

FIBOX

MCE




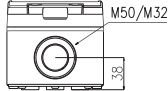
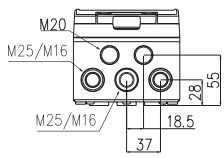

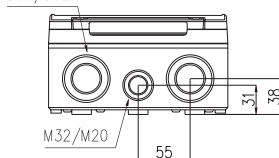
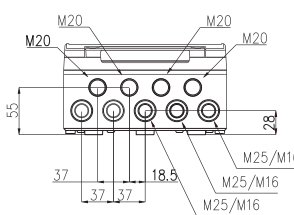

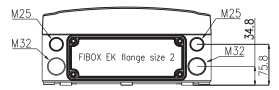
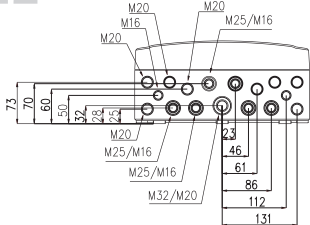

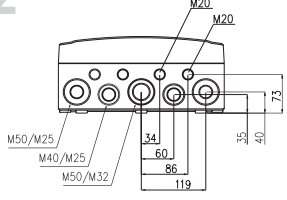
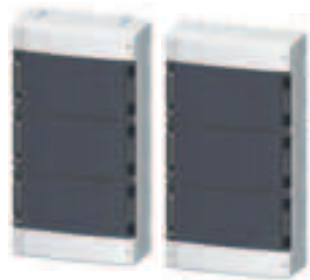
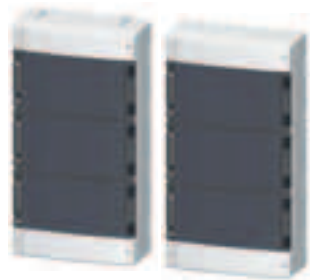
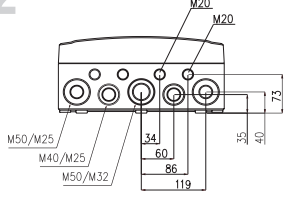
- MCE CONTROL
- MCE FEM
- MCE ISO




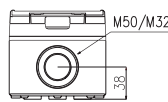
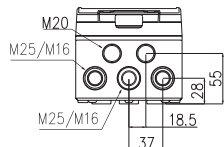

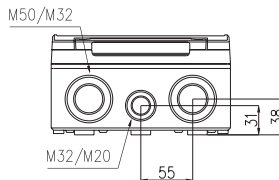
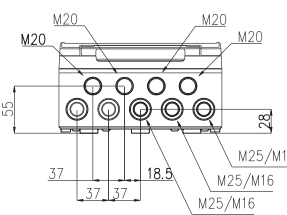

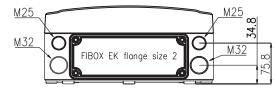
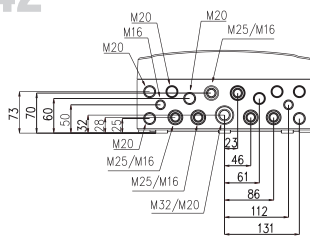

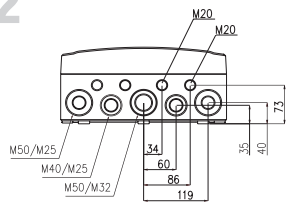
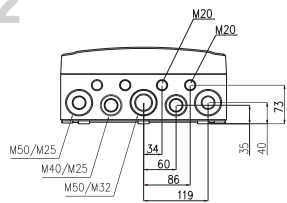
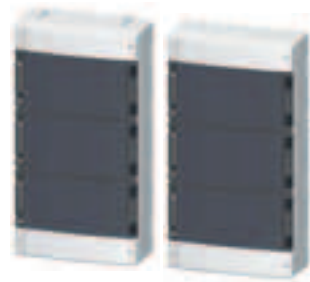
The FIBOX MCE modular component enclosures offer a practical and modern design to automation, control and switch gear applications from IP 55 (MCE FEM and MCE ISO) to IP 65 (MCE CONTROL). In MCE CONTROL and MCE FEM unique features include multiple membrane cable glands (Multi-FEM). In larger (14+) sizes a variety of flange plates is available for the standard size 2 knock-out. All cable entry knock-outs in Fibox MCE are in metric dimensions to reflect modern trends. Application specific wiring can be achieved from any direction, easily, quickly and securely.

