

Aluminium
Typ CA



Polycarbonat
Typ CT



ABS
Typ CT



Polyester
Typ CP



Standard enclosures BERNSTEIN AG



- Enclosure for high mechanical strength
 - High corrosion and impact
 - resistance due to high quality
- powder coating Standard in RAL 7001
- IP 66 rated
- IP 67 on request
- Material:
 - Aluminium pressure die- casting or gravity diecasting
- Seal
 - Neoprene (CR) round cord (silicone- free)
 - alternatively: silicone round cord, EPDM round cord
- Temperature range of CA enclosures, standard powder-coated finish
 - -30°C to +80°C
- Temperature range of seals
 - -30°C to +80°C (Neoprene seal) alternatively:
 - -60°C to +130°C (silicone seal) -35°C to +100°C (EPDM seal))



Aluminium empty enclosure for connecting electrical, pneumatic and / or mechanical parts

- These empty enclosures are intended for encapsulating electrical, pneumatic and / or mechanical parts and to protect them against external influence such as liquids, dust, solids and physical impact.
- These empty enclosures can only be used in indoor application with a rated voltage of no more than 1000V AC or 1500V DC for general applications.
- In cases of planned outdoor installations, suitable protective measures must be taken to protect against; excessive weather conditions including; condensation, driving rain, hail, snow, sand and UV radiation.



Technical data Aluminium enclosures CA



Protection classes

IP-code	IP66	EN 60529
IP-code	IP67	EN 60529
IK-code	IK09	IEC 62262

Material

Enclosure	EN AC-ALSi12Cu1(Fe) EN AC-47100	DIN EN 1706:05/98	Aluminium pressure die-casting Alloy 231
Screws	A2-50	DIN EN ISO 3506-1	Cover screws
Gasket	PUR (Polyurethan)		Colour: dark grey, 2-component polyurethane foam seal


Toxic behaviour halogen-free

Temperature range

Enclosure without a seal	-30 °C bis +80 °C		Standard powder-coated enclosure
PUR-seal	-40 °C bis +100 °C		
Ambient temperature Indoor application	-5°C bis +40°C	DIN EN 62208	On the average over 24h +35°C
Thermal conductivity value	8,76 K/W		taking account of effective dissipation loss
Relative humidity			
Indoor application	max. 50% bei +40°C	DIN EN 62208	with low temperatures also higher (for ex. 90% at +20°C)
Storage temperature	-20°C bis +60°C		

Technical data Aluminium enclosures CA



Corrosion resistance	Severity level A	DIN EN 62208/9.13.2.1	IEC 60068-2-30 and IEC 60068-2-11
Corrosion resistance	Severity level B	DIN EN 62208/9.12.2.1	IEC 60068-2-30 and IEC 60068-2-11
Protection class	I	EN 61140 / VDE 0140-1	 Protection by protective conductor
Rated voltage	max. 1000 V (AC) max. 1500 V (DC)		
More details:			
General tolerance	GTA 13/5	DIN 1688	Cast part tolerances
General tolerance	mH	ISO 2768	Machining tolerances
Product standard	Yes	DIN EN 62208	Empty enclosures for low-voltage switchgear assemblies
Approvals			
c UL us	Yes	UL508A / C22.2	Typ 1, 4, 4x, 12, 13
Compliances			
RoHs	compliant	Directive 2011/65/EU	
CE label	compliant	EG-Nr. 765/2008	
Low-Voltage-Directive No.:	2014/35/EU		

Technical data Aluminium enclosures CA



Other versions CA-140

Description of the modification compared with the standard version	Article number
HF seal and cover screws	114008000
Unwashed, not painted, loose accessories	1140080000
CR gasket	upon request
UV-resistant powder (outdoor installation)	upon request
Packed in cartons (screwed-in cover screws)	upon request

Technical data Aluminium enclosures CA



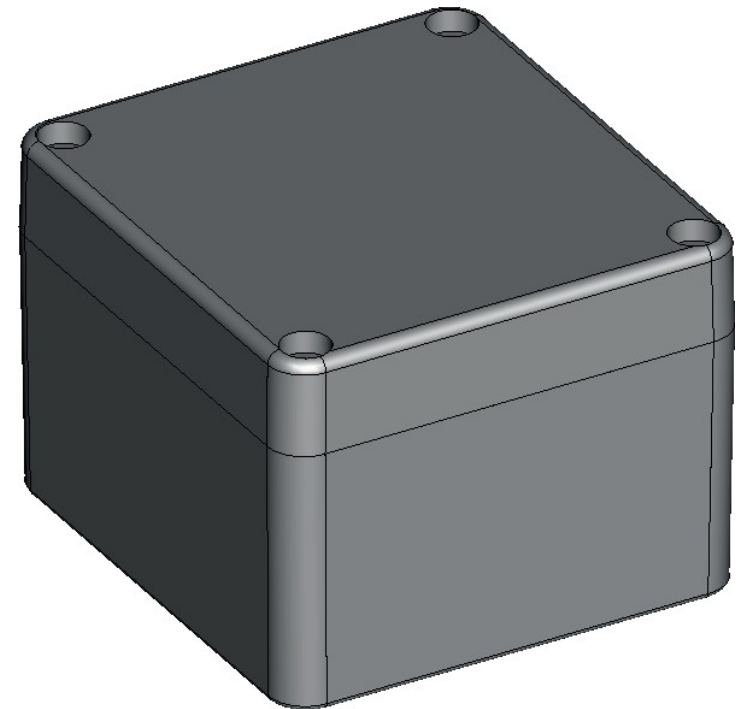
<i>Alternative seals</i>			
Specification	Value	According to the standard	Remark
Thermal properties:			
CR gasket	-30 °C bis +80 °C		IP66
Silicone foam seal	-60 °C bis +130 °C		IP66 / IP67
Silicone complete seal	-60 °C bis +200 °C		IP66 / IP67
EPDM seal	-35 °C bis +100 °C		IP66
HF seal	-55 °C bis +125 °C		upon request

Aluminium enclosures

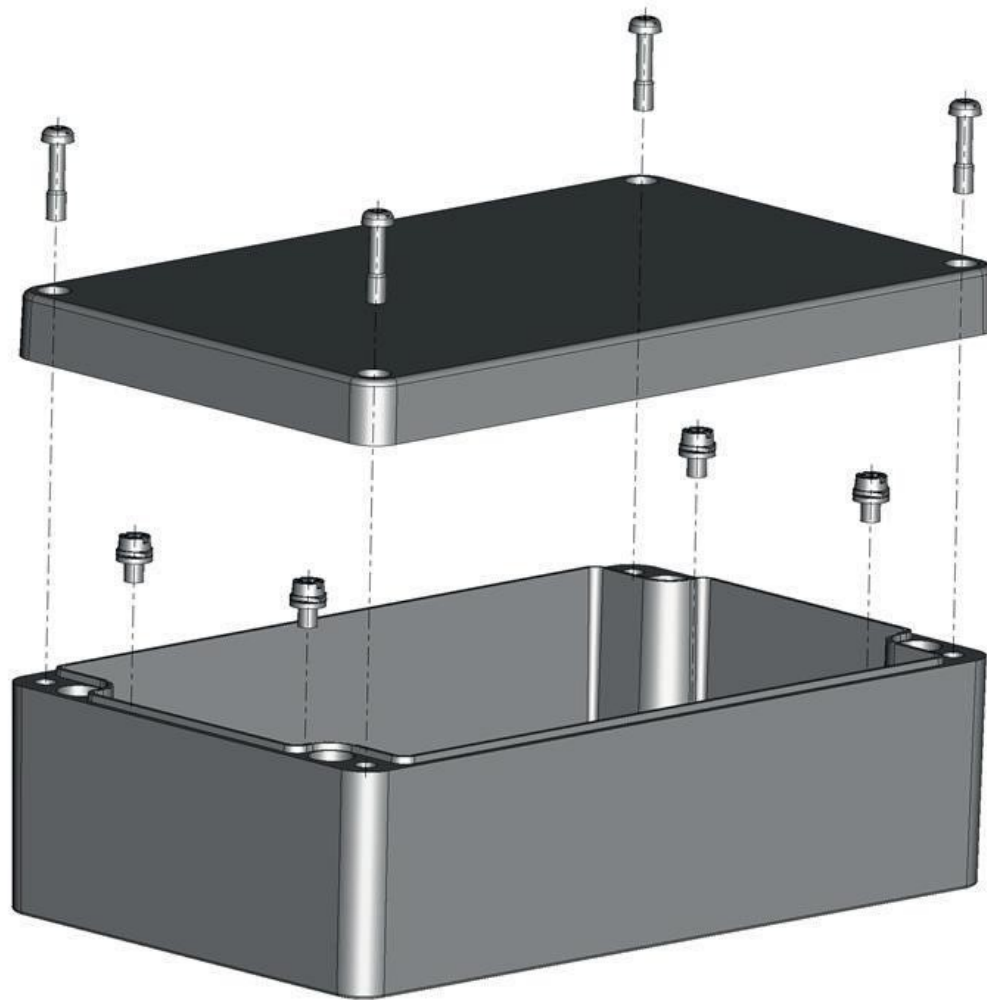


Scope of supply:

- Base of enclosure
- Enclosure cover
- Cover screws (cross recessed head) enclosed loosely
- Earthing screws in the lower part and in the cover
- Colour RAL 7001 (silver grey)
- Cover gasket PUR (polyurethane)
- Individually packaged in foil

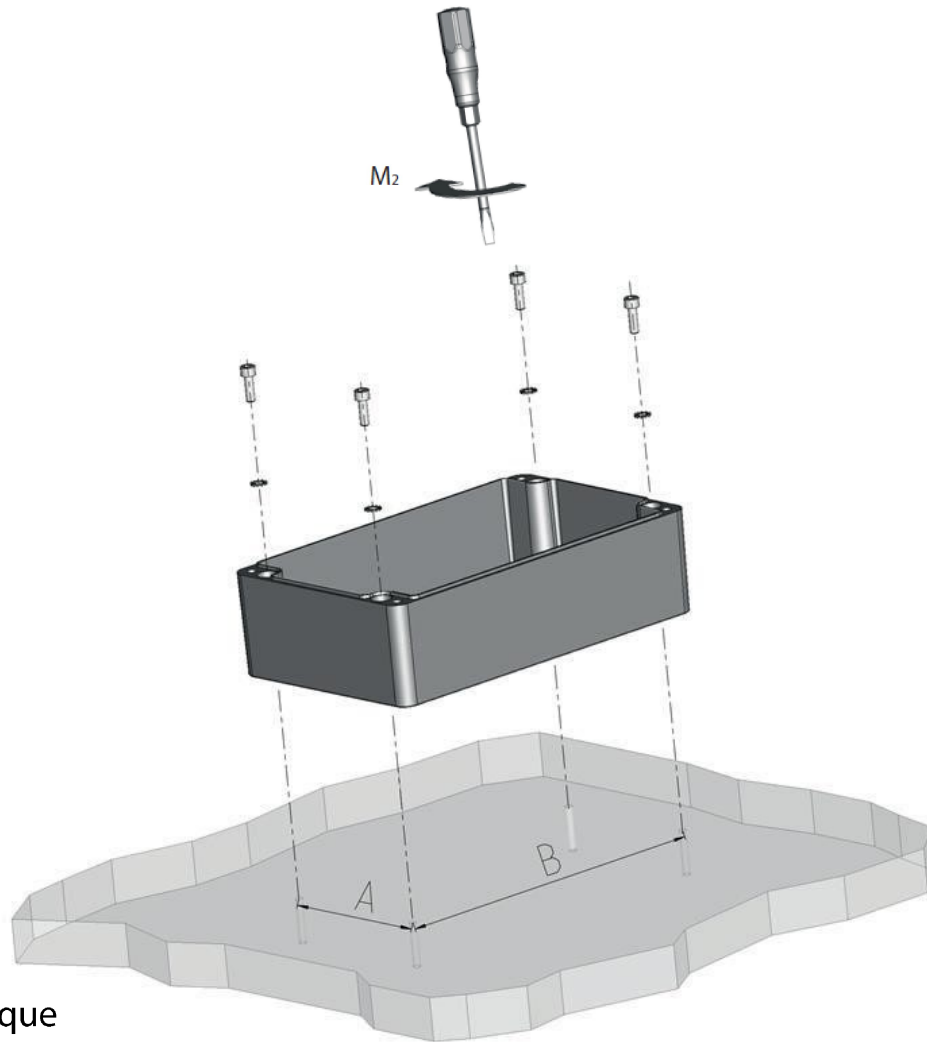


Basic construction of an enclosure



- Cover screw
- Cover
- Earthing screw
- Lower section of the enclosure

Installation of an enclosure

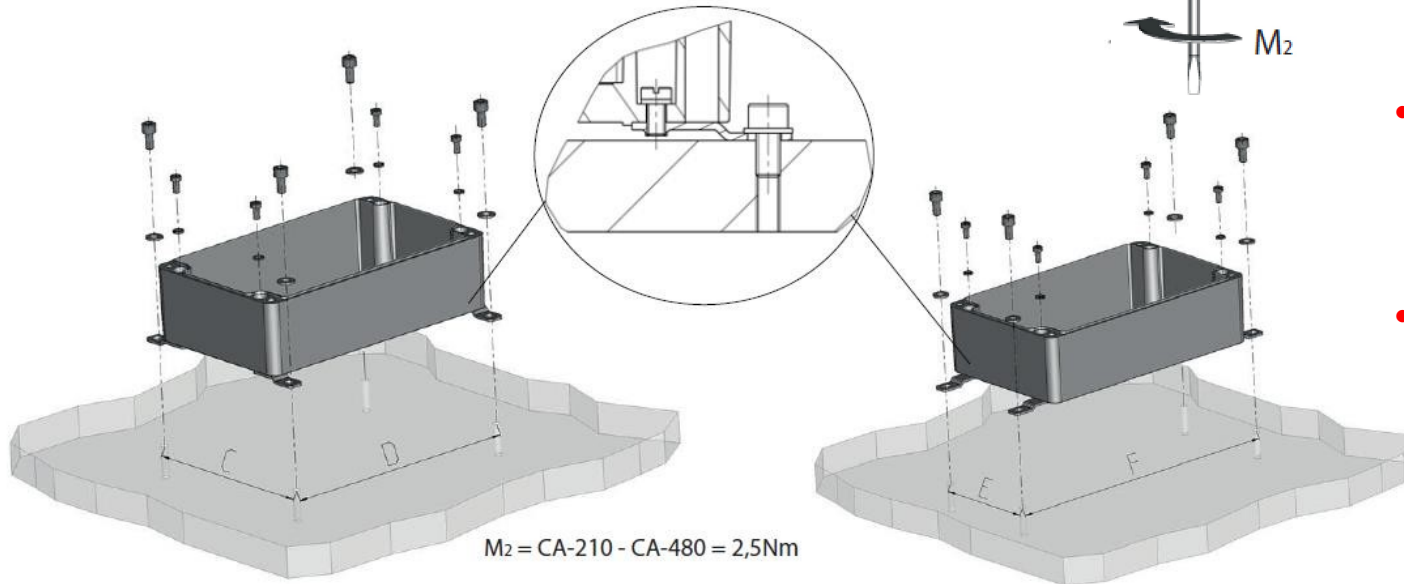


- Fixing by means of screw channels
- $M2 = CA-020 - CA-480 = 2,5Nm$

Gehäusotyp/ Enclosure type / Type du boîtier	Lochmaß A/ Hole dimension A/ Dimensions de l'ouverture A	Lochmaß B/ Hole dimension B/ Dimensions de l'ouverture B	Durchgangsloch/ Through hole/ Perçage traversant
CA-020	35	40	ø 4,4
CA-060	36	46	ø 4,4
CA-080	36	86	ø 4,4
CA-100	36	138	ø 4,4
CA-130	52	63	ø 4,4
CA-140	52	63	ø 4,4
CA-150	52	113	ø 4,4
CA-160	52	113	ø 4,4

M" in Nm = torque

Installation of an enclosure

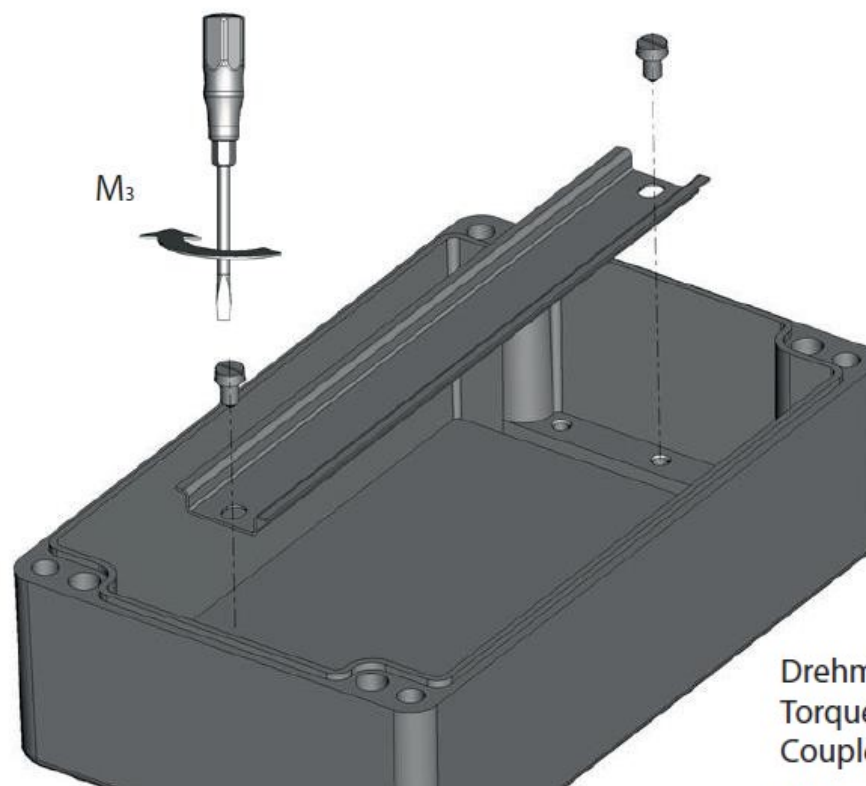
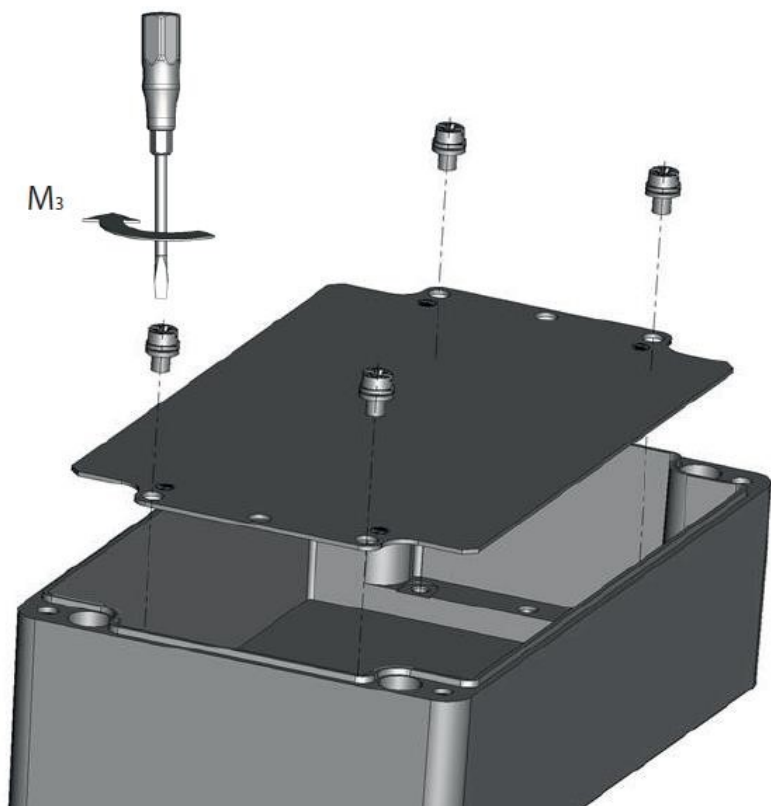


