AP Surface-mounted junction boxes

- Sturdy and durable structure for all installations.
- IP65 class for demanding environments.
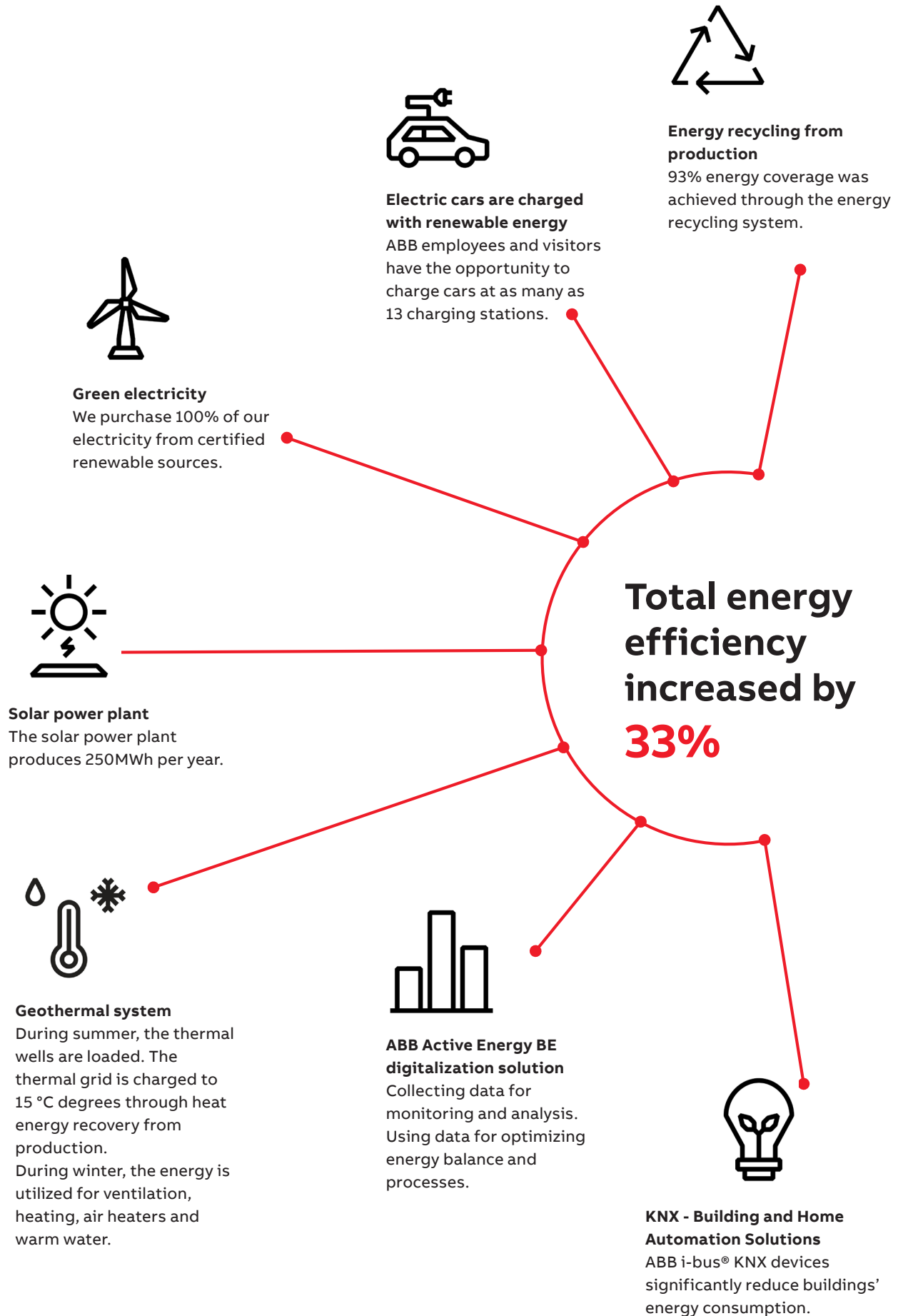- Many color options for color coding of different wiring groups.

Mission to Zero™

Our factory in Porvoo is a net-zero site, utilizing 100% renewable energy
We offer a wide range of products, high-quality and installer-friendly products, taking the environment into account. We constantly strive to reduce the environmental impact of products by improving productivity, extending product life and minimizing the amount of waste.

Our Wiring Accessories factory in Porvoo does not produce harmful flue gases and does not release harmful chemicals into nature. The water cooling of machines in our production is a closed process, and therefore does not pollute nature. Our unit also does not cause noise pollution.

Electric cars are charged with renewable energy
ABB employees and visitors have the opportunity to charge cars at as many as 13 charging stations.

Energy recycling from production
93% energy coverage was achieved through the energy recycling system.

Green electricity
We purchase 100% of our electricity from certified renewable sources.

Total energy efficiency increased by 33%

Solar power plant
The solar power plant produces 250MWh per year.

Geothermal system
During summer, the thermal wells are loaded. The thermal grid is charged to 15 °C degrees through heat energy recovery from production.
During winter, the energy is utilized for ventilation, heating, air heaters and warm water.

ABB Active Energy BE digitalization solution
Collecting data for monitoring and analysis. Using data for optimizing energy balance and processes.

KNX - Building and Home Automation Solutions
ABB i-bus® KNX devices significantly reduce buildings' energy consumption.

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Together, we can make a difference

ABB helps customers to make environmentally friendly choices. Our factory in Porvoo is a net-zero site, utilizing 100% renewable energy. The low carbon footprint of the production along with short logistics chains make AP9 and AP10 boxes a more sustainable choice.

Type III Environmental Product Declarations (EPD) are published for AP45, AP9 and AP10 boxes for full transparency for environmental impacts across the product lifecycle.

We are now introducing colored AP9, AP10 and AP45 boxes. Boxes are produced using recycled material,* which reduces carbon footprint and saves natural resources, especially water.

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01 AP9/G - grey
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02 AP9M - black
—
03 AP9V - green
—
04 AP9R - red
—
05 AP10/G - grey
—
06 AP10M - black
—
07 AP45G - grey
—
08 AP45M - black

01   02   03   04

05   06   07   08

* Detailed information can be found in EPD.
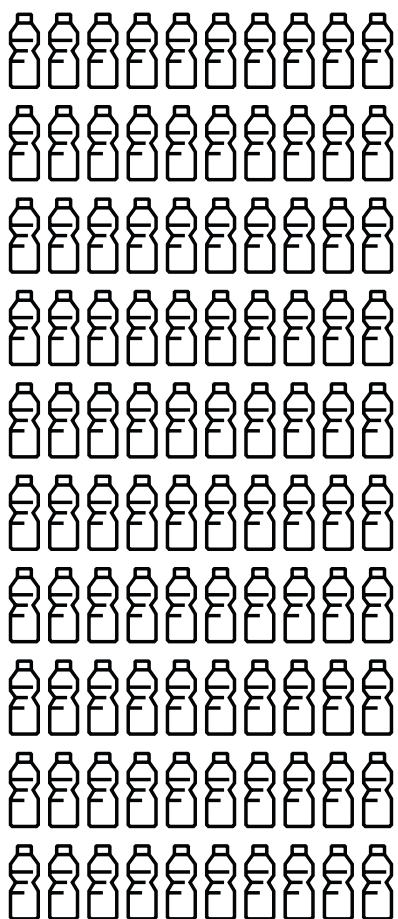
By using recycled plastic, we can save **90 liters** of water per box (AP9) and reduce the carbon footprint by **40%**.

