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KM6-II SUBRACK SYSTEMS

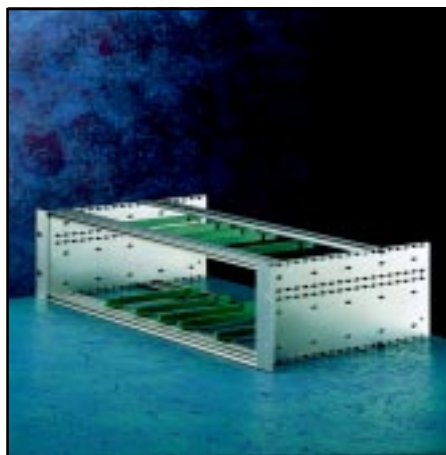
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▲ KM6-II SUBRACKS



▲ KM6-II FRONT PANELS AND PLUG-IN UNITS



▲ KM6-EC SUBRACK



▲ KM6-EC CASEFRAME

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▲ KM25 METRIC SUBRACK SYSTEM



▲ KM7-II CASEFRAMES



Certificate Number

Chandlers Ford
FM 00424

Uxbridge
Q 06146

Many of the products in this Section are manufactured at our Chandlers Ford or Uxbridge facilities in accordance with BS EN ISO9001. For further details contact our Quality department.

NEW IN THIS SECTION

Board area only EMC covers	Page 4.22
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A GUIDE TO THE EMC SCREENING OF KM6-II AND KM25 SUBRACKS

Please note that any reference in this section to attenuation figures is theoretical and examples have been obtained under laboratory conditions only.

By its nature, an empty enclosure does not meet any EMC performance regulation, since all the existing standards are applicable solely to electrical/electronic equipment; any modification to either the enclosure or its contents will have an effect upon its EMC performance.

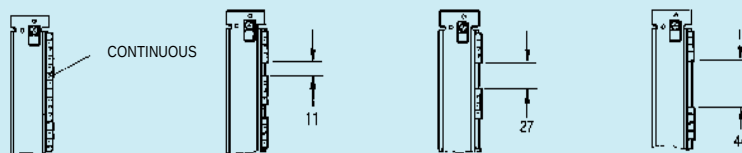
Some sizes of KM6-II and KM25 can be retrospectively screened by the addition of covers, front panels and associated components. These can be found by reference to the various details in this catalogue.

The key to good screening performance in the E (electrical) field is to keep down the size of holes and the land between them, and to reduce the length of slots, on the basis that the shorter the slot, the better the performance at higher frequencies. The H (magnetic) field performance is more a function of material and thickness - hence a steel cover would offer some improvement in this area.

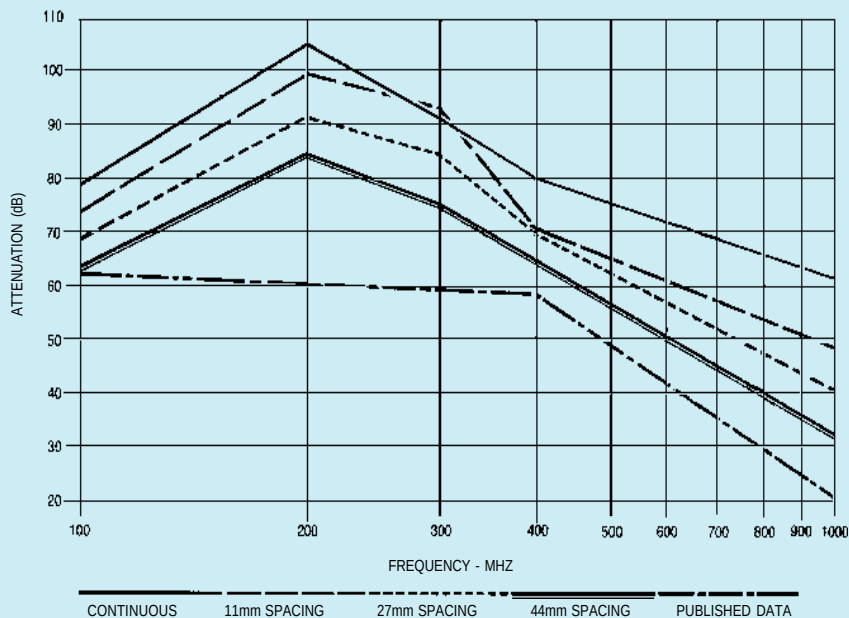
The cover kits are available in ventilated and unventilated form and their typical performance can be fairly accurately forecast, assuming that they are fitted in the recommended way. The obvious difference is that the unventilated version offers a higher level of attenuation. Despite the fact that aluminium has good thermal properties, however, it must be accepted that you may have heat dissipation problems. The choice of ventilation holes is necessarily a compromise between EMC, thermal and manufacturing considerations. We have chosen with these in mind. Apart from this, the only means that can easily be used to further enhance the standard screening performance in this area is to apply some sort of additional seal around all edges, thus reducing slots to the minimum; under laboratory conditions we achieved an improvement of approximately 15dB using seals in this manner. For this sort of application there are self-adhesive aluminium or copper strips available from EMC seal suppliers.

The area which is most open to variables is in front and rear panels. Here, adjusting the spacing of the RFI fingers can produce significantly different performances and we hope this guide will assist you in this area. Hence, all other factors being equal, maximum performance can be achieved by using full width front panels, thus reducing the number of potential leakage points.

