



**MULTI-BOX**  
THE BOX COMPANY



# PRODUCT CATALOGUE

Enclosures | Services | Accessories

[www.multi-box.com](http://www.multi-box.com)



In close cooperation with our customers, we are developing and manufacturing individual and innovative enclosure solutions since more than 40 years. Our enclosures are multifunctional and serve as packaging and protection of electronic or electrotechnical devices.

We are a reliable partner and supply more than one thousand customers from various industry sectors:

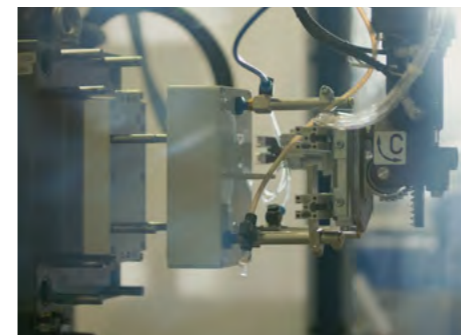
- ▶ Machinery and plant engineering
- ▶ Measurement and control technology
- ▶ Control engineering
- ▶ Automotive engineering
- ▶ Renewable energies
- ▶ Oil and gas industry
- ▶ Shipbuilding
- ▶ Infrastructure projects
- ▶ Railway engineering

As a family owned and managed company, we stand for core values:

- ▶ Close relationships to our employees
- ▶ Extraordinary commitment to our customers
- ▶ Trustful and honest cooperation based on eye to eye partnerships
- ▶ Short decision making processes and flexibility

For our customers we are always available with our exclusive sales representatives in Germany and more than 20 international distribution partners worldwide.

▶ MANAGEMENT SYSTEM CERTIFICATE



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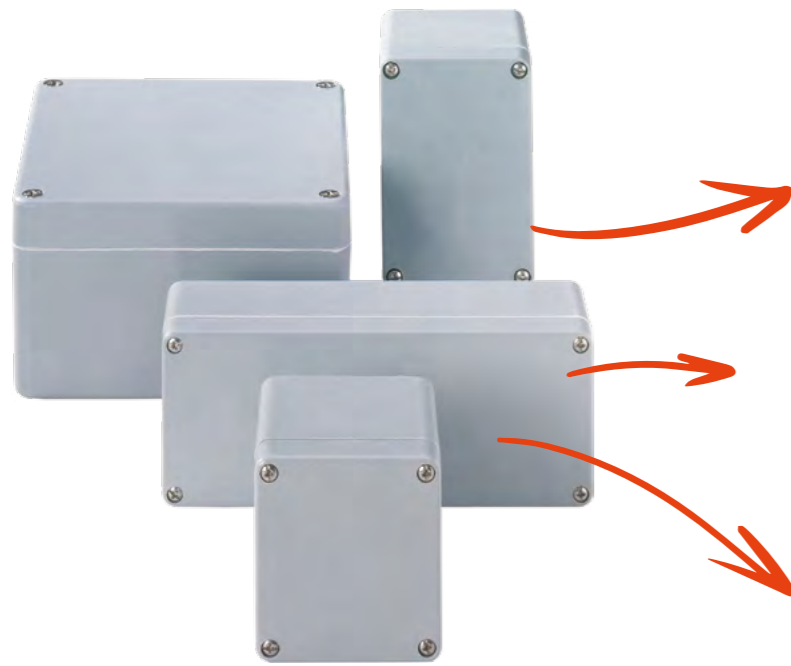


**TAKE A LOOK AT OUR IMAGE VIDEO**

▶ WE LOOK FORWARD TO YOUR FEEDBACK.

## What makes us special?

Individuality is our standard



- ▶ **Mechanical Processing**
- ▶ **Mounting & Assembly**
- ▶ **Wiring & Installation**
- ▶ **Printing**
- ▶ **Special Colours & Materials**
- ▶ **Construction & Development**

With our extensive machine workshop and a highly motivated team, we transform our standard products into your individual enclosure solution.

MULTI-BOX is characterised by a unique performance in customer-specific processing, design and assembly of aluminium and plastic enclosures. With a wide range of services, we offer our customers tailor-made enclosure solutions from one source and accompany them from individual to series production.

With the complete solution of enclosures and individual service, you can optimise your supply chain by minimising transport costs and organisational effort. In addition, you can completely eliminate possible rejects when processing standard enclosures internally.

**Convince yourself and rely on four decades of experience with individual enclosure solutions.**



### ▶ Mechanical Processing

All of MULTI-BOX products can be modified to support our customers with today's latest CNC machining. We guarantee a consistence of high quality engineering.



### ▶ Mounting & Assembly

Within our assembly department, we take great care of the installation of accessory components according to your specifications. We have capability to assemble terminals, PCB boards, cable glands, connectors, membrane keypads, specials gaskets. Our team also have the capability to fit threaded bushes.



### ▶ Wiring & Installation

We supply ready-to-connect, tested systems from a single source. Our range of services includes wiring according to your wiring diagram. We assemble cables including DIN crimping techniques, carry out soldering work and perform final functional testing. You do not have to worry about purchasing or stocking any components.



### ▶ Printing

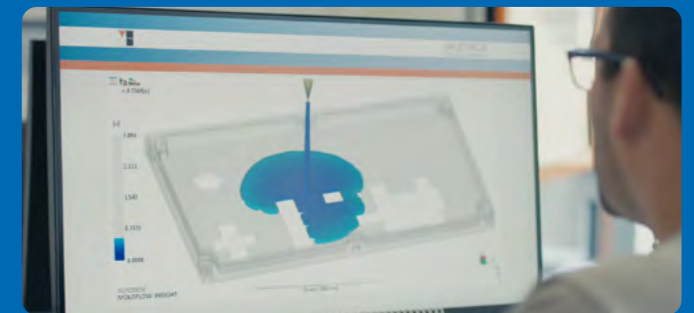
With an individual print you can mark your enclosure according to the functional needs of the application and enhance the optical design. Upgrade your enclosure with a company logo or other graphics. All we need is a printable template and your colour specification according to RAL or Pantone.



### ▶ Special Colours & Materials

All our products are available in special colours for corresponding quantities. We offer customers the possibility to individually design the colour of the selected enclosure. For specific applications, we can also process special materials.

Our experienced team will be happy to assist you in selecting the best material for your application.



### ▶ Construction & Development

Customised enclosures are used when the product requirements are too special for a standard enclosure. We develop individual solutions for corresponding quantities and implement your optical and technical requirements.

## 360° Service, Advantages for our customers

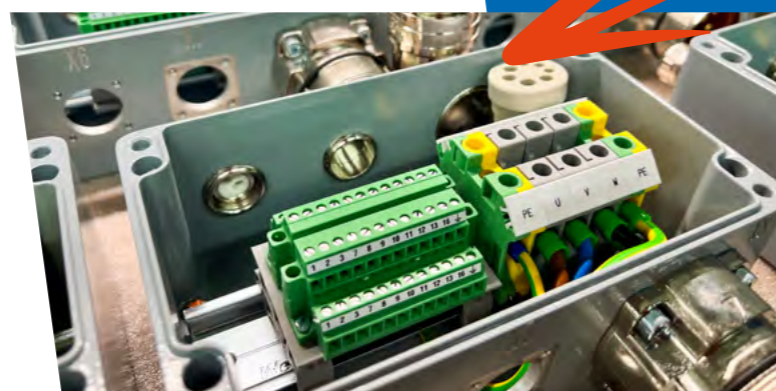
„Focus on your core competencies and leave the machining and assembly of your enclosures to us.“



**More than 2.500 individual enclosure solutions per year**

### ► Less commissioning work

With our extensive range of services and products we offer customers individual enclosure solutions for every application area. Our service extends from mechanical processing through optical design and assembly of various components. Customers can benefit from our experience, our unique in-house production and purchase fully configured enclosures directly from the manufacturer.



### ► Guaranteed quality

With our centralised production at the Kirchlegern site we have full control and direct influence on the entire production process of our products. We put great emphasis to quality and efficiency in all areas. We are EN ISO 9001:2015 certified to continuously check our working processes and production steps.



### ► No risk of rejects

Rely on four decades of experience in machining enclosures and reduce your risk of rejects. MULTI-BOX supplies 100%.



### ► Individual advice local & online

To guarantee short delivery times, we keep our standard products in stock for you. Individualisation of the enclosures takes place with the corresponding order. Thanks to our modern machinery and central production, we can manufacture your individual enclosure solutions in the shortest possible time. Our sales representatives are available to answer your questions at any time and will be happy to advise you on site or digital in an online meeting.



### ► Guaranteed delivery service

Every single production step and all information about your enclosure is stored in our system using an individual Article number. This way, we can guarantee our customers identical deliveries of enclosures even after several years.



### ► Highest flexibility with our own plastic production

With our own plastic injection department at the Kirchlegern site, we offer our customers the highest degree of flexibility. Optical design of the enclosures in special colours according to RAL specifications are just as possible as special materials for special applications.

# MULTI-BOX product overview

Extensive product portfolio

12 - 17 Aluminium Enclosures	MBA 12	DELTA-BOX 14	TAST 16	MINI-TAST 17

### ▶ Aluminium-Enclosures

Our aluminium enclosures are manufactured by high pressure die-casting or gravity casting. After passivation, a powder coating is applied. We also produce enclosures from extruded aluminium profiles. These are particularly characterised by their variability in length.

18 - 41 Plastic Enclosures	MBP 18	MBX 22	MBI 24	MBM 26	MBT 28	MBT / Multi-Colour 32	MBT FT Membrane-Recess 34
	Duo-Box 35	ALPHA-BOX 36	MBPO 37	MBPO-ST 38	MBRCA 40	MBRC2 41	

### ▶ Plastic-Enclosures

In our plastic injection department, we produce enclosures from various thermoplastic materials. We process polycarbonate, ABS, polystyrene, polyamide and Noryl. We also offer glasfibre reinforced polyester enclosures. Special materials for specific applications can be produced on

44 - 54 Ex-Enclosures	MBA Ex-empty	MBA Ex-e	MBA Ex-i	MBP Ex-empty	MBP Ex-e 52	MBP Ex-i 54

### ▶ EX-Enclosures

Ex-Enclosures are always used when explosive concentrations of gases, vapours or dusts occur in hazardous area applications. A separate certificate is required to prove the safety of the component enclosure.

58 - 59 Special Enclosures	Plastics and Aluminium 58

### ▶ Special-Enclosures

In addition to a wide range of standard enclosures, we produce individual special enclosures made of plastic and aluminium. In close cooperation with our customers, we take care of the design and technical implementation of exclusive enclosure solutions.



▶ Aluminium



▶ Polyester (GRP)



▶ Thermoplastics



**Wiring & Installation**

**Made in Germany**

**Our range of services:**

- ▶ Wiring according to circuit diagram
- ▶ Assembly at cables
- ▶ Soldering
- ▶ DIN crimping methods
- ▶ Labeling and marking of cables and components
- ▶ Potting technology
- ▶ Functional testing and documentation
- ▶ Sample assemblies & Prototypes
- ▶ Advice on the selection of components
- ▶ Procurement and storage of the specified components

▶ **More information about our  
Wiring & Installation**

Scan the QR code, or visit us on [www.multi-box.com](http://www.multi-box.com)



# Aluminium-Enclosures MBA

Protection class IP 66



**MBA-Enclosures are universal, sturdy and easy to adapt to the installation of electrical, electronic and pneumatic components. Manufacturing takes place using pressure die casting or gravity die casting.** MBA-Enclosures can be mechanically processed in a number of ways providing almost no limits to customised surface design. As terminal enclosures they can be assembled with various terminals and cable glands. In the measurement and control technology they are often used for encapsulating sensors. Additionally they serve as junction boxes for cables and wires or take on the job of protecting highly sensitive electronics against water, dirt and dust.

## INFORMATION

- ▶ All enclosures fulfil protection class IP 66 in accordance with DIN EN 60529
- ▶ Seamlessly foamed-in 2-component polyurethane gasket
- ▶ Temperature resistance: -40 °C to +100 °C
- ▶ Cover screws with captive function made of stainless steel
- ▶ Wall mounting can be done through separate screw channels outside the sealing area
- ▶ Temperature resistance with silicone sealing: -50 °C to +140 °C
- ▶ Special sealing materials (e.g. silicone) are available on request
- ▶ The standard enclosure colour is silver grey, similar to RAL 7001
- ▶ Special colours are available on request
- ▶ An EMC design with a paint-free spring-groove system and conducting cover seal is available on request



▶ PDF DXF 3D

# MBA

Article number	Type	L	W	H	TS	M	WL	GA	SI	EMV	IS	MB Fix
		mm	mm	mm								
0101100100	MBA 504530	50	45	30								■
0101100200	MBA 606030	58	64	34					■	■		■
0101100300	MBA 606045	58	64	45					■	■		■
0101100400	MBA 906030	98	64	35					■	■		■
0101100500	MBA 906045	98	64	45					■	■		■
0101100600	MBA 156030	150	64	34					■	■		■
0101100700	MBA 156045	150	64	45					■	■		■
0101100900	MBA 708055	75	80	57	■	■			■	■	■	■
0101100990	MBA 708065	70	80	65	■	■			■	■		■
0101101100	MBA 128055	125	80	57	■	■			■	■	■	■
0101101200	MBA 128012	125	80	125	■	■			■	■		■
0101101300	MBA 178055	175	80	57	■	■			■	■	■	■
0101101400	MBA 258050	250	80	57	■				■	■		■
0101101500	MBA 258065	250	80	65	■				■	■		■
0101105500	MBA 101080	100	100	80	■	■	■	■	■	■	■	■
0101106500	MBA 161080	160	100	80	■	■	■	■	■	■	■	■
0101106600	MBA 201080	200	100	80	■	■	■	■	■	■	■	■
0101101600	MBA 121265	122	120	65	■	■	■	■	■	■	■	■
0101101700	MBA 121275	122	120	75	■	■	■	■	■	■		■
0101101800	MBA 121280	122	120	80	■	■	■	■	■	■	■	■
0101101900	MBA 121290	122	120	90	■	■	■	■	■	■		■
0101102000	MBA 221265	220	120	65	■	■	■	■	■	■	■	■
0101102100	MBA 221275	220	120	75	■	■	■	■	■	■		■
0101102200	MBA 221280	220	120	80	■	■	■	■	■	■	■	■
0101102300	MBA 221290	220	120	90	■	■	■	■	■	■		■
0101102400	MBA 361280	360	122	80	■	■	■	■	■	■		■
0101104500	MBA 141490	140	140	90	■	■	■	■	■	■	■	■
0101107500	MBA 181490	180	140	90	■	■	■	■	■	■	■	■
0101108500	MBA 201490	200	140	90	■	■	■	■	■	■	■	■
0101102500	MBA 161690	160	160	90	■	■	■	■	■	■	■	■
0101104000	MBA 261665	260	160	65	■	■	■	■	■	■	■	■
0101102600	MBA 261690	260	160	90	■	■	■	■	■	■	■	■
0101102800	MBA 361690	360	160	90	■	■	■	■	■	■	■	■
0101102900	MBA 561690	560	160	90	■	■	■	■	■	■	■	■
0101108000	MBA 181810	180	180	100	■	■	■	■	■	■	■	■
0101108100	MBA 281810	280	180	100	■	■	■	■	■	■	■	■
0101103000	MBA 202311	200	230	110	■	■	■	■	■	■	■	■
0101104100	MBA 202318	200	230	180	■	■	■	■	■	■	■	■
0101103100	MBA 282311	280	230	110	■	■	■	■	■	■	■	■
0101103202	MBA 332311	330	230	110	■	■	■	■	■	■	■	■
0101103300	MBA 332318	330	230	180	■	■	■	■	■	■	■	■
0101103400	MBA 402311	400	230	110	■	■	■	■	■	■	■	■
0101103500	MBA 403111	400	310	110	■	■	■	■	■	■		■
0101103600	MBA 403118	400	310	180	■	■	■	■	■	■		■
0101103700	MBA 602311	600	230	110	■	■	■	■	■	■	■	■
0101103800	MBA 603111	600	310	110	■	■	■	■	■	■		■
0101103900	MBA 603118	600	310	180	■	■	■	■	■	■		■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, WL = Wall mounting bracket set, GA = External hinge set, SI = Silicone cover sealing, EMV = EMC version, IS = Hex socket head screws, MB-Fix = Pole mounting set MB-Fix  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## Profile-Enclosures DELTA-BOX

Protection class IP 43 / 54

IP  
43

IP  
54



**Delta-Box-Enclosures are made of aluminium profile and combine a compact and nicely shaped design with extremely good stability.** The range can be used universally and consists of seven profile sizes. The length can be individually adapted. Groove guides in the base allow convenient assembly of PCBs or other electronic components. The installation of a battery compartment MB 92 (1 x 9-V or 2 x Mignon) is possible in the end cap. The aluminium front plates are 2 mm thick and silver anodised. The end caps are made of impact-proof ABS.

# DELTA-BOX

### **i** INFORMATION

- ▶ All enclosures fulfil protection class IP 43 in accordance with DIN EN 60529
- ▶ With an additional punched seal IP 54 can be reached
- ▶ Temperature resistance: -20 °C to +80 °C
- ▶ The standard enclosure colour is black, similar to RAL 9005
- ▶ Special colours are available on request
- ▶ Delta-Box-Enclosures are available in seven profile heights
- ▶ Special lengths are available on request
- ▶ Accessories: EMC-Version, IP 54 sealing kit, Battery compartment MB 92 (1x9-V or 2xMignon)



▶ PDF DXF 3D

Article number	Type	L	W	H	FÜ	IP 54	EMV
		mm	mm	mm			
1501100100	DELTA-BOX 80	84	80	40	■		■
1501100200	DELTA-BOX 130	134	80	40	■		■
1501100300	DELTA-BOX 180	184	80	40	■		■
1501100400	DELTA-BOX 210	214	80	40	■		■
1501100500	DELTA-BOX 1130	134	106	50	■	■	■
1501100600	DELTA-BOX 1180	184	106	50	■	■	■
1501100700	DELTA-BOX 1210	214	106	50	■	■	■
1501100800	DELTA-BOX 1300	300	106	50	■	■	■
1501100900	DELTA-BOX 2130	134	166	35	■	■	■
1501101000	DELTA-BOX 2180	184	166	35	■	■	■
1501101100	DELTA-BOX 2210	214	166	35	■	■	■
1501101200	DELTA-BOX 2300	300	166	35	■	■	■
1501101300	DELTA-BOX 3130	134	120	35	■	■	■
1501101400	DELTA-BOX 3180	184	120	35	■	■	■
1501101500	DELTA-BOX 3210	214	120	35	■	■	■
1501101600	DELTA-BOX 3300	300	120	35	■	■	■
1501101700	DELTA-BOX 4130	134	166	50	■	■	■
1501101800	DELTA-BOX 4180	184	166	50	■	■	■
1501101900	DELTA-BOX 4210	214	166	50	■	■	■
1501102000	DELTA-BOX 4300	300	166	50	■	■	■
1501102100	DELTA-BOX 5130	134	106	70	■	■	■
1501102200	DELTA-BOX 5180	184	106	70	■	■	■
1501102300	DELTA-BOX 5210	214	106	70	■	■	■
1501102400	DELTA-BOX 5300	300	106	70	■	■	■
1501102500	DELTA-BOX 6130	134	166	70	■	■	■
1501102600	DELTA-BOX 6180	184	166	70	■	■	■
1501102700	DELTA-BOX 6210	214	166	70	■	■	■
1501102800	DELTA-BOX 6300	300	166	70	■	■	■

L = Length, W = Width, H = Height, FÜ = Rubber feet (4 pieces), IP 54 = Additional seal IP 54, EMV = EMC version  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)





## Keyboard-Enclosures TAST

Protection class IP 43

IP 43

**TAST-Enclosures made of extruded aluminium profile serve as desk, wall or machine enclosures.** They are preferably used as keyboard, operating elements or displays in control and measurement technology applications. The dimensions and groove guides in the base allow convenient assembly of PCBs or other electronic components. The aluminium front plates are 2 mm thick and are silver anodised. The end caps are made of impact proof ABS.