We all want to live and work more sustainably

But to do this, you need reliable information about the products you buy. That's why ABB created **EcoSolutions**.

ABB

Eco
Solutions™

ABB EcoSolutions™ label guarantees that the product is designed and produced to follow the strict circularity guidelines set by ABB.

Our own EcoLabel helps us in our journey toward more sustainable products.

To help preserve the Earth's resources for future generations, ABB takes a company-wide approach to circularity. We aim to innovate toward new circular business models by cutting waste, increasing recyclability and reusability, and making our products more durable. We work closely with customers and suppliers to embed circularity across the value chain.

For our customers, the ABB EcoSolutions label is an assurance that, where relevant, the product they are buying is:

• designed to last and manufactured with the maximum amount of sustainably sourced raw materials.
• made with processes that are designed to avoid waste and maximize the use of sustainable packaging materials.
• designed to increase resource and process efficiency while in use, be upgradable, and optimize the lifetime of equipment and facilities.

Let's make conscious choices to build a more circular sustainable economy.

Colored junction boxes are certified with ABB EcoSolutions™ label
AP9, AP10 and AP45 colored junction boxes are certified with the ABB EcoSolutions™ label, which guarantees that the product is designed and produced to follow strict circularity guidelines set by ABB.

For a product to be eligible for the EcoSolutions label:

-It must comply with a minimum of 4 KPIs, one from each dimension, of the ABB Circularity Approach:

1. Design & Sourcing
2. Efficient operations
3. Optimized use phase
4. Responsible end of life

The product needs to comply with the Transparency requirement:
          a) If a Product Category Rule (PCR) exists for the assessed product, this product must have an Environmental Product Declaration (Type III environmental declarations ISO14025).
          b) If no PCR or PSR exists for the product, the Life Cycle Assessment (LCA) of the product must be documented, independently verified by a 3rd party and made to the customer as per the ISO 14040 standard, with similar impact categories available as in the PEP standard.

EcoSolutions product data is independently verified and can be assessed by scanning the ABB EcoSolutions label or visiting the product web page.

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Solutions™

For more information:
https://go.abb/eco-solutions

Product selection guide

Type:	AP45G	AP75	AP9	AP10	AP7	AP7.1
Description	Compact, with many features. Suitable for installations with limited space.	Compact box with many functionalities. Pull-out brackets make it easy to fix to the wall. There is a place for PCB, for example.	Basic junction box full of features.	When extra installation space is needed.	Screw-closed, suitable for special installations in premises such as parking garages.	Screw-closed with strain relief. Suitable for electrical installations of devices such as ovens and stoves.
Dimensions (WxLxH):	105x43x40 mm	75x75x38 mm	86x86x39 mm	104x104x48 mm	Ø 115 mm height 41 mm	Ø 115 mm height 74 mm
Enclosure class:	IP65	IP65	IP65	IP65	IP44	IP44
Number of inlets:	12	13	14	14	12	12
Installation temperature:	-25 – 60 °C	-15 – 60 °C	-25 – 60 °C	-25 – 60 °C	-15 – 60 °C	15 – 60 °C
Rated voltage:	500 V	450 V	500 V	500 V	400 V	400 V
Wire range:	2,5 mm²	2,5 mm²	2,5 mm²	6 mm²	6 mm²	6 mm²
Available colors:	RAL 7035 RAL 9011	RAL 9003	RAL 9003 RAL 7035 RAL 9011 RAL 3033 RAL 6000	RAL 9003 RAL 7035 RAL 9011	RAL 9003	RAL 9003

Due to the superior design and materials used in AP9 and AP10, boxes are protected against a cold environment and are suitable for use at temperatures as low as -25 °C.

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AP9 and AP10 junction boxes are manufactured using a two-component system and include 12 easily perforated membrane cable entries on the sides and two at the bottom.

Total 14 cable entries.
Three on each side (Ø 17 mm)
and two at the bottom Ø 19 mm

IP65 enclosure class

Mounting temperature
-25...+60 °C

Large space for wires
and connectors

Superior self-sealing membrane
cable entries

Quick snap-on cover
fastening

Sealing possibilities

The lid is reassembled
to the box at the
factory. It can be
removed manually
without any tools.

High-quality halogen-free
material

Specifications
AP9 (86x86x39 mm)

Available colors

Approved for -25°C
mounting temperature

Quick
snap-on
cover

Approved for IP65
enclosure class

The cover can be sealed
from two opposing corners

Includes 14 membrane cable entries, 3 on each side
(Ø 17 mm) and 2 at the bottom (Ø 19 mm). The entries
include markings for the maximum cable size.