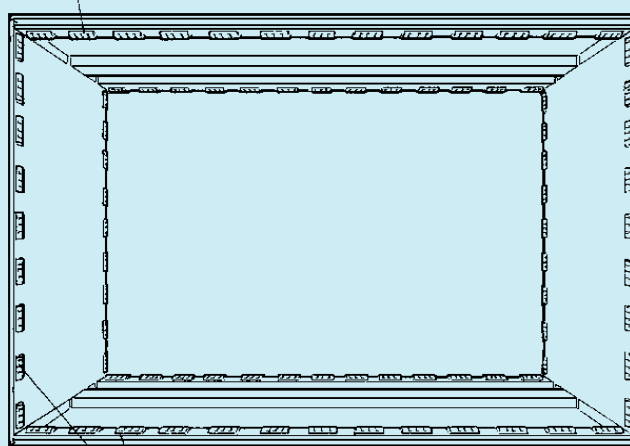
Shown here is a set of typical curves obtained under test conditions using various finger configurations, from small groups at varying intervals up to a full strip of fingers. The subrack was fitted with unventilated top and bottom covers throughout the test. The 11mm curve is anomalous at 300MHz which may be a function of the geometry of the particular enclosure under test. Figures are averaged from front and rear. Ventilated covers reduce the attenuation by an average of 15% under test conditions. The downward slope at the lower frequency end is largely a function of antenna size and type. The effect of slot length is clearly shown at increasing frequencies. EMC fingers can add significant cost to the screening of a system and for this reason, we do not include fingers as part of any cover or front panel kit; instead, you should select the configuration most suitable for your particular application, after consideration of the variables detailed in this section. The EMC finger strips can be easily cut to length with a pair of sharp scissors, taking care to avoid crushing the raised fingers.



EFFECT OF Be Cu SPACING ON SINGLE FRONT AND REAR PANELS
SOLID TOP AND BOTTOM COVERS WITH DIMPLES AT 20mm SPACING
Be Cu IN 4-FINGER BLOCKS



RFI fingers fitted on front and/or rear extrusions when using overall closing panels.



RFI fingers fitted at all vertical corners

Spacing of fingers should be consistent throughout. They should be placed to coincide with those on the front and rear panels.

End plate angles omitted for clarity

CUSTOMISING OPTIONS

CUSTOMISING SERVICE

VERO Electronics has many years of experience in the design and production of customised Subracks.

Most of our standard subracks are easily modified in order to suit a wide range of applications.

The table below gives the Customising options available on each of our Subrack systems. Also illustrated are examples of modified subracks which we currently produce for various customers.

Please contact your local sales engineer, or our Custom Sales Office, who will be pleased to offer further assistance.

Customised Subrack products are manufactured in accordance with the quality procedures of BS5750 Pt 1 Cert No. FM424 and ISO 9001



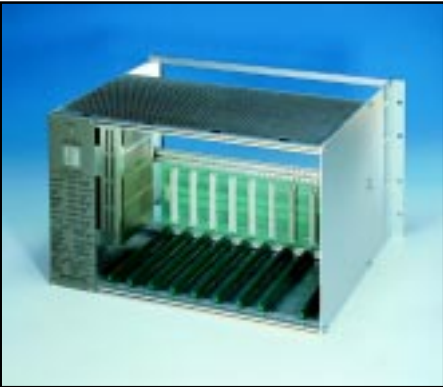
▲ CUSTOMISED KM7 CASEFRAME



▲ SUBRACK WITH COOLING SYSTEM



▲ SPECIAL SUBRACK



▲ CUSTOMISED KM6-II SUBRACK



▲ CUSTOMISED/PRINTED FRONT PANELS



▲ CUSTOMISED KM6-EC CASEFRAME

CUSTOMISING OPTIONS - SUBRACK SYSTEMS

★ = Available
STD = Standard feature

PRODUCT	HEIGHT	WIDTH	DEPTH	PUNCHING/DRILLING	SURFACE PRINTING	SUBSURFACE PRINTING	ENGRAVING	ALOCROM/IRRIDITE	PAINTING	PLATING	FLAME RETARDANT MATERIAL	COLOUR CHANGES	ASSEMBLY	WIRING	BACKPLANE ASSEMBLY	COOLING	KITTING	BULK PACKING	RFI CAPABILITY	ANODISING
KM6-II SUBRACKS	★	★	★	★	★	★	★	STD	★	★			★	★	★	★	★	★	STD	★
KM6-EC SUBRACKS	★	★	★	★	★	★	★	STD	★	★			★	★	★	★	★	★	STD	★
KM6-ECCASEFRAMES	★	★	★	★	★			STD	STD	★		★	STD	★	★	★	★		STD	★
KM6-II FRONT PANELS AND PLUG-IN UNITS	★	★	★	★	★	★	★	★	★	★			★	★		★	★	★	STD	★
KM7-II CASEFRAMES		★		★	★	★	★	★	★	★		★	★	★	★	★	★	★	STD	
KM25 SUBRACKS	★	★	★	★	★	★	★	STD	★	★			★	★	★	★	★	★	STD	★
KM25 FRONT PANELS	★	★		★	★	★	★	★	★				★				★	★	STD	★

■ NB Certain plastics can be adversely affected by organic solvents. Care should be taken to avoid contamination by some cleaning agents, for instance. With modified PPO's and PPE's such as Luranyl we recommend that when using thread locking compounds they should be cyanoacrylate based, not anerobic.

