MTL700 SERIES ACCESSORIES

◆ **Mounting kits for up to 20 barriers**

◆ **Busbar, earth terminals and insulating mounting blocks for separate connection to IS earth**

◆ **Earth terminal rail for cable screens and earth returns**

◆ **Integral tagging system to display barrier loop data**

DO-IT-YOURSELF MOUNTING ARRANGEMENT

Barriers are carried on lightweight plated busbar, which can be mounted on 'top hat' or G-profile rail or any flat surface with the busbar insulated for separate earthing. It is recommended that twin earth cables should be used for maximum security and easy testing. Each barrier is clamped to the busbar and thereby earthed in a single operation, making it virtually impossible to forget the earth connection, so easily left untightened or untested if there are scores of individual earth wires. Robust soft-plated double fixing studs on the top of each barrier ensure permanent 'gas-tight' joints, which are immune to vibration and corrosion yet allow barriers to be installed, inspected and removed easily.

The accessories system also provides a convenient row of terminals for terminating earth returns and cable screens, which remains in place to keep these safely earthed should any barrier be extracted: a dummy barrier is available as an alternative for the same purpose. With similar attention to users' needs, a unique lift-up tagging facility provides permanent identification of circuits and barrier types to guide installation, fault-finding and inspection, and to ensure correct replacement of any barrier for long-term safety.

ACCESSORIES

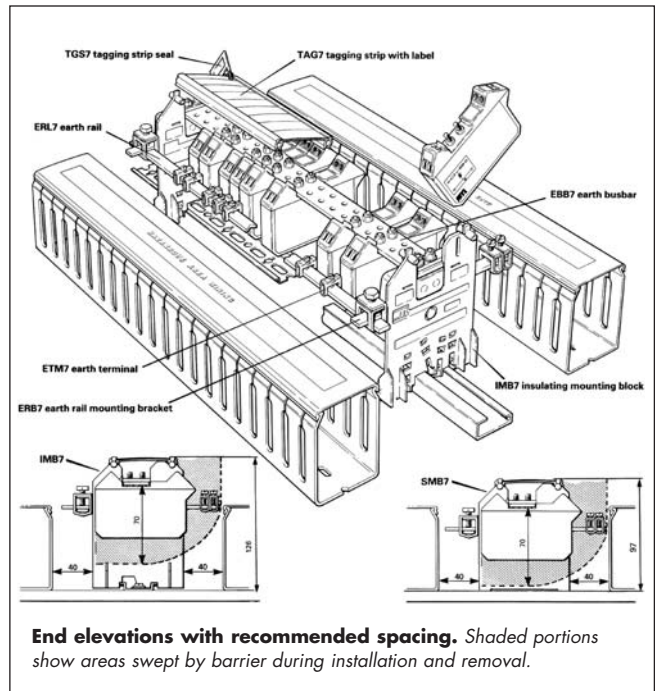**EBB7 earth busbar,** nickel-plated brass and ready drilled in one metre lengths.

IMB7 & SMB7 insulating mounting blocks are a convenient method of supporting the busbar. They are supplied complete with fixing screws and are ready for mounting on any flat surface. IMB7 will also mount on top hat or G-profile DIN-rail. T-section DIN-rail **THR2** is available in 1 metre lengths.

TAG7 tagging strips clip onto the mounting blocks to positively identify each location and provide space for the user to note details of barrier type, loop identification etc. Access to barrier mounting studs is not impaired; just unclip one edge and swing the strip 'open' or, if the optional plastic seal **(TGS7)** has not been fitted, unclip both edges and lift it right off. **TGL7** replacement labels for the tagging strips are also available.