MCE CONTROL, MCE FEM, MCE ISO

FIBOX MCE CONTROL

FIBOX MCE CONTROL Polycarbonate: IP 65, IK 08		L x S mm	Including: Multi-FEM (one for 5 and 9, two for 14 and three for 28 and 42), FEM 10-14/25 and/or FEM 14-20 membrane cable glands, two PEN 10mm ² bars in plastic support, DIN 35 rail pre-mounted, wall mount cover plugs, module marking stripe and -pocket, mounting instructions.	ORDER SYMBOL	Endplates
Y	X				
MCE PC 5 5 Y x X x Z 200 mm x 116 mm x 105 mm 	L/S 155/60	MCE PC 5 MF/M			MCE 5 MF 
					MCE 5 M 
MCE PC 9 9 Y x X x Z 200 mm x 190 mm x 105 mm 	L/S 155/120	MCE PC 9 MF/M			MCE 9 MF 
					MCE 9 M 
MCE PC 14 14 Y x X x Z 280 mm x 306 mm x 145 mm 	L/S 236/220	MCE PC 14 MF/FL MCE PC 14 MF/M			MCE 14 FL (for sizes 14, 28 and 42) 
					MCE 14 M (for sizes 14, 28 and 42) 
MCE PC 28 28 Y x X x Z 430 mm x 306 mm x 145 mm 	L/S 386/220	MCE PC 28 MF/FL MCE PC 28 MF/M			MCE 14 MF (for sizes 14, 28 and 42) 
					MCE PC 42 42 Y x X x Z 580 mm x 306 mm x 145 mm 
MCE PC 42 42 Y x X x Z 580 mm x 306 mm x 145 mm 	L/S 536/220	MCE PC 42 MF/FL MCE PC 42 MF/M			MCE 14 MF (for sizes 14, 28 and 42) 

External height **Y** External width **X** External depth **Z** Wall mounting trough the base **L** x **S**

FIBOX MCE FEM Polystyrene: IP 55, IK 07	L x S mm	Including: Multi-FEM (one for 5 and 9, two for 14 and three for 28 and 42), FEM 10-14/25 and/or FEM 14-20 membrane cable glands, two PEN 10mm ² bars in plastic support, DIN 35 rail pre-mounted, wall mount cover plugs, module marking stripe and -pocket, mounting instructions.	ORDER SYMBOL	Endplates
MCE FEM 5 Y x X x Z 200 mm x 116 mm x 105 mm 	L/S 155/60		MCE FEM 5 MF/M	5 MCE 5 MF 
			MCE 5 M	5 
MCE FEM 9 Y x X x Z 200 mm x 190 mm x 105 mm 	L/S 155/120		MCE FEM 9 MF/M	9 MCE 9 MF 
			MCE 9 M	9 
MCE FEM 14 Y x X x Z 280 mm x 306 mm x 145 mm 	L/S 236/220		MCE FEM 14 MF/FL MCE FEM 14 MF/M	14 MCE 14 FL (for sizes 14, 28 and 42) 
			MCE 14 M (for sizes 14, 28 and 42)	14-42 
MCE FEM 28 Y x X x Z 430 mm x 306 mm x 145 mm 	L/S 386/220		MCE FEM 28 MF/FL MCE FEM 28 MF/M	28 MCE 14 MF (for sizes 14, 28 and 42) 
			MCE 14 MF (for sizes 14, 28 and 42)	14-42 
MCE FEM 42 Y x X x Z 580 mm x 306 mm x 145 mm 	L/S 536/220		MCE FEM 42 MF/FL MCE FEM 42 MF/M	

External height **Y**

External width **X**

External depth **Z**

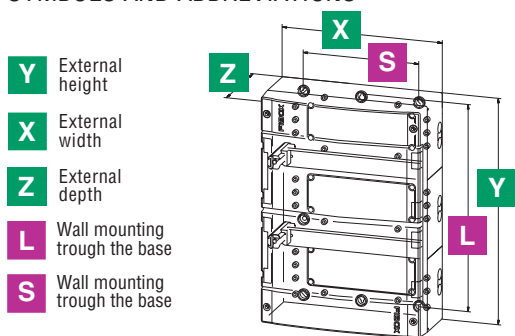
Wall mounting trough the base **L** x **S**