▶ PDF DXF 3D

TAST

### INFORMATION

- ▶ All enclosures fulfil protection class IP 43 in accordance with DIN EN 60529
- ▶ Temperature resistance: -20 °C to +80 °C
- ▶ The standard enclosure colour is light grey/dark grey, similar to RAL 7035/7012
- ▶ Special colours are available on request
- ▶ TAST-Enclosures are available in two profile heights
- ▶ Special lengths are available on request
- ▶ Accessories: Battery compartment MB 92 (1x9-V or 2xMignon), Plug in screw nuts, Rubber feet

Article number	Type	L	W	H	FÜ	VM
		mm	mm	mm		
1101100400	TAST 100	118	168	45 / 25	■	■
1101100500	TAST 170	178	168	45 / 25	■	■
1101100600	TAST 230	252	168	45 / 25	■	■
1101100700	TAST 330	338	168	45 / 25	■	■
1101100800	TAST 1100	118	168	65 / 45	■	■
1101100900	TAST 1170	178	168	65 / 45	■	■
1101101000	TAST 1230	252	168	65 / 45	■	■
1101101100	TAST 1330	338	168	65 / 45	■	■

L = Length, W = Width, H = Height, FÜ = Rubber feet (4 pieces), VM = Slide in screw nut (4 pieces)  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## Keyboard-Enclosures MINI-TAST

Protection class IP 43

IP 43



**MINI-TAST-Enclosures made of extruded aluminium profile serve as desk, wall or machine enclosures.** They are convincing with their slim design and are preferably used as keyboard, operating elements or displays in control and measurement technology applications. The dimensions and groove guides in the base allow convenient assembly of PCBs or other electronic components. The aluminium front plates are 2 mm thick and are silver anodised. The end caps are made of impact proof ABS.



▶ PDF DXF 3D

MINI-TAST

### INFORMATION

- ▶ All enclosures fulfil protection class IP 43 in accordance with DIN EN 60529
- ▶ Temperature resistance: -20 °C to +80 °C
- ▶ The standard enclosure colour is black, similar to RAL 9005
- ▶ Special colours are available on request
- ▶ MINI-TAST-Enclosures are available in two profile heights
- ▶ Special lengths are available on request
- ▶ Accessories: Battery compartment MB 92 (1x9-V or 2xMignon), Slide in screw nuts, Rubber feet

Article number	Type	L	W	H	FÜ	VM
		mm	mm	mm		
1101100100	MINI-TAST 90	92	168	45 / 25	■	■
1101100200	MINI-TAST 110	112	168	45 / 25	■	■
1101100300	MINI-TAST 130	132	168	45 / 25	■	■

L = Length, W = Width, H = Height, FÜ = Rubber feet (4 pieces), VM = Slide in screw nut (4 pieces)  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## Polyester-Enclosures MBP

Protection class IP 66



**MBP-Enclosures are conform to the high standards required for applications within the mechanical engineering, shipbuilding, galvanic and petrochemical industry.** Besides good resistance to most solvents and acids, fibre glass reinforced Polyester is flame retardant and self-extinguishing. The enclosures are generally used as terminal enclosures or as command and information enclosures in chemically aggressive environments, such as refineries or road tunnels.

### **i** INFORMATION

- ▶ All enclosures fulfil protection class IP 66 in accordance with DIN EN 60529
- ▶ Cover screws with captive function made of stainless steel
- ▶ Wall mounting can be done through separate screw channels outside the sealing area
- ▶ Temperature resistance with neoprene seal: -40 °C to +110 °C
- ▶ Temperature resistance with silicone seal: -50 °C to +140 °C
- ▶ The neoprene cover seal is oil and petrol resistant
- ▶ Special sealing materials are available on request (e.g. silicone)
- ▶ The standard enclosure colour is silver grey, similar to RAL 7001
- ▶ Accessories: Optional accessories are listed in the table of sizes



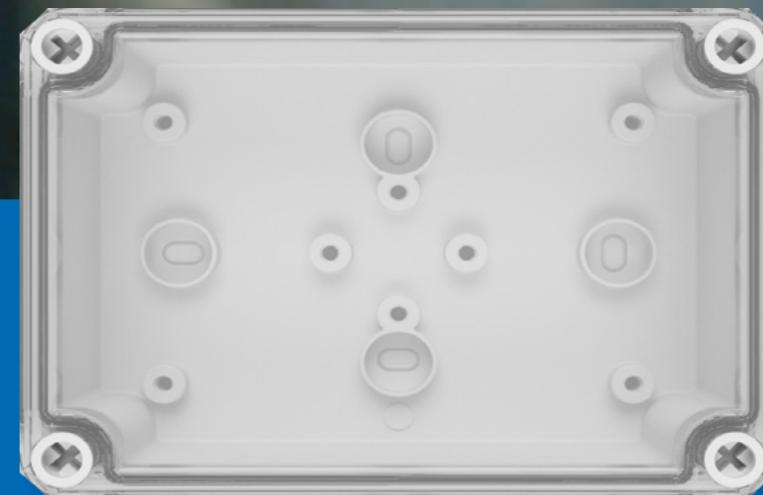
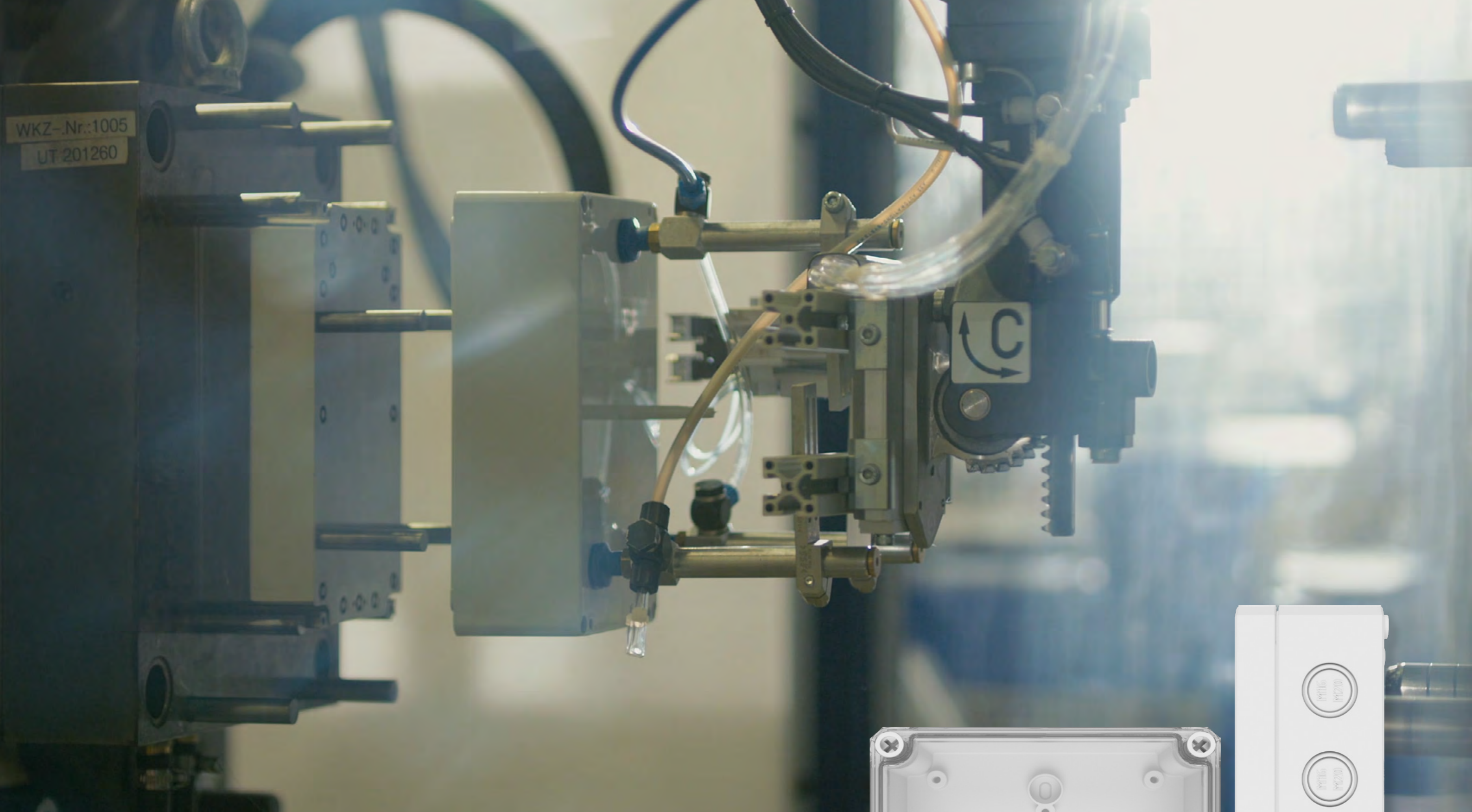
▶ PDF DXF 3D

# MBP

Article number	Type	L	W	H	TS	M	WL	SI
		mm	mm	mm				
0201100100	MBP 807555	80	75	55	■	■	■	■
0201100200	MBP 807575	80	75	75	■	■	■	■
0201100300	MBP 117550	110	75	50	■	■	■	■
0201100350	MBP 117555	110	75	55	■	■	■	■
0201100400	MBP 117575	110	75	75	■	■	■	■
0201100500	MBP 167555	160	75	55	■	■	■	■
0201100600	MBP 167575	160	75	75	■	■	■	■
0201100700	MBP 197555	190	75	55	■	■	■	■
0201100800	MBP 197575	190	75	75	■	■	■	■
0201100900	MBP 237550	230	75	50	■	■	■	■
0201101000	MBP 237575	230	75	75	■	■	■	■
0201101100	MBP 121290	122	120	90	■	■	■	■
0201101300	MBP 221290	220	120	90	■	■	■	■
0201101200	MBP 161690	160	160	90	■	■	■	■
0201101400	MBP 261690	260	160	90	■	■	■	■
0201101500	MBP 361690	360	160	90	■	■	■	■
0201101900	MBP 561690	560	160	90	■	■	■	■
0201101620	MBP 202512	200	250	120	■	■	■	■
0201101600	MBP 252512	255	250	120	■	■	■	■
0201101650	MBP 252516	255	250	160	■	■	■	■
0201101700	MBP 402512	400	250	120	■	■	■	■
0201101750	MBP 402516	400	250	160	■	■	■	■
0201102000	MBP 602512	600	250	120	■	■	■	■
0201102200	MBP 602516	600	250	160	■	■	■	■
0201101800	MBP 404012	400	405	120	■	■	■	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, WL = Wall mounting bracket set, SI = Silicone cover sealing, Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)





▶ **More information about our in-house plastic injection**

Scan the QR code, or visit us on [www.multi-box.com](http://www.multi-box.com)



## Polycarbonate-Enclosures MBX

Protection class IP 69 / IP 66



PDF DXF 3D

**MULTI-BOX MBX is one of the strongest standard plastic enclosure range on the market, specifically designed for use in industrial and outdoor applications.** The three versions of the enclosure series cover the various requirements of demanding applications, such as shipbuilding, agricultural engineering or wind power industry.

The enclosures offer an excellent protection for sensitive electronic components, even in demanding environments. With a seamlessly foamed 2-component polyurethane gasket, all MULTI-BOX MBX types achieve protection class IP69. The enclosures can easily **withstand high pressure water jets, steam jet cleaning or short-term flooding.** The extremely durable version MULTI-BOX MBX PRO is produced from a newly developed impact-resistant and weather-resistant polycarbonate material, which meets self-extinguishing levels according to UL94V-0/5VA. The MBX PRO series is superior to all aluminium enclosures, especially in applications with high risk of corrosion. The 10 sizes are **compatible with the well-known standard aluminium enclosures.** In addition, MBX PRO enclosures meet the requirements of DIN EN 45545-2 for railway applications.

# MBX

	MBX PRO	MBX BASIC	MBX BASIC-K Clear Cover
Colour description base	Silver-Grey / RAL 7001	Light grey / RAL 7035	Light grey / RAL 7035
Colour description cover	Silver-Grey / RAL 7001	Light grey / RAL 7035	Transparent
Thread bushes & screws	Brass nickel-plated / Stainless steel	Brass / Stainless steel	Brass / Stainless steel
Protection class	IP69 / IP66	IP69 / IP66	IP69 / IP66
Temperature resistance	-40 °C to +100 °C	-40 °C to +100 °C	-40 °C to +100 °C
UV-resistance	UL 746C (F1)	UL 746C (F1)	UL 746C (F1)
Impact resistance	IK10	IK08	IK08
Flame retardancy	UL 94V-0/5VA	UL 94V-2	UL 94V-2
Sealing (Standard)	PU foamed seamless	PU foamed seamless	PU foamed seamless



MBX PRO	Type	L	W	H	TS	M	WL	GAM	WMB	MB Fix
Article number		mm	mm	mm						
1005100200	MBX 606030 P	58	64	34	■	■	■		■	■
1005100400	MBX 906030 P	98	64	35	■	■	■		■	■
1005100900	MBX 708055 P	75	80	57	■	■	■	■	■	■
1005101100	MBX 128055 P	125	80	57	■	■	■	■	■	■
1005101300	MBX 178055 P	175	80	57	■	■	■	■	■	■
1005101800	MBX 121280 P	122	120	80	■	■	■	■	■	■
1005101900	MBX 121290 P	122	120	90	■	■	■	■	■	■
1005102300	MBX 221290 P	220	120	90	■	■	■	■	■	■
1005102500	MBX 161690 P	160	160	90	■	■	■	■	■	■
1005102600	MBX 261690 P	260	160	90	■	■	■	■	■	■

MBX BASIC	Type	L	W	H	TS	M	WL	GAM	WMB	MB Fix
Article number		mm	mm	mm						
1003100200	MBX 606030 B	58	64	34	■	■	■		■	■
1003100400	MBX 906030 B	98	64	35	■	■	■		■	■
1003100900	MBX 708055 B	75	80	57	■	■	■	■	■	■
1003101100	MBX 128055 B	125	80	57	■	■	■	■	■	■
1003101300	MBX 178055 B	175	80	57	■	■	■	■	■	■
1003101800	MBX 121280 B	122	120	80	■	■	■	■	■	■
1003101900	MBX 121290 B	122	120	90	■	■	■	■	■	■
1003102300	MBX 221290 B	220	120	90	■	■	■	■	■	■
1003102500	MBX 161690 B	160	160	90	■	■	■	■	■	■
1003102600	MBX 261690 B	260	160	90	■	■	■	■	■	■

MBX BASIC-K	Type	L	W	H	TS	M	WL	GAM	WMB	MB Fix
Article number		mm	mm	mm						
1004100200	MBX 606030 BK	58	64	34	■	■	■		■	■
1004100400	MBX 906030 BK	98	64	35	■	■	■		■	■
1004100900	MBX 708055 BK	75	80	57	■	■	■	■	■	■
1004101100	MBX 128055 BK	125	80	57	■	■	■	■	■	■
1004101300	MBX 178055 BK	175	80	57	■	■	■	■	■	■
1004101800	MBX 121280 BK	122	120	80	■	■	■	■	■	■
1004101900	MBX 121290 BK	122	120	90	■	■	■	■	■	■
1004102300	MBX 221290 BK	220	120	90	■	■	■	■	■	■
1004102500	MBX 161690 BK	160	160	90	■	■	■	■	■	■
1004102600	MBX 261690 BK	260	160	90	■	■	■	■	■	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, WL = Wall mounting bracket set, GAM = External hinge set, WMB = Wall fixation bushes, MB-Fix = Pole mounting set MB-Fix - Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

# Polycarbonate-Enclosures MBI

Protection class IP 66



The MBI enclosure series is characterised by a wide range of sizes and a systematic focus on requirements in industrial installations. The base parts of the enclosures are optionally available with metric pre-formed knockouts or plain side walls. They can be combined with grey or transparent covers. With a seamlessly foamed 2-component polyurethane gasket, all types achieve protection class IP66. The cover screws are made of plastic material and therefore they are completely corrosion-free. The impact resistance of the enclosures corresponds to IK08, making the MBI series ideally suitable for use in industrial and outdoor applications.

Depending on quantities, we can produce customer-specific mould sides. Individual knockouts, cutouts and hole designs can be implemented in the injection mould and there is no requirement for further mechanical processing.

## INFORMATION

- ▶ Protection class IP66
- ▶ Seamlessly foamed-in 2-component polyurethane gasket
- ▶ Impact resistance IK08 (DIN EN 50102:1997-09)
- ▶ Glass-fibre reinforced polycarbonate in colour grey RAL 7035
- ▶ UV-resistant (UL 746C F1)
- ▶ Self-extinguishing (UL 94 V0) in colour grey
- ▶ Flammability classification UL 94 V2 with transparent cover



▶ PDF DXF 3D



Type	M	MK	O	OK	L	W	H	TS	M	WL	GAM	WMB
					mm	mm	mm					
MBI-PC 070706	0902107760	0904107760	0901107760	0903107760	65	65	57	■	■	■		■
MBI-PC 070708	0902107780	0904107780	0901107780	0903107780	65	65	81	■	■	■		■
MBI-PC 090706	0902109760	0904109760	0901109760	0903109760	94	65	57	■	■	■		■
MBI-PC 090708	0902109780	0904109780	0901109780	0903109780	94	65	81	■	■	■		■
MBI-PC 090906	0902109960	0904109960	0901109960	0903109960	94	94	57	■	■	■	□	■
MBI-PC 090908	0902109980	0904109980	0901109980	0903109980	94	94	81	■	■	■	□	■
MBI-PC 130906	0902103960	0904103960	0901103960	0903103960	130	94	57	■	■	■	□	■
MBI-PC 130908	0902103980	0904103980	0901103980	0903103980	130	94	81	■	■	■	□	■
MBI-PC 180906	0902108960	0904108960	0901108960	0903108960	180	94	57	■	■	■	□	■
MBI-PC 180908	0902108980	0904108980	0901108980	0903108980	180	94	81	■	■	■	□	■
MBI-PC 111107	0902101170	0904101170	0901101170	0903101170	110	110	66	■	■	■	□	■
MBI-PC 111109	0902101190	0904101190	0901101190	0903101190	110	110	90	■	■	■	□	■
MBI-PC 181106	0902108160	0904108160	0901108160	0903108160	180	110	63	■	■	■	□	■
MBI-PC 181108	0902108180	0904108180	0901108180	0903108180	180	110	84	■	■	■	□	■
MBI-PC 181109	0902108190	0904108190	0901108190	0903108190	180	110	90	■	■	■	□	■
MBI-PC 181111	0902108110	0904108110	0901108110	0903108110	180	110	111	■	■	■	□	■
MBI-PC 181114	0902108140	0904108140	0901108140	0903108140	180	110	137	■	■	■	□	■
MBI-PC 181117	0902108170	0904108170	0901108170	0903108170	180	110	165	■	■	■	□	■
MBI-PC 131308	0902103380	0904103380	0901103380	0903103380	130	130	75	■	■	■	□	■
MBI-PC 131310	0902103300	0904103300	0901103300	0903103300	130	130	99	■	■	■	□	■
MBI-PC 181306	0902108360	0904108360	0901108360	0903108360	180	130	63	■	■	■	□	■
MBI-PC 181308	0902108380	0904108380	0901108380	0903108380	180	130	84	■	■	■	□	■
MBI-PC 181309	0902108390	0904108390	0901108390	0903108390	180	130	90	■	■	■	□	■
MBI-PC 181311	0902108310	0904108310	0901108310	0903108310	180	130	111	■	■	■	□	■
MBI-PC 181314	0902108340	0904108340	0901108340	0903108340	180	130	137	■	■	■	□	■
MBI-PC 181317	0902108370	0904108370	0901108370	0903108370	180	130	165	■	■	■	□	■
MBI-PC 181806	0902108860	0904108860	0901108860	0903108860	182	180	63	■	■	■	□	■
MBI-PC 181808	0902108880	0904108880	0901108880	0903108880	182	180	84	■	■	■	□	■
MBI-PC 181809	0902108890	0904108890	0901108890	0903108890	182	180	90	■	■	■	□	■
MBI-PC 181811	0902108810	0904108810	0901108810	0903108810	182	180	111	■	■	■	□	■
MBI-PC 181814	0902108840	0904108840	0901108840	0903108840	182	180	137	■	■	■	□	■
MBI-PC 181817	0902108870	0904108870	0901108870	0903108870	182	180	165	■	■	■	□	■
MBI-PC 251806	0902105860	0904105860	0901105860	0903105860	254	180	63	■	■	■	□	■
MBI-PC 251808	0902105880	0904105880	0901105880	0903105880	254	180	84	■	■	■	□	■
MBI-PC 251809	0902105890	0904105890	0901105890	0903105890	254	180	90	■	■	■	□	■
MBI-PC 251811	0902105810	0904105810	0901105810	0903105810	254	180	111	■	■	■	□	■
MBI-PC 251814	0902105840	0904105840	0901105840	0903105840	254	180	137	■	■	■	□	■
MBI-PC 251817	0902105870	0904105870	0901105870	0903105870	254	180	165	■	■	■	□	■
MBI-PC 362511	0902106510	0904106510	0901106510	0903106510	361	254	111	■	■	■	□	■
MBI-PC 362517	0902106570	0904106570	0901106570	0903106570	361	254	165	■	■	■	□	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, WL = Wall mounting bracket set, GA = External hinge set, WMB = Wall fixation bushes, □ = Only O und OK

Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

# Polycarbonate-Enclosures MBM

Protection class IP 65



**MBM-Enclosures** offer excellent properties for the instillation of electronic and electrical components as well as complete control systems. Thanks to the **high UV-resistance** of the material, these enclosures can be used in both **indoor and outdoor areas**. The MBM-Enclosures can be mechanically processed in a number of ways providing almost no limits for customised surface design, including silk screen printing or membrane keyboards. MBM-Enclosures are **available with a grey or transparent cover (K)**.