- Fixing by means of external mounting brackets
- $M_2 = CA-210 - CA-480 = 2,5Nm$

M" in Nm = torque

Gehäusotyp / Enclosure type / Type du boîtier	Lochmaß C / Hole dimension C / Dimensions de l'ouverture C	Lochmaß D / Hole dimension D / Dimensions de l'ouverture D	Lochmaß E / Hole dimension E / Dimensions de l'ouverture E	Lochmaß F / Hole dimension F / Dimensions de l'ouverture F	Durchgangsloch / Through hole / Perçage traversant
CA-210	82	177	153	106	ø 8,5
CA-215	82	177	153	106	ø 8,5
CA-220	82	177	153	106	ø 8,5
CA-230	82	275	153	204	ø 8,5
CA-235	82	275	153	204	ø 8,5

Fixing of mounting plates, mounting rails, earthing bars, terminals

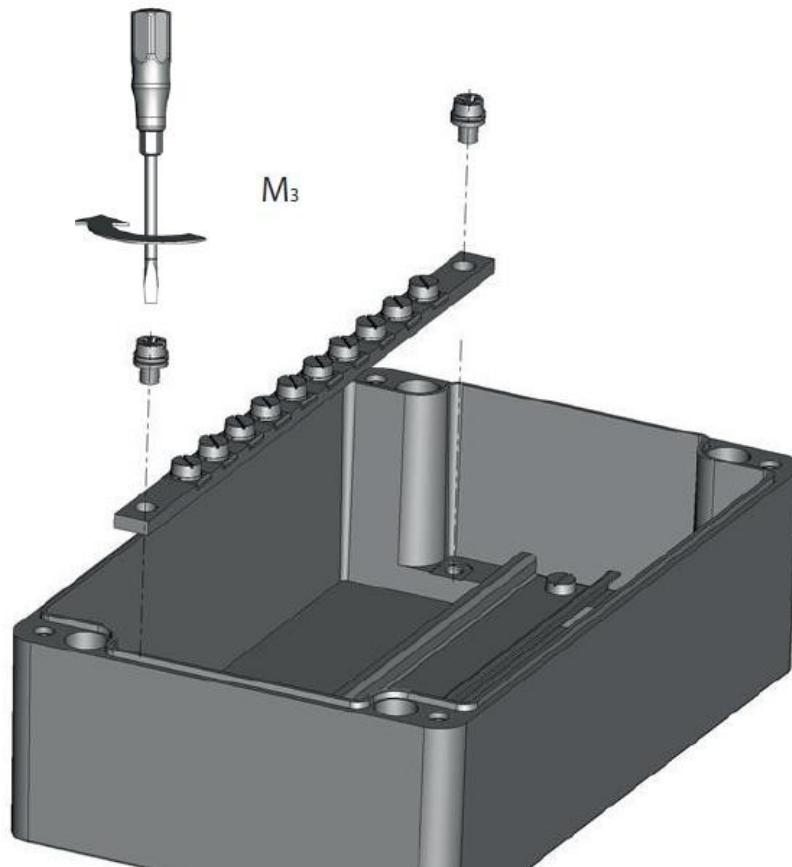


Drehmomente /
Torques /
Couples

"M3" = 2,0 Nm CA- 060 bis CA - 190

"M3" = 2,5 Nm CA -210 bis CA - 480 /

Fixing of mounting plates, mounting rails, earthing bars, terminals

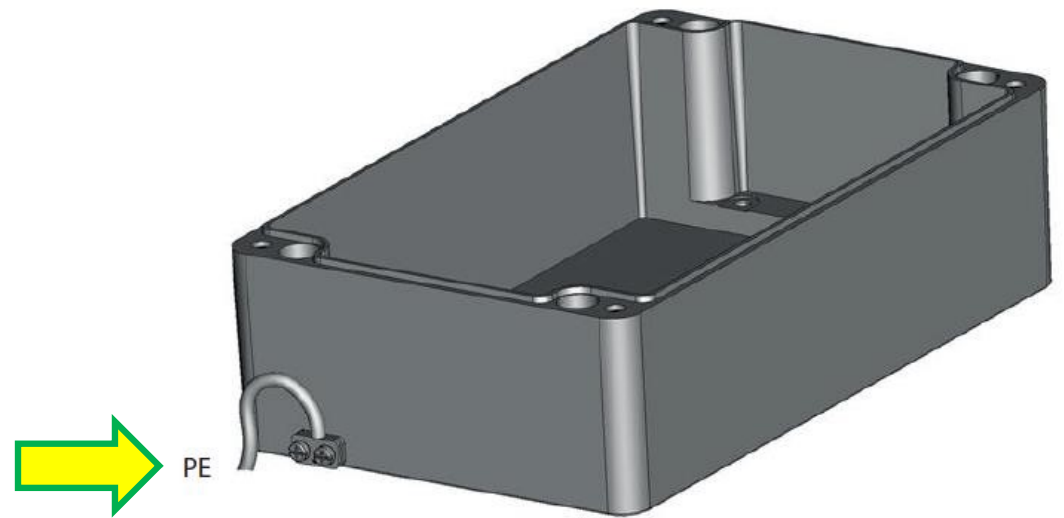
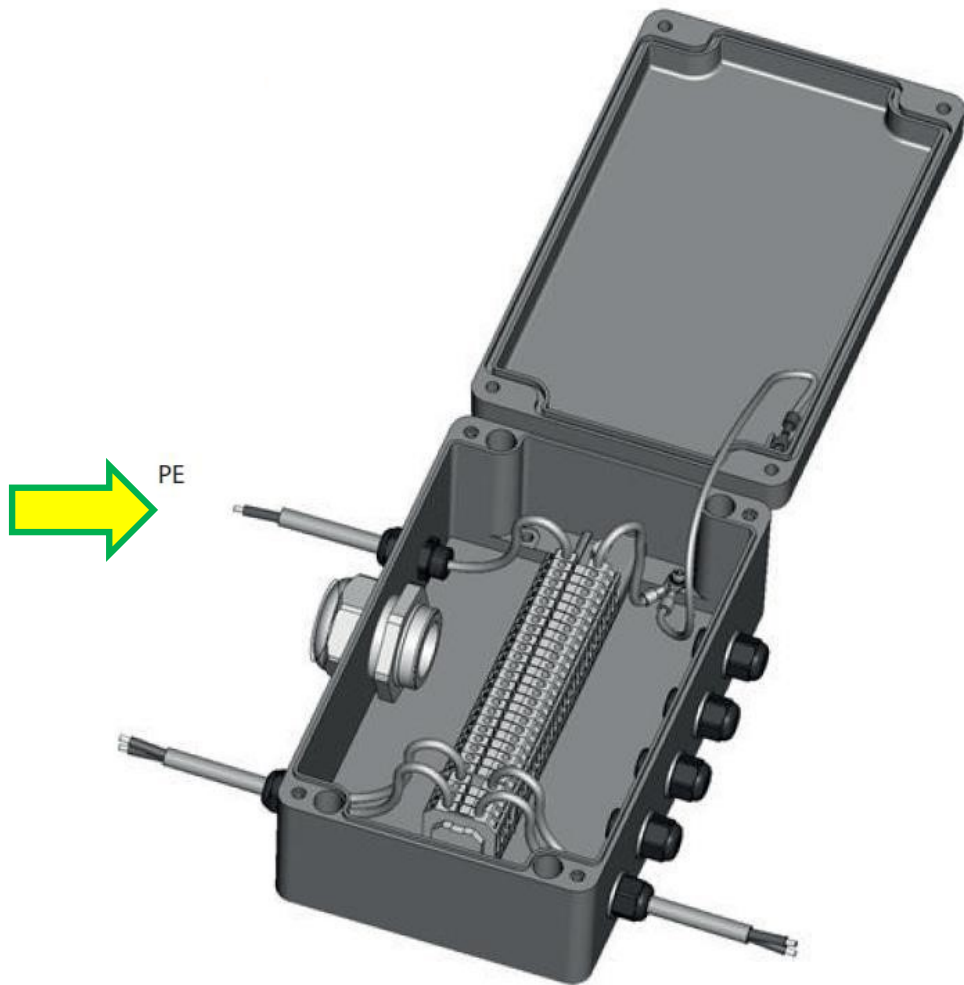