FIBOX MCE ISO

FIBOX MCE ISO Polystyrene: IP 55, IK 07		L x S mm	Including: Modular component enclosure with TPE gaskets, mounted DIN 35-rail, wall mount cover plugs and mounting instructions.		
			ORDER SYMBOL		Endplates
MCE ISO 5 Y x X x Z 200 mm x 116 mm x 105 mm 	5	L/S 155/60	MCE ISO 5 P/P		MCE 5 P 5 
MCE ISO 9 Y x X x Z 200 mm x 190 mm x 105 mm 	9	L/S 155/120	MCE ISO 9 P/P		MCE 9 P 9 
MCE ISO 14 Y x X x Z 280 mm x 306 mm x 145 mm 	14	L/S 236/220	MCE ISO 14 P/P		MCE 14 P 14 
MCE ISO 28 Y x X x Z 430 mm x 306 mm x 145 mm 	28	L/S 386/220	MCE ISO 28 P/P		MCE 28 P 28 
MCE ISO 42 Y x X x Z 580 mm x 306 mm x 145 mm 	42	L/S 536/220	MCE ISO 42 P/P		MCE 42 P 42 

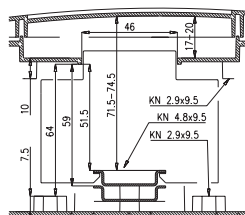
External height **Y** External width **X** External depth **Z** Wall mounting trough the base **L** x **S**

SYMBOLS AND ABBREVIATIONS

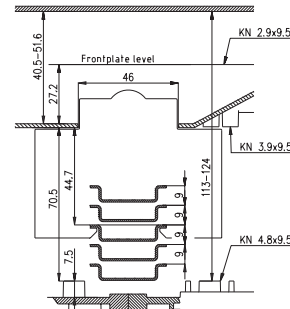


ASSEMBLY HEIGHTS

Dimensions for sizes 5 and 9



Dimensions for sizes 14, 28 and 42



TECHNICAL INFORMATION FOR MCE CONTROL

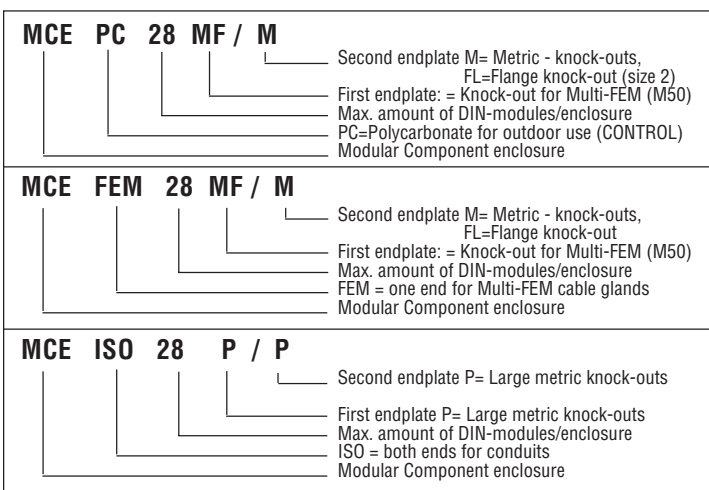
PROPERTY	POLYCARBONATE (PC)	CONFORMITY TO STANDARDS
Ingress Protection (EN 60529)	IP 65	Europe Enclosures for Switch Gear and Control Gear Assemblies EN 50298:1998
Impact Resistance (EN 50102)	IK 08	Europe Safety of Information Technology Equipment EN 60950
Temperature Range (short term)	Celsius -40°-120°C Fahrenheit -40°-250°F	Australia Enclosures for switch gear and control gear AS 3132-1991
Temperature Range (continuous)	Celsius -40°-80°C Fahrenheit -40°-175°F	
Insulation	Totally insulated <input type="checkbox"/>	
Light Grey Parts Colour	RAL 7035	
Transparent PC Cover	Industry Grey Smoked Grey	
Cover Screws	Grey, Polyamide (PA)	
Gasket	TPE Thermo Plastic Elastomer	
Enclosure Flammability Rating	UL-94 5V	UL 746 C 5 in. Vertical flame test
Glow Wire Test	960°C	IEC 695-2-1, Self-extinguishing
Non-toxicity	Halogen Free	DIN/VDE 0472, Part 815
UV resistance	UL 508	
Chemical Resistance *	720 hours in "Weatherometer" Good	