## INFORMATION

- ▶ All enclosures fulfil protection class IP 65 in accordance with DIN EN 60529
- ▶ Seamlessly foamed-in 2-component polyurethane gasket
- ▶ Temperature resistance: -40 °C to +100 °C
- ▶ Cover screws with captive function made of stainless steel
- ▶ Wall mounting can be done through separate screw channels outside the sealing area
- ▶ The standard enclosure colour is light grey, similar to RAL 7035
- ▶ Special colours are available on request
- ▶ Accessories: Optional accessories are listed in the table of sizes



▶ PDF DXF 3D



Article number	Type	L	W	H	TS	M	FÜ	GAM	SI	WL	K	RD	IS
		mm	mm	mm									
0301100100	MBM 050504	52	50	35		■			■		■	■	
0301100200	MBM 060504	65	50	35		■			■		■	■	
0301100400	MBM 060505	65	50	45		■			■		■	■	
0301100500	MBM 060545	65	50	45		■			■		■	■	
0301100600	MBM 060555	65	50	55		■			■		■	■	
0301100700	MBM 060603	58	64	37					■		■	■	
0301100800	MBM 090603	98	64	37					■	■	■	■	
0301101000	MBM 080805	82	80	55	■	■	■		■	■	■	■	■
0301101200	MBM 080807	82	80	65	■	■	■		■	■	■	■	■
0301101300	MBM 080809	82	80	85	■	■	■		■	■	■	■	■
0301101400	MBM 080810	82	80	95	■	■	■		■	■	■	■	■
0301101500	MBM 128035	120	80	36		■	■		■	■	■	■	
0301101600	MBM 128040	120	80	41		■	■	■	■	■	■	■	■
0301101700	MBM 128045	120	80	47		■	■	■	■	■	■	■	■
0301101900	MBM 128050	120	80	50	■	■	■	■	■	■	■	■	■
0301102100	MBM 128055	120	80	55	■	■	■	■	■	■	■	■	■
0301102300	MBM 128060	120	80	60	■	■	■	■	■	■	■	■	■
0301102330	MBM 128060	120	80	60		■	■	■	■	■	■	■	
0301102340	MBM 128065	120	80	65		■	■	■	■	■	■	■	■
0301102500	MBM 128070	120	80	70	■	■	■	■	■	■	■	■	■
0301102550	MBM 128070	120	80	70		■	■	■	■	■	■	■	■
0301102700	MBM 128080	120	80	80	■	■	■	■	■	■	■	■	■
0301102750	MBM 128080	120	80	80		■	■	■	■	■	■	■	■
0301102900	MBM 128085	120	80	85	■	■	■	■	■	■	■	■	■
0301103100	MBM 128090	120	80	90	■	■	■	■	■	■	■	■	■
0301103300	MBM 128010	120	80	100	■	■	■	■	■	■	■	■	■
0301103610	MBM 168035	160	80	37		■	■	■	■	■	■	■	■
0301103500	MBM 168055	160	80	55	■	■	■	■	■	■	■	■	■
0301103700	MBM 168060	160	80	60	■	■	■	■	■	■	■	■	■
0301103800	MBM 168085	160	80	85	■	■	■	■	■	■	■	■	■
0301103900	MBM 168090	160	80	90	■	■	■	■	■	■	■	■	■
0301104000	MBM 208055	200	80	55	■	■	■	■	■	■	■	■	■
0301109700	MBM 208011	200	80	110	■	■	■	■	■	■	■	■	■
0301107510	MBM 248055	240	80	55	■	■	■	■	■	■	■	■	■
0301104200	MBM 121255	122	120	55	■	■	■	■	■	■	■	■	■
0301104400	MBM 121275	122	120	75	■	■	■	■	■	■	■	■	■
0301104600	MBM 121285	122	120	85	■	■	■	■	■	■	■	■	■
0301104800	MBM 121211	122	120	105	■	■	■	■	■	■	■	■	■
0301104900	MBM 161255	160	120	55		■	■	■	■	■	■	■	■
0301105000	MBM 161270	160	120	70		■	■	■	■	■	■	■	■
0301105100	MBM 161275	160	120	75		■	■	■	■	■	■	■	■
0301105200	MBM 161290	160	120	90	■	■	■	■	■	■	■	■	■
0301105300	MBM 161212	160	120	120	■	■	■	■	■	■	■	■	■
0301105400	MBM 161214	160	120	140	■	■	■	■	■	■	■	■	■
0301105500	MBM 161665	160	160	65	■	■	■	■	■	■	■	■	■
0301105600	MBM 201255	200	120	55		■	■	■	■	■	■	■	■
0301105700	MBM 201270	200	120	70		■	■	■	■	■	■	■	■
0301105900	MBM 201275	200	120	75	■	■	■	■	■	■	■	■	■
0301106100	MBM 201290	200	120	90	■	■	■	■	■	■	■	■	■
0301106200	MBM 201555	200	150	55	■	■	■	■	■	■	■	■	■
0301106300	MBM 201575	200	150	75	■	■	■	■	■	■	■	■	■
0301106400	MBM 201580	200	150	80	■	■	■	■	■	■	■	■	■
0301106500	MBM 201510	200	150	100	■	■	■	■	■	■	■	■	■
0301106600	MBM 201511	200	150	105	■	■	■	■	■	■	■	■	■
0301106700	MBM 201513	200	150	125	■	■	■	■	■	■	■	■	■
0301106800	MBM 241210	240	120	100	■	■	■	■	■	■	■	■	■
0301106900	MBM 241270	240	120	70	■	■	■	■	■	■	■	■	■
0301107030	MBM 241670	240	160	70	■	■	■	■	■	■	■	■	■
0301107000	MBM 241690	240	160	90	■	■	■	■	■	■	■	■	■
0301107100	MBM 241612	240	160	120	■	■	■	■	■	■	■	■	■
0301107200	MBM 251655	250	160	55		■	■	■	■	■	■	■	■
0301107300	MBM 251685	250	160	85		■	■	■	■	■	■	■	■
0301107400	MBM 251690	250	160	90		■	■	■	■	■	■	■	■
0301107500	MBM 251611	250	160	115		■	■	■	■	■	■	■	■
0301107600	MBM 251612	250	160	120		■	■	■	■	■	■	■	■
0301107700	MBM 251615	250	160	150		■	■	■	■	■	■	■	■
0301107800	MBM 302365	300	230	65	■	■	■	■	■	■	■	■	■
0301107900	MBM 302385	300	230	85	■	■	■	■	■	■	■	■	■
0301108000	MBM 302311	300	230	110	■	■	■	■	■	■	■	■	■
0301108200	MBM 341555	340	150	55	■	■	■	■	■	■	■	■	■
0301108300	MBM 341580	340	150	75	■	■	■	■	■	■	■	■	■
0301108500	MBM 341510	340	150	100	■	■	■	■	■	■	■	■	■
0301108600	MBM 341512	340	150	120	■	■	■	■	■	■	■	■	■
0301108700	MBM 362015	360	200	150		■	■	■	■	■	■	■	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, FÜ = Rubber feet (4 pieces), GAM = External hinge set (2 pieces), SI = Silicone cover sealing, WL = Wall mounting brackets, K = Clear cover, RD = Knurled screws, IS = Hex socket head screws  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

# ABS-Enclosures MBT

Protection class IP 65



**MBT-Enclosures** offer excellent properties for the installation of electronic and electrical components as well as complete control systems for **indoor applications**. The MBT-Enclosures can be mechanically processed in a number of ways providing almost no limits for customised surface design, including silk screen printing or membrane keyboards. The enclosures are **available with a grey or transparent cover (K)**.

## INFORMATION

- ▶ All enclosures fulfil protection class IP 65 in accordance with DIN EN 60529
- ▶ Seamlessly foamed-in 2-component polyurethane gasket
- ▶ Temperature resistance: -40 °C to +80 °C
- ▶ Cover screws with captive function made of stainless steel
- ▶ Wall mounting can be done through separate screw channels outside the sealing area
- ▶ The standard enclosure colour is light light grey, similar to RAL 7035
- ▶ Special colours are available on request
- ▶ Accessories: Optional accessories are listed in the table of sizes



▶ PDF DXF 3D

# MBT

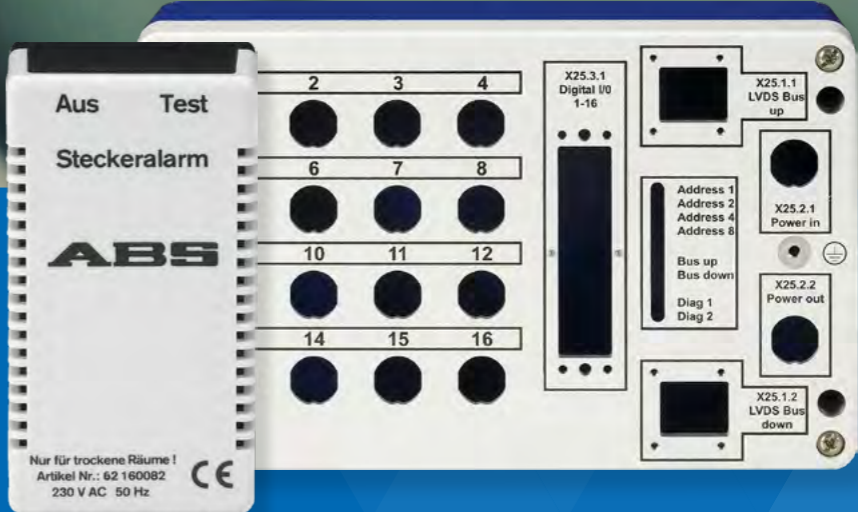
Article number	Type	L	W	H	TS	M	FÜ	GAM	SI	WL	K	RD	IS
		mm	mm	mm									
0401100100	MBT 050504	52	50	35		■			■		■	■	
0401100200	MBT 060504	65	50	35		■			■		■	■	
0401100400	MBT 060505	65	50	45		■			■		■	■	
0401100500	MBT 060545	65	50	45		■			■		■	■	
0401100600	MBT 060555	65	50	55		■			■		■	■	
0401100700	MBT 060603	58	64	37					■		■	■	
0401100800	MBT 090603	98	64	37					■	■	■	■	
0401101000	MBT 080805	82	80	55	■	■	■		■	■	■	■	■
0401101200	MBT 080807	82	80	65	■	■	■		■	■	■	■	■
0401101300	MBT 080809	82	80	85	■	■	■		■	■	■	■	■
0401101400	MBT 080810	82	80	95	■	■	■		■	■	■	■	■
0401101500	MBT 128035	120	80	36		■	■		■	■	■	■	
0401101600	MBT 128040	120	80	41		■	■		■	■	■	■	■
0401101700	MBT 128045	120	80	47		■	■		■	■	■	■	■
0401101900	MBT 128050	120	80	50	■	■	■		■	■	■	■	
0401102100	MBT 128055	120	80	55	■	■	■		■	■	■	■	■
0401102300	MBT 128060	120	80	60	■	■	■		■	■	■	■	
0401102330	MBT 128060	120	80	60		■	■		■	■	■	■	
0401102340	MBT 128065	120	80	65		■	■		■	■	■	■	■
0401102500	MBT 128070	120	80	70	■	■	■		■	■	■	■	
0401102550	MBT 128070	120	80	70		■	■		■	■	■	■	
0401102700	MBT 128080	120	80	80	■	■	■		■	■	■	■	
0401102750	MBT 128080	120	80	80		■	■		■	■	■	■	
0401102900	MBT 128085	120	80	85	■	■	■		■	■	■	■	■
0401103100	MBT 128090	120	80	90	■	■	■		■	■	■	■	
0401103300	MBT 128010	120	80	100	■	■	■		■	■	■	■	
0401103610	MBT 168035	160	80	37	■	■	■		■	■	■	■	
0401103500	MBT 168055	160	80	55	■	■	■		■	■	■	■	■
0401103700	MBT 168060	160	80	60	■	■	■		■	■	■	■	
0401103800	MBT 168085	160	80	85	■	■	■		■	■	■	■	■
0401103900	MBT 168090	160	80	90	■	■	■		■	■	■	■	
0401104000	MBT 208055	200	80	55	■	■	■		■	■	■	■	■
0401109700	MBT 208011	200	80	110	■	■	■		■	■	■	■	■
0401107510	MBT 248055	240	80	55	■	■	■		■	■	■	■	■
0401104200	MBT 121255	122	120	55	■	■	■		■	■	■	■	■
0401104400	MBT 121275	122	120	75	■	■	■		■	■	■	■	
0401104600	MBT 121285	122	120	85	■	■	■		■	■	■	■	■
0401104800	MBT 121211	122	120	105	■	■	■		■	■	■	■	
0401104900	MBT 161255	160	120	55	■	■	■		■	■	■	■	■
0401105000	MBT 161270	160	120	70	■	■	■		■	■	■	■	
0401105100	MBT 161275	160	120	75	■	■	■		■	■	■	■	
0401105200	MBT 161290	160	120	90	■	■	■		■	■	■	■	■
0401105300	MBT 161212	160	120	120	■	■	■		■	■	■	■	
0401105400	MBT 161214	160	120	140	■	■	■		■	■	■	■	
0401105500	MBT 161665	160	160	65	■	■	■		■	■	■	■	
0401105600	MBT 201255	200	120	55	■	■	■		■	■	■	■	■
0401105700	MBT 201270	200	120	70	■	■	■		■	■	■	■	■
0401105900	MBT 201275	200	120	75	■	■	■		■	■	■	■	■
0401106100	MBT 201290	200	120	90	■	■	■		■	■	■	■	■
0401106200	MBT 201555	200	150	55	■	■	■		■	■	■	■	■
0401106300	MBT 201575	200	150	75	■	■	■		■	■	■	■	■
0401106400	MBT 201580	200	150	80	■	■	■		■	■	■	■	
0401106500	MBT 201510	200	150	100	■	■	■		■	■	■	■	
0401106600	MBT 201511	200	150	105	■	■	■		■	■	■	■	
0401106700	MBT 201513	200	150	125	■	■	■		■	■	■	■	
0401106800	MBT 241210	240	120	100	■	■	■		■	■	■	■	
0401106900	MBT 241270	240	120	70	■	■	■		■	■	■	■	
0401107030	MBT 241670	240	160	70	■	■	■		■	■	■	■	■
0401107000	MBT 241690	240	160	90	■	■	■		■	■	■	■	■
0401107100	MBT 241612	240	160	120	■	■	■		■	■	■	■	
0401107200	MBT 251655	250	160	55	■	■	■		■	■	■	■	■
0401107300	MBT 251685	250	160	85	■	■	■		■	■	■	■	
0401107400	MBT 251690	250	160	90	■	■	■		■	■	■	■	■
0401107500	MBT 251611	250	160	115	■	■	■		■	■	■	■	
0401107600	MBT 251612	250	160	120	■	■	■		■	■	■	■	
0401107700	MBT 251615	250	160	150	■	■	■		■	■	■	■	
0401107800	MBT 302365	300	230	65	■	■	■		■	■	■	■	
0401107900	MBT 302385	300	230	85	■	■	■		■	■	■	■	
0401108000	MBT 302311	300	230	110	■	■	■		■	■	■	■	
0401108200	MBT 341555	340	150	55	■	■	■		■	■	■	■	
0401108300	MBT 341580	340	150	75	■	■	■		■	■	■	■	
0401108500	MBT 341510	340	150	100	■	■	■		■	■	■	■	
0401108600	MBT 341512	340	150	120	■	■	■		■	■	■	■	
0401108700	MBT 362015	360	200	150		■	■		■	■	■	■	

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, FÜ = Rubber feet (4 pieces), GAM = External hinge set (2 pieces), SI = Silicone cover sealing, WL = Wall mounting brackets, K = Clear cover, RD = Knurled screws, IS = Hex socket head screws  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)



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## ABS-Enclosures MBT / Multi-Colour

Protection class IP 65

IP  
65

HB



### It doesn't always have to be grey!

With our **Multi-Colour-Enclosures made of ABS**, we offer the possibility of designing the colour of your products and visually upgrading them even for small quantities. Multi-Colour-Enclosures offer excellent properties for the installation of electronic and electrical components as well as complete control systems for **indoor applications**. Our enclosures can be mechanically processed in a number of ways providing almost no limits for customised surface design, including silk screen printing or membrane keyboards. The enclosures are **available with a coloured or transparent cover (K)**.

### **i** INFORMATION

- ▶ All enclosures fulfil protection class IP 65 in accordance with DIN EN 60529
- ▶ Seamlessly foamed-in 2-component polyurethane gasket
- ▶ Temperature resistance: -40 °C to +80 °C
- ▶ Cover screws with captive function made of stainless steel
- ▶ Wall mounting can be done through separate screw channels outside the sealing area
- ▶ Accessories: Optional accessories are listed in the table of sizes

#### Colours on stock:

- ▶ RAL 3020 (Red), RAL 1023 (yellow), RAL 5017 (blue), RAL 9005 (black)
- ▶ Your desired colour or dimension is not included? Please contact us. We also produce your desired enclosures in special colour.



▶ PDF DXF 3D

# MULTI-COLOUR

Article number	Type	L	W	H	TS	M	FÜ	GAM	SI	WL	Colour
		mm	mm	mm							
0401101010	MBT 080805	82	80	55	■	■	■		■	■	black
0401102110	MBT 128055	120	80	55	■	■	■	■	■	■	black
0401104211	MBT 121255	122	120	55	■	■	■	■	■	■	black
0401103110	MBT 168055	160	80	55	■	■	■	■	■	■	black
0401104950	MBT 161255	160	120	55		■	■	■	■	■	black
0401105910	MBT 201275	200	120	75	■	■	■	■	■	■	black
<hr/>											
0401101020	MBT 080805	82	80	55	■	■	■		■	■	yellow
0401102120	MBT 128055	120	80	55	■	■	■	■	■	■	yellow
0401104230	MBT 121255	122	120	55	■	■	■	■	■	■	yellow
0401103550	MBT 168055	160	80	55	■	■	■	■	■	■	yellow
0401104920	MBT 161255	160	120	55		■	■	■	■	■	yellow
0401105920	MBT 201275	200	120	75	■	■	■	■	■	■	yellow
<hr/>											
0401101030	MBT 080805	82	80	55	■	■	■		■	■	red
0401102130	MBT 128055	120	80	55	■	■	■	■	■	■	red
0401104240	MBT 121255	122	120	55	■	■	■	■	■	■	red
0401103530	MBT 168055	160	80	55	■	■	■	■	■	■	red
0401104930	MBT 161255	160	120	55		■	■	■	■	■	red
0401105930	MBT 201275	200	120	75	■	■	■	■	■	■	red
<hr/>											
0401101040	MBT 080805	82	80	55	■	■	■		■	■	blue
0401102140	MBT 128055	120	80	55	■	■	■	■	■	■	blue
0401104250	MBT 121255	122	120	55	■	■	■	■	■	■	blue
0401103540	MBT 168055	160	80	55	■	■	■	■	■	■	blue
0401104940	MBT 161255	160	120	55		■	■	■	■	■	blue
0401105940	MBT 201275	200	120	75	■	■	■	■	■	■	blue

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, FÜ = Rubber feet (4 pieces), GAM = External hinge set (2 pieces), SI = Silicone cover sealing, WL = Wall mounting brackets

Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

### ABS-Enclosures MBT / Membrane Recess

Protection class IP 65



**ABS-Enclosures MBT-FT** with membrane recess offer excellent properties for the installation of electronic and electrical components as well as complete control systems for **indoor applications**. Our enclosures can be mechanically processed in a number of ways providing almost no limits for customised surface design, including silk screen printing or membrane keyboards.