MOUNTING DIMENSIONS

The KM6-II system is fully compatible with DIN 41494 part 5, IEC 297 section 3 and IEC sub-committee SC 48D. Relevant dimensional data relating to KM6-II is laid out fully on these pages. All plug-in units (except heavy duty versions) are modular in concept and are based on the first card position being 3,27mm from the left hand datum line of the working aperture; subsequent card positions are on multiples of 5,08mm (1HP) from the first card position.

To allow for a uniform working clearance between front panels the physical overall width of front panels is 0.4mm less than the nominal HP x 5,08mm dimensions quoted.

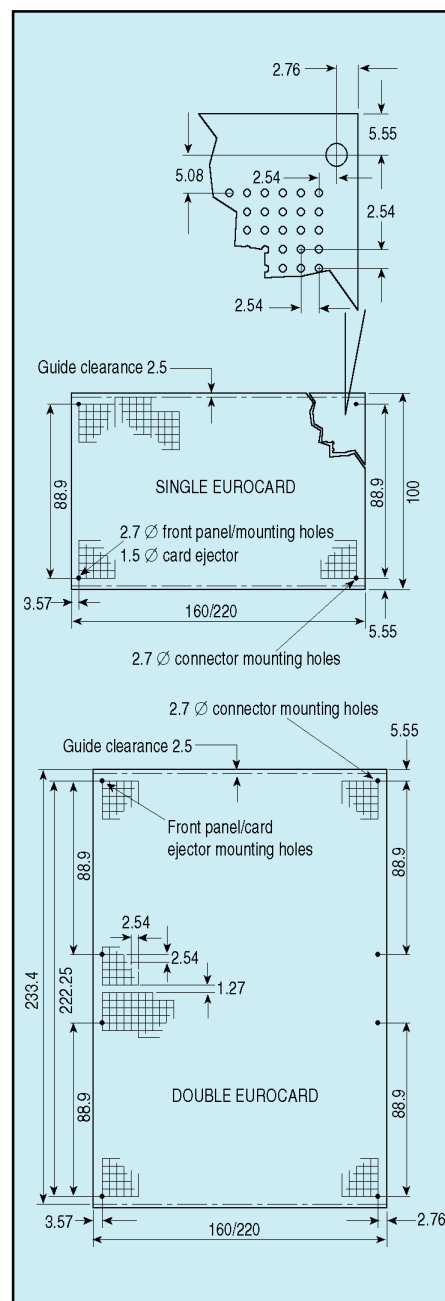
The system is designed to accommodate indirect connectors manufactured to the IEC 130-14, DIN 41612, and VG 95324 specifications.

EUROCARDS - CRITICAL DIMENSIONS

As with the rest of the system the printed circuit board sizes are standardised. All PCBs should be of the Eurocard size and conform to the layout shown below.

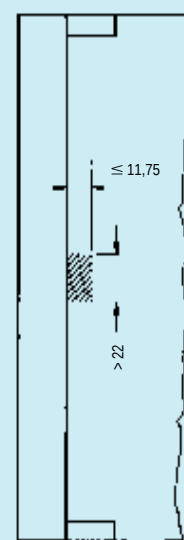
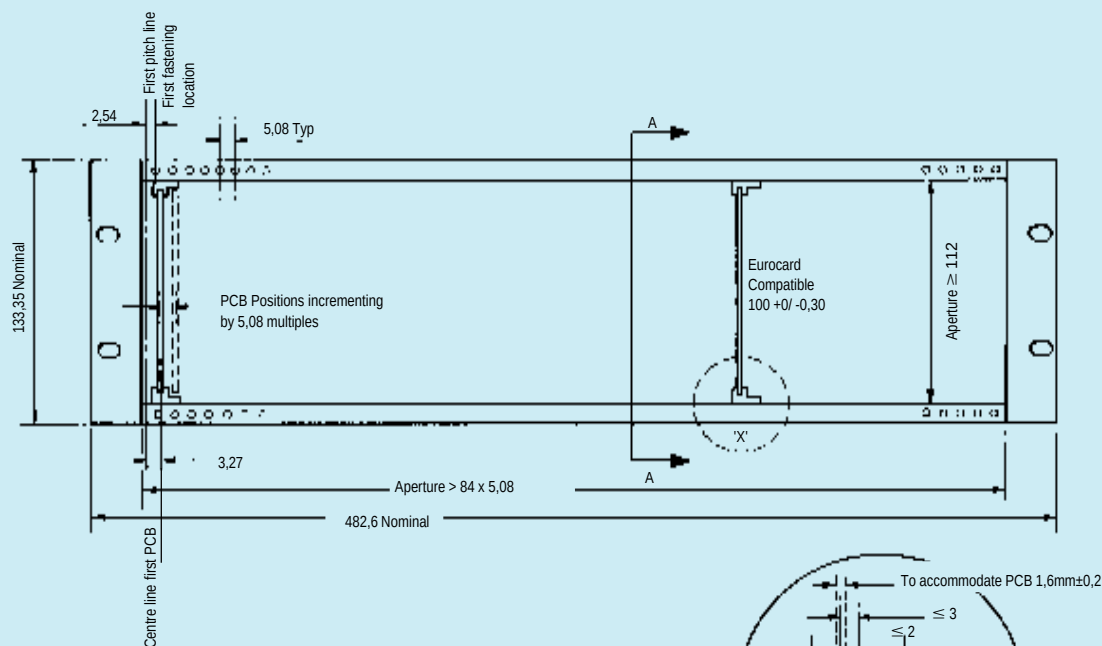
A 2,50mm wide border is necessary at the top and bottom of printed circuit boards to allow clearance for guides and for mounting into plug-in unit guide rails.