TECHNICAL INFORMATION FOR MCE FEM AND MCE ISO

PROPERTY	VALUE
Ingress Protection (EN 60529)	IP 55
Impact Resistance (EN 50102)	IK 07
Temperature Range (short term)	-40°...80°C
Temperature Range (continuous)	-40°...60°C
Electrical Insulation	Totally insulated <input type="checkbox"/>
Light Industry Grey Parts Colour	RAL 7035
Transparent PC Cover	Smoked Grey
Cover Screws, Polyamide (PA)	Grey
Gasket	TPE
Material Flammability Rating	UL-94HB
Glow Wire Test (IEC 695-2-1)	750°C
Glow Wire Test/Current carrying parts	960°C
Non-toxicity (DIN/VDE 0472, Part 815)	Halogen Free
Chemical Resistance *	Good

Data subject to change without notice. *Consult separate raw material data for more detailed information

FIBOX MCE CONTROL PC / FEM / ISO



WHY POLYCARBONATE (PC)?

Polycarbonate, trade names Lexan, Makrolon etc., is known as high tech engineering thermoplastic with high levels of mechanical, optical, electrical and thermal properties. But why are Fibox Polycarbonate types so well suited for enclosures in power distribution applications?



It can be used outdoors

Polycarbonates FIBOX use are all UV tested for outdoor use, are highly corrosion resistant and make enclosures IP 65 (EN 60529 4:1992) weather resistant. One quality of enclosure for all environments.



It is safe in fire

Polycarbonates FIBOX use are 960 (C glow wire (IEC 695-2-1) and UL 94 V-0 tested. Self-extinguishing, non-igniting with no potentially hazardous halogen additives.



It does not break

Hard knocks and rough handling pose no problems. Polycarbonates that Fibox uses insure that our enclosures meet IK 08 (EN 50102) or better impact resistance.

Interested in more information? Order Fibox "The Future is Plastic" information sheet.