Drehmomente /
Torques /
Couples

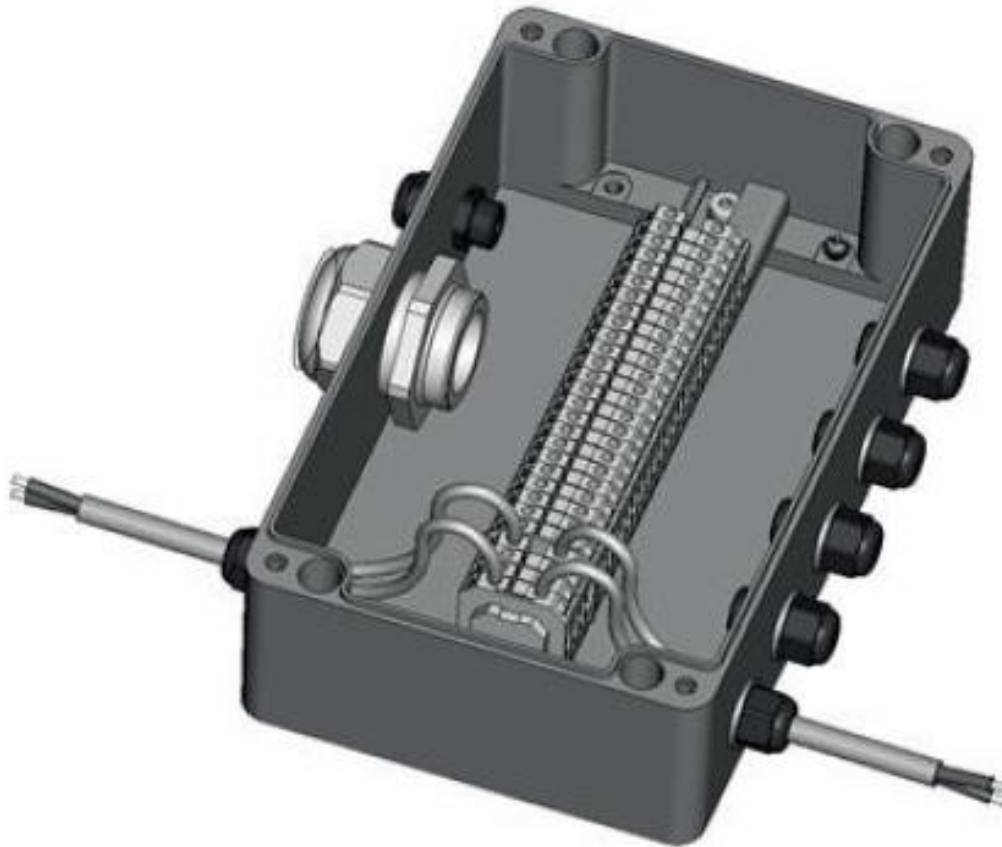
"M₃" = 2,0 Nm CA- 060 bis CA - 190

"M₃" = 2,5 Nm CA -210 bis CA - 480 /

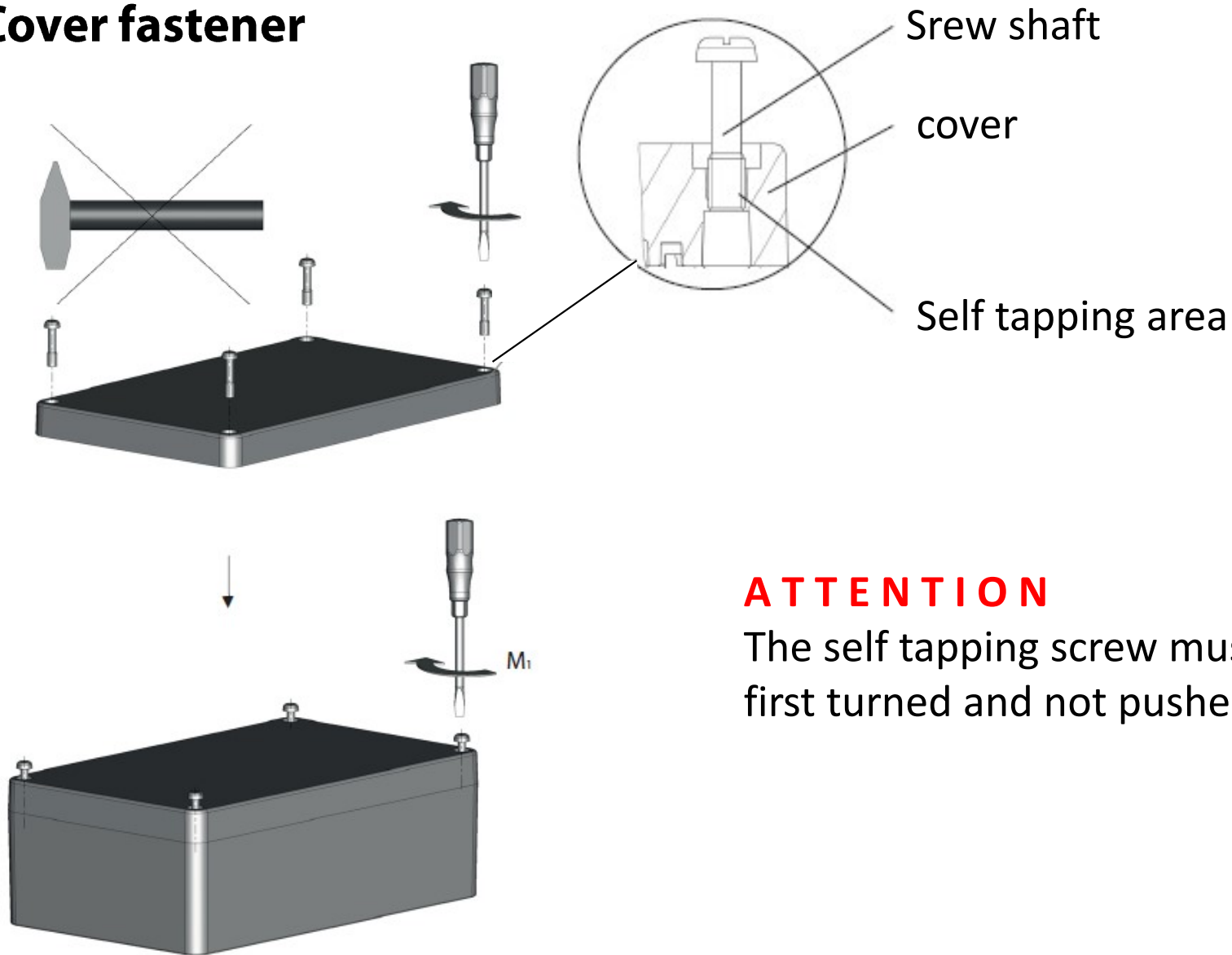
Protective conductor system



Connection with cables including wiring



Cover fastener

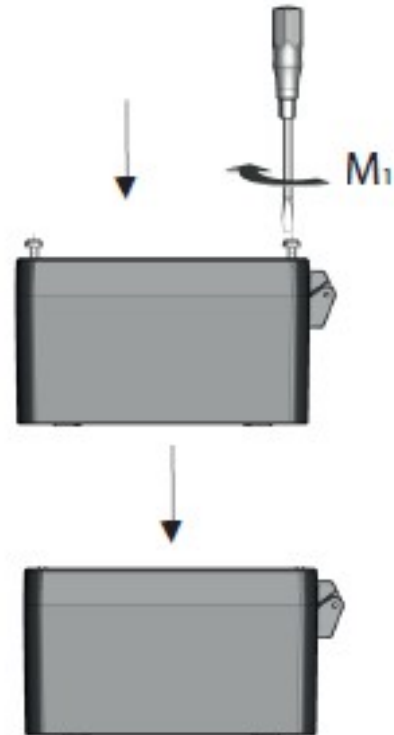


Hinged version by means of external articulated hinges

Close the cover



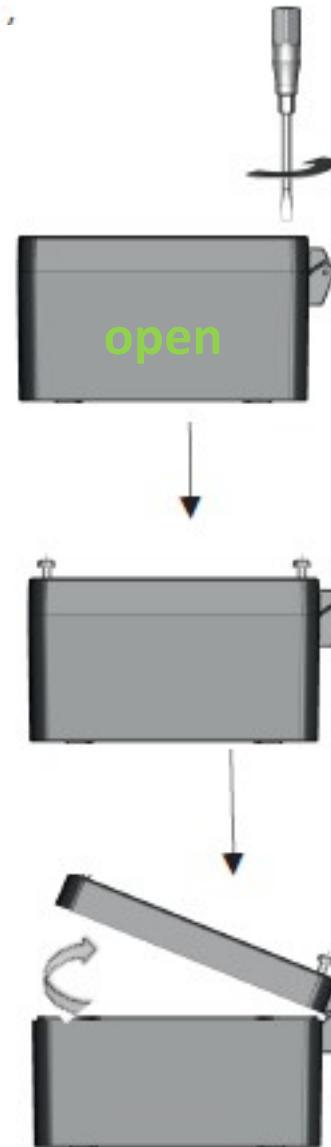
Tighten the cover screws



35'