▶ PDF DXF 3D

**MBT-FT**

#### **i** INFORMATION

- ▶ All enclosures fulfil protection class IP 65 in accordance with DIN EN 60529
- ▶ Seamlessly foamed-in 2-component polyurethane gasket
- ▶ Temperature resistance: -40 °C to +80 °C
- ▶ Cover screws with captive function made of stainless steel
- ▶ Wall mounting can be done through separate screw channels outside the sealing area
- ▶ The standard enclosure colour is light grey, similar to RAL 7035
- ▶ Special colours are available on request
- ▶ Accessories: Optional accessories are listed in the table of sizes

Article number	Type	L	W	H	TS	M	FÜ	GAM	SI	WL
		mm	mm	mm						
0421101600	MBT 128040 FT	120	80	40		■	■	■	■	■
0421102100	MBT 128055 FT	120	80	55	■	■	■	■	■	■
0421102340	MBT 128065 FT	120	80	65		■	■	■	■	■
0421102900	MBT 128085 FT	120	80	85	■	■	■	■	■	■
0421103500	MBT 168055 FT	160	80	55	■	■	■	■	■	■
0421103800	MBT 168085 FT	160	80	85	■	■	■	■	■	■
0421104200	MBT 121255 FT	120	120	55	■	■	■	■	■	■
0421104600	MBT 121285 FT	120	120	85	■	■	■	■	■	■
0421105600	MBT 201255 FT	200	120	55		■	■	■	■	■
0421105900	MBT 201275 FT	200	120	75	■	■	■	■	■	■
0421106400	MBT 201580 FT	200	150	80	■	■	■	■	■	■
0401106550	MBT 201510 FT	200	150	100	■	■	■	■	■	■
0401108100	MBT 341555 FT	340	150	55	■	■	■	■	■	■
0401108400	MBT 341510 FT	340	150	100	■	■	■	■	■	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, FÜ = Rubber feet (4 pieces), GAM = External hinge set (2 pieces), SI = Silicone cover sealing, WL = Wall mounting brackets

Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

### Polycarbonate-Enclosures MBM / Duo-Box ABS-Enclosures MBT / Duo-Box

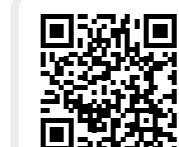
Protection class IP 65



**DUO-BOX** is an enclosure with two functional areas. This way electronic components can be separated from electrical connection technology for example. The enclosures are available in **Polycarbonate or ABS material**. As an option DUO-BOXES are also available with a **transparent cover (K)**.

#### **i** INFORMATION

- ▶ All enclosures fulfil protection class IP 65 in accordance with DIN EN 60529
- ▶ Seamlessly foamed-in 2-component polyurethane gasket
- ▶ Temperature resistance in ABS: -40 °C to +80 °C
- ▶ Temperature resistance in PC: -40 °C to +100 °C
- ▶ Cover screws with captive function made of stainless steel
- ▶ Wall mounting can be done through separate screw channels outside the sealing area
- ▶ The standard enclosure colour is light grey, similar to RAL 7035
- ▶ Special colours are available on request
- ▶ Accessories: Optional accessories are listed in the table of sizes



▶ PDF DXF 3D



## DUO-BOX

Article number	Type	L	W	H	M	FÜ	GAM	SI	WL	K
		mm	mm	mm						
0301108800	MBM 178055	170	80	55	■	■	■	■	■	■
0301108900	MBM 178060	170	80	60	■	■	■	■	■	■
0301109000	MBM 178070	170	80	70	■	■	■	■	■	■
0401108800	MBT 178055	170	80	55	■	■	■	■	■	■
0401108900	MBT 178060	170	80	60	■	■	■	■	■	■
0401109000	MBT 178070	170	80	70	■	■	■	■	■	■
0402108800	MBT 178055K	170	80	55	■	■	■	■	■	■
0402108900	MBT 178060K	170	80	60	■	■	■	■	■	■
0402109000	MBT 178070K	170	80	70	■	■	■	■	■	■

L = Length, W = Width, H = Height, M = Mounting plate, FÜ = Rubber feet (4 pieces), GAM = External hinge set (2 pieces), SI = Silicone cover sealing, WL = Wall mounting brackets, K = Clear cover

Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## ABS-Enclosures / Alpha-Box

Protection class IP 65



**ALPHA-BOX** made of ABS is a functional electronics enclosure in a contemporary design. This product accommodates numerous assembly options, including circuit boards and other electronic components.

The cover is invisibly fixed from the bottom side in the standard version. Fixing from the top side of the cover is also possible as an option.



▶ PDF DXF 3D

ALPHA-BOX

### INFORMATION

- ▶ All enclosures fulfil protection class IP 65 in accordance with DIN EN 60529
- ▶ Chloroprene (CR) cover gasket
- ▶ Temperature resistance: -40 °C to +80 °C
- ▶ The standard enclosure colour is pure white, similar to RAL 9010
- ▶ Special colours are available on request
- ▶ Accessories: Optional accessories are listed in the table of sizes

Article number	Type	L	W	H	FÜ	WL	DOM
		mm	mm	mm			
2301100160	MB 127040	125	70	40	■	■	■
2301100260	MB 158545	150	85	45	■	■	■
2301100360	MB 201150	200	115	50	■	■	■
2301100403	MB 127040 STE/CEE*	125	70	40			

\* with Schuko-Socket

L = Länge, W = Width, H = Height, FÜ = Rubber feat (4 pieces), WL = Wall mounting brackets, DOM = Cover installation mounting kit  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## Electronic-Enclosures MBPO

Protection class IP 20



**Electronic-Enclosures MBPO** in a shapely design are made of impact resistant Polystyrene and are particularly suited to the installation of small controls and desktop units. Excellent stability is achieved with the groove and spring sealing and the base parts that open to the side allowing fast and uncomplicated assembly of construction elements. The cover is invisibly fixed from the bottom side in the standard version. Fixing from the top side of the cover is also possible as an option.

### INFORMATION

- ▶ All enclosures fulfil protection class IP 20 in accordance with DIN EN 60529
- ▶ Temperature resistance: -20 °C to +60 °C
- ▶ Base part dark grey similar to RAL 7012
- ▶ Cover part light grey similar to RAL 7035
- ▶ Special colours are available on request
- ▶ Versions with air slots or isolated ground plug are available from stock
- ▶ Accessories: Optional accessories are listed in the table of sizes



▶ PDF DXF 3D

## MBPO

Article number	Type	L	W	H	DOM	DOB	S	FÜ	WL
		mm	mm	mm					
0501101000	MBPO 655030	65	50	30				■	■
0501100200	MBPO 655045	65	50	45				■	■
0501100300	MBPO 105025	100	50	25				■	■
0501100400	MBPO 105040	100	50	40	■	■	■	■	■
0501100500	MBPO 126540	120	65	40	■	■	■	■	■
0501100600	MBPO 126565	120	65	65	■	■	■	■	■
0501100700	MBPO 158055	150	80	55	■	■	■	■	■
0501100800	MBPO 158080	150	80	80	■	■	■	■	■
0501100900	MBPO 181140	188	110	40	■	■	■	■	
0501100100	MBPO 181160	188	110	60	■	■	■	■	■
0501101100	MBPO 181170	188	110	70	■	■	■	■	■
0501101200	MBPO 181110	188	110	100	■	■	■	■	■
0501101300	MBPO 181112	188	110	120	■	■	■	■	■
0501101700	MBPO 105040 LÜ So	100	50	40	■	■	■	■	■
0501101900	MBPO 126540 LÜ So	120	65	40				■	■
0501102200	MBPO 158055 LÜ So	150	80	55	■	■	■	■	■
0501102600	MBPO 181170 LÜ So	188	110	70	■	Serie		■	■

L = Length, W = Width, H = Height, DOM = Cover installation mounting kit, DOB = Cover fixing (drilled), S = Spring lock, FÜ = Rubber feet (4 pieces), WL = Wall mounting brackets

Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## Electronic-Connector-Enclosures MBPO-ST

Protection class IP 20



**Electronic-Connector-Enclosures MBPO-ST** with different plug versions made of flame-resistant and impact resistant Polystyrene are frequently used for industrial power packs and chargers. Plugs in Schuko, European, Swiss and French versions are available as options. Excellent stability is achieved with the groove and spring sealing and the base parts that open to the side allow fast and uncomplicated assembly of construction elements. The cover is invisibly fixed from the bottom side in the standard version. Fixing from the top side of the cover is also possible as an option.

Article number	Type	L	W	H	DOM	DOB
		mm	mm	mm		
0601100300	MBPO 655030 STE CEE*	65	50	30		
0601100400	MBPO 655045 STE CEE*	65	50	45		
0601100700	MBPO 105025 ST*	100	50	25		
0601100800	MBPO 105025 STE*	100	50	25		
0601100900	MBPO 105025 STEURO*	100	50	25		
0601101000	MBPO 105025 ST CH*	100	50	25		
0601101100	MBPO 105025 STE CEE*	100	50	25		
0601101200	MBPO 105040 ST*	100	50	40	■	■
0601101300	MBPO 105040 STE*	100	50	40	■	■
0601101400	MBPO 105040 STEURO*	100	50	40	■	■
0601101500	MBPO 105040 ST CH*	100	50	40	■	■
0601101600	MBPO 105040 STE CEE*	100	50	40	■	■
0601101700	MBPO 126540 ST*	120	65	40	■	■
0601101800	MBPO 126540 STE*	120	65	40	■	■
0501101500	MBPO 126555 DO CEE*	120	65	55		
0601102000	MBPO 126565 ST*	120	65	65	■	■
0601102100	MBPO 126565 STE*	120	65	65	■	■
0601102300	MBPO 126555 STE DO*	120	65	55		

L = Length, W = Width, H = Height, DOM = Cover installation mounting kit, DOB = Cover fixing (drilled),  
Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

ST\* = Plug without earthing  
 STE\* = Schuko plug with earthing  
 ST CEE\* = French plug version with earthing  
 ST CH\* = Swiss plug version with earthing  
 ST EURO\* = Europe plug version without earthing  
 DO\* = Schuko-socket with earthing  
 DO CEE\* = French socket with earthing

### **i** INFORMATION

- ▶ All enclosures fulfil protection class IP 20 in accordance with DIN EN 60529
- ▶ Temperature resistance: -20 °C to +60 °C
- ▶ Base part dark grey similar to RAL 7012
- ▶ Cover part light grey similar to RAL 7035
- ▶ Special colours are available on request
- ▶ Versions with air slots, integrated Schuko-Plug or French version are available from stock
- ▶ Accessories: Optional accessories are listed in the table of sizes



▶ PDF DXF 3D

# MBPO-ST

## Controller-Card-Enclosures MBRCA

Protection class IP 40 / 54

IP 40

IP 54

HB



**Controller-Card-Enclosure MBRCA** made of impact resistant Polystyrene are particularly suited to small controls and used in measurement and control technology. The enclosures have two function compartments and an open front side with a recessed edge to fix an aluminium front plate. With the separate connection compartment cover, free access to the terminal connection is possible. Knockouts for PG inserts are available in the connection compartment wall. Seven M3 threaded sockets are provided to fix circuit boards or assembly plates inside.

### INFORMATION

- ▶ MBRCA-Enclosures with clear cover (K) fulfil protection class IP 54 in accordance with DIN EN 60529
- ▶ Seamlessly foamed-in 2-component polyurethane gasket with clear cover (K)
- ▶ MBRCA-Enclosures with aluminium frontplate (without cover) fulfil protection class IP 40 in accordance with DIN EN 60529
- ▶ Temperature resistance: -20 °C to +60 °C
- ▶ The standard enclosure colour is light grey, similar to RAL 7035
- ▶ Special colours are available on request
- ▶ Accessories: Optional accessories are listed in the table of sizes



▶ PDF DXF 3D

**MBRCA**

Article number	Type	Protection class	L	W	T	F	KL	M	SV	WL
			mm	mm	mm					
0701100100	MBRCA 13	IP 40	130	180	78	■		■		■
0701100200	MBRCA 13K	IP 54	130	180	98	■	■	■	■	■
0701100300	MBRCA 14	IP 40	130	180	96	■		■		■
0701100400	MBRCA 14K	IP 54	130	180	116	■	■	■	■	■
0701100500	MBRCA 16	IP 40	165	155	69	■		■		■
0701100600	MBRCA 16K	IP 54	165	155	88	■	■	■	■	■
0701100700	MBRCA 17	IP 40	165	155	96	■		■		■
0701100800	MBRCA 17K	IP 54	165	155	115	■	■	■	■	■
0701100900	MBRCA 20	IP 40	213	180	80	■		■		■
0701101000	MBRCA 20K	IP 54	213	180	96	■	■	■	■	■
0701101100	MBRCA 25	IP 40	257	214	108	■		■		■
0701101200	MBRCA 25K	IP 54	257	214	128	■	■	■	■	■
0701101300	MBRCA 30	IP 40	295	250	86	■		■		■
0701101400	MBRCA 30K	IP 54	295	250	107	■	■	■	■	■
0701101500	MBRCA 31	IP 40	295	250	107	■		■		■
0701101600	MBRCA 31K	IP 54	295	250	128	■	■	■	■	■
0701101700	MBR 20	IP 40	213	180	80,5	■		■		■

L = Length, W = Width, T = Depth, F = Front plate aluminium, KL = Clear cover (pluggable), M = Mounting plate, SV = Quick release fastener,

WL = Wall mounting brackets

Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## Controller-Card-Enclosures MBRC2

Protection class IP 65

IP 65

HB



**Controller-Card-Enclosure MBRC2** have a larger connection space and all versions reach protection class IP 65. Another advantage is the hinged membrane cover, which can also be combined with a transparent lid. Six different cover variations allow a large application range in the measurement and control technology. Available with or without preformed knockouts in the connection compartment.

### INFORMATION

- ▶ All enclosures fulfil protection class IP 65 in accordance with DIN EN 60529
- ▶ Seamlessly foamed-in 2-component polyurethane gasket with clear cover (K)
- ▶ Standard material ABS (Polycarbonate available on request)
- ▶ Temperature resistance: -40 °C to +80 °C
- ▶ The standard enclosure colour is light grey, similar to RAL 7035
- ▶ Special colours are available on request



▶ PDF DXF 3D

**MBRC2**

Type	L	W	UH*	K	F	FK	R	RA	RG
	mm	mm	mm						
MBRC2-13	206	150	76	MBRC2-13 K 0742130100	MBRC2-13 F 0742130200	MBRC2-13 FK 0742130300	MBRC2-13 R 0742130400	MBRC2-13 RA 07421301500	MBRC2-13 RG 0742130600
MBRC2-16	180	185	66	MBRC2-16 K 0742160100	MBRC2-16 F 0742160200	MBRC2-16 FK 0742160300	MBRC2-16 R 0742160400	MBRC2-16 RA 0742160500	MBRC2-16 RG 0742160600
MBRC2-20	200	233	78	MBRC2-20 K 0742200100	MBRC2-20 F 0742200200	MBRC2-20 FK 0742200300	MBRC2-20 R 0742200400	MBRC2-20 RA 0742200500	MBRC2-20 RG 0742200600

\* Total height (H) = base height (UH) + cover height (DH)

K = Clear cover (DH = 18 mm)

F = Membrane cover (DH = 12 mm)

FK = Membrane cover and clear lid (DH = 30 mm)

R = Frame (DH = 12 mm)

RA = Frame with aluminium front plate (DH = 12 mm)

RG = Framecover closed (DH = 12 mm)

Type	Number/Type of knockouts
MBRC2-13	1 x M12, 1 x M16, 1 x M20
MBRC2-16	1 x M12, 2 x M16, 1 x M20
MBRC2-20	1 x M12, 4 x M16, 1 x M20

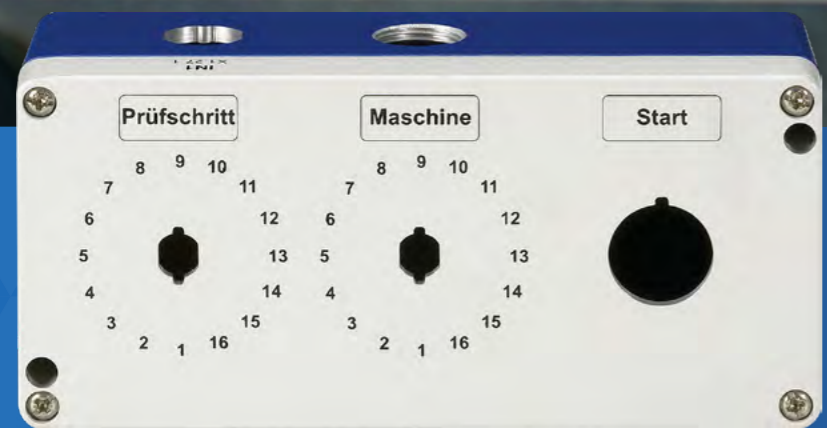
L = Length, W = Width, UH = Base height, DH = Cover height

Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)



**Mechanical Processing**

**Made in Germany**



▶ **More information about our mechanical processing**

Scan the QR code, or visit us on [www.multi-box.com](http://www.multi-box.com)



## Aluminium-Ex Enclosures MBA-Ex empty

Empty enclosures with component certificate

Protection class IP 66

IP  
66

UV



**MULTI-BOX Aluminium-Ex empty enclosures** conform to all installation field requirements where explosive concentrations of gases and dusts can appear - zones 1 and 2 as well as 21 and 22. MBA-Ex empty certified enclosures have a component certificate proving the constructional safety of the component enclosure. Therefore the registration and re-testing of the new product is considerably simplified, due to the already approved enclosure construction. MBA-Ex empty enclosures have a U certification and therefore, after the installation of approved electrical components into the enclosure, the complete unit needs to be retested with temperature characteristics included.

### INFORMATION

- ▶ Test report no. : IB-14-3-007 according to ATEX for zones 1 and 2as well as 21 and 22
- ▶ EC-Prototype Examination Certificate IBExU 10 ATEX 1158U according to directive 2014/34/EU
- ▶ Certificate No. IEC: IECEx IBE 14.0020U
- ▶ Continuous operation temperature from -55°C up to +135°C
- ▶ Protection class IP 66 according to EN 60529
- ▶ Examinations and standards EN60079-0, EN60079-7 and EN60079-31
- ▶ Cover screws with captive function made of stainless steel
- ▶ Silicone lid seal glued as o-ring
- ▶ External earthing connection from 2,5 mm<sup>2</sup> up to 120 mm<sup>2</sup>
- ▶ Earthing connection points inside
- ▶ Type plate on the inner side of the lid marked with a «U» standing for incomplete equipment
- ▶ Markings Ex II 2G Exe II C Gb and Ex II 2D Ex tb III C Db
- ▶ Powder-coating in colour silver-grey similar to RAL 7001



▶ PDF DXF 3D

# MBA-EX

### ACCESSORIES ON DEMAND

- ▶ Mounting plates made of galvanised metal sheet
- ▶ Wall mounting brackets made of stainless steel
- ▶ External hinges made of aluminium
- ▶ Earthing busbars and earthing bolts
- ▶ Ex-tested cable glands and sealing plugs made of stainless steel, brass or polyamide

### PROCESSING ON DEMAND

- ▶ All metric threads, PG threads and special threads (with a minimum distance of 2-5 mm to the sealing edge)
- ▶ Pass drillings, cavities and millings (with a minimum distance of 2-5 mm to the sealing edge)
- ▶ Recesses and millings for inspection windows in the enclosure lid
- ▶ Deepening and recesses for foils and film keypads
- ▶ Special colours and markings in silk-screen or pad printing