FIBOX

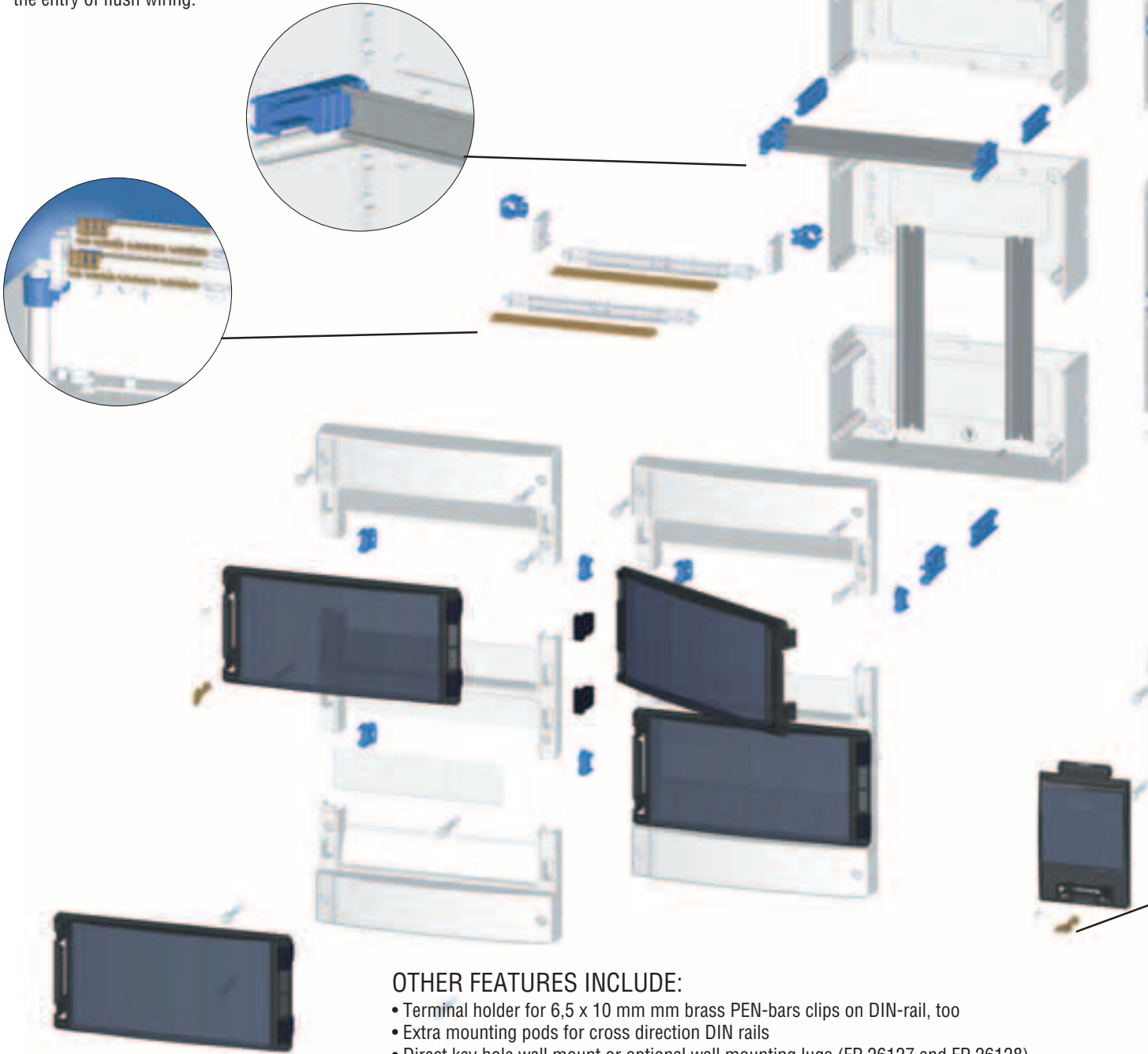
MCE CONTROL

SPACIOUS AND EASY TO WIRE

PEN supports are positioned to allow optimum wiring space inside the enclosure. Their position also makes wiring as easy as possible. DIN rails are mounted away from the base of the enclosure and on units of 14+ modules the position is adjustable. Large knockouts are provided in the base of the enclosure to accommodate the entry of flush wiring.

EVERY WIRING CONFIGURATION MADE POSSIBLE






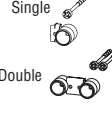




"MULTI FEM", multi-cable membrane glands, size M50, enable quick and effective entry of 3 x Ø 6-10 mm, 3 x Ø 10-14 mm through one single membrane while maintaining IP65. In sizes for 14 modules and above many gland plate options are available including blind, metric, PG, threaded, NPT and membrane versions. There are cable entries on five sides of every MCE enclosure and all of them are to the metric standard.



OTHER FEATURES INCLUDE:

- Terminal holder for 6,5 x 10 mm mm brass PEN-bars clips on DIN-rail, too
- Extra mounting pods for cross direction DIN rails
- Direct key hole wall mount or optional wall mounting lugs (FP 26127 and FP 26128)
- Size 2/FL 21 knock-out for standard gland plates
- Front aperture can be covered with plates (mounting screw holes provided)
- Window can be replaced with instrumentation cover (14+ sizes)
- Enclosures can be connected to each other in all four directions due to the smooth sides and M20 knock-outs
- Enclosure can be mounted directly on flush mounted junction boxes via purpose designed knock-outs in the bottom of the enclosure