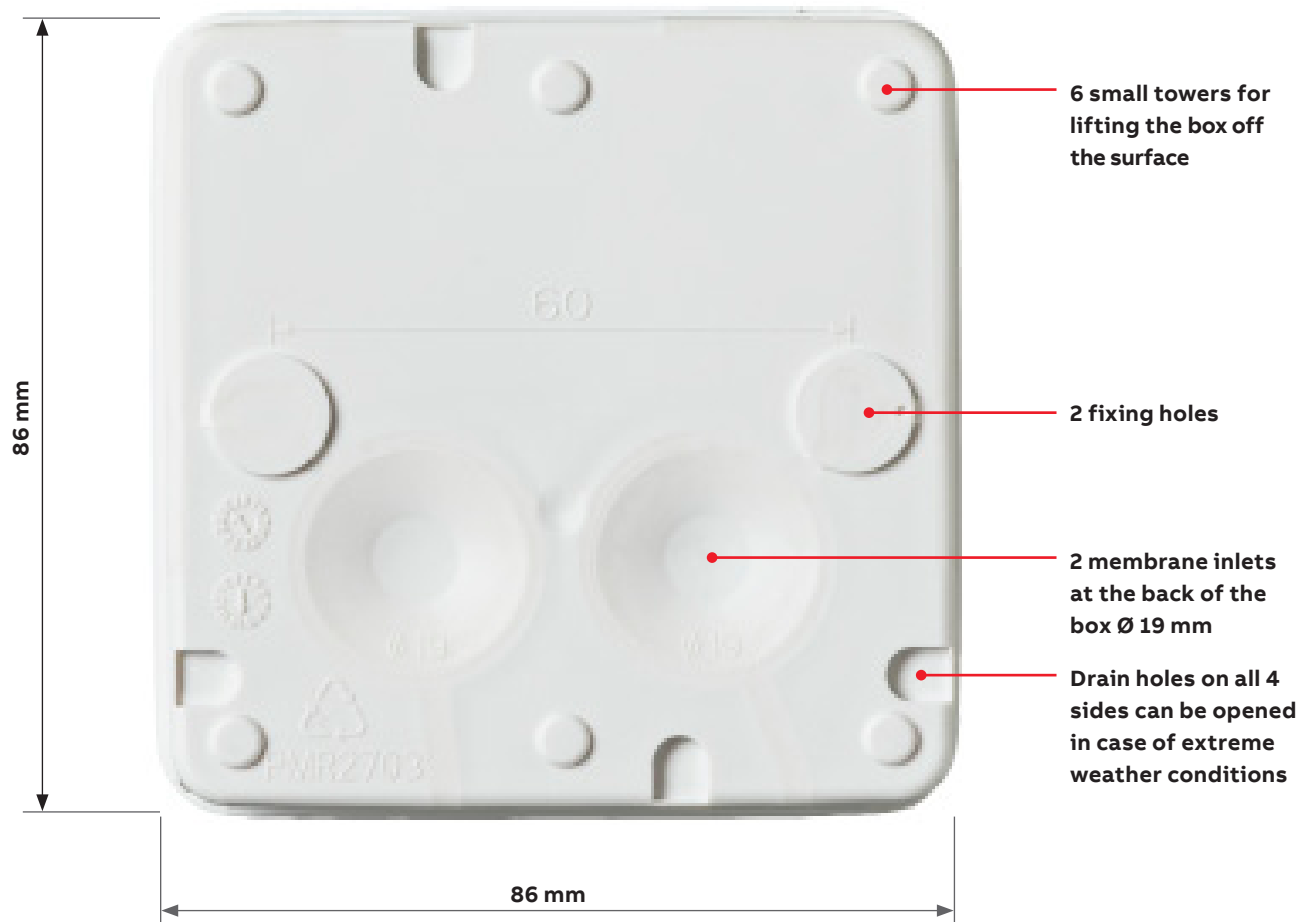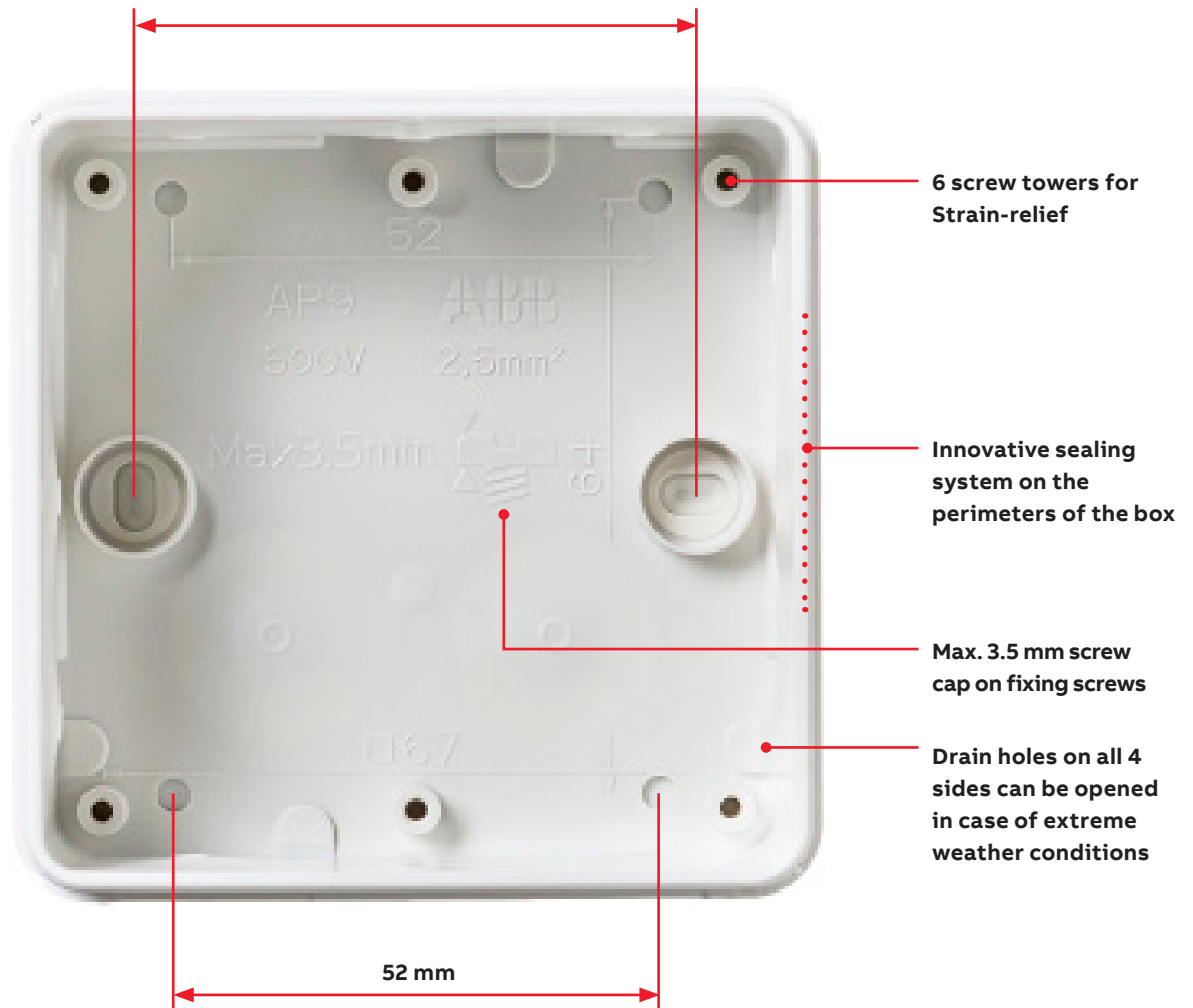|		1,5▢	2,5▢
Terminals Liittimia Klemmen Klammor		10	8
Conductors Johtimia Leiter Ledare		30	24
Anzahl der Klemmen		8	6
Anzahl der Leiter		24	20

AP9

C E

Cover markings
The max. number of terminals and conductors for the different cable
thicknesses can be found in the cover. Due to different testing procedures
between national certification companies (Fimko/ Semko/Demko and VDE), the
amount of terminals and wires are different. With AP9 box VDE approval, there
are fewer wires and terminals compared to Fimko/ Semko/Demko or Nemko.

60 mm
The distance between the mounting screws is 60 mm, which
means it can be attached straight onto a mounting box

**6 screw towers for
Strain-relief**

**Innovative sealing
system on the
perimeters of the box**

**Max. 3.5 mm screw
cap on fixing screws**

**Drain holes on all 4
sides can be opened
in case of extreme
weather conditions**

52 mm

**6 small towers for
lifting the box off
the surface**

2 fixing holes

**2 membrane inlets
at the back of the
box Ø 19 mm**

**Drain holes on all 4
sides can be opened
in case of extreme
weather conditions**

86 mm

86 mm

Specifications
AP10 (104x104x48 mm)

Available colors

Quick
snap-on
cover

Approved for -25°C
mounting temperature

Approved for IP65
enclosure class

The cover can be sealed
from two opposing corners

Includes 14 (Ø 19 mm) membrane cable entries.
3 on each sides and 2 at the bottom. The entries
include markings for the maximum cable size.