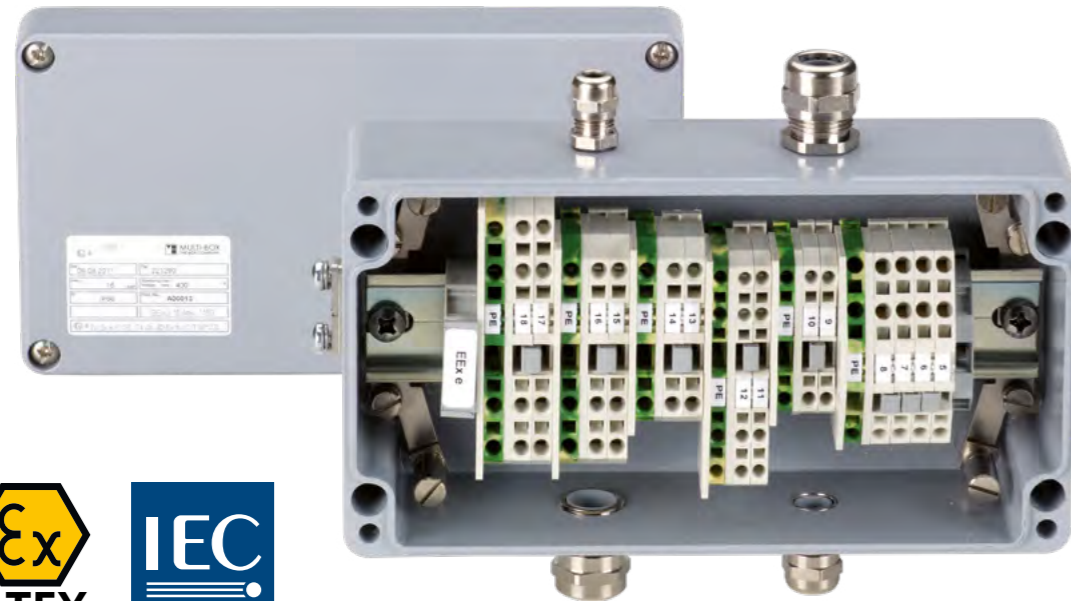
Article number	Type	L	W	H	TS	M	WL	GA
		mm	mm	mm				
3111100200	MBA-Ex empty 606030	58	64	34				
3111100400	MBA-Ex empty 906030	98	64	35				
3111100600	MBA-Ex empty 156030	150	64	34				
3111100900	MBA-Ex empty 708055	75	80	57	■	■		
3111101100	MBA-Ex empty 128055	125	80	57	■	■		■
3111101300	MBA-Ex empty 178055	175	80	57	■	■		■
3111101400	MBA-Ex empty 258050	250	80	57	■	■		■
3111105500	MBA-Ex empty 101080	100	100	80	■	■	■	■
3111106500	MBA-Ex empty 161080	160	100	80	■	■	■	■
3111106600	MBA-Ex empty 201080	200	100	80	■	■	■	■
3111101600	MBA-Ex empty 121265	122	120	65	■	■	■	■
3111101800	MBA-Ex empty 121280	122	120	80	■	■	■	■
3111101900	MBA-Ex empty 121290	122	120	90	■	■	■	■
3111102000	MBA-Ex empty 221265	220	120	65	■	■	■	■
3111102200	MBA-Ex empty 221280	220	120	80	■	■	■	■
3111102300	MBA-Ex empty 221290	220	120	90	■	■	■	■
3111102400	MBA-Ex empty 361280	360	122	80	■	■	■	■
3111104500	MBA-Ex empty 141490	140	140	90	■	■	■	■
3111107500	MBA-Ex empty 181490	180	140	90	■	■	■	■
3111108500	MBA-Ex empty 201490	200	140	90	■	■	■	■
3111102500	MBA-Ex empty 161690	160	160	90	■	■	■	■
3111104000	MBA-Ex empty 261665	260	160	65	■	■	■	■
3111102600	MBA-Ex empty 261690	260	160	90	■	■	■	■
3111102800	MBA-Ex empty 361690	360	160	90	■	■	■	■
3111102900	MBA-Ex empty 561690	560	160	90	■	■	■	■
3111103000	MBA-Ex empty 202311	200	230	110	■	■	■	■
3111103100	MBA-Ex empty 282311	280	230	110	■	■	■	■
3111103202	MBA-Ex empty 332311	330	230	110	■	■	■	■
3111103300	MBA-Ex empty 332318	330	230	180	■	■	■	■
3111103400	MBA-Ex empty 402311	400	230	110	■	■	■	■
3111103500	MBA-Ex empty 403111	400	310	110	■	■	■	■
3111103600	MBA-Ex empty 403118	400	310	180	■	■	■	■
3111103700	MBA-Ex empty 602311	600	230	110	■	■	■	■
3111103800	MBA-Ex empty 603111	600	310	110	■	■	■	■
3111103900	MBA-Ex empty 603118	600	310	180	■	■	■	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, WL = Wall mounting brackets, GA = External hinges  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## Aluminium-Ex Enclosures MBA-Ex e

Junction boxes with component certificate

Schutzart IP 66



**MULTI-BOX Aluminium-Ex e junction boxes are conform to all installation field requirements where explosive concentrations of gases and dusts can appear - zones 1 and 2 as well as 21 and 22 and with temperature classes, T4 to T6.** Temperature class 6 signifies that even in the case of assembled terminals, the maximum total temperature does not exceed 85°C, neither inside nor outside the enclosure, and therefore combustible gases and dust cannot be ignited. In certain cases, where the application or specification permits the combination of circuitry, the Ex-junction box with the protection type increased safety «e» can be combined with the intrinsically safe type «i», however the minimum clearance and creepage distance between the terminals of both power circuits must be 50 mm. Even in this case there is no heating of the intrinsically safe power circuit.

### INFORMATION

- ▶ Test report no.: IB-14-3-007 according to ATEX for zones 1 and 2 as well as 21 and 22
- ▶ EC-Prototype Examination Certificate IBExU 10ATEX1159 according to directive 2014/34/EU
- ▶ Certificate No. IEC: IECEx IBE 14.0021
- ▶ Continuous operation temperature from -55°C up to +135°C
- ▶ Protection class IP 66 according to EN 60529
- ▶ Examinations and standards EN 60079-0, EN 60079-7, EN 60079-11 and EN 60079-31
- ▶ Cover screws with captive function made of stainless steel
- ▶ Silicone lid seal glued as o-ring
- ▶ External earthing connection from 2,5 mm<sup>2</sup> up to 120 mm<sup>2</sup>
- ▶ Mounting rail TS 15/7,5 or TS 35/7,5
- ▶ Earthing connection points inside. Optionally with earthing bar or PE-terminals
- ▶ Markings Ex II 2G Ex e II C T6 to T4 Gb or Ex II 2D Ex tb III C T 85°C Db
- ▶ Type plate on the outer side of the lid indicating the maximum voltage
- ▶ Powder-coating in colour silver-grey similar to RAL 7001



▶ PDF DXF 3D

# MBA-EX

### ACCESSORIES ON DEMAND

- ▶ Certified terminals (according to approvals)
- ▶ Ex-tested cable glands and sealing plugs made of stainless steel, brass or polyamide
- ▶ Earthing busbars and earthing bolts
- ▶ Mounting plates made of galvanised metal sheet
- ▶ Wall mounting brackets made of stainless steel
- ▶ External hinges made of aluminium

### PROCESSING ON DEMAND

- ▶ Threads and through holes for common cable entries (minimum distance between threads and the sealing edge of the enclosure according to the certification)
- ▶ Special colours according to RAL-specification
- ▶ Silk-screen printing or engraving for marking the enclosure
- ▶ Description plates made of plastic

Article number	Type	L	W	H	TS	M	WL	GA
		mm	mm	mm				
3121100200	MBA-Ex e 606030	58	64	34				
3121100400	MBA-Ex e 906030	98	64	35				
3121100600	MBA-Ex e 156030	150	64	34				
3121100900	MBA-Ex e 708055	75	80	57	■	■		
3121101100	MBA-Ex e 128055	125	80	57	■	■		■
3121101300	MBA-Ex e 178055	175	80	57	■	■		■
3121101400	MBA-Ex e 258050	250	80	57	■	■		■
3121105500	MBA-Ex e 101080	100	100	80	■	■	■	■
3121106500	MBA-Ex e 161080	160	100	80	■	■	■	■
3121106600	MBA-Ex e 201080	200	100	80	■	■	■	■
3121101600	MBA-Ex e 121265	122	120	65	■	■	■	■
3121101800	MBA-Ex e 121280	122	120	80	■	■	■	■
3121101900	MBA-Ex e 121290	122	120	90	■	■	■	■
3121102000	MBA-Ex e 221265	220	120	65	■	■	■	■
3121102200	MBA-Ex e 221280	220	120	80	■	■	■	■
3121102300	MBA-Ex e 221290	220	120	90	■	■	■	■
3121102400	MBA-Ex e 361280	360	122	80	■	■	■	■
3121104500	MBA-Ex e 141490	140	140	90	■	■	■	■
3121107500	MBA-Ex e 181490	180	140	90	■	■	■	■
3121108500	MBA-Ex e 201490	200	140	90	■	■	■	■
3121102500	MBA-Ex e 161690	160	160	90	■	■	■	■
3121104000	MBA-Ex e 261665	260	160	65	■	■	■	■
3121102600	MBA-Ex e 261690	260	160	90	■	■	■	■
3121102800	MBA-Ex e 361690	360	160	90	■	■	■	■
3121102900	MBA-Ex e 561690	560	160	90	■	■	■	■
3121103000	MBA-Ex e 202311	200	230	110	■	■	■	■
3121103100	MBA-Ex e 282311	280	230	110	■	■	■	■
3121103202	MBA-Ex e 332311	330	230	110	■	■	■	■
3121103300	MBA-Ex e 332318	330	230	180	■	■	■	■
3121103400	MBA-Ex e 402311	400	230	110	■	■	■	■
3121103500	MBA-Ex e 403111	400	310	110	■	■	■	■
3121103600	MBA-Ex e 403118	400	310	180	■	■	■	■
3121103700	MBA-Ex e 602311	600	230	110	■	■	■	■
3121103800	MBA-Ex e 603111	600	310	110	■	■	■	■
3121103900	MBA-Ex e 603118	600	310	180	■	■	■	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, WL = Wall mounting brackets, GA = External hinges  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

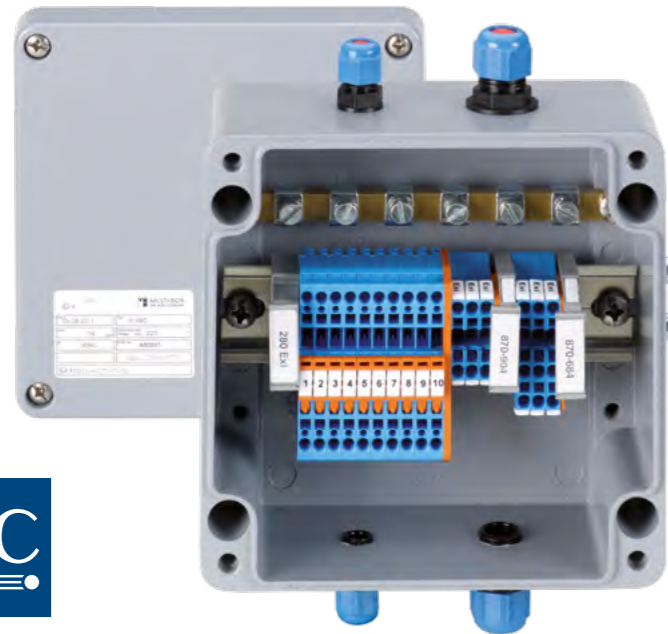


## Aluminium-Ex Enclosures MBA-Ex i

Junction boxes with component certificate

Protection class IP 66

IP  
66



**MULTI-BOX Aluminium-Ex i junction boxes are conform to all installation field requirements where explosive concentrations of gases and dusts can appear - zones 1 and 2 as well as 21 and 22 and with temperature classes, T4 to T6.** The enclosure protection of the intrinsically safe enclosures «i» is based on the low voltage connections in the enclosure, e.g. data or telephone lines. Thanks to external earthing and the very small amount of ignition energy and temperature rise, the Ex-i junction boxes can be assembled with the maximum amount of terminals, without any complications. The enclosure should also be fitted with visually identifiable intrinsically safe blue cable glands and terminals in order to give notification to the installer, that an intrinsically safe power circuit is installed inside.

### INFORMATION

- ▶ Test report no.: IB-14-3-007 according to ATEX for zones 1 and 2 as well as 21 and 22
- ▶ EC-Prototype Examination Certificate IBExU 10ATEX1159 according to directive 2014/34/EU
- ▶ Certificate No. IEC: IECEx IBE 14.0021
- ▶ Continuous operation temperature from -55°C up to +135°C
- ▶ Protection class IP 66 according to EN 60529
- ▶ Examinations and standards EN 60079-0, EN 60079-7, EN 60079-11 and EN 60079-31
- ▶ Cover screws with captive function made of stainless steel
- ▶ Silicone lid seal glued as o-ring
- ▶ External earthing connection from 2,5 mm<sup>2</sup> up to 120 mm<sup>2</sup>
- ▶ Mounting rail TS 15/7,5 or TS 35/7,5
- ▶ Earthing connection points inside. Optionally with earthing bar or PE-terminals
- ▶ Markings Ex II 2G Ex ia II C T6 to T4 Gb or Ex II 2D Ex tb III C T 85°C Db
- ▶ Type plate on the outer side of the lid
- ▶ Powder-coating in colour silver-grey similar to RAL 7001



▶ PDF DXF 3D

# MBA-EX

### ACCESSORIES ON DEMAND

- ▶ Certified terminals (according to approvals)
- ▶ Ex-tested cable glands and sealing plugs made of stainless steel, brass or polyamide
- ▶ Earthing busbars and earthing bolts
- ▶ Mounting plates made of galvanised metal sheet
- ▶ Wall mounting brackets made of stainless-steel
- ▶ External hinges made of aluminium

### PROCESSING ON DEMAND

- ▶ Threads and through holes for common cable entries (minimum distance between threads and the sealing edge of the enclosure according to the certification)
- ▶ Special colours according to RAL-specification
- ▶ Silk-screen printing or engraving for marking the enclosure
- ▶ Description plates made of plastic

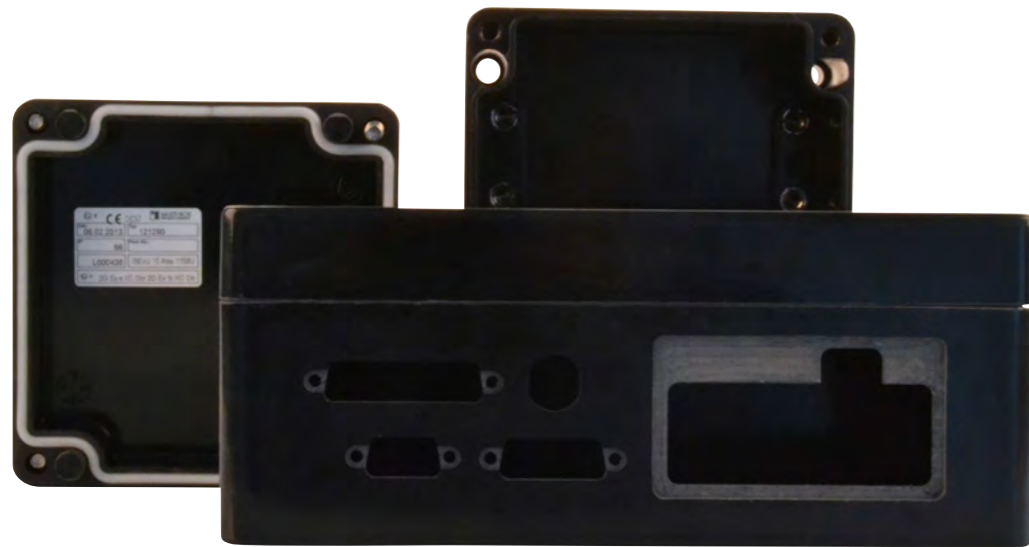
Article number	Type	L	W	H	TS	M	WL	GA
		mm	mm	mm				
3131100200	MBA-Ex i 606030	58	64	34				
3131100400	MBA-Ex i 906030	98	64	35				
3131100600	MBA-Ex i 156030	150	64	34				
3131100900	MBA-Ex i 708055	75	80	57	■	■		
3131101100	MBA-Ex i 128055	125	80	57	■	■		■
3131101300	MBA-Ex i 178055	175	80	57	■	■		■
3131101400	MBA-Ex i 258050	250	80	57	■	■		■
3131105500	MBA-Ex i 101080	100	100	80	■	■	■	■
3131106500	MBA-Ex i 161080	160	100	80	■	■	■	■
3131106600	MBA-Ex i 201080	200	100	80	■	■	■	■
3131101600	MBA-Ex i 121265	122	120	65	■	■	■	■
3131101800	MBA-Ex i 121280	122	120	80	■	■	■	■
3131101900	MBA-Ex i 121290	122	120	90	■	■	■	■
3131102000	MBA-Ex i 221265	220	120	65	■	■	■	■
3131102200	MBA-Ex i 221280	220	120	80	■	■	■	■
3131102300	MBA-Ex i 221290	220	120	90	■	■	■	■
3131102400	MBA-Ex i 361280	360	122	80	■	■	■	■
3131104500	MBA-Ex i 141490	140	140	90	■	■	■	■
3131107500	MBA-Ex i 181490	180	140	90	■	■	■	■
3131108500	MBA-Ex i 201490	200	140	90	■	■	■	■
3131102500	MBA-Ex i 161690	160	160	90	■	■	■	■
3131104000	MBA-Ex i 261665	260	160	65	■	■	■	■
3131102600	MBA-Ex i 261690	260	160	90	■	■	■	■
3131102800	MBA-Ex i 361690	360	160	90	■	■	■	■
3131102900	MBA-Ex i 561690	560	160	90	■	■	■	■
3131103000	MBA-Ex i 202311	200	230	110	■	■	■	■
3131103100	MBA-Ex i 282311	280	230	110	■	■	■	■
3131103202	MBA-Ex i 332311	330	230	110	■	■	■	■
3131103300	MBA-Ex i 332318	330	230	180	■	■	■	■
3131103400	MBA-Ex i 402311	400	230	110	■	■	■	■
3131103500	MBA-Ex i 403111	400	310	110	■	■	■	■
3131103600	MBA-Ex i 403118	400	310	180	■	■	■	■
3131103700	MBA-Ex i 602311	600	230	110	■	■	■	■
3131103800	MBA-Ex i 603111	600	310	110	■	■	■	■
3131103900	MBA-Ex i 603118	600	310	180	■	■	■	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, WL = Wall mounting brackets, GA = External hinges  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## Polyester-Ex Enclosures MBP-Ex empty

Empty enclosures with component certificate

Protection class IP 66



**MULTI-BOX MBP Polyester-Ex empty enclosures** are conform to all instillation field requirements where **explosive concentrations of gases and dusts can appear. Zones 1 and 2 as well as 21 and 22.** MBP-Ex empty certified enclosures have a component certificate proving the constructional safety of the component enclosure. Therefore the registration and re-testing of the new product is considerably simplified, due to the already approved enclosure construction. MBP-Ex empty enclosures have a u certification and therefore, after the installation of approved electrical components into the enclosure, the complete unit needs to be retested with temperature characteristics included.

### INFORMATION

- ▶ Test report no.: IB-13-3-094 according to ATEX for zones 1, 2, 21 and 22
- ▶ EC Prototype Examination certificate IBExU12ATEX1180U according to directive 2014/34/EU
- ▶ Certificate No. IEC: IECEx IBE 14.0018U
- ▶ Continuous operation temperature from -55 °C bis +100 °C
- ▶ Protection class IP 66 according to EN 60529
- ▶ Examinations and standards EN60079-0, EN60079-7 und EN60079-31
- ▶ Cover screws with captive function made of stainless steel
- ▶ Silicone lid seal glued as o-ring
- ▶ Type plate on the inner side of the lid marked with „U“ as incomplete equipment
- ▶ Marking with Ex II 2G Ex e IIC Gb and Ex II 2D Ex tb III C Db



▶ PDF DXF 3D

# MBP-EX

### ACCESSORIES ON DEMAND

- ▶ Mounting plates made of galvanised metal sheet
- ▶ Wall mounting brackets made of stainless steel
- ▶ External hinges made of aluminium
- ▶ Earthing busbars and earthing bolts
- ▶ Ex-tested cable glands and sealing plugs made of stainless steel, brass or polyamide

### PROCESSING ON DEMAND

- ▶ All metric threads, PG threads, pass drillings and special threads (minimum distance between single threads and the sealing edge of the enclosure according to the certificate of acceptance)
- ▶ Cut outs for inspection windows or recesses for keypads
- ▶ Silk-screen printing or engraving