ACCESSORIES FOR FIBOX MCE CONTROL AND FEM

Product	Order symbol	Size mm	EAN-code
Multi-FEM <i>Multi-FEM membrane cable glands allow entry of several cables through one gland. IP 65.</i> 	MFM 8-12	M50	
Membrane cable glands <i>Easy and fast assembly, security, high protection rating (IP 65) and cable strain relief are standard features.</i> 	FEM 3-5 FEM 5-7 FEM 7-10 FEM 10-14/23 FEM 10-14725 FEM 14-20 FEM 20-26 FEM 26-35 FEM 30-45	M12 M16 M20 M23/PG16 M25 M32 M40 M50 M60	
Membrane flange plates <i>Time and space saving membrane flange plates are made of light grey EPDM rubber. They offer up to three times the capacity of a traditional cable gland.</i> 	FMB 5 FMC 3 FMC 25 FMC 35	Flange size 2 (EK) size 2 (EK)	
Flange plate (PC) Cover plate (Metric) knockout plate, 4xM12 + 4xM12/M20 + 4xM16/M25 <i>Glass fibre reinforced polycarbonate flange plates are completely halogen free. EPDM-gaskets ensure high IP 67 protection rating. Smooth cover plate provides easy and safe machining.</i>	MB 10546 MB 10857	Flange size 2 (EK) size 2 (EK)	
Knock-out plate (PC) <i>These PG-knock-out plates feature the same material properties, and strength as MB 10546 and MB 10857</i> 	9xPg 11 + 5xPg 9/16 4xPg 21/29 13xPg16	MB 10593 MB 10594 MB 10595	Flange size 2 (EK) size 2 (EK) size 2 (EK)
Key lock set <i>One key lock set includes two keys. No mounting required: simply insert the lock with the key, turn clockwise and remove the key. To unlock just reverse the procedure.</i> 	MR 26065		
Wall fastening lug <i>FIBOX MCE enclosures can be mounted to wall or rails either through the base of the enclosure or with wall fastening lugs. Single lug allows fastening of an enclosure without piercing the base. Double lug can be used for wallmounting of a single enclosure or for conjunction of two enclosures.</i> 	Single Double	FP 26128 FP 26127	
PEN bus-bar holder for MCE 5 for MCE 9 for MCE 14-42		PEN H 26135 PEN H 26136 PEN H 26140	
Multiadapter for PEN-bars 	MU 26138		
PEN-bar Earth/neutral terminal busbar 	6x10 mm ² 10x10 mm ² 16x10 mm ² 35x10 mm ²	PEN 6x10 PEN 10x10 PEN 16x10 PEN 35x10	
Marking stripe for MCE 5 Marking stripe pocket for MCE 5 Marking stripe for MCE 9 Marking stripe pocket for MCE 9 Marking stripe for MCE 14+ Marking stripe pocket for MCE 14+		MB 26061 MB 26062 MB 26063 MB 26064 MB 26065 MB 26066	
Cover Stripe		MB 26050	



UNAUTHORISED ACCESS STOPS HERE

Stylish, but impact proof window can be secured easily with a clasp, MR 26065 key lock (optional) or screw. Pad lock set MR 26146 SET for three MCE 14+ windows is also available. Secured windows cover the screws used for the mounting of frame part of the enclosure and thus the components and the wall mountings remain inaccessible. Cover screws and windows can be wire sealed, too.

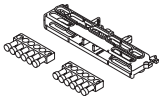
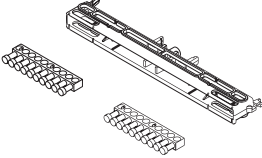
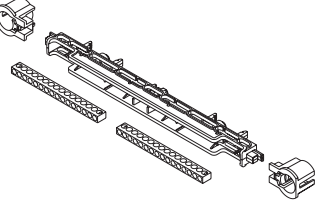
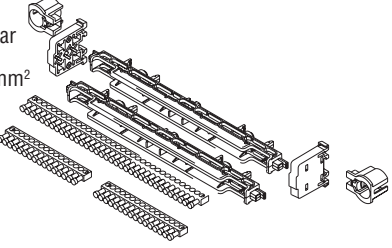
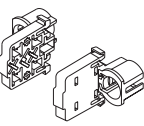
MODULAR SERVICES FOR YOUR BEST

Fibox introduces surface mounting aid and multitude of earth-neutral solutions for all MCE sizes and a pad locking system for MCE 14+ sizes. All these products affirm the modularity of MCE enclosures and emphasise the characteristics of the range.

FIBOX MCE PE/N/PEN -bar -sets are complete packages, that include Phase Earth and Neutral bars and all necessary holders needed for assembly to FIBOX MCE enclosures. The same parts follow with standard delivery of MCE CONTROL and MCE FEM enclosures.

