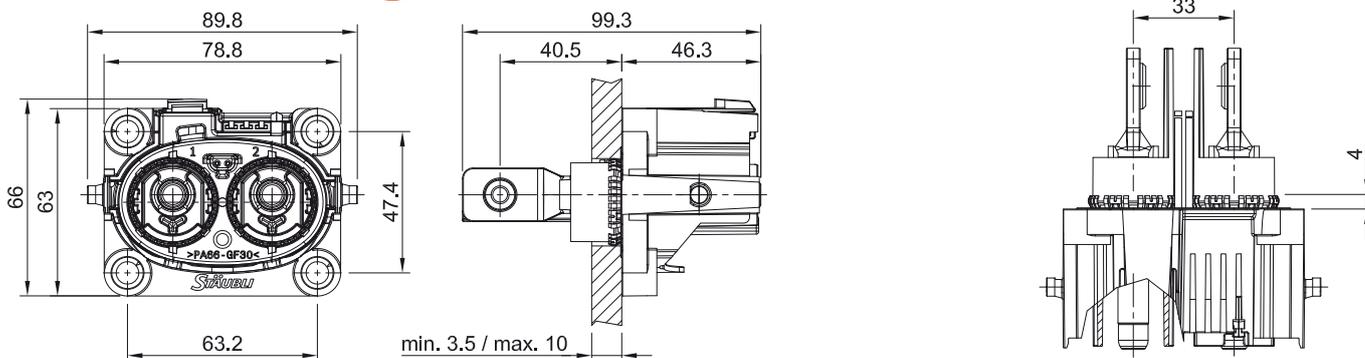
The values shown in the derating diagrams represent the current carrying capacity of the contacts in a two-pole configuration inside the insulation, with the indicated derating factors "df".



PerforMore

Plug side

PM-MP10-2SDD-HVIL-IT-C...



Order No.	Type	Description
15.0726	PM-MP10-2SDD-IT	PerforMore plug side with M6 connection thread
15.0727C...-*	PM-MP10-2SDD-IT-C...	PerforMore plug side with M6 connection thread and coding
15.0728-0502122 ¹⁾	PM-MP10-2SDD-HVIL-IT	PerforMore plug side with M6 connection thread and HVIL
15.0729C...-2122 ¹⁾	PM-MP10-2SDD-HVIL-IT-C...	PerforMore plug side with M6 connection thread, coding and HVIL

Spare parts

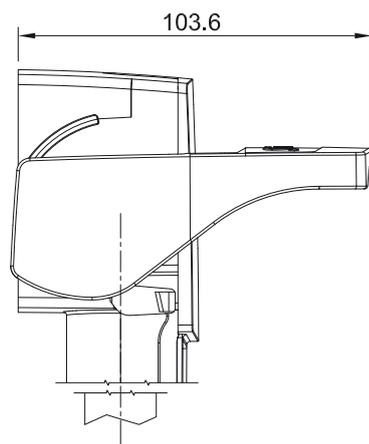
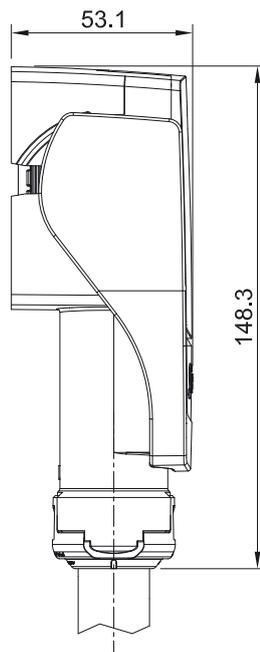
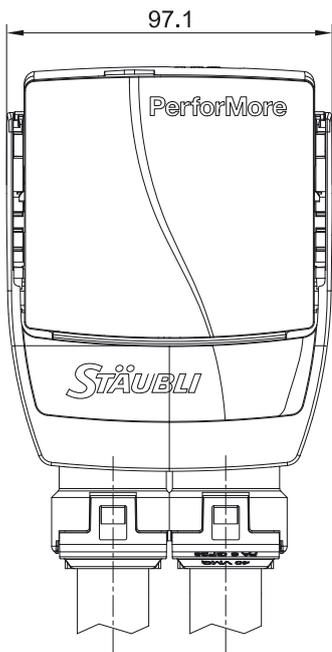
15.5402	PM-P10IT-M6	PerforMore plug contact with M6 connection thread
15.5406	PM-KIT-HVIL-1-2	PerforMore set HVIL sockets
15.5419	PM-I-HVIL-1-2 PA	PerforMore HVIL socket holder
15.5420	PM-HVIL-B1-2CR0/25-0.75	PerforMore HVIL socket
15.5894	PM-SEAL2P	PerforMore seal 2 pole plug side

* Please add coding and color code – instructions on page 7

¹⁾ Standard cable colors black and red, 0.5 mm² conductor cross section, standard cable length 50 cm each. Other conductor cross sections, colors and lengths on request.

Socket side

PM-CS10-2SDD-AV-C...



Order No.	Type	Description	Connection type	Conductor-Ø mm ²
15.0737	PM-CS10-2SDD-AV	PerforMore socket housing		
15.0738C...-*	PM-CS10-2SDD-AV-C...	PerforMore socket housing with coding		
15.5407	PM-KIT-S10AV-CR50	PerforMore socket connection set, 1 pole	Crimp connection	50
15.5408	PM-KIT-S10AV-CR70	PerforMore socket connection set, 1 pole	Crimp connection	70
15.5409	PM-KIT-S10AV-CR95	PerforMore socket connection set, 1 pole	Crimp connection	95
15.5427	PM-KIT-S10AV-WD50	PerforMore socket connection set, 1 pole	Welding connection	50
15.5426	PM-KIT-S10AV-WD70	PerforMore socket connection set, 1 pole	Welding connection	70
15.5425	PM-KIT-S10AV-WD95	PerforMore socket connection set, 1 pole	Welding connection	95

Spare parts

15.5410	PM-SEAL50	PerforMore seal cover 50 mm ²
15.5411	PM-SEAL70	PerforMore seal cover 70 mm ²
15.5412	PM-SEAL95	PerforMore seal cover 95 mm ²
15.5413	PM-S10AV-CR50	PerforMore socket crimp connection 50 mm ²
15.5414	PM-S10AV-CR70	PerforMore socket crimp connection 70 mm ²
15.5415	PM-S10AV-CR95	PerforMore socket crimp connection 95 mm ²
15.5416	PM-KIT-SDD50	PerforMore shielding braid termination 50 mm ²
15.5417	PM-KIT-SDD70	PerforMore shielding braid termination 70 mm ²
15.5418	PM-KIT-SDD95	PerforMore shielding braid termination 95 mm ²
15.5422	PM-S10AV-WD50-95	PerforMore socket welding connection 50 mm ² – 95 mm ²
15.5895	PM-SEAL2S	PerforMore seal 2 pole socket side

Tools

15.5421	PM-RMT-S	PerforMore extraction tool
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Color and mechanical coding



Order No. ²⁾	Type	Description	*Color
15.5401-*	PM-C	Color and mechanical coding	21 23 25

* Please add coding and color code – instructions on page 7

¹⁾ Depending on cable, busbar and connection type, see derating diagram page 8

²⁾ Additional colors to meet LV-215 specifications on request



● Stäubli Units ○ Representatives/Agents

Global presence of the Stäubli Group

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