Cover markings

The max. number of terminals and conductors for the different cable
thicknesses can be found in the cover. Due to different testing procedures
between national certification companies (Fimko/ Semko/Demko and VDE), the
amount of terminals and wires are different. With AP10 box VDE approval, there
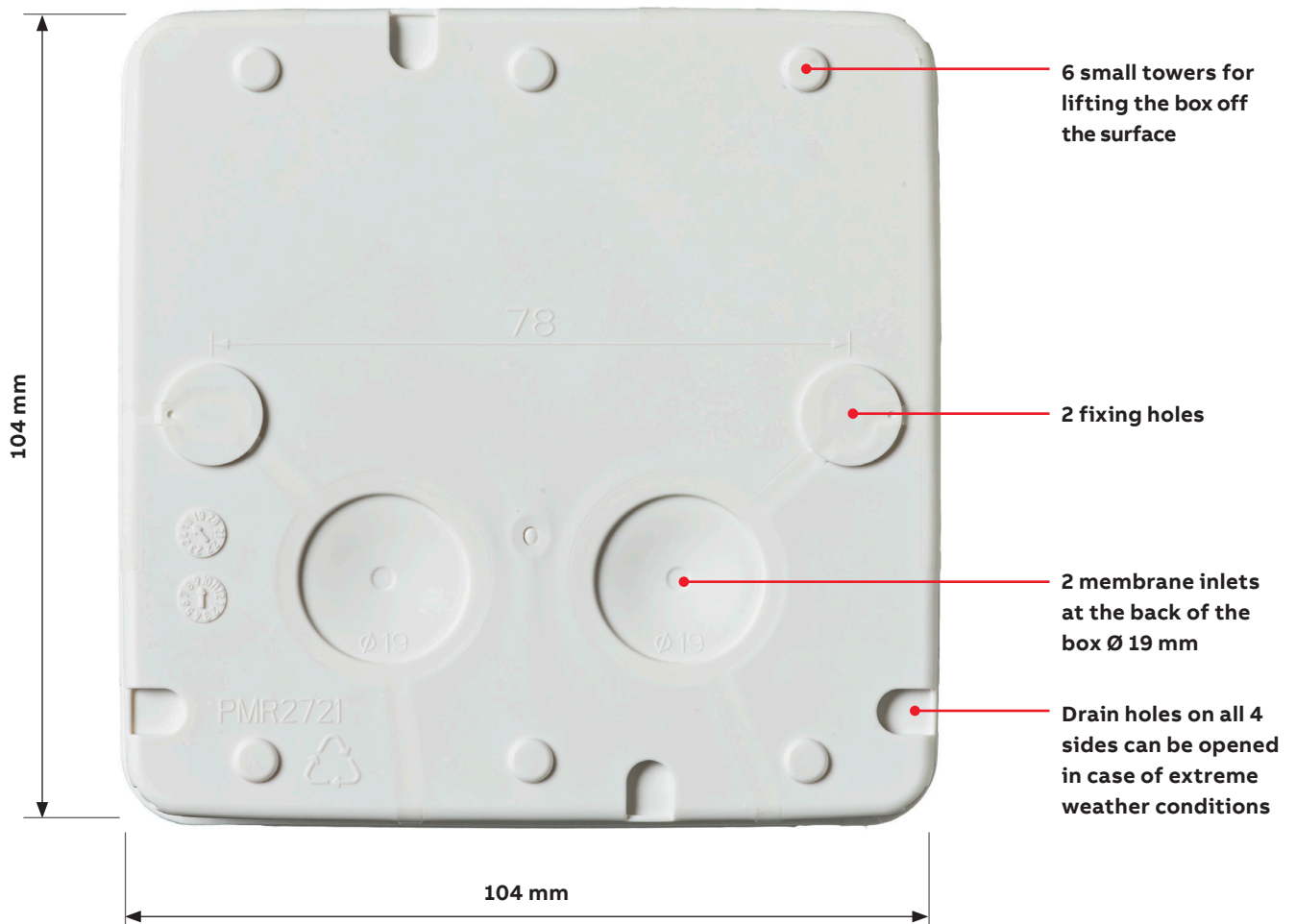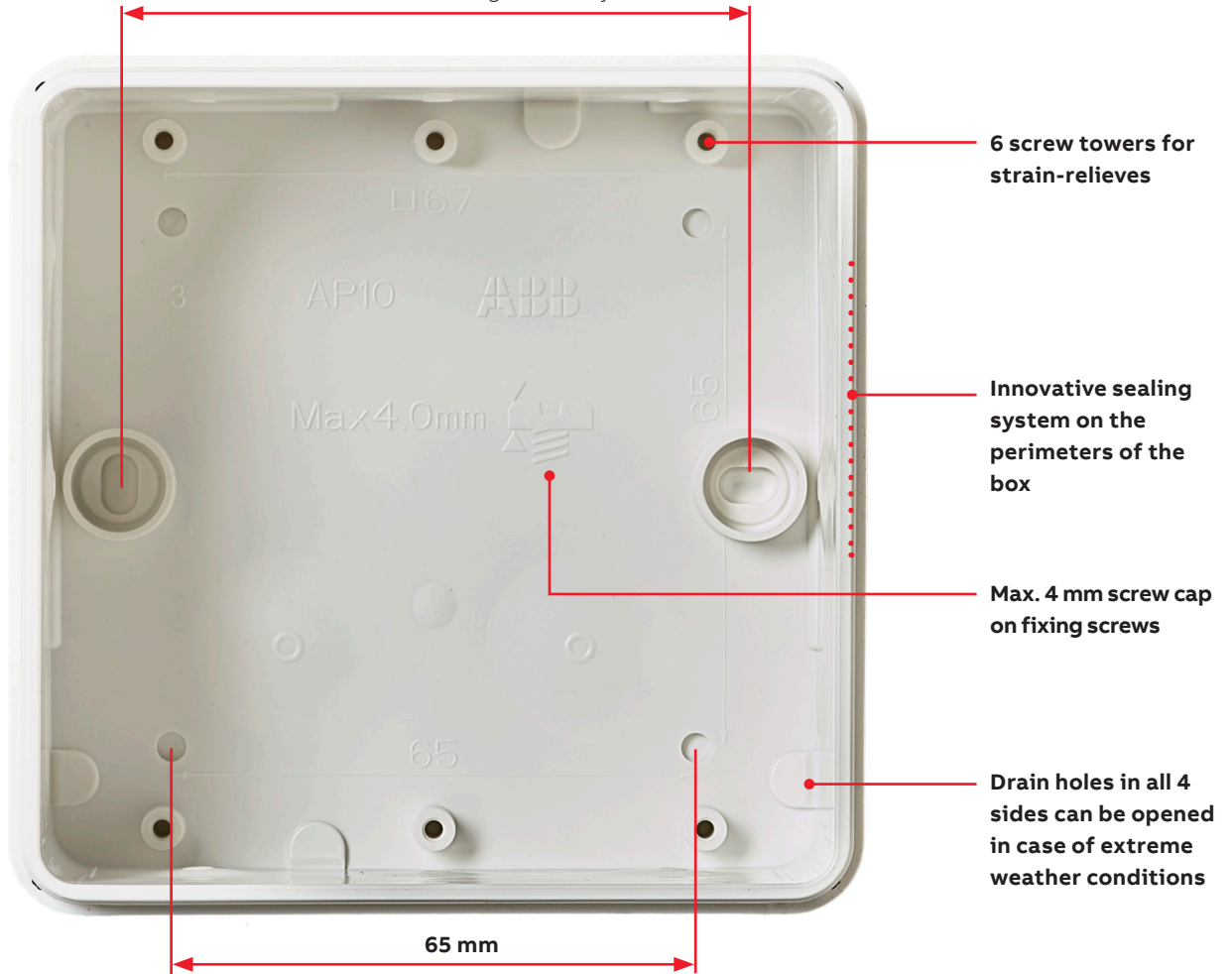are fewer wires and terminals compared to Fimko/ Semko/Demko or Nemko.