Note! All FIBOX MCE PE/N/PEN holders can also be mounted straight on DIN-rails. Then they take about one modular width, depending on the type of the wire used.

This feature together with well designed knock-outs on five sides of the MCE-enclosures enables the use of solitary enclosures even only for earthing purposes, whilst components are on neighbouring enclosures. Use of double wall fastening/conjunction lugs FP 26127 is useful on these occasions.

Product	Order symbol	
Ready to fit set includes PEN-bar holder for MCE 5 with two 6x10mm ² brass bars. 	MCE 5 PEN SET	
Ready to fit set includes PEN-bar holder for MCE 9 with two 10x10mm ² brass bars. 	MCE 9 PEN SET	
Ready to fit set includes PEN-bar holder for MCE 14 with two 16x10mm ² brass bars. 	MCE 14 PEN SET	
Ready to fit set includes two PEN-bar holders for MCE 14 with two 16x10mm ² brass bars and one 35x10mm ² brass bar and a multi adapter for easier mounting. 	MCE 14 MU PEN SET	
Multi adapter set accepts a variety of PE/N/PEN -bars: brass or copper, profiles of 6,5x10mm (1 position in 4 placements), 5x5mm (2 positions in 3 placements), 2x12mm (12 placements). Naturally the MCE 14+ PE/N/PEN -bar holder fits into multi adapter. It can be mounted on DIN 35 -rail or to internal towers of MCE 14 and larger enclosures. Set includes a pair of tower mounting pieces and two multi adapters. PE/N/PEN -bars need to be acquired separately. 	MCE MU PEN SET	
Terminal bus-bar clamp, 25 mm ² .	MS BAR CLAMP	
Terminal bus-bar clamp, 35 mm ² .	MR 26145	

ALUMINUM FRONT PLATE FOR MCE 14+ ENCLOSURES

FP A 26133 broadens the spectrum of control and measurement equipment that can be assembled into MCE 14 and larger enclosures.

It is:

- rigid: Use for switches.
- even: ideal for membrane keypads
- flat: good for variety of displays
- light in weight, as all FIBOX MCEs
- easy to tool, as FIBOX MCE in the whole.
- easy to mount with just four screws.

(**KN 2.9x9.5**, please order separately, if applicable).

SURFACE MOUNTING ON MCE 5 AND MCE 9 ENCLOSURES

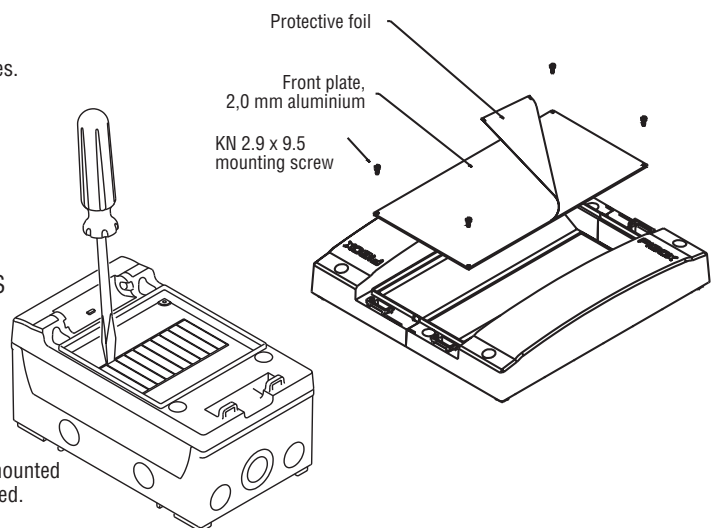
Flat surface of the two smallest MCE enclosures allow mounting of displays, membrane keyboards, etc. directly under the window. To open the inner cover for modular components, please use screwdriver and hammer or a knife.

PAD LOCKING SET FOR MCE 14+ ENCLOSURES

Pad locking set **MR 26146 SET**, which provides double locking safety for three MCE 14+ windows. Six 25mm x 25mm pad locks mounted into three holder parts keeps max. 42 modular components protected.