ERL7 earth rail is a nickel-plated 3 x 10mm rail that attaches to the mounting blocks via an **ERB7** earth rail mounting bracket. It will accommodate up to 2.5 **ETM7** earth terminals per barrier location for terminating earth returns and cable screens from the hazardous area.
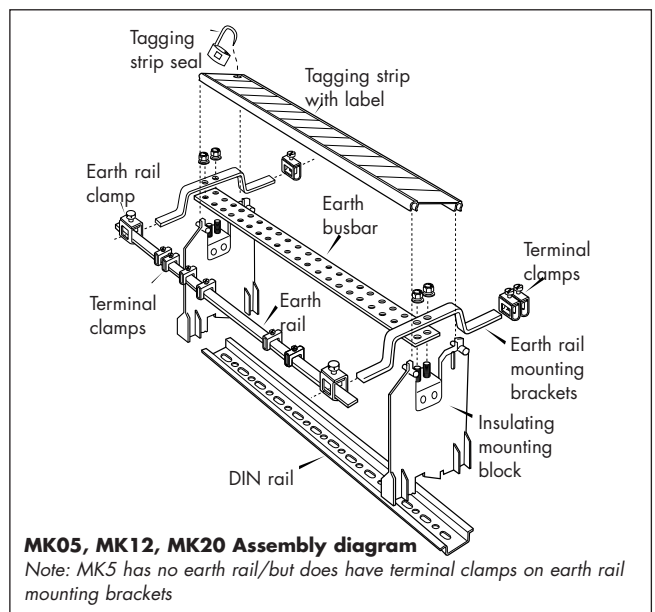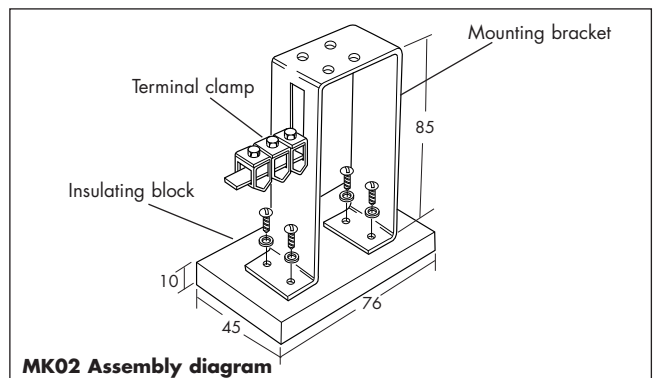
ERB7 earth rail mounting bracket mounts directly over either type of mounting block; for a rigid earth rail an **ERB7** on each mounting block is recommended. One end carries a bolt-down fitting for the rail – enabling easy removal for adding extra **ETM7** terminals – the other end carries a 16mm^2 terminal. When installed these 16mm^2 terminals provide connections for the high-integrity IS earth, for linking between sections of busbar, and for a common earth return from the safe area.

Other accessories available are the **TQS7** torque spanner for safe tightening of the vibration-proof self-locking nuts on the barrier earthing studs; **SMC7** surface mounting clips for mounting a single barrier on a flat surface; and **ISL3** or **ISL7** self adhesive 'Take Care' intrinsic safety warning labels.

End elevations with recommended spacing. *Shaded portions show areas swept by barrier during installation and removal.*
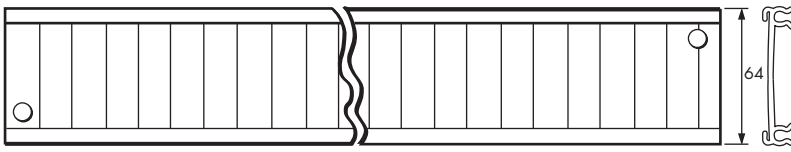
MOUNTING KITS

Mounting kits provide all the necessary parts for installing up to a specific number of MTL700 or MTL700P Series barriers. The kits available are the MK02 (2 barriers), MK05 (5 barriers), MK12 (12 barriers), and MK20 (20 barriers). Each kit provides facilities for mounting and earthing the barriers, connecting the IS earth cable, terminating cable screens and noting tagging information (except the MK02 kit which does not provide tagging facilities). Instruction Sheet INS701 includes full assembly instructions.