Loosen the cover screws



As soon as the cover screws are unlocked, the cover can be opened

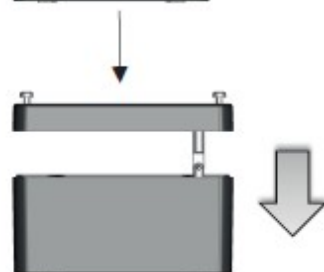
Hinged version by means of internal articulated hinges



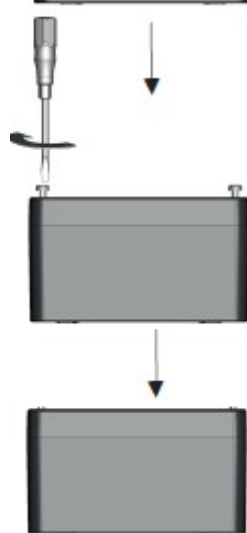
Close the cover by 90°



Press the cover onto the lower section



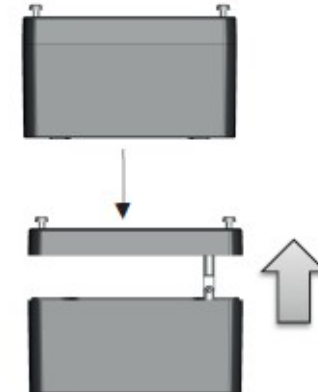
Tighten the cover screws



Loosen the cover screws



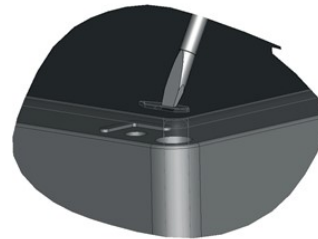
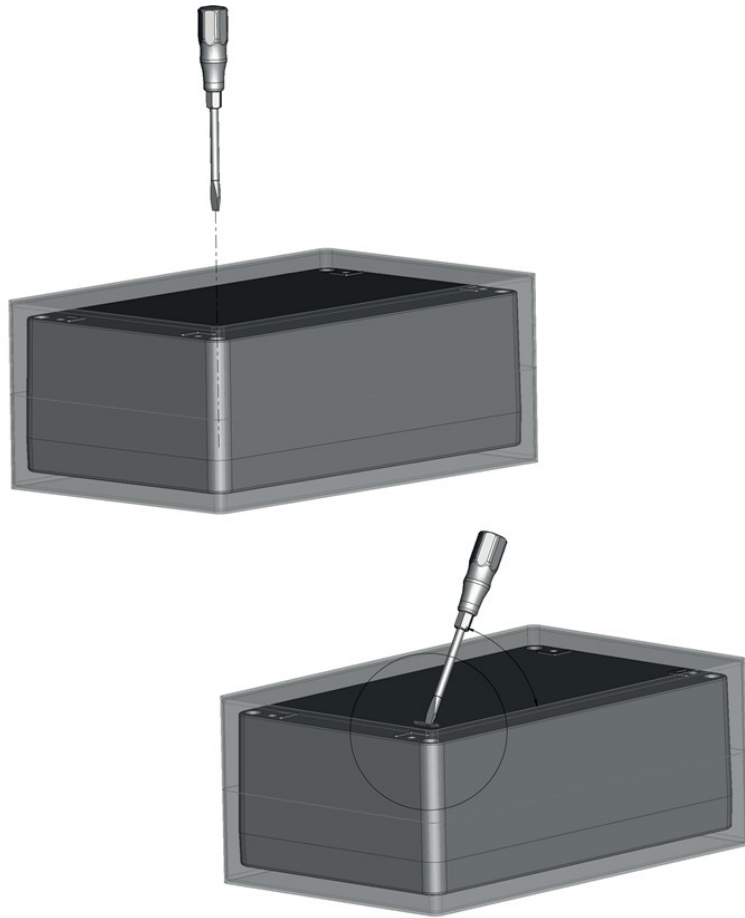
Lift the cover as far as it will go



Open the cover by 90°



Removal of the packaging



- The shrink-wrapping film can be easily torn by pricking with a screwdriver at the rear of the enclosure (near the mounting holes),
- then simply remove the packaging.

Polyester enclosures CP

- Enclosure for high mechanical strength
- Very high corrosion resistance
- Excellent for external applications
- Standard colour RAL 7000 (grey) and RAL 9005 (black)
- IP 66 rated
- IP 67 on request
- Material:
 - Glass fibre-reinforced polyester in grey or black
- Seal
 - Neoprene (CR) round cord (silicone-free) alternatively:
 - silicone round cord,
 - EPDM round cord
- Temperature range of CP enclosures,
 - -60°C to +165°C
- Temperature range of seals
 - -30°C to +80°C (Neoprene seal) alternatively:
 - -60°C to +130°C (silicone seal)-35°C to +100°C (EPDM seal)



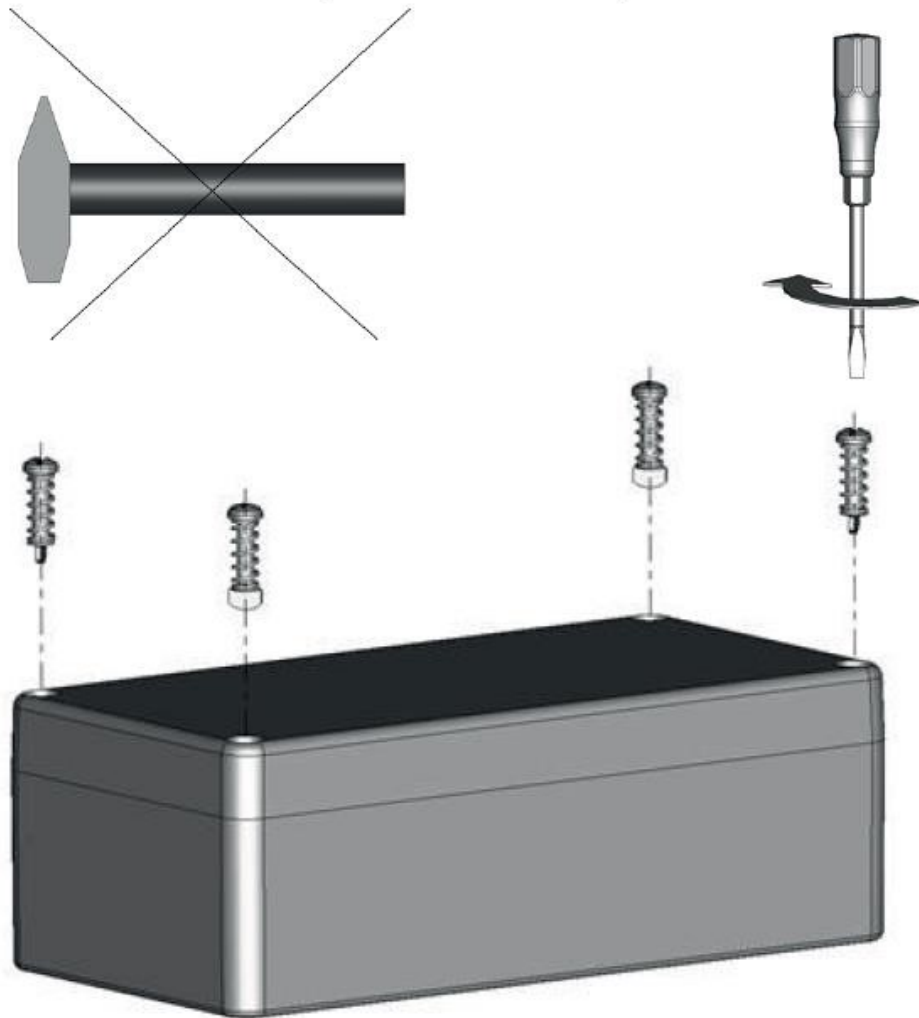
Polycarbonate and ABS enclosures



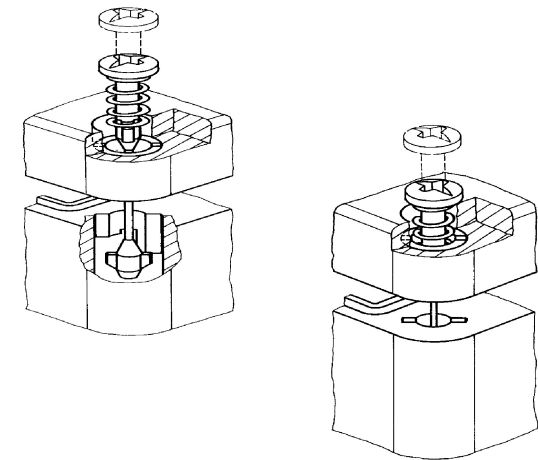
- Polycarbonate enclosures for medium mechanical strength
- ABS enclosures for low mechanical strength
- Standard with patented stainless steel quick release screw
- Standard colour RAL 7035 (light grey)
- Also available in versions with transparent lids made of polycarbonate
- IP 65 rated
- Material: Polycarbonat, transparent Polycarbonat or ABS
- Seal
 - Neoprene (CR) round cord (silicone- free)
- Temperature range of CT enclosures
 - -40°C to +120°C
- Temperature range of seals
 - -30°C to +80°C (Neoprene seal)