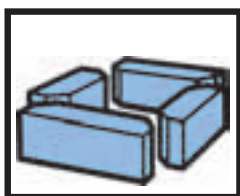
WALL MOUNTING RAIL FOR MCE 14+ ENCLOSURES

Wall mounting rail set **FP AL 26148** contains two rails and mounting instructions. Rail is mounted horizontally to the back of the enclosure with two M5 12-14 mm screws. These holes on the rail are threaded. The wall mounting holes at the end of the rail are of 10 mm diameter. Please acquire the screws separately.



FIBOX CUSTOMISATION SERVICES FOR MCE -ENCLOSURES

More than 30 years of know-how with injection moulded plastic enclosures has taught FIBOX few tricks of the trade. Therefore we are able to provide a comprehensive range of enclosure customising options in affordable price and short lead times. Machining and tooling can be done with experience and expertise. Customised moulding is also available for larger orders in very economical price. Printing or colouring can give your product the needed edge. And we are proud to offer it to you.



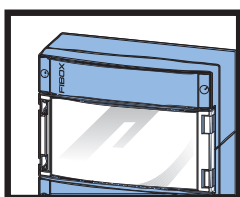
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CUSTOMISED TOOLING

Our customized tooling service offers you a low cost method of producing "tailor-made" enclosures to your own exact specification. The required investment is often minimal, especially when existing interchangeable tool slides can be utilized. A typical lead time using this option can be as short as 5 to 8 weeks. As an example, the end plates of Fibox MCE enclosures can be easily modified. This means the mount, shape and number of knock-outs can be changed. We can even provide no knock-outs at all.

The flexible modular design of the Fibox MCE range means that to achieve large scale customization it may be only necessary to modify a small number of tools, therefore keeping the expense aspects under control. In addition to physical modifications the colour of the enclosure can be customized by using colour pigmented plastic granules. In the case of a customized mould run the colour change represents only a nominal extra cost.



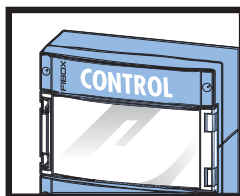
COLOURED PLASTIC ENCLOSURES

Fibox offers plastic enclosures in various customized RAL colours by using pre-coloured plastic raw material granules. The best result is achieved on non glass reinforced fibre materials. Colouring can be used as an efficient and relatively low cost method of promoting your company's corporate identity. This process becomes economical for batches of more than 500 pieces, then the surcharge is about 50%. For batches of 2000 pieces the surcharge is only about 10%. The additional cost involved when colouring enclosure raw material is incurred in cleaning and preparing moulds both before and after the production run. Painting of an MCE enclosure is not recommended due to the modular nature and design features.

As all Fibox MCE enclosures are constructed from various parts all these parts must be coloured separately. This allows for a variety of colour combinations. For example the cover screws, the enclosure body and the front frame can all be different colours. When designing a customized product it is important to remember that each coloured mould run increases the total enclosure price.

PRINTED ENCLOSURES

Silk screen printing and Tampo printing are recommended methods of adding logos, text or imagery to Fibox enclosures. Both methods can be used on flat surfaces and tampo printing is suitable for curved areas such as the cover. It is also recommended for areas where access is restricted, for example the area underneath the viewing window on Fibox MCE enclosures. Silk screen printing is an economical option for production batches of say 100, and Tampo printing is cost effective when the run is say 1000 pieces. Both methods, silk screen printing and Tampo printing, can accommodate one to three colours to RAL or PMS specifications. A quality end result is assured with both processes.



MACHINED ENCLOSURES

The Fibox machining service offers a peace of mind, value for money solution to your customizing requirement. Years of experience mean we can create the exact specification your drawings demand. Because we know our products and materials intimately we can advise you on the most efficient means of meeting your customizing needs quickly and efficiently. Fibox can machine enclosures to drawing with either metric or imperial dimensions. To attain a satisfactory result time and again we request that correct customizing drawings are provided. Our CAD/CAM system helps both Fibox and your designer to create drawings for CNC machining. Drawings of enclosures are available at www.fibox.com to be either printed out or copied c/w dimensions in PDF and GIF format or in DWG, IGES and DXF for downloading onto your CAD system for further modifications. Several enclosure drawings are also available in 3D format upon request.

Although machining a standard Fibox MCE enclosure is possible, a better result will be achieved if totally smooth end plates are utilized at the outset. These options can be viewed in our range brochure – FIBOX MCE PANEL or by visiting www.fibox.com.