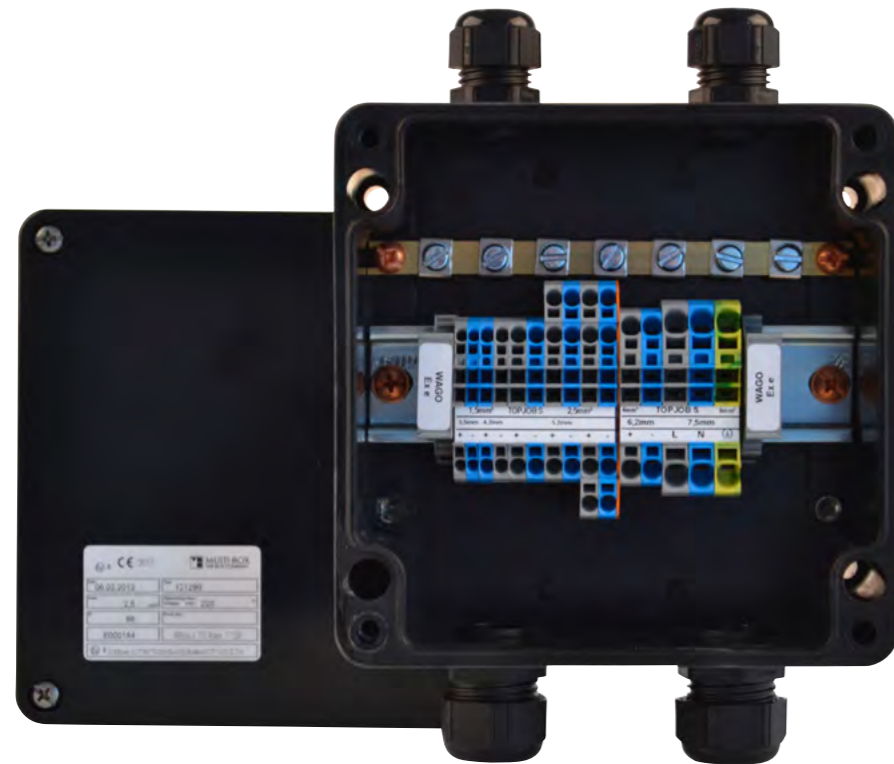
Article number	Type	L	W	H	TS	M	WL	GA
		mm	mm	mm				
3211100150	MBP-Ex empty 807555	80	75	55	■	■	■	■
3211100250	MBP-Ex empty 807575	80	75	75	■	■	■	■
3211100360	MBP-Ex empty 117550	110	75	50	■	■	■	■
3211100370	MBP-Ex empty 117555	110	75	55	■	■	■	■
3211100450	MBP-Ex empty 117575	110	75	75	■	■	■	■
3211100550	MBP-Ex empty 167555	160	75	55	■	■	■	■
3211100650	MBP-Ex empty 167575	160	75	75	■	■	■	■
3211100750	MBP-Ex empty 197555	190	75	55	■	■	■	■
3211100850	MBP-Ex empty 197575	190	75	75	■	■	■	■
3211100950	MBP-Ex empty 237550	230	75	50	■	■	■	■
3211101050	MBP-Ex empty 237575	230	75	75	■	■	■	■
3211101150	MBP-Ex empty 121290	122	120	90	■	■	■	■
3211101350	MBP-Ex empty 221290	220	120	90	■	■	■	■
3211101250	MBP-Ex empty 161690	160	160	90	■	■	■	■
3211101550	MBP-Ex empty 361690	360	160	90	■	■	■	■
3211101950	MBP-Ex empty 561690	560	160	90	■	■	■	■
3211111450	MBP-Ex empty 261690	260	160	90	■	■	■	■
3211101660	MBP-Ex empty 252512	255	250	120	■	■	■	■
3211101670	MBP-Ex empty 252516	255	250	160	■	■	■	■
3211101760	MBP-Ex empty 402512	400	250	120	■	■	■	■
3211101770	MBP-Ex empty 402516	400	250	160	■	■	■	■
3211102050	MBP-Ex empty 602512	600	250	120	■	■	■	■
3211101850	MBP-Ex empty 404012	400	405	120	■	■	■	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, WL = Wall mounting brackets, GA = External hinges  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## Polyester-Ex Enclosures MBP-Ex e

Junction boxes with component certificate

Protection class IP 66



**MULTI-BOX MBP Polyester-Ex e junction boxes are conform to all installation field requirements where explosive concentrations of gases and dusts can appear - zones 1 and 2 as well as 21 and 22 and with temperature classes, T5 to T6.**

Temperature class 6 signifies that even in the case of assembled terminals, the maximum total temperature does not exceed 85°C, neither inside nor outside the enclosure, and therefore combustible gases and dust cannot be ignited. The graphite additive in the polyester material prevents static charge of the enclosure surface by the low surface resistance = <10 (high -9) ohms. In certain cases, where the application or specification permits the combination of circuits, an Ex-junction box with the protection type increased safety «e» can be combined with the intrinsically safe type «i», however the minimum clearance and creepage distance between the terminals of both power circuits must be 50 mm. Even in this case there is no heating of the intrinsically safe power circuit.

### INFORMATION

- ▶ Test report no.: IB-13-3-094 according to ATEX for zones 1, 2, 21 and 22
- ▶ EC Prototype Examination certificate IBEXU12ATEX1181 according to directive 2014/34/EU
- ▶ Certificate No. IEC: IECEx IBE 14.0019X
- ▶ Continuous operation temperature from -55 °C bis +100 °C
- ▶ Protection class IP 66 according to EN 60529
- ▶ Examinations and standards EN 60079-0, EN 60079-7, EN 60079-11 and EN 60079-31
- ▶ Cover screws with captive function made of stainless steel
- ▶ Silicone lid seal glued as o-ring
- ▶ Type plate on the outer side of the lid
- ▶ Marking with Ex II 2G Exe IIC T6/T5 Gb or Ex II 2D Ex tb III C T 85°C Db



▶ PDF DXF 3D

# MBP-EX

### ACCESSORIES ON DEMAND

- ▶ Mounting plates made of galvanised metal sheet
- ▶ Wall mounting brackets made of stainless steel
- ▶ External hinges made of aluminium
- ▶ Earthing busbars and earthing bolts
- ▶ Ex-tested cable glands and sealing plugs made of stainless steel, brass or polyamide

### PROCESSING ON DEMAND

- ▶ Threads and through holes for common cable entries (minimum distance between threads and the sealing edge of the enclosure according to the certification)
- ▶ Cut outs for inspection windows or recesses for keypads
- ▶ Silk-screen printing or engraving

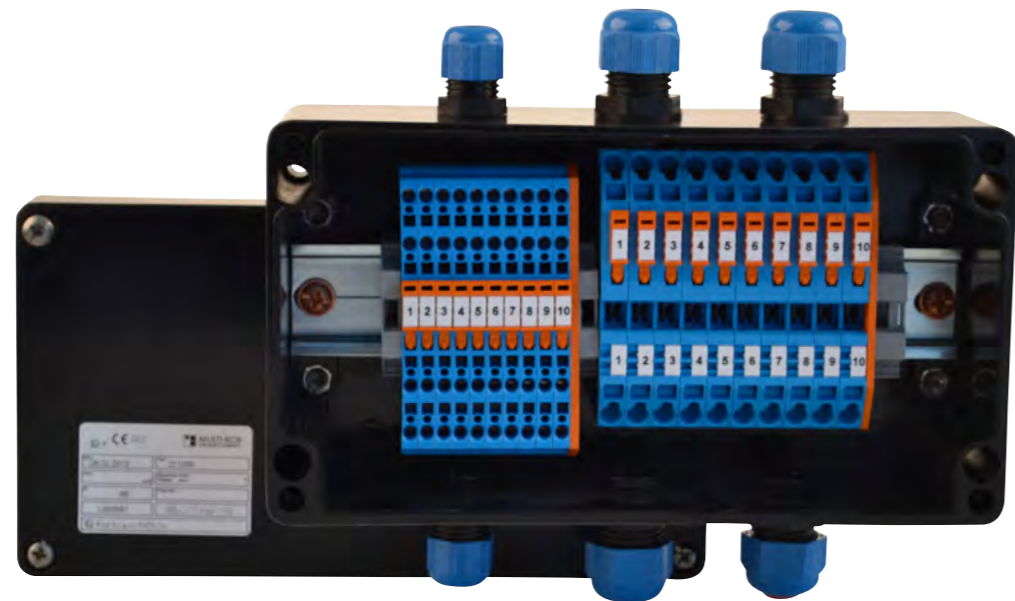
Article number	Type	L	W	H	TS	M	WL	GA
		mm	mm	mm				
3221100150	MBP-Ex e 807555	80	75	55	■	■	■	■
3221100250	MBP-Ex e 807575	80	75	75	■	■	■	■
3221100360	MBP-Ex e 117550	110	75	50	■	■	■	■
3221100370	MBP-Ex e 117555	110	75	55	■	■	■	■
3221100450	MBP-Ex e 117575	110	75	75	■	■	■	■
3221100550	MBP-Ex e 167555	160	75	55	■	■	■	■
3221100650	MBP-Ex e 167575	160	75	75	■	■	■	■
3221100750	MBP-Ex e 197555	190	75	55	■	■	■	■
3221100850	MBP-Ex e 197575	190	75	75	■	■	■	■
3221100950	MBP-Ex e 237550	230	75	50	■	■	■	■
3221101050	MBP-Ex e 237575	230	75	75	■	■	■	■
3221101150	MBP-Ex e 121290	122	120	90	■	■	■	■
3221101350	MBP-Ex e 221290	220	120	90	■	■	■	■
3221101250	MBP-Ex e 161690	160	160	90	■	■	■	■
3221101450	MBP-Ex e 261690	260	160	90	■	■	■	■
3221101550	MBP-Ex e 361690	360	160	90	■	■	■	■
3221101950	MBP-Ex e 561690	560	160	90	■	■	■	■
3221101660	MBP-Ex e 252512	255	250	120	■	■	■	■
3221101670	MBP-Ex e 252516	255	250	160	■	■	■	■
3221101760	MBP-Ex e 402512	400	250	120	■	■	■	■
3221101770	MBP-Ex e 402516	400	250	160	■	■	■	■
3221102050	MBP-Ex e 602512	600	250	120	■	■	■	■
3221101850	MBP-Ex e 404012	400	405	120	■	■	■	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, WL = Wall mounting brackets, GA = External hinges  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

## Polyester-Ex Enclosures MBP-Ex i

Junction boxes with component certificate

Protection class IP 66



**MULTI-BOX Polyester MBP-Ex i junction boxes are conform to all installation field requirements where explosive concentrations of gases and dusts can appear - zones 1 and 2 as well as 21 and 22 and with temperature classes, T5 to T6.**

The enclosure protection of the intrinsically safe enclosures «i» is based on the low voltage connections in the enclosure, e.g. data or telephone lines. Thanks to a very small amount of ignition energy and temperature rise, the Ex-i junction boxes can be assembled with the maximum amount of terminals, without any complications. Graphite additive in the polyester material prevents static charge of the enclosure surface by a low surface resistance = <10 (high -9) ohms. The enclosure should also be fitted with visually identifiable intrinsically safe blue cable glands and terminals in order to give notification to the installer, that an intrinsically safe power circuit is installed inside.

### INFORMATION

- ▶ Test report no.: IB-13-3-094 according to ATEX for zones 1, 2, 21 and 22
- ▶ EC Prototype Examination certificate IBExU12ATEX1181 according to directive 2014/34/EU
- ▶ Certificate No. IEC: IECEx IBE 14.0019X
- ▶ Continuous operation temperature from -55 °C bis +100 °C
- ▶ Protection class IP 66 according to EN 60529
- ▶ Examinations and standards EN 60079-0, EN 60079-7, EN 60079-11 and EN 60079-31
- ▶ Cover screws with captive function made of stainless steel
- ▶ Silicone lid seal glued as o-ring
- ▶ Type plate on the outer side of the lid
- ▶ Marking with Ex II 2G Ex ia IIC T6/T5 Gb



▶ PDF DXF 3D

# MBP-EX

### ACCESSORIES ON DEMAND

- ▶ Mounting plates made of galvanised metal sheet
- ▶ Wall mounting brackets made of stainless-steel
- ▶ External hinges made of aluminium
- ▶ Earthing busbars and earthing bolts
- ▶ Ex-tested cable glands and sealing plugs made of stainless steel, brass or polyamide

### PROCESSING ON DEMAND

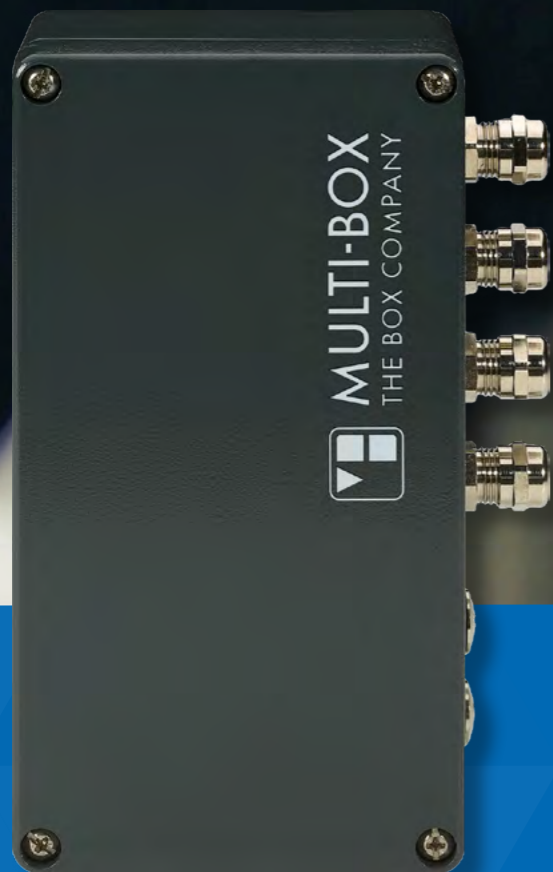
- ▶ Threads and through holes for common cable entries (minimum distance between threads and the sealing edge of the enclosure according to the certification)
- ▶ Cut outs for inspection windows or recesses for keypads
- ▶ Silk-screen printing or engraving

Article number	Typ	L	W	H	TS	M	WL	GA
		mm	mm	mm				
3231100150	MBP-Ex i 807555	80	75	55	■	■	■	■
3231100250	MBP-Ex i 807575	80	75	75	■	■	■	■
3231100360	MBP-Ex i 117550	110	75	50	■	■	■	■
3231100370	MBP-Ex i 117555	110	75	55	■	■	■	■
3231100450	MBP-Ex i 117575	110	75	75	■	■	■	■
3231100550	MBP-Ex i 167555	160	75	55	■	■	■	■
3231100650	MBP-Ex i 167575	160	75	75	■	■	■	■
3231100750	MBP-Ex i 197555	190	75	55	■	■	■	■
3231100850	MBP-Ex i 197575	190	75	75	■	■	■	■
3231100950	MBP-Ex i 237550	230	75	50	■	■	■	■
3231101050	MBP-Ex i 237575	230	75	75	■	■	■	■
3231101150	MBP-Ex i 121290	122	120	90	■	■	■	■
3231101350	MBP-Ex i 221290	220	120	90	■	■	■	■
3231101250	MBP-Ex i 161690	160	160	90	■	■	■	■
3231101450	MBP-Ex i 261690	260	160	90	■	■	■	■
3231101550	MBP-Ex i 361690	360	160	90	■	■	■	■
3231101950	MBP-Ex i 561690	560	160	90	■	■	■	■
3231101660	MBP-Ex i 252512	255	250	120	■	■	■	■
3231101670	MBP-Ex i 252516	255	250	160	■	■	■	■
3231101760	MBP-Ex i 402512	400	250	120	■	■	■	■
3231101770	MBP-Ex i 402516	400	250	160	■	■	■	■
3231102050	MBP-Ex i 602512	600	250	120	■	■	■	■
3231101850	MBP-Ex i 404012	400	405	120	■	■	■	■

L = Length, W = Width, H = Height, TS = Mounting rail, M = Mounting plate, WL = Wall mounting brackets, GA = External hinges  
 Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

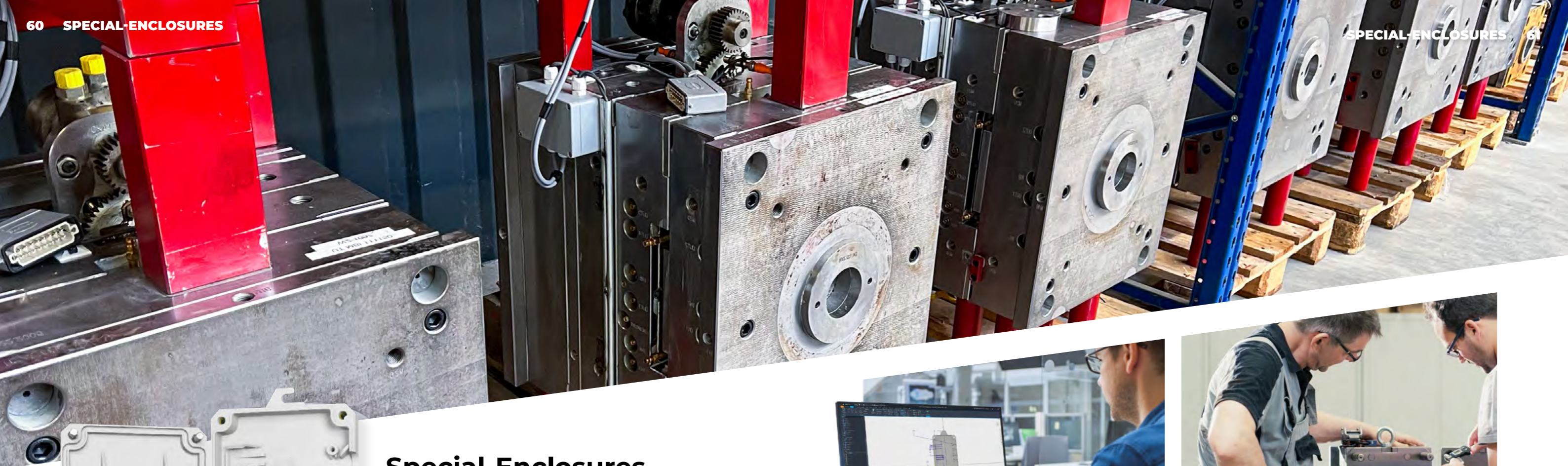
**Powder Coating**

**Made in Germany**



▶ **More information about  
our powder coating**

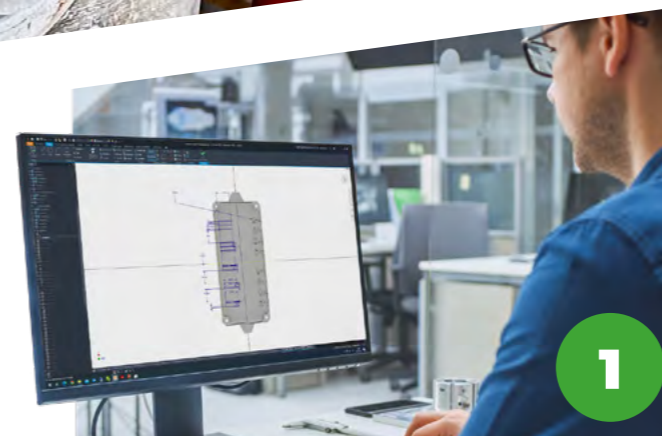
Scan the QR code, or visit us on [www.multi-box.com](http://www.multi-box.com)



## Special-Enclosures

You have the idea – we take care of everything else

Alongside an extensive range of different standard enclosures, MULTI-BOX offers **special enclosures made of plastics and aluminium**. In close cooperation with our customers we cover the design and the technical implementation of exclusive enclosure solutions. You receive design and construction documents according to your specification book. Our experienced project team advises you on the choice of materials, takes care of mouldmaking and manufactures your special enclosure. We accompany you from the initial concept to series production. **The result is cost-efficient and customised enclosure solutions from one source.**



1

### ► Design, construction & prototyping

In close cooperation with our customers, we take care of both the design and the technical implementation of exclusive enclosure solutions. Within a few weeks, you will receive design and construction documents according to your specifications. As soon as final designs are available, we create 3D printed prototypes of the molded parts. This allows you to test the enclosure and installations in practice even before the corresponding molds are made.



2

### ► Structure of the tools & project duration

We use steel and components of the highest quality tools. All components are optimally designed for the corresponding molded parts, the material and the desired output quantity. After approval of the design data, we need approx. 3 months to present a first sample, depending on the complexity.



3

### ► Series production & material selection

Once the mold construction has been completed, we produce your enclosure in our in-house plastic injection molding shop. You decide on the use of special materials or an individual color design of the injection molded parts. Afterwards, we foam seamless PU seals, mechanically process the enclosure or take over the optical design, assembly and wiring.



4

### ► Customised enclosure solutions

Due to our unique production depth, we have a direct influence on the entire value chain of our products. We offer our customers customised enclosure solutions from design and tooling to printing or assembly of the special enclosures. The result is cost-efficient and customised enclosure solutions from a single source and made in Germany.