MK02 Assembly diagram

MK05, MK12, MK20 Assembly diagram
Note: MK5 has no earth rail/but does have terminal clamps on earth rail mounting brackets

Jun 2009

DIMENSIONS (mm)

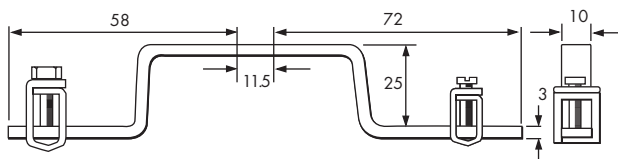**TAG7 tagging strip** with label and 6 'clic' rivets – *1 metre lengths*

64

TGL7 tagging strip label only – *packs of 10 x 0.5 metre lengths*
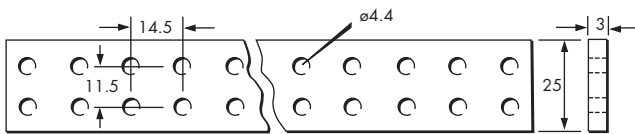
ERL7 earth rail – *sold in 1 metre lengths. Unplated rail available as 'SSch 10 x 3mm brass busbar', from Klippon Electricals Ltd*


3

10
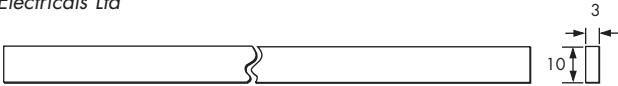
**ERB7 earth rail mounting bracket** – *with earth rail bolt-down fitting and terminal for cable 16mm²*

58   72   10

11.5   25   3

EBB7 earth busbar – *1 metre lengths. Mounts up to 64 barriers.*

14.5   ø4.4   3

11.5   25

IMB7 insulating mounting block *mounts on a flat surface or top hat rail (to EN 50 022 – 35 x 7.5; BS 5584; 35 x 27 x 7.3 DIN 46277) or G-profile rail (to EN 50 035 – G32; BS 5825; 32 DIN 46277). Recommended maximum number of barriers between blocks is 25.*


M4

126

70   M4 x 20 fixing screw

85   21.1
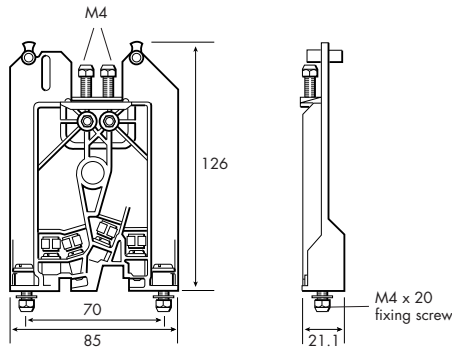
SMB7 insulating mounting block *mounts on a flat surface and provides minimum overall installation height. Recommended maximum number of barriers between blocks is 25.*

M4

97

70   M4 x 25 fixing screw

85   14.1
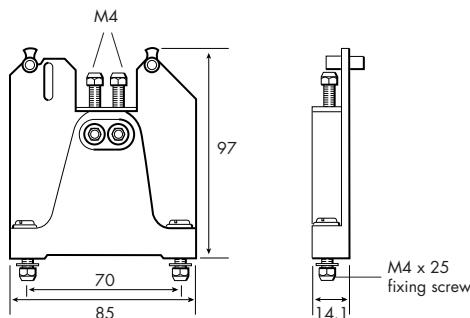
TGS7 tagging strip seal – *sold in bags of 10*

25

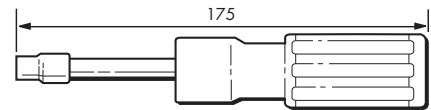**ETM7 earth terminal** – *sold in bags of 50. For cable 4mm². Also available as 'ZB4' from Klippon Electricals Ltd.*
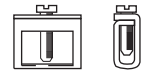
SMC7 surface mounting clip – *sold in bags of 10. Two clips needed per barrier*

95

14.5   4.2

TQS7 torque spanner – *set to 2.3Nm torque. Complete with 7mm A/F socket.*

175

ISL3 or ISL7 'Take Care' intrinsic safety label – *ISL3 adhesive back, metal *ISL7 adhesive front, plastic*

140 (65*)   100 (40*)