On the double height Eurocard, owing to the overall size and position of the connectors, it is recommended that when fitting components to the front panels the grid as laid out below is adopted. This will allow consistency between 3U and 6U height front panels if mixed configurations are utilised.

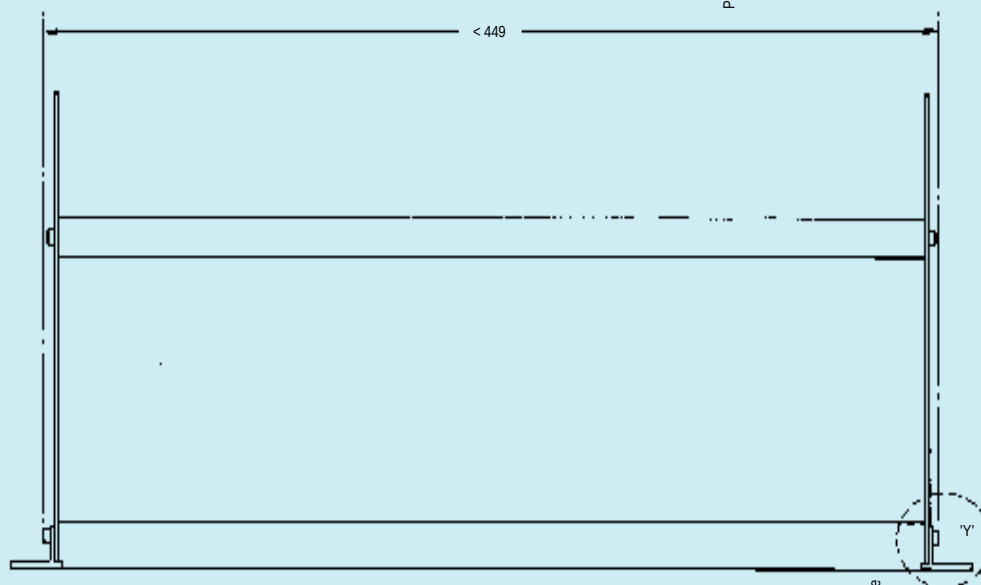


IEC 297-3 CRITICAL DIMENSIONS

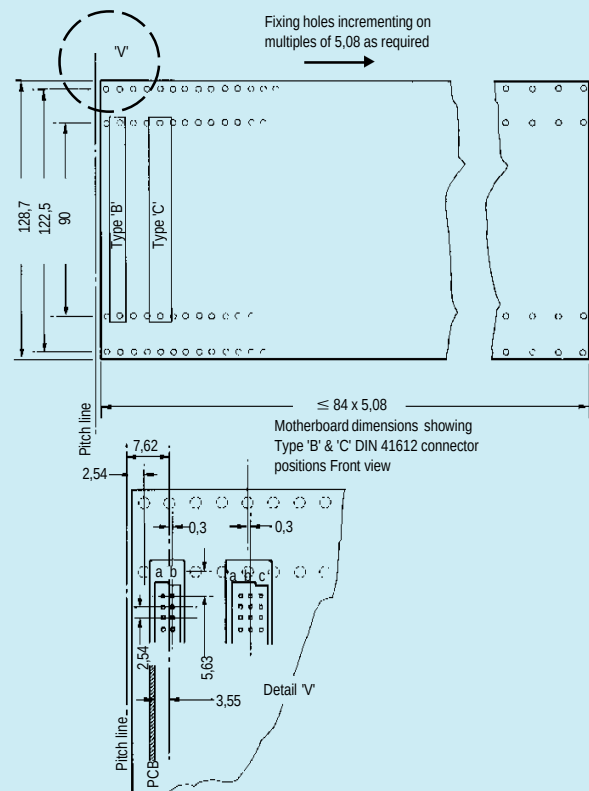
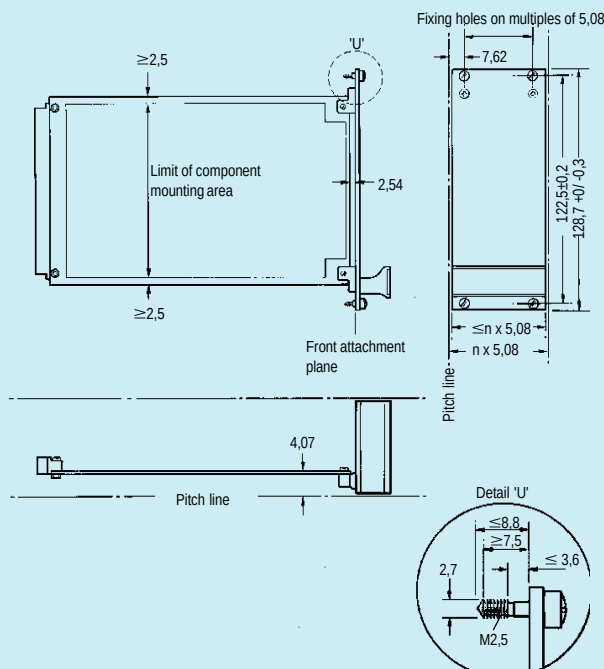
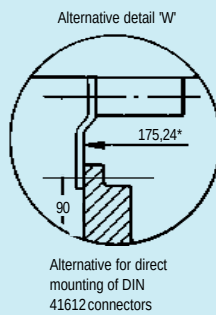
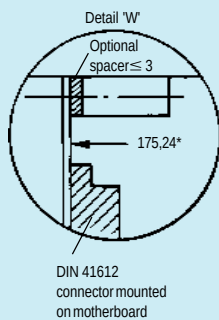
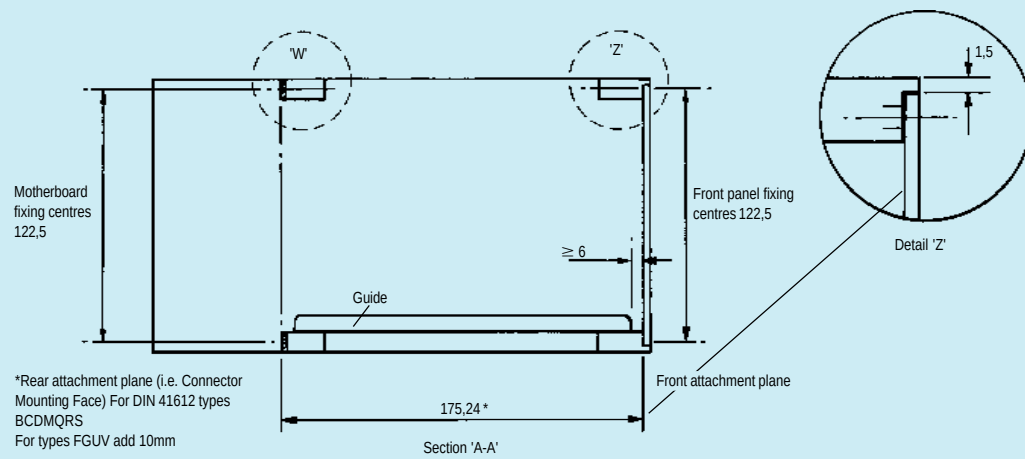
These illustrations show dimensions extracted from IEC 297-3. they are not comprehensive, but should prove generally informative