## i INFORMATION

- Technical advice for individual enclosure solutions
- Selection of manufacturing materials
- Preparation of design and construction documents in accordance with your specification book
- Feasibility studies and revision of existing constructions
- Printing of 3D prototypes
- Construction and procurement of injection moulds
- Construction and procurement of die casting moulds
- Series manufacturing
- Mechanical processing (CNC)
- Visual design (powder coating, screen printing, engraving etc.)
- Assembly work, wiring and installation
- Quality documentation, certification and tests



► PDF DXF 3D

# SPECIAL

### Cable entry flanges MBFL

Protection class IP 65

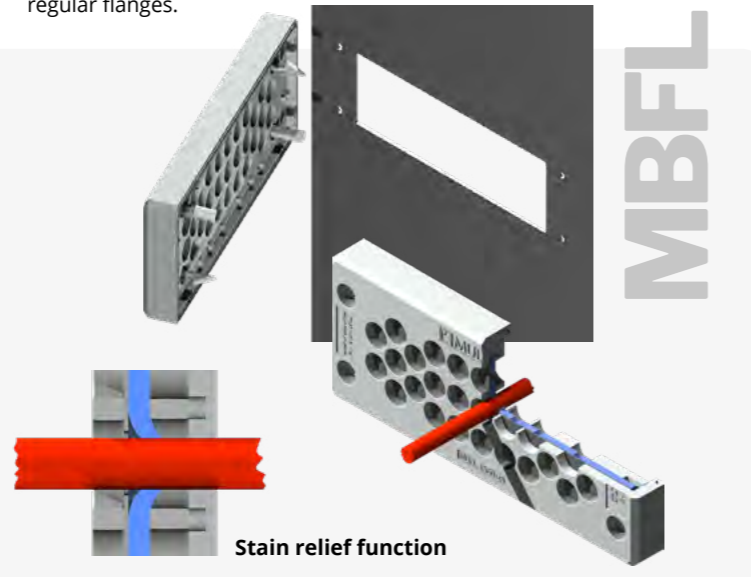
MULTI-BOX cable entry flanges MBFL are designed to provide an easy and watertight entry of cables, wires and tubes into enclosures, switchgear cabinets and machines. They are manufactured from Polyamide in light grey colour RAL 7035. The use of MBFL flanges are a good, fast and simple alternative to the use of regular cable glands when installing individual cables. Through the ease of assembly of the MBFL flanges, the potential to save costs and time with the easy and fast installation of a variety of cables, tubes, electrical or pneumatic connections, is substantial. MBFL cable entry flanges are designed to be mounted in regular openings for 24-pin industrial connectors (e.g. Harting HAN 24B). For enclosure wall thickness's between 1,5 and 2,0 mm the flanges can easily be snapped into the existing cut-outs without the use of any tools or further fixings. Wall thickness's beyond 2,0 mm require an additional fixing of the flange with screws that can be ordered as an accessory. Due to a foamed Polyurethane sealing in combination with a double membrane elastomer gasket the flange provides an ingress protection of IP 65. It guarantees an effective protection against water, dust or dirt within a temperature range of -30 up to +90 °C. Furthermore the internal gasket membrane secures an effective strain relief for all cables and connections. The typical field of application for the MULTI-BOX MBFL flanges



are the Machine Tool industry, Measurement and Control technology, Renewable Energy and of course the Electrical Installation market. Presently MULTI-BOX MBFL entry flanges are available in three different versions that differ by the number and the diameter of the cable entries provided. Additionally MULTI-BOX also provide a closed version of the flange to secure optional openings, which can later be replaced by regular flanges.

#### INFORMATION

- ▶ All cable flanges fulfil protection class IP 65 in accordance with DIN EN 60529
- ▶ Standard sealing PUR-foamed
- ▶ Membrane sealing EPDM/Poron
- ▶ Material cable flange PA6
- ▶ Temperature resistance: -30 °C to +90 °C
- ▶ Standard colour is light grey, similar to RAL 7035
- ▶ Designed for 24-pin Industrial connectors (e.g. Harting HAN 24B) cutouts
- ▶ Special colours are available on request



Article number	Type	L	W	H	Cable entries	Wall thickness for snap-in installation
		mm	mm	mm		mm
3603000011	MBFL 22	148	60	15	16 x Ø 3,0 - 6,5 2 x Ø 8,0 - 12,5 4 x Ø 5,0 - 9,2	1,5 - 2,0
3603000010	MBFL 23	148	60	15	23 x Ø 4,1 - 8,1	1,5 - 2,0
3603000009	MBFL 29	148	60	15	29 x Ø 3,0 - 6,5	1,5 - 2,0
3603000008	MBFL Blind Cap	148	60	15	closed	1,5 - 2,0

L = Length, W = Width, H = Height

Technical drawings and further information about our products can be found online at [www.multi-box.com](http://www.multi-box.com)

### DIN-Rail adapter TSFIX35

MULTI-BOX TSFIX35 DIN rail adapter is used for simple, safe and flexible mounting of industrial enclosures and other components on mounting rails according to DIN EN 60715 TH35.

The adapter is made of self-extinguishing plastic polyamide 6 (PA6) in black RAL 9005. It consists of two components, a base and a latch. The latch can be snapped into the base in different positions depending on the height of the component to be fixed and can be shortened if necessary.

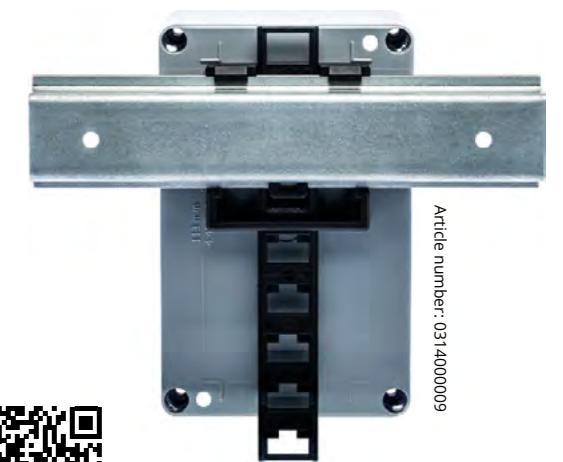


#### SCOPE OF DELIVERY

- ▶ 1 x Base
  - ▶ 1 x Latch
  - ▶ 2 x Screw for direct screwing into plastic core hole d=3.2 mm
  - ▶ 4 x Screw universal for wall thicknesses 2.5 - 4.5 mm (through hole d=3.5 mm)
- If necessary, two adapters can be used per enclosure.



INSTALLATION VIDEO



### Pole mounting set MBFIX

MULTI-BOX MBFIX mast mounting system is used for simple, safe and flexible mounting of industrial enclosures on round masts or pipes. Possible applications are installations on lighting poles, traffic lights or road signs. Connection of devices in traffic and security technology such as cameras, motion detectors, access controls or other surveillance systems. The raised installation on the pole prevents external access and damage due to vandalism. The mast mounting bracket and all accessories are made of stainless steel. Therefore they are suitable for outdoor installation.

The set consists of one bracket with the required screws and washers. If necessary, it is also possible to use two brackets per enclosure. The mounting of the bracket is done with stainless steel clamps. These are not included in the standard scope of delivery. The required diameter should be defined by the customer when ordering. Possible clamping ranges of the clamps are diameters 40 to 320 mm.

Article number	Type	L	W	H
		mm	mm	mm
0313000020	MBFIX M6/M4 M BM4 x 18	128	32	48
0313000021	MBFIX M6/M4 M BM4 x 20	128	32	48
0313000022	MBFIX M6/M4 M BM6 x 25	128	32	48
0313000023	MBFIX M6/M4 M BM6 x 30	128	32	48
0313000024	MBFIX M6/M4 M BM6 x 35	128	32	48
0313000025	MBFIX M6 L BM6 x 35	197	32	48
0313000026	MBFIX M6 L BM6 x 40	197	32	48
0313000016	MBFIX M4 XS BM4 x 18	51	35	17
0313000017	MBFIX M4 XS BM4 x 24	51	35	17
0313000018	MBFIX M4 S BM4 x 18	68	35	17
0313000019	MBFIX M4 S BM4 x 20	68	35	17

L = Length, W = Width, H = Height

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## Accessories

### CABLE GLANDS (plastic) POVSP

- ▶ Made of impact resistant Polyamide 6
- ▶ Sealing insert made of Neoprene
- ▶ Temperature resistance: -30 °C to +90 °C
- ▶ Protection Class IP 68 - 5 bar DIN EN 60529
- ▶ Vibration-resistant cap nut
- ▶ Available in RAL 7035 (light grey), RAL 7001 (silver grey) and RAL 9005 (black)



Thread	Type	RAL 7035	RAL 7001	RAL 9005	Ø Cable	GL	SW	VE
		Art.-no.	Art.-no.	Art.-no.				
PG 7	POVSP 7	1908103607	1908103707	1908103807	3 - 6,5	8	15	100
PG 9	POVSP 9	1908103609	1908103709	1908103809	4 - 8	8	19	100
PG 11	POVSP 11	1908103611	1908103711	1908103811	5 - 10	8	22	100
PG 13	POVSP 13	1908103613	1908103713	1908103813	6 - 12	9	24	100
PG 16	POVSP 16	1908103616	1908103716	1908103816	10 - 14	11	27	100
PG 21	POVSP 21	1908103621	1908103721	1908103821	13 - 18	11	33	100
PG 29	POVSP 29	1908103629	1908103729	1908103829	18 - 25	11	42	25
PG 36	POVSP 36	1908103636	1908103736	1908103836	22 - 32	13	53	10
PG 42	POVSP 42	1908103642	1908103742	1908103842	30 - 38	13	60	10
PG 48	POVSP 48	1908103648	1908103748	1908103848	34 - 44	14	65	10
M 12	POVSM 12	1908103912	1908104012	1908104112	3 - 6,5	8	15	100
M 16	POVSM 16	1908103916	1908104016	1908104116	5 - 10	8	19	100
M 20	POVSM 20	1908103920	1908104020	1908104120	6 - 12	9	24	100
M 25	POVSM 25	1908103925	1908104025	1908104125	11 - 17	10	30	50
M 32	POVSM 32	1908103932	1908104032	1908104132	18 - 25	10	36	25
M 40	POVSM 40	1908103940	1908104040	1908104140	22 - 31	10	46	10
M 50	POVSM 50	1908103950	1908104050	1908104150	30 - 38	12	55	5
M 63	POVSM 63	1908103963	1908104063	1908104163	34 - 44	12	66	5



### LOCKNUTS (plastic) KUGM

- ▶ Made of Polystyrene (PG sizes)  
Temperature resistance: -20 °C to +60 °C
- ▶ Made of Polyamide (M sizes)  
Temperature resistance: -30 °C to +90 °C
- ▶ Color RAL 7035 (light grey)

Thread	Type	Art.-no.	SW	VE
			mm	Stck.
PG 7	KUGMP 7	1908100907	19	100
PG 9	KUGMP 9	1908100909	22	100
PG 11	KUGMP 11	1908100911	24	100
PG 13	KUGMP 13	1908100913	27	100
PG 16	KUGMP 16	1908100916	30	100
PG 21	KUGMP 21	1908100921	36	50
PG 29	KUGMP 29	1908100929	46	25
PG 36	KUGMP 36	1908100936	60	10
PG 42	KUGMP 42	1908100942	65	10
PG 48	KUGMP 48	1908100948	70	10
M 12	KUGMM 12	1908101912	17	100
M 16	KUGMM 16	1908101916	22	100
M 20	KUGMM 20	1908101920	24	100
M 25	KUGMM 25	1908101925	32	100
M 32	KUGMM 32	1908101932	41	25
M 40	KUGMM 40	1908101940	50	10
M 50	KUGMM 50	1908101950	60	10
M 63	KUGMM 63	1908101963	72	5

### CABLE GLANDS (brass) MSKV

- ▶ Made of nickel-plated Brass
- ▶ Sealing insert made of Neoprene
- ▶ Clamping insert made of Polyamide 6
- ▶ O-ring made of NBR
- ▶ Protection IP 68 - 5 bar DIN EN 60529
- ▶ Temperature resistance: -40 °C to +100 °C



Thread	Type	Art.-no.	Ø Cable	GL	SW	VE
			mm	mm	mm	Items
PG 7	MSKVP 7	1908200207	3 - 6,5	6	14	50
PG 9	MSKVP 9	1908200209	4 - 8	6	17	50
PG 11	MSKVP 11	1908200211	5 - 10	6,5	20	50
PG 13	MSKVP 13	1908200213	6 - 12	6,5	22	50
PG 16	MSKVP 16	1908200216	10 - 14	6	24	25
PG 21	MSKVP 21	1908200221	13 - 18	7,5	30	25
PG 29	MSKVP 29	1908200229	18 - 25	8	40	20
PG 36	MSKVP 36	1908200236	22 - 32	9	50	15
PG 42	MSKVP 42	1908200242	30 - 38	12	58	12
PG 48	MSKVP 48	1908200248	34 - 44	14	64	10
M 12	MSKVM 12	1908200312	3 - 6,5	6,5	14	50
M 16	MSKVM 16	1908200316	5 - 10	7	18	50
M 20	MSKVM 20	1908200320	6 - 12	8	22	50
M 25	MSKVM 25	1908200325	11 - 17	8	27	25
M 32	MSKVM 32	1908200332	15 - 21	9	34	20
M 40	MSKVM 40	1908200340	19 - 28	9	43	20
M 50	MSKVM 50	1908200350	27 - 38	9	55	12
M 63	MSKVM 63	1908200363	34 - 44	14	68	10

### LOCKNUTS (brass) MEGM

- ▶ Made of nickel-plated Brass



Thread	Type	Art.-no.	SW	VE
			mm	Stck.
PG 7	MEGMP 7	1908200707	15	100
PG 9	MEGMP 9	1908200709	18	100
PG 11	MEGMP 11	1908200711	21	100
PG 13	MEGMP 13	1908200713	23	100
PG 16	MEGMP 16	1908200716	26	100
PG 21	MEGMP 21	1908200721	32	100
PG 29	MEGMP 29	1908200729	41	100
PG 36	MEGMP 36	1908200736	51	50
PG 42	MEGMP 42	1908200742	60	50
PG 48	MEGMP 48	1908200748	64	50
M 12	MEGMM 12	1908201712	15	100
M 16	MEGMM 16	1908201716	19	100
M 20	MEGMM 20	1908201720	24	100
M 25	MEGMM 25	1908201725	29	100
M 32	MEGMM 32	1908201732	36	100
M 40	MEGMM 40	1908201740	46	50
M 50	MEGMM 50	1908201750	50	50
M 63	MEGMM 63	1908201763	70	50

GL = Thread length, SW = Wrench width, VE = Unit of packaging, Ø = Diameter



## SEALING PLUGS (plastic) BLK

- ▶ Made of Polystyrene (PG sizes), Temperature resistance: -20 °C to +60 °C
- ▶ Made of Polyamide GF (M sizes), Temperature resistance: -30 °C to +90 °C
- ▶ Protection Class IP 54 in accordance with DIN EN 60529 (without sealing)
- ▶ Color RAL 7035 (light grey), further colours on request



Thread	Type	Art.-no.	Collar GL	Collar Ø	VE
			mm	mm	Items
PG 7	BLKP 7	1908101007	6	15	100
PG 9	BLKP 9	1908101009	6	19	100
PG 11	BLKP 11	1908101011	6	22	100
PG 13	BLKP 13	1908101013	6	25	100
PG 16	BLKP 16	1908101016	6	27	100
PG 21	BLKP 21	1908101021	8	33	100
PG 29	BLKP 29	1908101029	8	44	25
PG 36	BLKP 36	1908101036	10	55	10
PG 42	BLKP 42	1908101042	10	62	10
PG 48	BLKP 48	1908101048	12	69	5
M 12	BLKM 12	1908102112	5	17	100
M 16	BLKM 16	1908102116	6	21	100
M 20	BLKM 20	1908102120	6	25	100
M 25	BLKM 25	1908102125	7	30	100
M 32	BLKM 32	1908102132	8	38	25
M 40	BLKM 40	1908102140	8	46	10
M 50	BLKM 50	1908102150	9	56	10
M 63	BLKM 63	1908102163	10	69	10

## SEALING PLUGS (brass) BLME

- ▶ Made of nickel-plated Brass
- ▶ O-ring made of NBR
- ▶ Temperature resistance: -30 °C to +100 °C
- ▶ Protection Class IP 65 in accordance with



Thread	Type	Art.-no.	GL	Ø	VE
			mm	mm	Items
PG 7	BLMEP 7	1908200907	4,5	16	100
PG 9	BLMEP 9	1908200909	4,5	19	100
PG 11	BLMEP 11	1908200911	4,5	22	100
PG 13	BLMEP 13	1908200913	6	24	100
PG 16	BLMEP 16	1908200916	6	26	100
PG 21	BLMEP 21	1908200921	6	32	100
PG 29	BLMEP 29	1908200929	8	39	50
PG 36	BLMEP 36	1908200936	9	50	25
PG 42	BLMEP 42	1908200942	10	57	25
PG 48	BLMEP 48	1908200948	10	64	10
M 12	BLMEM 12	1908200412	4,5	16	100
M 16	BLMEM 16	1908200416	6	20	100
M 20	BLMEM 20	1908200420	6,5	24	100
M 25	BLMEM 25	1908200425	7	28	100
M 32	BLMEM 32	1908200432	8	35	50
M 40	BLMEM 40	1908200440	8	45	50
M 50	BLMEM 50	1908200450	9	55	25
M 63	BLMEM 63	1908200463	10	68	10

GL = Thread length, SW = Wrench width, VE = Unit of packaging, Ø = Diameter

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## Definition of protection classes

in accordance to EN 60529

The protection class is indicated by a code, consisting of the letters IP and two digits for the degree of protection.

First identification figure	Scope of protection	
	Scope of protection against contact and foreign substances	
	Description	Explanation
<b>0</b>	No protection	No particular protection for individuals against direct contact with active or moving parts. No protection of the equipment against penetration of hard foreign substances.
<b>1</b>	Protection against large foreign substances	Protection against coincidental large surface contact of active and inactive moving parts such as hands, but without protection against deliberate access to these parts. Protection against penetration of hard foreign substances, which have a larger diameter than 50 mm.
<b>2</b>	Protection against medium size foreign substances	Protection against contact with active or inactive parts with one's fingers. Protection against penetration of hard foreign substances, which have a diameter larger than 12 mm.
<b>3</b>	Protection against small foreign substances	Protection against contact with active or inactive parts with tools, wires or similar objects, which are larger than 2.5 mm. Protection against penetration of hard foreign substances, which have a diameter larger than 2.5 mm.
<b>4</b>	Protection against grain shaped foreign substances	Protection against contact with active or inactive parts with tools, wires or similar objects, which are larger than 1 mm.
<b>5</b>	Protection against accumulation of dust	Complete protection against contact with moving parts, which are under tension. Protection against dangerous accumulations of dust. The penetration of dust cannot completely be prevented, but is not allowed to accumulate in such amounts, which prevent the mode of operation.
<b>6</b>	Protection against dust inflow	Complete protection against contact with moving parts which are under tension or which are moving inside themselves. Protection against penetration of dust.

Second identification figure	Scope of protection	
	Scope of protection against water	
	Description	Explanation
<b>0</b>	No protection	No particular protection against water
<b>1</b>	Protection against vertically falling dropping water	Dropping water, which falls vertically is not allowed to have a harmful effect.
<b>2</b>	Protection against obliquely falling dropping water	Dropping water, which falls vertically in any angle to 15° is not allowed to have a harmful effect.
<b>3</b>	Protection against spray-water	Water, which falls vertically in any angle to 60° is not allowed to have a harmful effect.
<b>4</b>	Protection against splash water	Water, which falls in all directions and is directed towards the equipment is not allowed to have a harmful effect.
<b>5</b>	Protection against jet water	Jetwater from a nozzle, which is sprayed against the equipment from all sides, is not allowed to have a harmful effect.
<b>6</b>	Protection against flooding	Water, which is caused by temporary flooding e.g. stormy sea, is not allowed to penetrate the equipment.
<b>7</b>	Protection when dipping	Water is not allowed to penetrate in harmful amounts when the equipment is dipped into water for a fixed pressure and time condition.
<b>8</b>	Protection when submerging	Water is not allowed to penetrate in harmful amounts when the equipment is submerged under water.
<b>9</b>	Protection against penetration of water when cleaning with high-pressure / steam jet cleaner	Water, which is directed against the enclosure with high-pressure from all sides, is not allowed to have a harmful effect.

All details without any guarantee

## Characteristics of plastics

Mechanical, electrical, physical and chemical characteristics of ABS, Noryloxyd, Ploycarbonate and Polyester.

Characteristics	Norm	Units	ABS	NORYL	Polycarbonat e.g. Makrolon, Lexan	Polyester
<b>Mechanical characteristics</b>						
Impact resistance	DIN 53453	kp/cm <sup>2</sup>	>10	>15	>30	90
Flexure strength	DIN 53452	kp/cm <sup>2</sup>	7100	950 - 1000	>950	1800
Tensile strength	DIN 53455	N/mm <sup>2</sup>	46	450	650	850
<b>Electrical characteristics</b>						
Leakage current resistance	DIN 53480	classification	KC 600	KC 175	KA 1	KA 36
Superficial resistance	DIN 53482	ohm	10 <sup>13</sup>		10 <sup>15</sup>	10 <sup>13</sup>
Dielectric strength	DIN 53481	Kv/cm	-	350	350	180 - 200
Resistivity	DIN 53482	ohm x cm	>10 <sup>15</sup>	10 <sup>17</sup>	10 <sup>17</sup>	10 <sup>14</sup>
<b>Physical characteristics</b>						
Form resistance	DIN 53458	°C	+80	+95	+115 to +125	> +250
Melting temperature	DIN 53460	°C	+95	+142	+160 to +170	-
Temperature resistance		°C	-40 bis +80	+110	-50 to +125	-50 to +140
Lightfastness	DIN 53388				4	7 - 8
Tropical and mold resistance	CEI 689-2-3				■	■
Water absorption	DIN 53472	mg	6	0,07	10	45
Specific weight	DIN 53479	g/cm <sup>3</sup>	1,05	1,06	1,20	1,75
<b>Refractoriness</b>						
Combustibility	ASTM D-2863-70	% O <sub>2</sub>			24,3	24,4
Flame resistance	ASTM D-635-68		33	selfextinguishing	selfextinguishing	selfextinguishing
Glow wire test	DIN 53459				2c	2b
Heat radiation	C.S.T.B.					
Flammability	Nach UL 94		HB	V1	V2	V0

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## Chemical resistance of plastics and seals

When evaluating if an Enclosure is resistant against the influences of chemical substances, not only the enclosure material has to be considered but also the type of seal. The most important basic materials, which are frequently used in MULTI-BOX and the most frequently used chemical substances, are shown in the chart below. This chart only contains information where the materials are generally resistant against these medias. The concentration and the surrounding temperature also have to be considered. It is advisable to carry out an exact analysis to be able to evaluate the chemical resistance of the materials.