Intrinsically Safe System TAKE CARE

MEASUREMENT TECHNOLOGY LTD   **E**x**i**
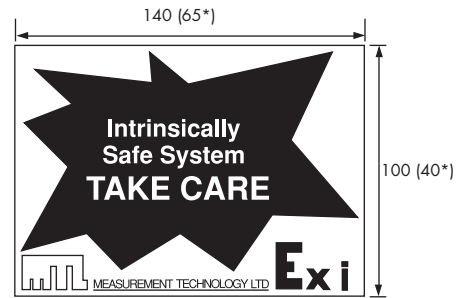
DRK700 adaptor kit *allows MTL700 Series barriers to be mounted directly on DIN-Rail.*

MTL700 SERIES ENCLOSURES

For marshalling barriers in safe areas

◆ **Three polycarbonate enclosures hold up to 12 barriers**

◆ **Steel enclosure holds up to 20 barriers**

The MT Series of enclosures provides a simple, effective means of mounting and protecting MTL700 Series barriers in safe areas. Three lightweight polycarbonate enclosures with see-through lids accommodate up to 2, 5 or 12 barriers, and a steel enclosure holds up to 20 barriers, all in safe areas. All the enclosures are supplied ready fitted with a nickel-plated brass busbar mount, so barriers can be installed and wired up immediately without special tools; the 20-barrier enclosure is also provided with cable trunking to segregate the safe- and hazardous-area wiring neatly. The polycarbonate enclosures are impact resistant, flame retardant, and dustproof to IEC529:IP65, and the steel enclosure is dustproof and waterproof to IEC529:IP67.

Tagging. All the enclosures, except the 2-barrier model, are fitted with removable tagging strips for positive identification of barrier type and loop number. The tagging strips are mounted above the barriers and can be hinged in either direction to give access to the barriers. Each carries a label, protected by a slide-in transparent plastic cover, upon which the user can write his barrier and loop details. In addition, all the enclosures carry a 'Take Care' intrinsic safety warning label on the lid.

Earthing. All the enclosures except the 2-barrier model are fitted with three large terminals: two for making a high-integrity connection to the essential IS earth, and one to accept a cable from the 'earthy' end of a common power supply, or system 0V rail, in the safe area.

In addition each enclosure is provided with one or two rows of smaller terminals for terminating and earthing hazardous-area earth returns and cable screens. Except in the 2 and 5 barrier models, these terminals are mounted on earth rail running conveniently parallel to the busbar and attached to it by brackets. Further terminals can be added easily by the user if needed, up to 2.5 terminals per barrier space.

The entire earth system is insulated from any nearby metal, and the earth cable itself should also be insulated, mechanically protected and identified so as to eliminate all danger of invasion by fault currents from high-power electrical equipment.

Although it is not mandatory, MTL recommends using two cables connected to the busbar via two terminals on separate brackets, so that the resistance of the whole earth loop can be checked periodically without breaking the connection to earth. Several enclosures can be included in the loop if necessary.

Mounting of the three larger polycarbonate enclosures is normally by rear-fixing screws or screw-on plastic fixing lugs, using the pre-tapped brass bushes moulded into the enclosure's base. The lugs can be set horizontally, vertically, or at 45°, and are supplied as standard with each enclosure together with the necessary screws. Alternatively, if the enclosures are to be front mounted and close packed, a plastic membrane covering the inside of each tapped hole can be knocked out, allowing the passage of other screws. Plastic plugs are supplied to seal the knockout apertures and preserve the IP65 integrity of the enclosures if this method of fixing is used. The 2- and 5-barrier enclosures are mounted by horizontal or vertical plastic fixing lugs held on by screws self tapped into blind holes in the base, or by other screws passed through holes in the base moulding walls outside the lid gasket. The steel enclosure for 20 barriers has permanent fixing lugs, and provides the additional facility that its lid can be padlocked to prevent unauthorised interference.

Glanding. All the enclosures except the 2- and 5-barrier models have detachable top and bottom gland plates for convenient drilling by the user, while the 2- and 5-barrier enclosures each have four 20mm holes pre-drilled through the top and bottom sides of the base. All cables entering or leaving any enclosure must be suitably glanded to preserve its IP integrity.

Note: to ensure safe carriage, MTL despatches the enclosures with barriers not mounted.