AP10

	1,5□	2,5□	4□	6□
Terminals Liittimia Klemmen Klammor	12	10	7	5
ConductorsJohtimia Leiter Ledare	60	40	25	20
Anzahl der Klemmen	10	8	6	5
Anzahl der Leiter	30	24	20	15

PMR2722   C €

78 mm
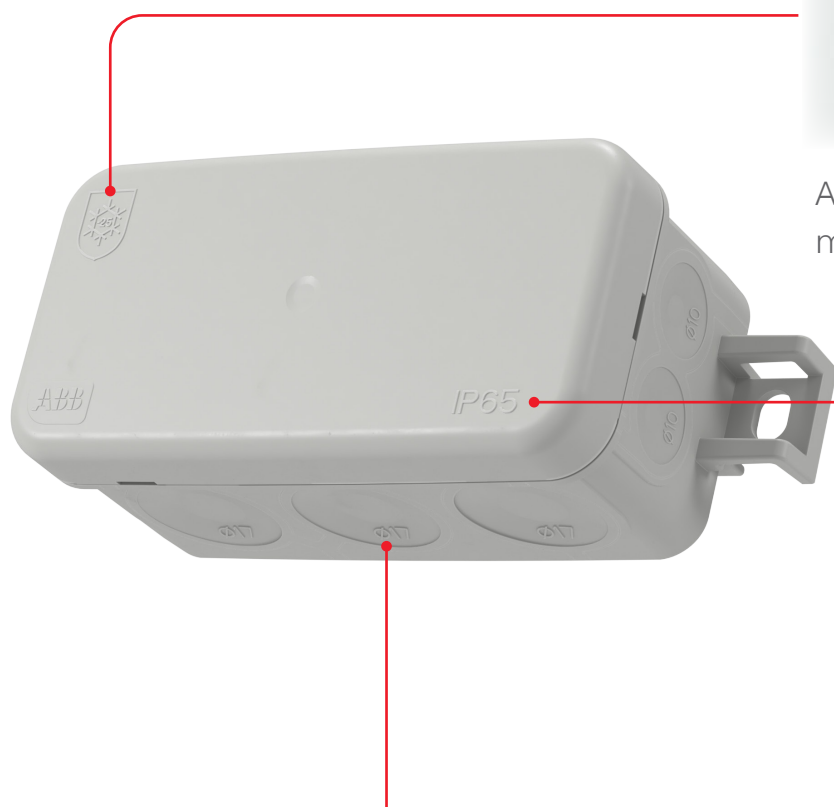The distance between the mounting screws is 78 mm, which
means it can be attached straight onto a junction box.

6 screw towers for strain-relieves

Innovative sealing system on the perimeters of the box

Max. 4 mm screw cap on fixing screws

Drain holes in all 4 sides can be opened in case of extreme weather conditions

65 mm

6 small towers for lifting the box off the surface

2 fixing holes

2 membrane inlets at the back of the box Ø 19 mm

Drain holes on all 4 sides can be opened in case of extreme weather conditions

104 mm

104 mm

Specifications
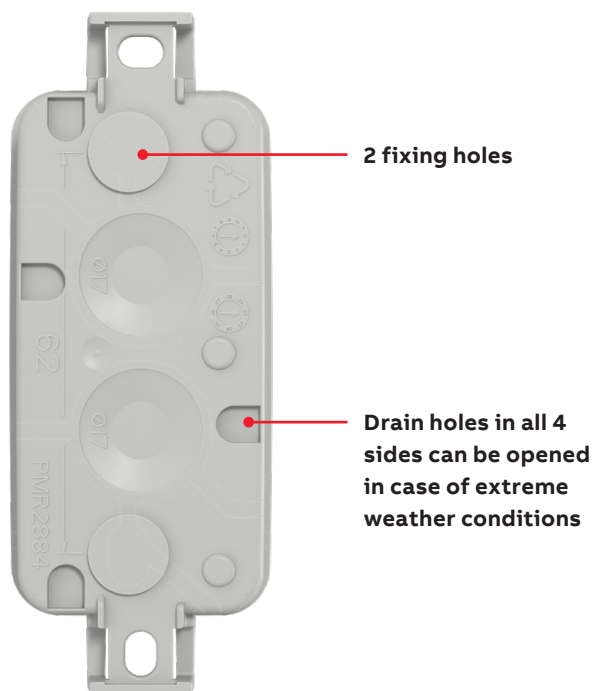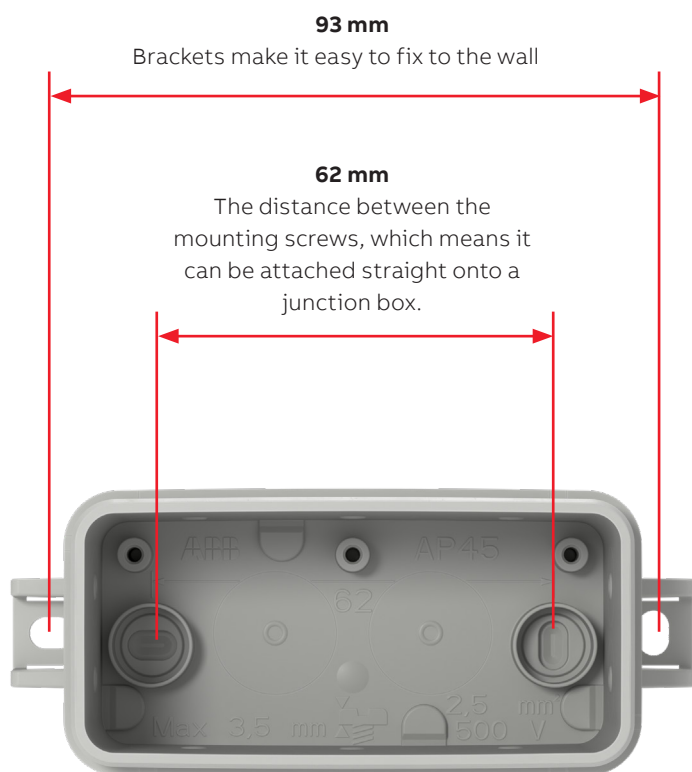## AP45 (105x43x40 mm)