Chemicals	ABS	Polyamide	Polycarbonate	Polyester GRP	Chloroprene CR	PU-foamed	Silicone
	Enclosure				Seal		
Acetone	—	□	—	—	■	—	□
Formic acid	—	—	30	10	■	—	□
Ammoniac	—	20	—	—	■	■	■
Petrol	—	■	□	■	■	□	■
Benzene	—	—	—	■	—	—	—
Brake fluid	—	60	—	■	□	—	■
Butane	—	■	■	■	■	■	■
Butanol	—	■	—	■	■	□	—
Calcium chloride	—	■	■	■	—	■	—
Chlorbenzol	—	□	—	■	—	—	—
Diesel oil	■	—	□	■	□	□	□
Acetic acid	10	—	10	40	—	□	—
Formaldehyde	—	■	—	30	—	—	■
Frigen 113	—	—	■	■	■	—	—
Fruit juice	—	■	■	■	■	■	■
Glycerine	■	■	□	■	■	■	■
Heating oil	□	■	□	■	□	□	□
Hydraulic oil	—	■	■	■	■	—	□
Caustic potash	—	—	—	—	■	—	—
Potassium chloride	—	■	■	■	■	■	■
Potassium hydroxide	■	—	—	—	■	■	□
Linseed oil	—	■	■	■	■	□	□
Methanol	—	□	—	—	■	□	■
Methyl chloride	—	—	—	—	—	—	—
Lactic acid	■	10	10	■	■	■	—
Mineral oil	■	■	■	■	□	■	■
Engine oil	—	■	■	■	□	□	■
Sodium carbonate	—	■	■	■	—	—	—
Sodium chloride	—	10	■	■	■	■	■
Sodium hydroxide	■	—	—	—	■	■	□
Caustic soda	—	10	—	40	50	□	—
Nitric acid	30	—	10	10	□	—	—
Hydrochloric acid	10	—	20	■	■	□	—
Lubricating oil	—	■	■	■	□	□	■
Sulfur-carbo	—	□	—	—	—	—	—
Sulfuric acid	30	—	50	70	50	—	25
Soap sud	—	■	□	■	■	■	■
Dish soap	—	—	■	■	■	□	■
Turpentine oil	—	■	—	■	■	□	—
Carbon Tetrachloride	—	□	—	■	—	—	—
Toluene	—	■	—	■	—	□	—
Trichloroethylene	—	—	—	—	—	□	—
Water (distilled, river, tap, sea)	■	■	■	■	■	■	■
Wine acid	—	■	10	■	■	—	■
Xylene	—	■	—	■	—	□	—
Zinc sulphate	—	—	■	■	■	—	■
Lemon acid	10	10	10	■	■	■	■

■ = Resistant against all concentrations, □ = Conditionally resistant, 10 = Resistant against maximum % concentration, — = Non resistant  
All data without guarantee

## Characteristics of aluminium

### MECHANICAL CHARACTERISTICS

MULTI-BOX Aluminium Enclosures made of DIN-alloy Al Si 9 are manufactured in pressure die casting

	Al Si 9 according to DIN 172/Page 2		
	Measurement unit	Pressure diecasting* 3.2582.05	Chilled casting 3.2581.02
Tensile strength	N/mm <sup>2</sup>	220 - 280	180 - 240
0.2 Limit	N/mm <sup>2</sup>	140 - 180	80 - 110
Ultimate strain	%	ca. 3	6 - 12
Brinell hardness	HB	60 - 80	50 - 60
Impact test	J/cm <sup>2</sup>	6 - 9	7 - 10

\* Werte an Probestäben

### PHYSICAL CHARACTERISTICS

The physical characteristics are allowed to be influenced by permissible analytic tolerances and the casting

	Measurement unit	GAI Si 9
Density at 20°C	G/cm <sup>3</sup>	2,65
Thermal conductivity co-efficient 20-200°C	10 <sup>-6</sup> K	20 - 23
Thermal conductivity 20°C	W cm K <sup>-1</sup>	1,5 - 1,7
Electrical conductivity 20°C	M Ω mm <sup>-1</sup>	17 - 27

### CHEMICAL BEHAVIOR

The following chart is applicable for the alloy Al Si 9 which can be used for both casting methods.

Media	Al Si 9	
	Resistance	Remark
Acetone	Resistant	
Sea water	Resistant	Limited brackish water use
Ammoniac (dry)	Resistant	Limited Ammoniac damp use
Petrol	Resistant	
Benzene	Resistant	
Concrete	Resistant	
Heating oil	Resistant	
Petroleum	Resistant	
Water steam	Resistant	Limited hot steam use
Weather influences	Resistant	Limited extreme influences

Resistance to other media on request

Condition	Type of seal	
	Standard (PU-foamed)	Silicone
Unpainted	-40 °C bis +100 °C	-50 °C bis +140 °C
Painted*	-40 °C bis +100 °C	-50 °C bis +140 °C

\* In use with suitable paints or coatings

All data without guarantee

## General terms of business

MULTI-BOX GmbH as at 01.04.2022

### 01

#### General points

1. Only our business, delivery and payment conditions are considered, even in individual cases where reference to future deliveries can be made. The general terms of business only apply to businesses in the sense of § 14 BGB.
2. Regulations to the contrary of the purchaser are without obligation, even when the order can under lied and its contents have not been explicitly contradicted. You will only receive its validity through our explicitly written agreement.
3. At the latest point of time, after the purchaser has received the delivered goods, they have announced that they have accepted our delivery conditions. The ineffectualness of individual terms do not affect the validity of the other contract terms.
4. Technical changes of the products for the purpose of technical developments are reserved.
5. Any spoken additional agreements, assurances, changes of this contract and its conditions have to be confirmed in written from our side that it keeps its validity. At the same time, any requests for information, recommendations, spoken offers and agreements are not binding and need a written confirmation from us.
6. The given measurements and weights are used as reference values. Any deviations in the production are not constitute as defects.

### 02

#### Offers, prices and delivery

1. All offers are subject to change. Our prices apply as from our warehouse in Kirchleingern, as far as no other address has been agreed, plus the respective value added tax. If the articles are displayed in our catalogue, the price refers to the displayed article according to its description and not its contents, accessories or decoration if no mentioned otherwise.
  2. Our actual price lists are valid, less the respective actual bulk rebates plus packing, freight, insurance and commission.
  3. If a significant increase of certain cost factors such as wage costs, primary materials or shipping cost, we reserve the option to raise the agreed price appropriately against the decisive cost factor. If the price increase is more than 5% of the agreed price, the purchaser has the right to withdraw from the contract.
  4. The products will be delivered in the specified version, package unit or the minimum order quantity. If the minimum order amount is part of a packing unit, only one or more of the packing units can be delivered and not parts of these. For non-listed items, the minimum amount is prescribed by our supplier packaging unit. Partial deliveries are allowed in reasonable quantities.
  5. For orders in which the specified packing units are not met, we charge higher packaging and commission with 3% of the list price or a minimum of 15,00 EUR.
  6. The delivery time for every individual purchase order is subject to agreement. The delivery time is complied with when sufficient time for the dispatch has been announced and when the timely sending of the goods impossible without our fault. Orders, which are received before 12:00 O'clock, will be sent out on the same day if the product is on stock. Delivery is by courier and is calculated with a delivery charge of € 12,45 per package. Shipments by carrier within Germany are fixed charge of € 104,50 per Euro pallet.
  7. The risk of transport (loss or damage) has to go to the purchasers account. The purchaser also carries the risk, which also includes agreements for shipping free transport from the dispatcher's stores. If the shipping delivery is delayed through the fault of the purchaser, the risk goes onto the account of the purchaser as of the shipping day. We reserve the right to select the type of shipping.
  8. The minimum order value is €100.00 net. We will charge an additional minimum fee of €15.00 to cover our proportional part of orders, which are below this value.
- We will charge 15% of the product value as cancellation fee for orders, which have been cancelled with short notice. Products can only be exchanged or returned, when we have approved of this in advance. We will charge 15% of the product value for products, which have to be exchanged, or are sent back as a credit item.
9. A short and over delivery of 10% is allowable for products, which have especially been manufactured for our customers. A sale of return is excluded.

### 03

#### Delivery problems

1. Circumstances for which we are not responsible (industrial dispute, catastrophes, etc.) which could prevent or complicate the delivery, relieve us from the delivery responsibility during this period. This also applies when our sub deliverer is partially or completely released from the supply or transport possibilities or if they are not longer given. We are in such cases, even if we are already in default, authorized to deliver with appropriate delays including reasonable lead time.
2. If possible we will keep the confirmed delivery dates mentioned in quotations and order confirmations. In case of delayed delivery, we should be set a grace period. If we still cannot deliver the ordered product to the adequate additional appointment for whichever reason ever, the purchaser can withdraw his purchase contract in written form.
3. If the shipment of goods in stock provided is delayed at the purchaser's request, the storage costs will be charged monthly, starting one month after notice of readiness. We allow to charge resulting storage costs, but at least 0.5% of the invoice amount per month.
4. After setting an unsuccessful and moderate grace period, we are authorised to access the delivered objects and supply the customer with reasonable, extended shipping time. If the purchaser does not accept these goods, we are entitled to withdraw from the contract or complain compensation after a period of 14 days.

### 04

#### Warranty, defect liability

1. Defect claims of the purchaser require that they have completed their inspection and test duties according to § 377 HGB (German commercial code). The purchaser has to report the defects in written form within a period of 14 days after receiving the goods otherwise they are classified as approved.
2. If the delivered product is defect, we reserve the right to correct the fault or to replace it as defect free (subsequent fulfilment).
3. If we are not willing to correct the defect, replace the product or we are not able to correct it within a reasonable period of at least two weeks, then the purchaser is entitled to withdraw from the contract or make an appropriate reduction in the purchase price. Compensation claims are reserved against number 5 of these conditions, where conditions are excluded.
4. As far as the purchaser has defect claims against us because of public comments through us, the manufacturer or his helpers, especially through advertisement or with identification using certain characteristics, can be made (§ 434 Abs. 1 S. 3 BGB), the purchaser has to carry the burden of proof that this statement was causal for his purchase decision.
5. We are not liable for comments and advertising of third parties.
6. Claims for defects are time barred for one year after delivery. For any liability claims, which are not excluded in number 5 of these conditions, the period for barring is the lawful time bar of two years.
7. If the purchaser demands an after fulfilment (repair of the defect or delivery of a defect free product), they have a period of two weeks, after the claim has been indicated, to do following things: He/she has to explain if he/she would like to have the fulfilment completed or if he/she would like to withdraw from the contract, or, as far as it is not excluded, compensation will be claimed or the purchase price will be reduced.
8. Specifications (mechanical, electrical, physical und chemical characteristics) of our products are made in written form on our order confirmation, catalogues or written confirmations. A telephone information is not binding. The buyer is obliged to inform us of a use or intended use of the product outside of the declared product properties. An irrelevant deviation of the delivered product in comparison to the agreed or usual condition is no reason to reject the product. The purchaser is obliged to accept at least 2% of the finished product parts of the respective contract as defective goods because of machine technical reasons. In this case, the purchaser cannot expect or make any deductions.
9. If the purchaser of the newly sold manufactured products has to return the products because they are defect, or because the purchaser had reduced the price (§ 478 BGB), then, in case the product is sold to the last buyer at the end of the supply chain (end consumer), the lawful rights of the purchaser, when defects without the determination (number 4 of this term) of the named restrictions of the defect rights with exception of the compensation rights. The purchaser does not have to set the necessary period for the defect product for the end customer. Any compensation liabilities have to accord to number 5 of these conditions.
10. For products that are purchased on behalf of customers from third party suppliers or from customer supplied products, MULTI-BOX assumes no liability."

### 05

#### Compensation

1. Compensation claims because of neglect of duty from our side are independent from legal grounds, especially because of impossibility, delay, bad service, breach of secondary responsibilities, general responsibilities from contractual obligations illicit handlings are excluded.

These do not apply:

- a) for damage which cause injuries to life, bodies or health,
- b) for other damages when these
  - aa) are caused deliberately or grossly negligent of duty through us or one of our managerial members of staff
  - bb) a substantial contractual obligation (cardinal obligation – especially contractual principle liability) has been violated
  - cc) a miscellaneous duty, which has purposely or non-purposely been violated by an assistant of the company which is not mentioned in bb). In the cases bb) and cc), the typical amount of the liability which could or may happen is restricted.

2. As long as the responsibility is excluded or restricted, these apply to the individual responsibility of our employees, members of staff, salespersons and assistants of the company.
3. The preceding liability exclusion is not applicable for claims according to the product liability law.
4. As far as the purchaser demands a replacement of expenditures, which he has taken in reliance on benefit receipt (§ 284 BGB), these expenses are limited to the amount of such expenses that a reasonable third party would have made.
5. The purchaser can withdraw from the contract when a neglect of duty through defective service of our side is justifiable

### 06

#### Reservation of title

1. We retain title to the goods delivered until full payment of the purchase price including all collateral claims are made. During running business contacts, the goods will stay in our ownership until they are fully paid and that all commitments against the purchaser, especially until they have been completely balanced, with a recognised current account of the purchaser.
2. The purchaser is obliged to take care of the goods as long as the properties have not been transferred to them. The purchaser has to inform us immediately and in written form, when the delivered goods are damaged, misplaced, distraintment or has been exposed to any other third party. As far as the costs of the third party are not able to cover the court and out of court costs, the purchaser is liable for the developed costs.
3. The purchaser is allowed to resell and process the goods in a normal business volume. The requirements of the purchaser compared to his/her purchasers of reselling the goods, the purchaser is obliged to pay the agreed price (including VAT) to us. If the purchaser agrees a current account of the agreed price with the secondary purchaser, they have to balance the account to us. The assignment also includes any other legal reason (insurance, tort, compensation for loss of rights, etc) with respect to the conditional goods. This assignment shall apply regardless of whether the goods have been resold without or after processing. We accept the assignment.
4. The purchaser is authorised up until the collection of receivables. Our authority to collect the receivables ourselves stays untouched. However, we will not collect our receivables as long as the purchaser obliges his/her payments, is not in payment default and especially if an insolvency procedure has not been opened or a bankruptcy is not present.
5. The processing or transformation of the goods is always done for us. The processed goods serve as our security, but only to the value of the goods provided. Unless the conditional goods are processed with other objects, not belonging to us, we acquire title to the other processed items at the time of processing or combination.
6. We commit ourselves, to release the above mentioned securities, if the value exceeds the claims to be secured by 20%.

### 07

#### Documents, protection rights

1. Pattern books, drawings and illustrations stay our property and have to be sent back immediately if demanded. It is forbidden for you to show our documents to competitors.
2. With manufacturing goods according to drawings, samples or other details of the purchaser, the purchaser reliefs us from any claims or rights of third parties.

### 08

#### Terms of payment

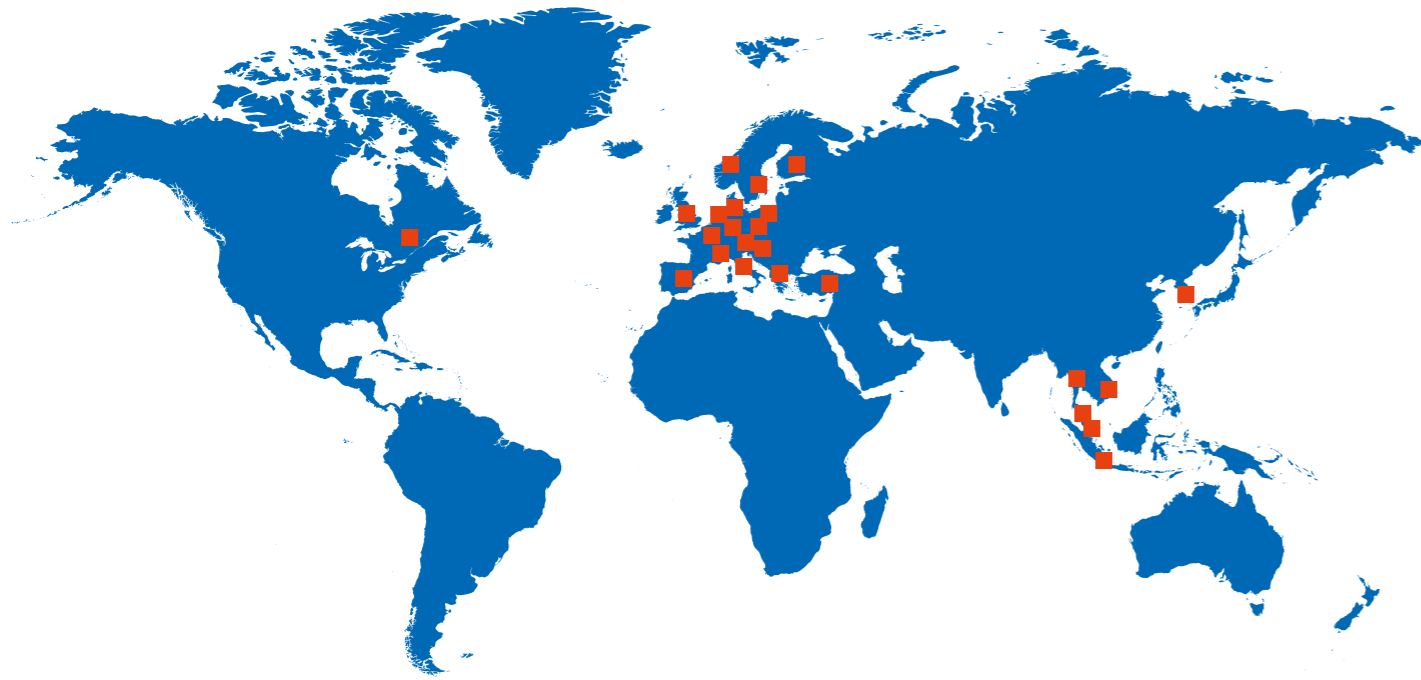
1. Our payment terms are 10 days, 3% discount, 30 days net. The goods invoiced on the day of delivery, the purchaser, except for declaratory judgment or in writing granted counterclaims, is not entitled to withhold payment or to explain the offset.
2. In case the payment is not carried out at the agreed point of time, we are authorised to charge the usual bank interest rates as of the day in arrears. To cover the out of court collection costs, we will charge the purchaser 5,00 EUR and if this has to be repeated, the collection cost will be doubled. Discount charges, exchange charges and default interest are due immediately. Bills of exchange and checks are accepted for payment. Exchange are accepted subject to a discounting.
3. If it goes to our knowledge, that the creditworthiness of the purchaser is reduced and we are afraid, that the customer can not meet its payment obligations (eg check lock), we are entitled to refuse delivery or change to prepayment. We also reserve the right to refuse the delivery. If the delivery has already been carried out, the invoice sum or the rest of the payment has to be completed immediately.

### 09

#### Court of jurisdiction and choice of law

1. If the Purchaser is a merchant i.S.d. HGB, legal entity under public law or public law special fund, our company seat is place of performance and jurisdiction for all disputes arising from the contractual relationship, including on exchange and apparent liabilities arising, directly or indirectly disputes.
2. German rights apply to the contractual relationships.
3. Should any of these conditions be or become invalid, the validity of the contract and any other terms shall not be affected.

## Representation and contact



**PARTNER**

### INFORMATION

- ▶ Besides innovative products, people are the most important factor in the transfer from the initial idea to serial production.
- ▶ Expertise, understanding of the requirements and experience in the use of our products are the most important preconditions for the realisation of your ideas and wishes.
- ▶ MULTI-BOX gives you experienced and professional contacts in our globally operating sales network.
- ▶ Make contact with us directly or contact one of our partners.
- ▶ You can find the representation responsible for you on: [www.multi-box.com](http://www.multi-box.com)



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#### ▶ C-Pro AB

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