MTL700 SERIES

ENCLOSURES
(continued)

DIMENSIONS (mm)

MT2 Ø6

MT5 Ø6
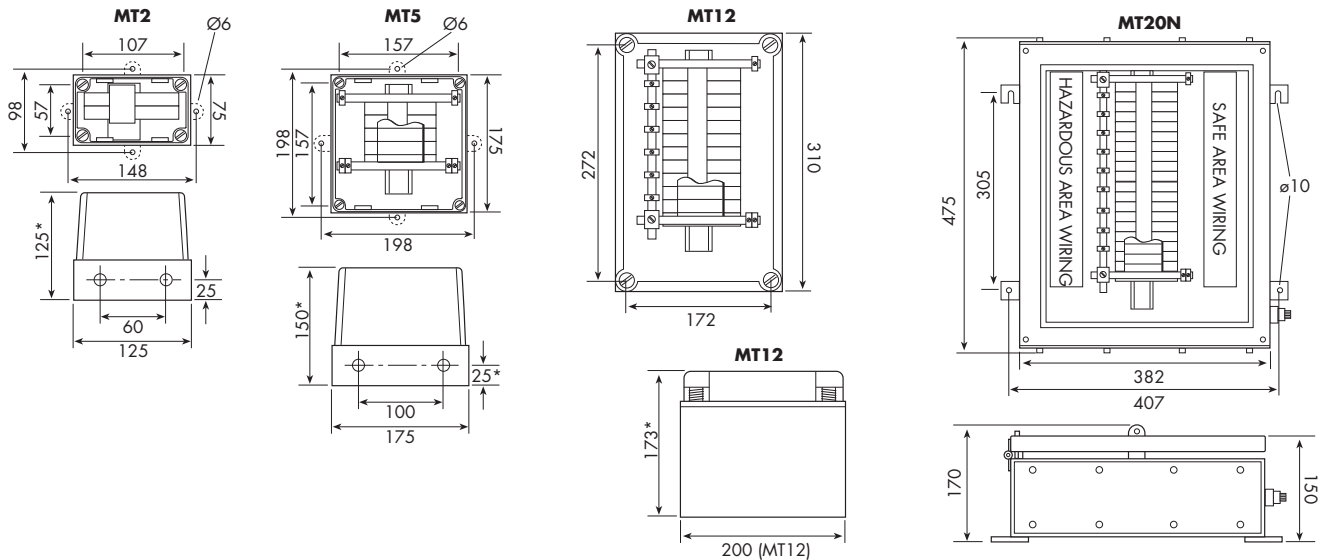
MT12

MT20N

Fixing lugs for MT12
On these models, the screw-on fixing lugs can
be positioned as shown.
Add 5mm to depth if fixing lugs are used.

SPECIFICATION	MT2	MT5	MT12			MT20N
Maximum barrier capacity	2	5	12			20
Construction	Polycarbonate: glass-filled base, transparent lid					Sheet steel
Finish	Dark-grey base		Light-grey base			Mid-grey painted
Lid fixing	4 captive screws					Lift-off floppy hinges, 4 captive screws, hasp for padlock
Protection: dust-tight/waterproof	IEC529:IP65					IEC529:IP67
Gland fixing	4x20mm holes pre-drilled through top and bottom		Top and bottom gland plates detachable for drilling by user			
Permitted location Certification	Safe area		Safe area			Safe area
Mounting (see illustration)	Corner screws or plastic lugs screwed to base		Plastic lugs screwed to base, plugged knockout holes, or rear-fixing screws			Fixed mounting lugs
Mounting Kit provided	2 lugs + attaching screws		4 lugs + attaching screws 4 plugs			None
Tagging facility provided	None		Tagging strip(s) with label(s) and seal(s)			
Cable trunking provided?	No			No		Yes
'Take care ' IS label provided	Adhesive front, inside lid					Adhesive back, on lid
Earth terminals provided: Large (<16mm^2, 6AWG) Small (<4mm^2, 12AWG)	0 3	3 3	3 6			3 10
Weight (without barriers) kg	0.36	1.08	2.20			12.62