BERNSTEIN quick-release fastener



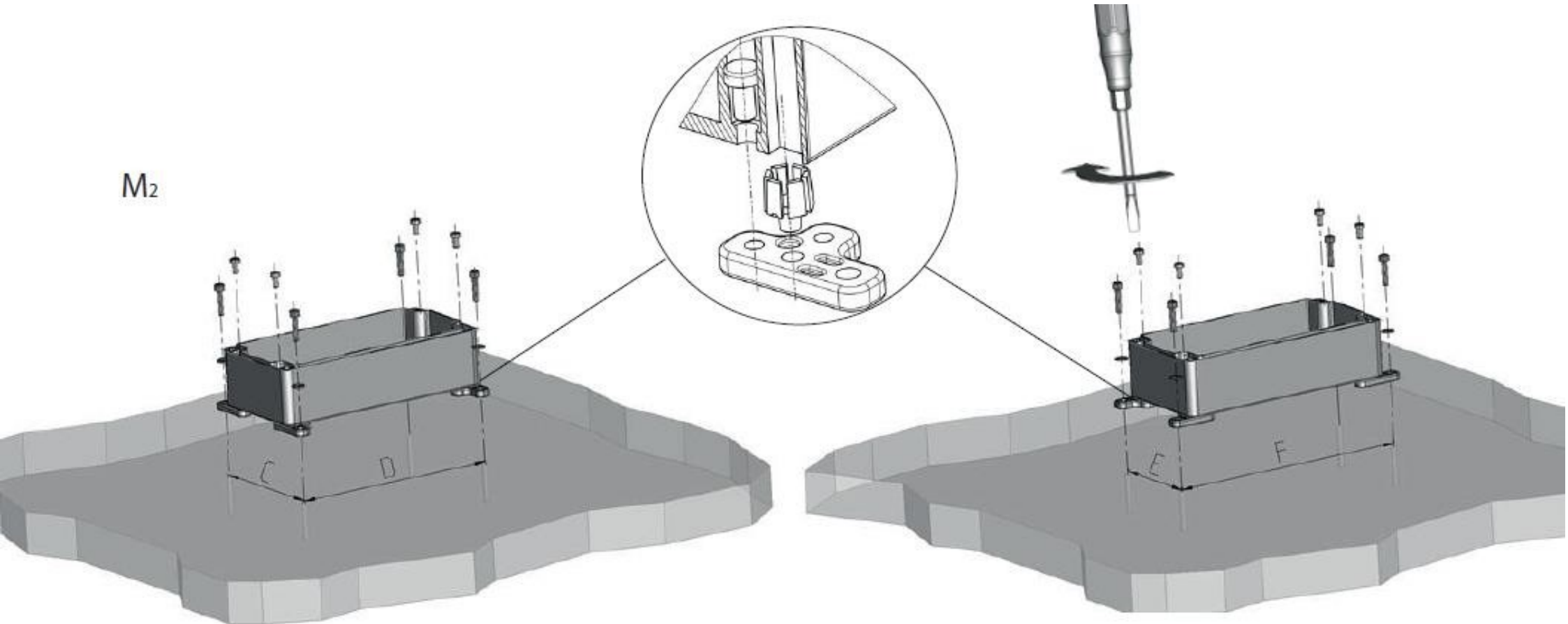
- Easy handling
- Press and turn 90°
- Easy locking test
- Easy to install
- High security



Fixing by means of external mounting brackets



M₂



"M" in Nm = Drehmoment/

M₂ = CT-541 - CT-911 = 1,0Nm

Diese Konformitätserklärung entspricht der europäischen Norm DIN EN ISO/IEC 17050-1: Konformitätsbewertung – Konformitätserklärung von Anbietern – Teil 1: Allgemeine Anforderungen. Die Grundlage der Kriterien sind internationale Dokumente, insbesondere ISO/IEC-Leitfaden 22, 1982, Informations on manufacturer's declaration of conformity with standards or other technical specifications. Die deutsche Sprachfassung ist die Originalkonformitätserklärung. Bei anderen Sprachen handelt es sich um die Übersetzung der Originalkonformitätserklärung.

This Declaration of Conformity is suitable to the European Standard EN ISO/IEC 17050-1: Conformity assessment – Supplier's declaration of conformity – Part 1: General requirements. The basis for the criteria has been found in international documentation, particularly in ISO/IEC Guide 22, 1982, Information on manufacturer's declaration of conformity with standards or other technical specifications. The original Declaration of Conformity is the German language version. Other languages are a translation of the original Declaration of Conformity.

Cette déclaration de conformité correspond au Norme Européenne EN ISO/IEC 17050-1: Évaluation de la conformité – Déclaration de conformité du fournisseur – Partie 1 : Exigences générales. La base des directives sont des documents internationaux répondant à ISO/IEC-Guide 22, 1982, Informations on manufacturer's declaration of conformity with standards or other technical specifications. La version allemande est la langue d'origine de la déclaration de conformité. Les autres langues ne sont qu'une traduction de la déclaration de conformité en langue allemande.

Wir / We / Nous

BERNSTEIN AG

(Name des Anbieters) / (Supplier's name) / (Nom du fournisseur)

Hans-Bernstein-Straße 1

D-32457 Porta Westfalica

(Anschrift) / (Address) / (Adresse)

erklären in alleiniger Verantwortung, dass das (die) Produkt(e):
declare under our sole responsibility that the product(s):
déclarons sous notre seule responsabilité que le(s) produit(s) :

Leergehäuse für Niederspannungs-Schaltgerätekombinationen
Empty enclosures for low-voltage switchgear and controlgear assemblies
Enveloppes vides destinées aux ensembles d'appareillage à basse tension

CA-...; CT-...; CPS-...; CPG-...

... (siehe Betriebs- und Montageanleitung) / ... (Installation and Operating Instructions) / ... (voir instructions de service et de montage)

Bezeichnung, Typ oder Modell-Nr., Chargen- oder Serien-Nr., möglichst Herkunft und Stückzahl
(Name, type or model, batch or serial number, possibly sources and number of items)
(Nom, type ou modèle, n° de lot, d'échantillon ou de série, éventuellement les sources et le nombre d'exemplaires)

Das (die) Produkt(e) entspricht (s) den geltenden Europäischen Richtlinien Übereinstimmt (Übereinstimmen):
is (are) in conformity with the following directives:
est (sont) conforme(s) aux directives européennes :

Niederspannungsrichtlinie-Nr.: 2014/35/EU

Low-Voltage-Directive No.: 2014/35/EU

Directive basse tension No.: 2014/35/UE

Dies wird nachgewiesen durch die Einhaltung folgender Norm(en):
This is documented by the accordance with the following standard(s):
Notre justification est l'observation de la (des) norme(s) suivant(s) :

DIN EN 62208-1:2012-06

Porta Westfalica, 14.11.2016

(Ort und Datum der Ausstellung):
(place and date of issue):
(date et lieu d'établissement) :

Vorstandsvorsitzende/Chairwoman of the Board

(Name, Funktion) (Unterschrift):
(name, function) (signature):
(nom, fonction) (signature) :



Gisela Bernstein

Leergehäuse für Niederspannungs-Schaltgerätekombinationen
Empty enclosures for low-voltage switchgear and controlgear assemblies
Enveloppes vides destinées aux ensembles d'appareillage à basse tension

CA-...; CT-...; CPS-...; CPG-...