Available colors

Approved for -25°C
mounting temperature

Approved for IP65
enclosure class

Includes 12 membrane cable entries:
- 6 pcs on the sides (for max. Ø 17 mm cables)
- 4 pcs at the ends (for max. Ø 10 mm cables)
- 2 pcs at the bottom (for max. Ø 17 mm cables)

93 mm
Brackets make it easy to fix to the wall

62 mm
The distance between the mounting screws, which means it can be attached straight onto a junction box.

2 fixing holes

Drain holes in all 4 sides can be opened in case of extreme weather conditions

Sturdy structure with innovative two component technology
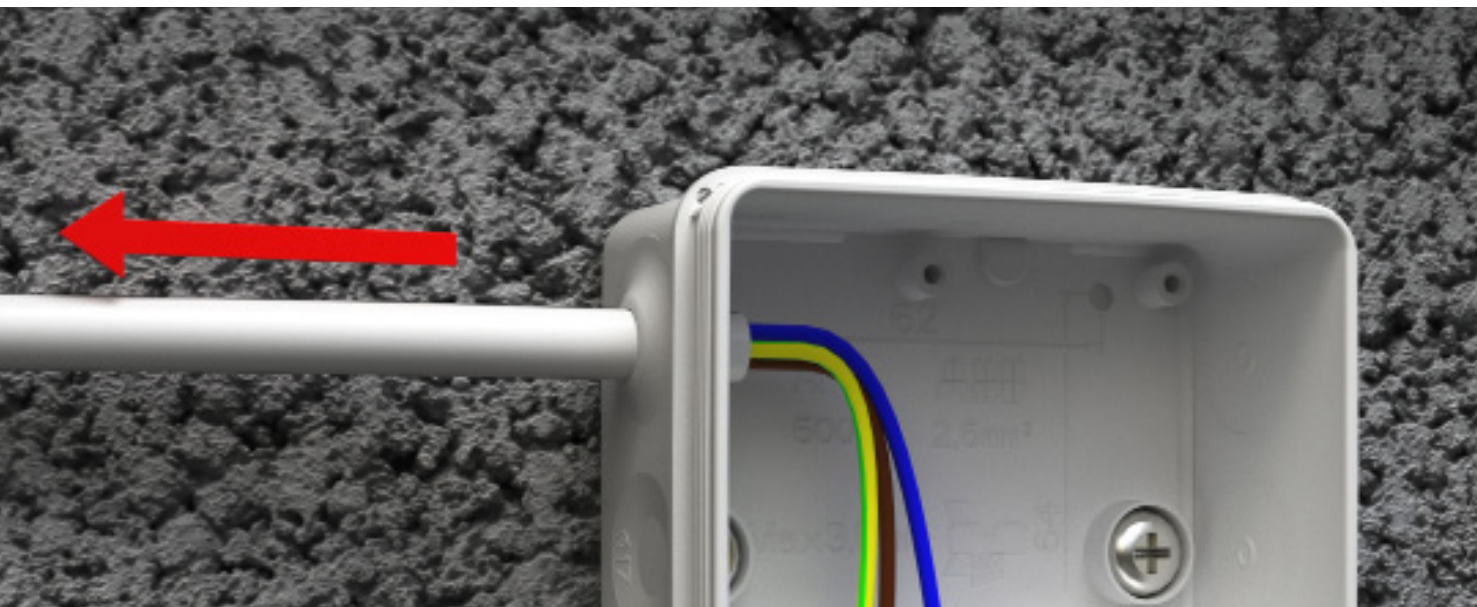## For proper classification

The installation of surface-mounted junction boxes is simple and quick. The two-component boxes include easily perforated knockouts on all sides. Simultaneously, the knockout membranes operate as gaskets.
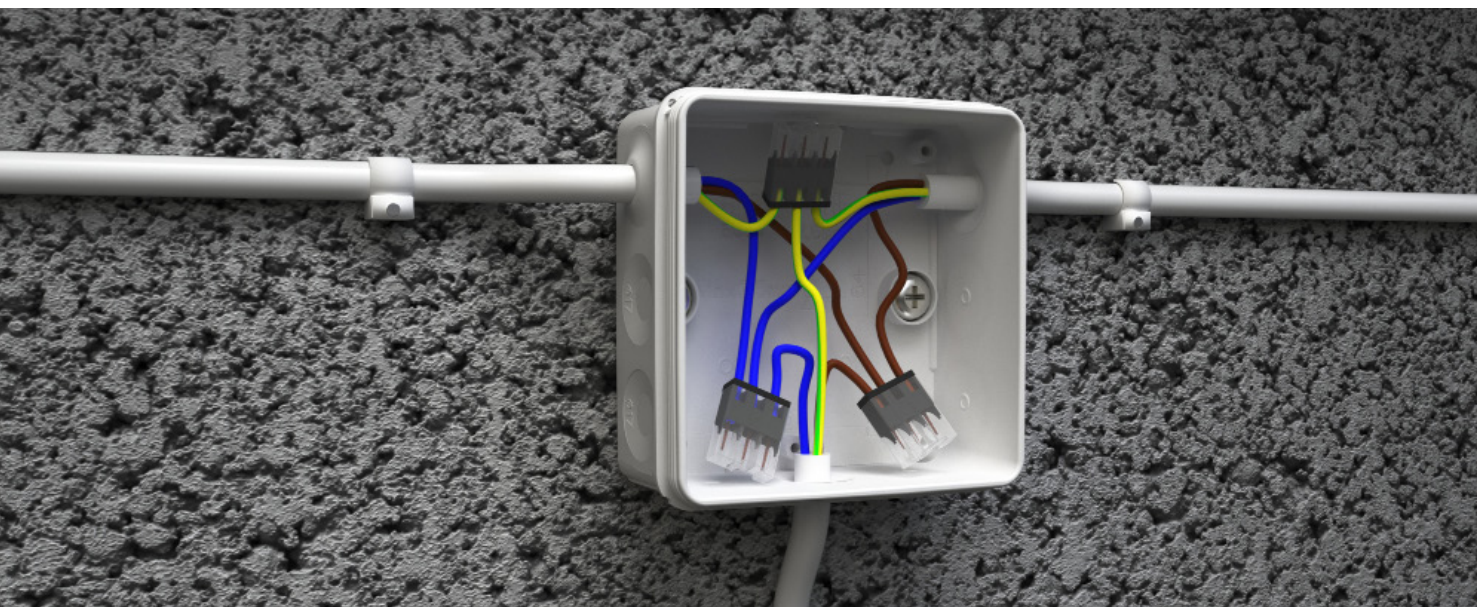