Scrap view of 6U showing dimensions available for centre rear extrusion with 6U plug-in units

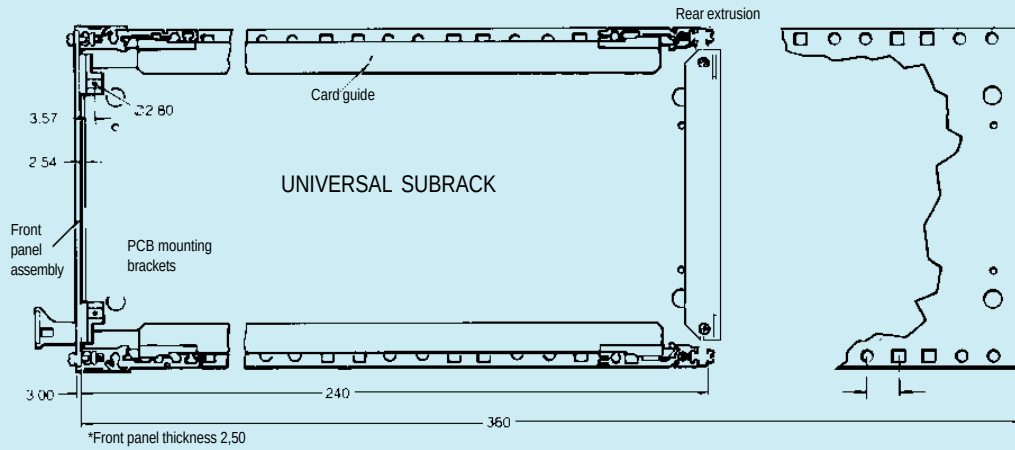


Subrack dimensions shown are for 3U x 84HP and single Eurocards
 Heights increment by 44,45mm (1U)
 Widths increment by 5,08mm (1HP)