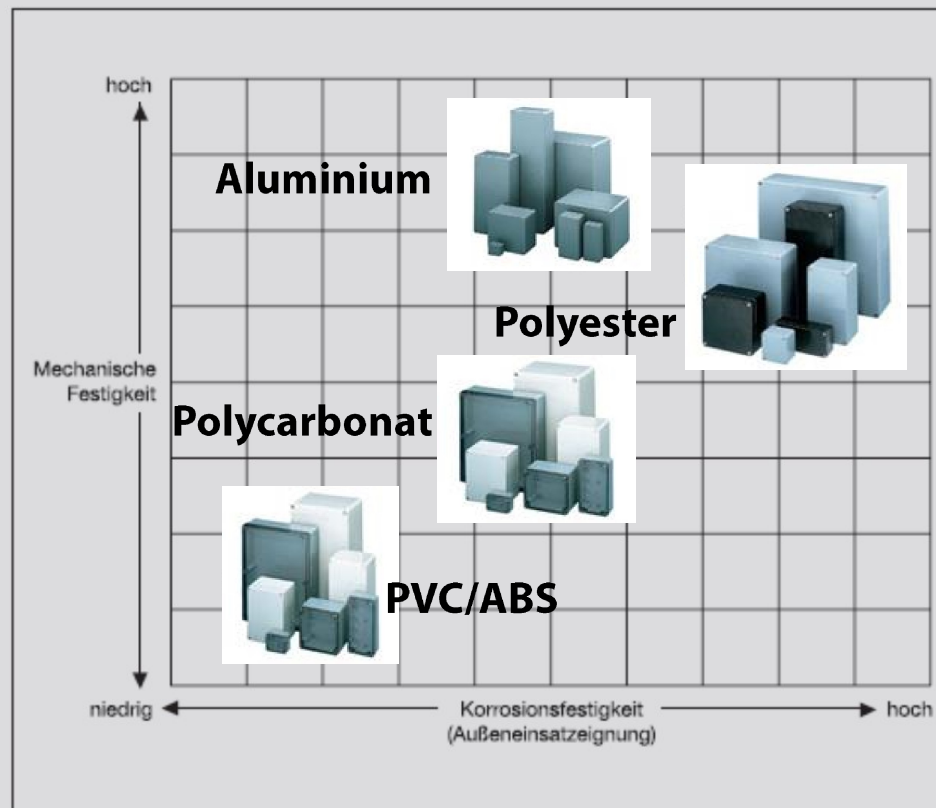
Niederspannungsrichtlinie-Nr.: 2014/35/EU
Low-Voltage-Directive No.: 2014/35/EU
Directive basse tension No.: 2014/35/UE

For the complete enclosure family is the Declaration of conformity available

General Technical Information

Mechanical strength

The illustration shows the suitability of different enclosure materials (standard enclosure) in terms of mechanical stress and corrosive environments.





Material property	Standard	Unit	Aluminium	Polycarbonate	ABS	Polyester	Stainless steel
Density	DIN 53479	g/cm ³	2.65	1.2	1.05	1.8	7.9
Impact resistance	DIN 53453	mJ/mm ²	150 – 300	65	60	80	
Toughness	DIN 53453	mJ/mm ²	90 – 200	20	10	4	
Tensile strength	DIN 53455	N/mm ²	180 – 300	65	43	45	500 – 700
Elongation of break	DIN 53455	%	60 – 90	90	20	20	< 60
Modulus of elasticity (bending test)	DIN 53457	N/mm ²	75000	2300	2100	6500	200000
Flexural stress at given strain	DIN 53452	N/mm ²		95	90	100	
Flammability	UL 94	Class		V 2	HB	V 0	
Volume resistivity	DIN 53482	Ohm x cm		10 ¹⁵	10 ¹³	3 x 10 ¹⁴	
Surface resistance	DIN 53482	Ohm x cm		≥ 10 ¹⁵	4 x 10 ¹⁴	> 10 ¹²	
Dielectric strength	DIN 53481	kV/mm		25 – 40	24	25 – 40	
Thermal conductivity (20°C)	DIN 52612	W/mK	120 – 160	0.21	0.18	0.25	16.3
Electrical conductivity (20°C)		m/Ohm mm ²	15 – 22				

Accessories

- **CA-/ CP- enclosure**

Plastic (Polyamide PA6 V-2, RAL7001)
or brass.

Protection class IP68. Sealing element
CR/NBR Temperature range: -20°C to
+100°C



- **CT- enclosure**

Plastic (Polyamide PA6 V-2, RAL7035)

Protection class IP68. Sealing element

CR/NBR Temperature range: -20°C to +100°C



- **EMC- enclosure**

Brass

Protection class IP68. Sealing element CR

Temperature range -20°C to +100°C.



This is just a selection of
possible assembly components
which BERNSTEIN offers.

Accessories



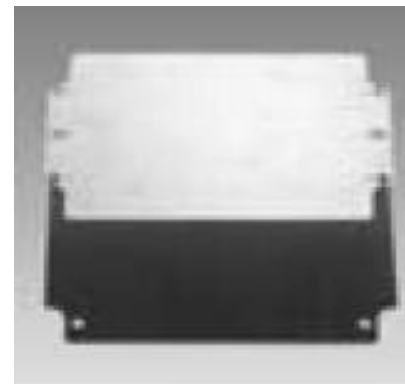
- **Mounting plates CA- enclosure**

Made from galvanised steel plate
Thickness 1.5mm and 2.5mm



- **Mounting plates CT- (Pertinax)/ CP-/CPS- enclosure**

Made from laminated paper (Pertinax)
Thickness 1.5mm and 2.5mm



This is just a selection of possible assembly components that BERNSTEIN offers.

Accessories

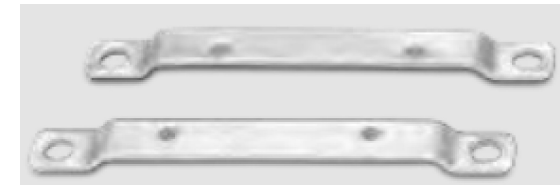
- **External articulates brackets**
mounting enclosures without
opening the covers.
By CT- enclosure made from
polycarbonate.
- **Hinges CA/ CP**
External articulated hinges:
Swivel angle 155°
RAL7001 or RAL9005
Machining is required
- **Internal articulated hinges:**
Swivel angle 95°
Machining is required



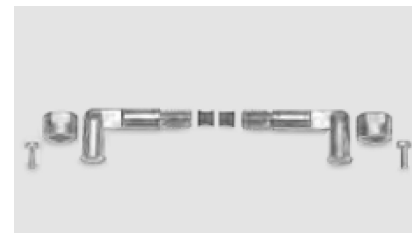
CA



CT



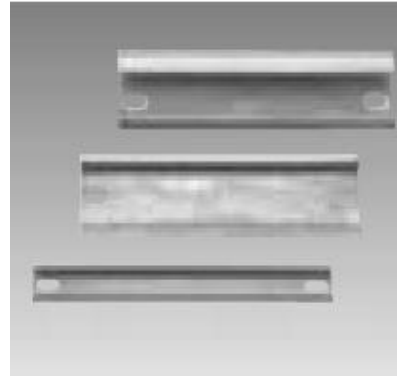
CP



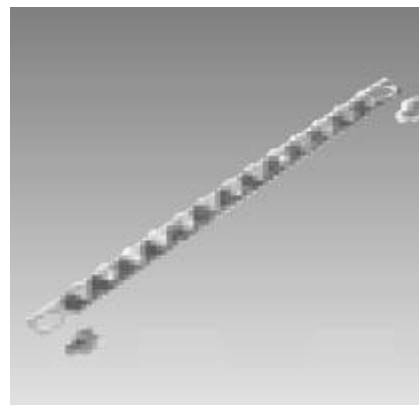
This is just a selection of possible
assembly components that
BERNSTEIN offers.

Accessories

- **Mounting rails**
- **TS 15, TS 32, or TS 35**



- **Earthing bars**



This is just a selection of possible assembly components that BERNSTEIN offers.



EMC = **E**lectro-**M**agnetic- **C**ompatibility

- Electromagnetic shielding
Protection for sensible electronic components

All enclosures available with EMC shielding

- Special HF-gasket for a conducting connection between cover and bottom
- CA- enclosures: Groove and spring free of paint
- CT-/ CP enclosures: Special interior coating

Schutzarten nach DIN EN 60529 (IEC 529/VDE 047 T1)
International protection classes according to DIN EN 60529 (IEC 529/VDE 047 T1)



Schutzart
degree of protection **IP 6 7**

erste Kennziffer first index figure	(Schutz gegen feste Fremdkörper) (foreign bodies protection)	zweite Kennziffer second index figure	(Schutz gegen Wasser) (water protection)
0	Kein Berührungsschutz, kein Schutz gegen feste Fremdkörper No protection against accidental contact, no protection against solid foreign bodies	0	Kein Wasserschutz No protection against water
1	Schutz gegen großflächige Berührungen mit der Hand, Schutz gegen Fremdkörper mit $\varnothing > 50$ mm Protection against contact with any large area by hand and against solid foreign bodies with $\varnothing > 50$ mm	1	Schutz gegen senkrecht fallende Wassertropfen Protection against vertical water drips
2	Schutz gegen Berührung mit den Fingern, Schutz gegen Fremdkörper mit $\varnothing > 12$ mm Protection against contact with any large area by hand and against solid foreign bodies with $\varnothing > 12$ mm	2	Schutz gegen schräg fallende Wassertropfen aus beliebigem Winkel bis zu 15° aus der Senkrechten Protection against diagonal water drips (up to a 15° angle)
3	Schutz gegen Berührung Werkzeug, Drähte o. ä. mit $\varnothing > 2,5$ mm, Schutz gegen Fremdkörper mit $\varnothing > 2,5$ mm Protection against tools, wires or similar objects with $\varnothing > 2,5$ mm, protection against foreign solid bodies with $\varnothing > 2,5$ mm	3	Schutz gegen schräg fallende Wassertropfen aus beliebigem Winkel bis zu 60° aus der Senkrechten Protection against diagonal water drips (up to a 60° angle)
4	Schutz gegen Berührung Werkzeug, Drähte o. ä. mit $\varnothing > 1$ mm, Schutz gegen Fremdkörper mit $\varnothing > 1$ mm Protection against tools, wires or similar objects with $\varnothing > 1$ mm, protection against foreign solid bodies with $\varnothing > 1$ mm	4	Schutz gegen Spritzwasser aus allen Richtungen Protection against splashed water from all directions
5	Schutz gegen Berührungen, Schutz gegen Staubablagerungen im Inneren Full protection against contact, protection against interior injurious dust deposit	5	Schutz gegen Wasserstrahl (Düse) aus beliebigem Winkel Protection against water (out of a nozzle) from all directions
6	Vollständiger Schutz gegen Berührung, Schutz gegen Eindringen von Staub Total protection against contact, protection against penetration of dust	6	Schutz gegen starkes Wasserstrahl (Düse) aus beliebigem Winkel Protection against strong water (out of a nozzle) from all directions
		7	Schutz gegen Wassereindringung bei zeitweisem Eintauchen (30 Minuten) Protection against ingress of water in case of temporary immersion (30 minutes)
		8	Schutz gegen Wassereindringung bei dauerhaftem Untertauchen, Anforderung nach Absprache zwischen Hersteller und Anwender Protection against ingress of water in case of continuous immersion, requirements under agreement of manufacturer and user
		9K	Schutz gegen Wassereindringung bei starkem Druck (8.000-10.000 kPa) aus einer Düse bzw. Dampfstrahl-Reinigung aus jeder Richtung Protection against ingress of water during high pressure (8.000-10.000 kPa) or steam cleaning from any direction