Open entries with a screwdriver or cable.
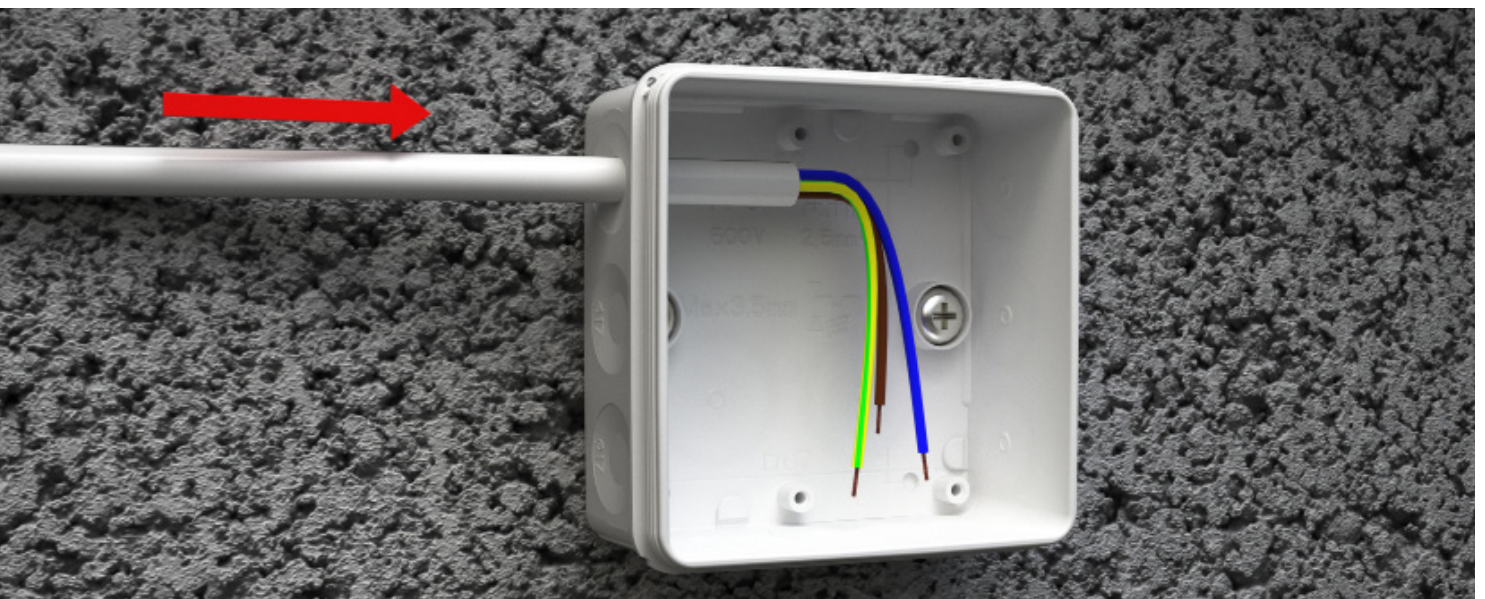
Pull cable into box.

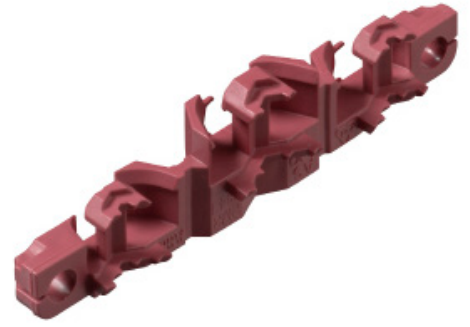Pull cable back to seal entry. Box enclosure class IP65.

Large space for wires and connectors.

Quick snap-on cover fastening. No screws are needed. The lids can be sealed.

Strain-relief AS9.10
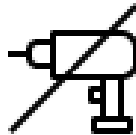## Screwless, faster and cost-effective solution.

Thanks to this innovative solution, no screws or tools are needed to make a strain-relief for the cable. The cable is secured with a cable tie, making installation easy and saving installation time. For junction boxes AP9, AP10 and AP45.

Saves time   **No tools are needed**   **Cost-effective**

The strain-relief have's three slots for cables. It can be used with a wide range of cable diameters, as well as with flat thin installation cable.
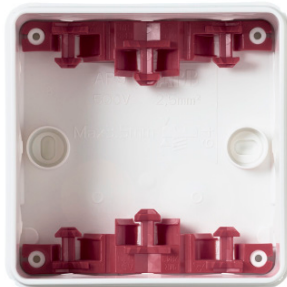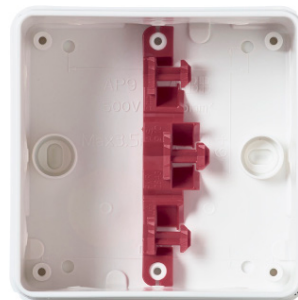
Installation methods:

Installation with one strain-relief

Two strain-reliefs can be used on the opposite sides of the box with AP9 and AP10 boxes.

In the middle.

Installation
Attach the strain-relief to the junction box, push the cable through the membrane inlet. Attach the cable tie around the cable and strain-relief.
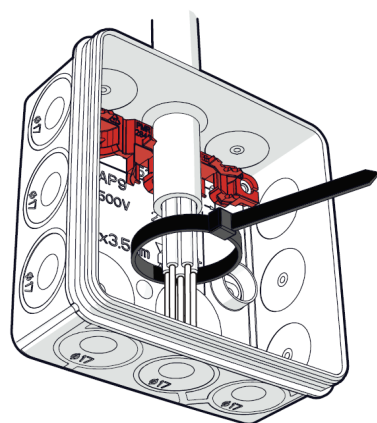
Make sure that the cable tie is secured around the strain-relief before tightening the cable tie. When the cable tie has been tightened and the installation is complete, make sure that the strain-relief is secured by pulling firmly at the cable in an outward direction.
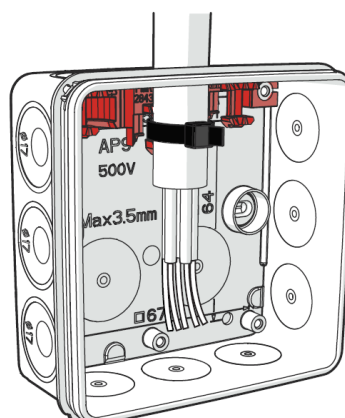
Surface-mounted junction boxes

Junction box 105x43mm, IP65
AP45 is equipped with 8 self-sealing membrane cable entries for cables up to Ø 17 mm and 4 for cables up to Ø 10 mm. The membranes enable easy cable installation by simply inserting the stripped ends through the inlets. The box can be furnished with the strain-reliefs AS9.10.