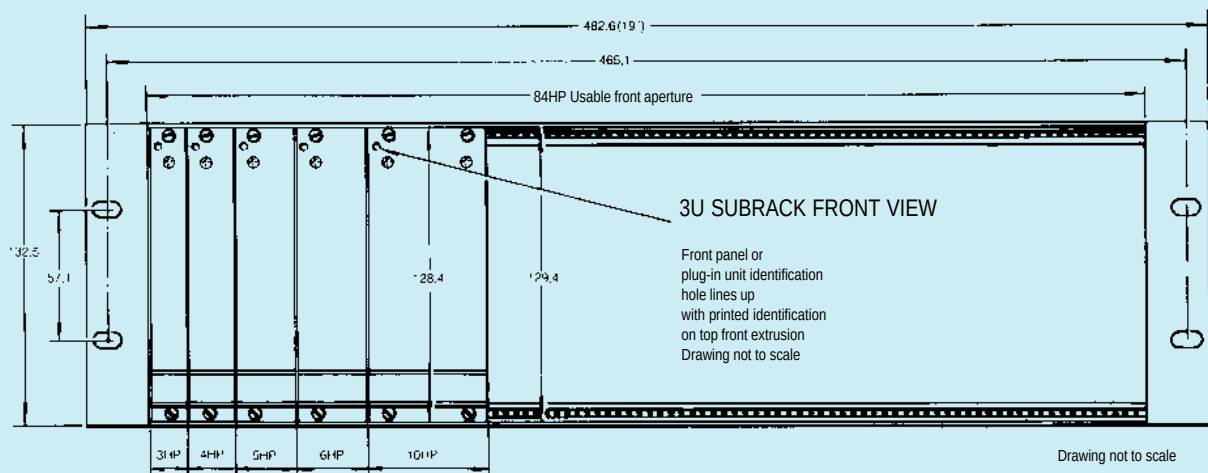
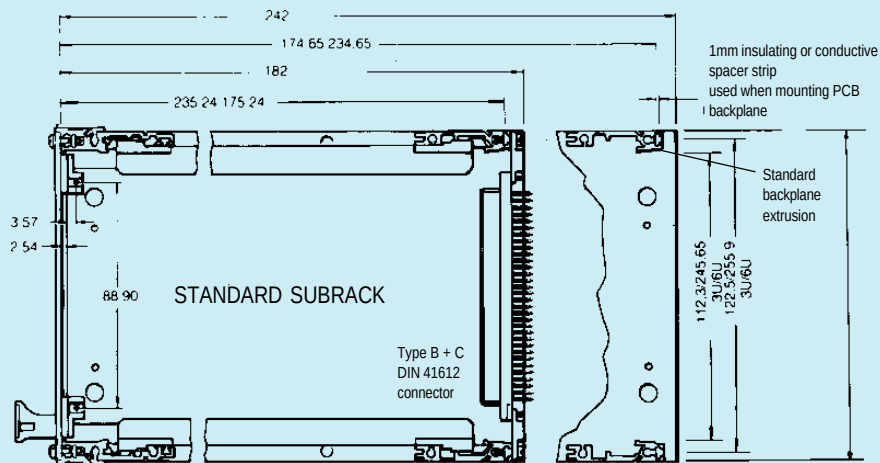