Darstellungen in Anlehnung an DIN EN 60529
Diagrams in accordance with DIN EN 60529

Ein ergänzender Buchstabe K kann für die zweite Kennziffer für die Klassen 4 und 6 verwendet werden, um erhöhte Anforderungen bei Straßenfahrzeugen zu kennzeichnen.

An additional letter K can be used for the second index figure for classes 4 and 6 to indicate higher requirements for road vehicles.

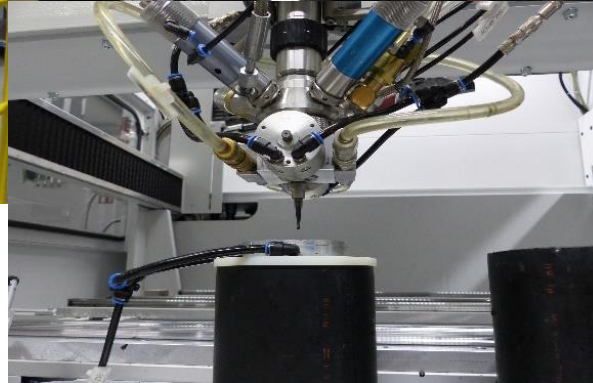
Protection class designation

In accordance with DIN EN 60529 the protection class designation consists of a two-digit code.

Meaning of 1st digit:
Protection class against contact and infiltration of foreign bodies

Meaning of 2nd digit:
Protection class against infiltration of water

Automatic Seal manufacturing



Example: Protection class IP65



1. Digit (6):

Complete protection against contact with components under voltage or with internal moving parts = protection against dust infiltration

IP6X	Protection against dust penetration, dustproof	No penetration of dust at a negative pressure of 20 mbar in the enclosure
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2. Digit (5):

A water jet directed from all directions at the enclosure must not have damaging effects = protection against water jets (hoseproof)

IPX5	Protection against hose water	Water sprayed in jet from against the enclosure from any direction must not have a damaging effect
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Approbationen / Approval

Gehäusetyp	CA	CT	ABS	CP/CPS
Approbationen				
Germanischer Lloyd	x			
c UL us	x	x		x
c CSA us				x
ATEX, IECEX	x	x		x





Chemikalie	ABS	Polycarbonat	Polyester	Aluminium
Aceton	-	-	-	+
Ameisensäure	40%	-	+	o
Ammoniak	25%	-	-	+
Benzin	-	o	+	+
Benzol	-	-	+	+
Bremsflüssigkeit	o	-	+	□
Butan	+	+	+	+
Butanol	□	□	+	□
Calciumchlorid	+	+	+	+
Chlorbenzol	-	-	+	+
Dieselöl	+	o	+	□
Essigsäure	25%	10%	5%	+
Formaldehyd	30%	□	30%	+
Frigen 113	-	+	+	□
Fruchtsaft	+	+	+	□
Glycerin	+	o	+	+
Heizöl	o	o	+	+
Hydrauliköl	□	+	+	□
Kalilauge	50%	-	-	□
Kaliumchlorid	□	+	+	o
Kaliumhydroxid	< = 50 %	□	5%	-
Leinöl	+	+	+	+
Methanol	+	-	+	+
Methylenchlorid	-	-	+	+
Milchsäure	80%	+	+	+
Mineralöle	+	+	+	□
Motorenöle	+	+	+	□
Natriumcarbonat	+	+	10%	o
Natriumchlorid	+	+	+	o
Natriumhydroxid	+	□	5%	+
Natronlauge	50%	-	40%	□
Salpetersäure	-	10%	10%	+
Salzsäure	o	20%	+	+
Schmieröl	□	+	+	+
Schwefelkohlenstoff	-	-	-	+
Schwefelsäure	50%	50%	10%	o
Seifenlauge	□	o	+	□
Spülmittel	□	+	□	□
Terpentinöl	□	o	+	□
Tetrachlorkohlenstoff	-	-	+	+
Toluol	-	-	+	+
Trichlorethylen	-	-	+	+
Wasser (dest. Wasser, Fluss-, Leitungs-, Meerwasser)	+	+	+	□
Weinsäure	+	+	+	□
Xylol	-	-	+	+
Zinksulfat	+	+	+	o
Zitronensäure	+	10%	+	+

- +: beständig gegen alle Konzentrationen
- %: beständig gegen max. % Konzentrationen
- o: bedingt beständig
- : unbeständig
- : ohne Angabe
- ∅: Schätzwert

Chemical Resistance Enclosures

- +: beständig gegen alle Konzentrationen
- %: beständig gegen max. % Konzentrationen
- o: bedingt beständig
- : unbeständig
- : ohne Angabe
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Chemical Resistance Seals

Chemikalie	CR	Silikon	EPDM	NBR	Polyurethan	PVC
Aceton	o	-	+	-	-	-
Arzensäure	o	+	o	-	-	-
Ammoniak	10%	+	+	o	-	o
Benzin	o	-	-	o	+	+
Benzol	-	-	-	-	-	-
Bremsflüssigkeit	o	+	+	-	+	□
Butan	+	-	-	+	+	50%
Butanol	+	-	+	o	o	o
Calciumchlorid	□	□	+	+	-	+
Chlorbenzol	-	-	-	-	-	-
Dieselöl	o	-	-	□	+	o
Essigsäure	-	o	-	-	□	+
Formaldehyd	□	+	40%	o	□	-
Frigen 113	o	□	□	+	□	□
Fruchtsaft	+	+	+	o	-	+
Glycerin	+	+	+	+	+	+
Heizöl	o	o	-	+	+	o
Hydrauliköl	□	o	-	o	□	□
Kalilauge	+	-	< 50%	o	-	+
Kaliumchlorid	+	+	+	+	-	+
Kaliumhydroxid	o	o	+	+	-	□
Leinöl	+	+	o	+	o	+
Methanol	+	+	+	o	□	+
Methylenchlorid	-	-	-	-	-	-
Milchsäure	+	□	< 10%	o	< 10%	10%
Mineralöle	o	o	-	+	o	+
Motorenöle	o	+	-	+	o	+
Natriumcarbonat	□	+	+	+	□	□
Natriumchlorid	+	+	+	+	+	+
Natriumhydroxid	50%	o	+	o	-	+
Natronlauge	50%	< 10%	+	o	□	60%
Salpetersäure	-	< 10%	-	-	-	< 30%
Salzsäure	o	< 10%	+	-	-	< 20%
Schmieröl	o	+	o	+	+	+
Schwefelkohlenstoff	-	-	-	-	-	-
Schwefelsäure	50%	o	-	-	-	< 60%
Seifenlauge	□	+	□	+	o	o
Spülmittel	o	+	o	+	o	□
Terpentinöl	□	-	-	o	□	+
Tetrachlorkohlenstoff	-	-	-	-	-	-
Toluol	-	-	-	-	-	-
Trichlorethylen	-	-	-	-	-	-
Wasser (dest. Wasser, Fluss-, Leitungs-, Meerwasser)	+	+	+	80°C	-	40°C
Weinsäure	o	+	+	+	+	+
Xylol	-	-	-	-	-	-
Zinksulfat	+	+	+	+	□	+
Zitronensäure	+	+	+	+	□	10%

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General technical information

Checklist for enclosures



1. Which dimension do you need?
2. What should be installed?
3. Which environmental conditions are in your application?
4. Which mechanical load is exposed to the enclosure?
5. Which mechanical processing can we do for you?
6. Which equipment can we mount?
7. What more can we install for you?
8. Which approvals do you need?



- Applications
 - Terminal box
 - Junction box
 - Appliance housing
 - Small Control Enclosure

- Industrial sector
 - Automation
 - Machine and plant construction
 - Materials handling
 - Measurement, Drive and Control technology

Vielen Dank für Ihre Aufmerksamkeit!

Thank you for your attention!