Type	Colour	EAN	Description	Package
AP45G		6438199012575	Surface-mounted junction box, IP65, 85 x 43 mm, grey	24/240
AP45M		6438199012582	Surface-mounted junction box, IP65, 85 x 43 mm, black	24/240

Junction box 86 x 86 mm, IP65
The square junction box AP9 (2.5 mm², 500 V, IP65) is equipped with 12 membrane cable entries (Ø17 mm) in the sides, and two (Ø19 mm) in the bottom. Cables are easy to connect by simply inserting the stripped ends through the inlets. The box locks by snapping and can be opened by inserting a screwdriver into the opening slots - no screws are needed. The box can also be sealed. The box can be furnished with the strain-reliefs AS9.10, AS9, AS9.1 and AS9.3. Fits Ø6-15.5 mm cable. VDE-approved. Mounting temperature is -25... +60 °C. Made of halogen-free material (IEC/61249-2-21).

Type	Colour	EAN	Description	Package
AP9		6410016125095	Surface-mounted junction box, IP65, 86 x 86 mm, white	5/50
AP9/G		6410016125088	Surface-mounted junction box IP65, 86 x 86 mm, grey	5/50
AP9M		6418677329906	Surface-mounted junction box, IP65, 86 x 86 mm, black	5/50
AP9V		6438199003177	Surface-mounted junction box, IP65, 86 x 86 mm, green	5/50
AP9R		6438199003184	Surface-mounted junction box, IP65, 86 x 86 mm, red	5/50

Junction box 104 x 104 mm, IP65
The square junction box AP10 (6.0 mm², 500 V, IP65) is equipped with 14 membrane cable entries (Ø19 mm), three on each sides, and two in the bottom. Cables are easy to connect by simply inserting the stripped ends through the inlets. The box locks by snapping and can be opened by inserting a screwdriver into the opening slots - no screws are needed. The box can also be sealed. The box can be furnished with the strain-reliefs AS9.10, AS9, AS9.1 and AS9.3. Mounting temperature is -25... +60 °C. Made of halogen-free material (IEC/61249-2-21)

Type	Colour	EAN	Description	Package
AP10		6410016125101	Surface-mounted junction box, IP65, 104 x 104 mm, white	5/30
AP10/G		6418677307287	Surface-mounted junction box, IP65, 104 x 104 mm, grey	5/30
AP10M		6438199008158	Surface-mounted junction box, IP65, 104 x 104 mm, black	5/30

Strain-relief for 3 cables, Ø 6 – 17 mm
Junction boxes AP9, AP10 and AP45 can be furnished with the strain-relief AS9.10 for 3 cables.
AP9: 3x 6 - 17 mm. AP10: 1x 6 - 19 mm (middle) and 2x 6 - 12mm (sides). AP45: 3x 6 - 17 mm. It can also be used with 3 flexible connecting cables H03VVH2-F 2x0,75. Strain relief is done with help of cable tie (not included). Two strain-reliefs can be used in opposite sides the box with AP9 and AP10, or crosswise in AP9 boxes.

Type	EAN	Description	Package
AS9.10	6438199005355	Strain-relief for 3 cables, Ø6–17 mm	10/100

Junction box 60 x 60 mm, IP20
The box is equipped with an insulated 5-way connector. The maximum wire size per connector is 4 x 2.5 mm² or 6 x 1.5 mm². The box has 6 knock-outs at the side and 2 in the bottom. Made of halogen-free material (IEC/61249-2-21).

Type	EAN	Description	Package
AP6	6410016020062	Junction box IP20, white, 60 x 60 mm	10/100
AP6.2	6418677308055	Junction box, grey, 60 x 60 mm, incl. connector	10/100

Junction box 59 x 79 mm, IP20

The AP12 junction box has two 3-pole insulated 6 mm² connectors. The base plate offers a choice of eight different connection points for the connectors. There are three knock-outs in the bottom of the box. The cover has knock-outs in the corners and on the long sides of the cover. The maximum wire capacity per connector is 8 x 1.5 mm² or 5 x 2.5 mm².

Type	EAN	Description	Package
AP12	6410016020123	Junction box IP20, 59 x 79 mm,	10/50
AP12.1	6418677301452	Junction box IP20, 59 x 79 mm, without connectors	10/50

Surface-mounted junction box 75 x 75 mm, IP65

The AP75 junction box (2.5 mm², 400 V, IP65) is equipped with fixed, two-component membrane lid cable entries, 10 in the sides and three on the bottom. It has a stiff frame. Suitable for cables up to Ø18. The locks box by snapping and can be opened by inserting a screwdriver into the opening slots. Pull-out brackets make it possible to mount it to a conductive base. The box can also be sealed. Mounting temperature -15... +60 °C. Made of halogen-free material (IEC/61249-2-21).

Type	EAN	Description	Package
AP75	6410016125200	Surface-mounted junction box, white 75 x 75 mm	5/50
Accessory			
AS12.3	6410016125217	Strain relief, Ø8 - 12, for junction box AP75	10/250

Junction box Ø115 mm, IP44

The round junction box AP7 (2.5 mm², 400 V, IP44) is similar to the AP9 and the AP10 is equipped with 10 membrane cable entries (Ø17 mm)at the sides and two in the bottom. Cables are easy to connect by simply inserting the stripped ends through the inlets. The cover is locked with two screws at distance of 78 mm. The box can be furnished with strain-reliefs AS9, AS9.1 and AS9.3. Made of halogen-free material (IEC/61249-2-21).

Type	EAN	Description	Package
AP7	6410016125170	Junction box, IP44, Ø115 mm, white	5/50

Junction box Ø115 mm, with connection cover, IP44

The round, dual-component connection box AP7.1 (2.5 mm², 400 V, IP44) is equipped with 10 membrane cable entries (17 mm) and two in the bottom. The cover of the box is equipped with three membrane seals (one Ø20 mm and two Ø16 mm) and with three strain-reliefs.

Type	EAN	Description	Package
AP7.1	6410016125187	Junction box with connection cover, IP44, Ø115 mm, white	50

Strain-relief and connector

The junction boxes AP7, AP9 and AP10 can be furnished with the strain-relief AS9 for Ø 6 - 19 mm cables. The strain-relief AS9 has a 5-pole connector (2,5 mm²). The maximum wire capacity per connector is 4 x 2,5 mm² or 6 x 1,5 mm².

Type	EAN	Description	Package
AS9	6410016125903	Strain-relief and connector, for 1 cable, Ø 6 – 19 mm	1 / 50

Strain-reliefs

The junction boxes AP7, AP9 and AP10 can be furnished with the strain-relief AS9.3 for three cables Ø 6-13,5 mm or the strain-relief AS9.1 for one cable Ø 10,5-20 mm.

Type	EAN	Description	Package
AS9.1	6410016125927	Strain-relief for 1 cable, Ø 10,5 – 20 mm	1 / 50
AS9.3	6410016125910	Strain-relief for 3 cables, Ø 6 – 13,5 mm	1 / 50

ABB

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