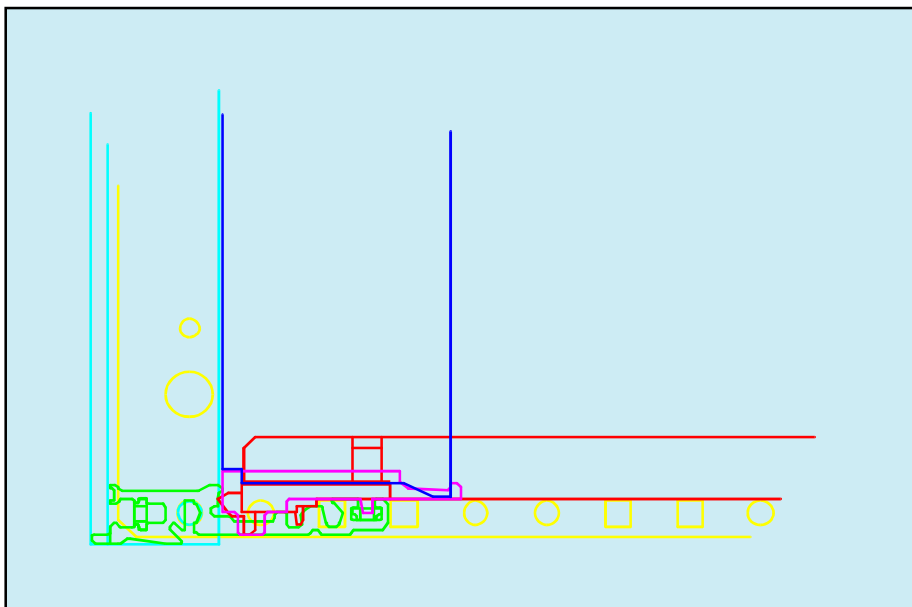
KM6-II SYSTEM - DIMENSIONAL CRITERIA

UNIVERSAL SUBRACK AND CASEFRAME LAYOUT

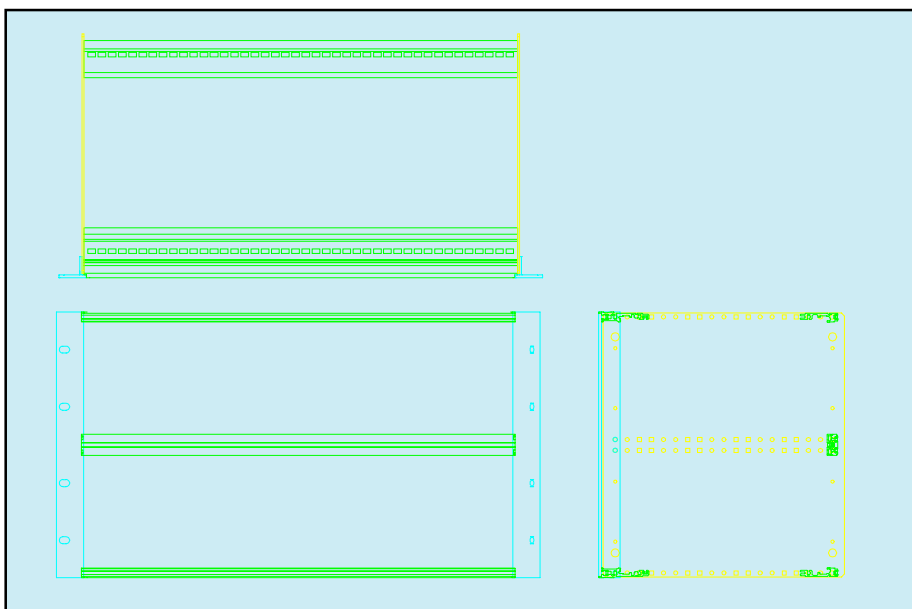


STANDARD SUBRACK LAYOUT

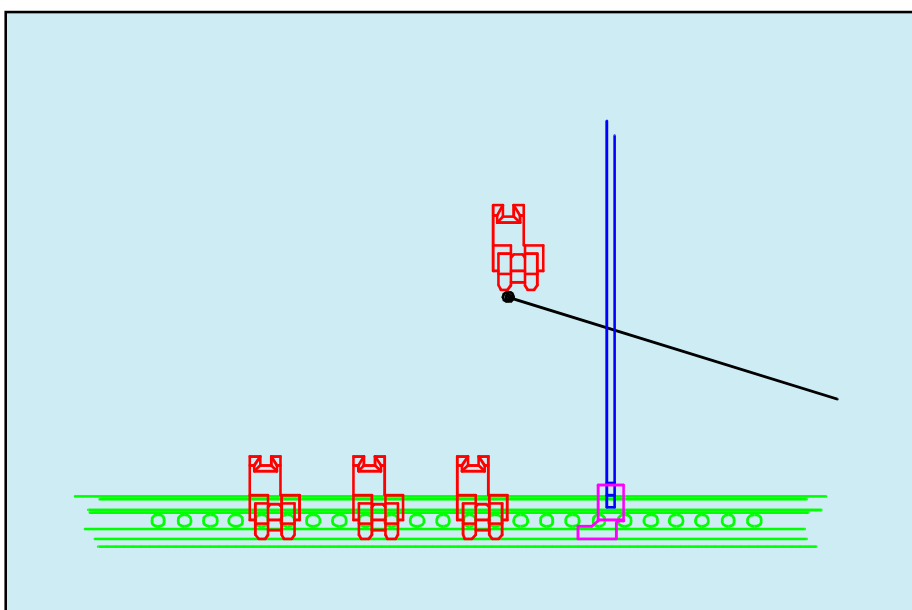




▲ View from a TOOLKIT screen; bottom left of a KM6-II assembly including end plate, mounting angle, front extrusion, and pcb guide.



▲ Basic KM6-II subrack assembly shown in front, top and third angle projections taken from a TOOLKIT screen.



▲ TOOLKIT screen showing the assembly of a KM6-II front divider kit and guides, front view.

KM6-II TOOLKIT from VERO Electronics is a CAD package for users of KM6-II subracks.

TOOLKIT enables designers and production engineers to call up the various components required in a subrack and then 'assemble' them on the CAD screen. The facility is ideal for producing documentation for mechanical lay-out, shop floor assembly and quality control departments.

The package will produce top, front and third angle views.

In addition to other CAD programs, TOOLKIT offers compatibility with AUTOCAD R10 and subsequent revisions.

Using TOOLKIT for modifying such components as extrusions, end plates, covers and so on, a total custom package can be created. VERO offer a full customising service and are only too happy to accept the resulting information for estimating and manufacturing purposes.

In line with our drive to remain at the forefront of packaging technology we have installed a Diskfax which enables our customers with a similar facility to send and receive CAD drawings electronically, thereby eliminating delays in drawing exchange.

TOOLKIT is available in various forms:

Ordering information

Disk size	Format	Order code
DOS 3.5"	Disks in dxf format	950-239856E
DOS 3.5"	Disks in IGES format	950-240119A

Other media types may be available as a special order.

An administration charge is made for the TOOLKIT service. The cost is such that it could quite easily be recouped in the saving of drawing time for just one small project.

We also offer an update facility on request, for users who want to ensure that they have the latest information before starting work on major projects. This information is available free of charge within twelve months of the initial supply. Subsequent to that there would be a small charge to cover processing.

EasyCAD 2 Designer Version

We can also offer a version of Toolkit which includes EasyCAD 2.

EasyCAD 2 is a cost effective CAD programme for use on PC systems. It is fast, flexible, easy to learn and offers compatibility with Autocad through DXF transfer.

Ordering information

KM6-II Toolkit EasyCAD2 Designer version	950-241050F
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If you would like more information please contact our CAD/CAM department who will be happy to discuss details.

KM6-II STANDARD SUBRACKS



▲ EASE OF ASSEMBLY



▲ 160 BOARD IN 220 SUBRACK



▲ REVERSED ASSEMBLY

FEATURES

- Versions for backplane and DIN 41612 connector
- Strong and versatile
- Conforms to IEC 297-3
- Totally conductive components
- 160mm mounting in 220mm versions
- Normal or reversed assembly
- 3U and 6U heights
- 160 and 220mm board compatible
- 84 and 42 HP widths available
- Simple assembly
- No adjustment after assembly
- Pre-tapped holes and machine screws throughout
- Supplied as a complete kit
- Reduced end plates to accept chassis supports
- Available with or without front handles

'Standard' subracks can be supplied with backplane or DIN 41612 connector mounting rear extrusion. 84HP kits are available with, or without, front handles. Backplane extrusions can be converted to DIN 41612 by means of a separate connector frame.

Whilst offering ease of assembly, KM6-II 'Standard' Subracks are strong and versatile. The tie bars are of a larger section to improve rigidity and location of the guides. Versions suitable for 220mm boards will accept 160mm boards. The end plates have mounting facilities which allow the tie bars to be reversed relative to the front end plate angles, thus providing rear access.

The kit includes rear tie bars and is complete with all tapped strips. In order to maintain the front panel/connector geometry a suitable backplane spacer, either insulating or conductive, must be used on backplane versions.

ORDER SEPARATELY	PAGE
Guides	4.34
Backplane spacers	4.31
Connector protection	4.41
DIN 41612 connector mounting frame	4.31
Divider kits	4.36
Dust covers	4.39
Horizontal mounting systems	4.40
DIN 41612 connectors	4.93

NB: The conductive finish gives excellent electrical conductivity but is more easily marked than anodising. During assembly care should therefore be taken to avoid the deposition of grease and oil, particularly on visible surfaces.

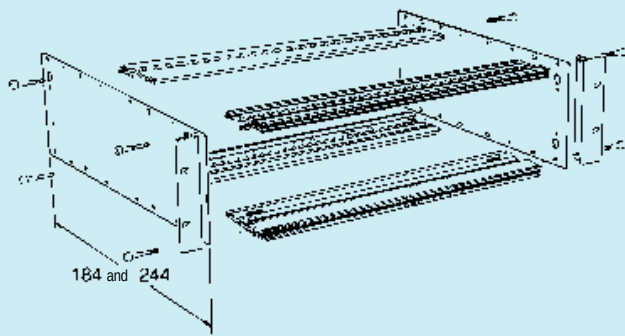
MATERIAL SPECIFICATION

Extrusions	: Aluminium alloy BS 1474 6063T6
End plates	: 2mm aluminium BS 1470 5251-H24 (NS4 H6)
Finish	Conductive *except rack mounting angles and handles - anodised.
	*Alocrom 1000 or equivalent

CONTENTS OF KIT

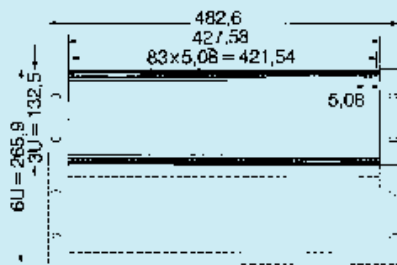
2 end plates
2 end plate angles
2 front tie bars
2 rear tie bars
1 centre rear tie bar (6U only)
Tapped strips:
Backplane variants 4 or 6 (3U/6U)
DIN 41612 variants 2 (the rear extrusions are fully tapped)
All fixings
Assembly instructions
Optional: handles

3U SUBRACK

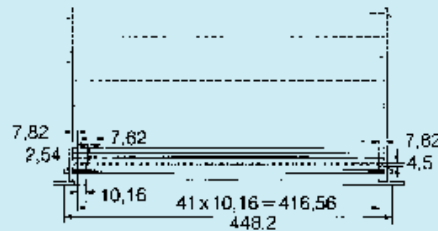


DIMENSIONAL DETAIL

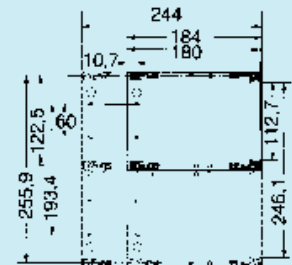
FRONT VIEW



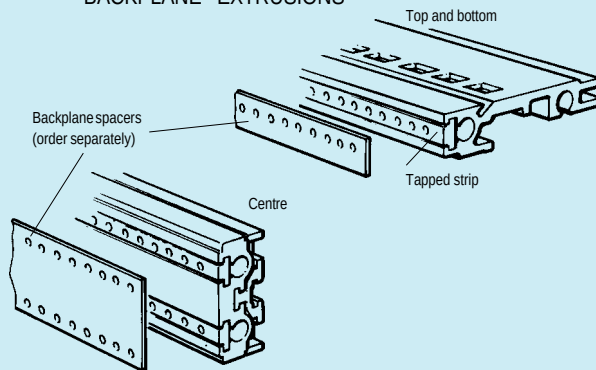
PLAN VIEW



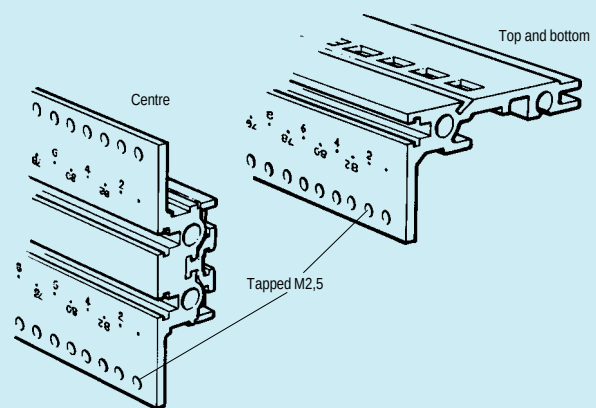
SIDE VIEW



BACKPLANE EXTRUSIONS



DIN 41612 EXTRUSIONS

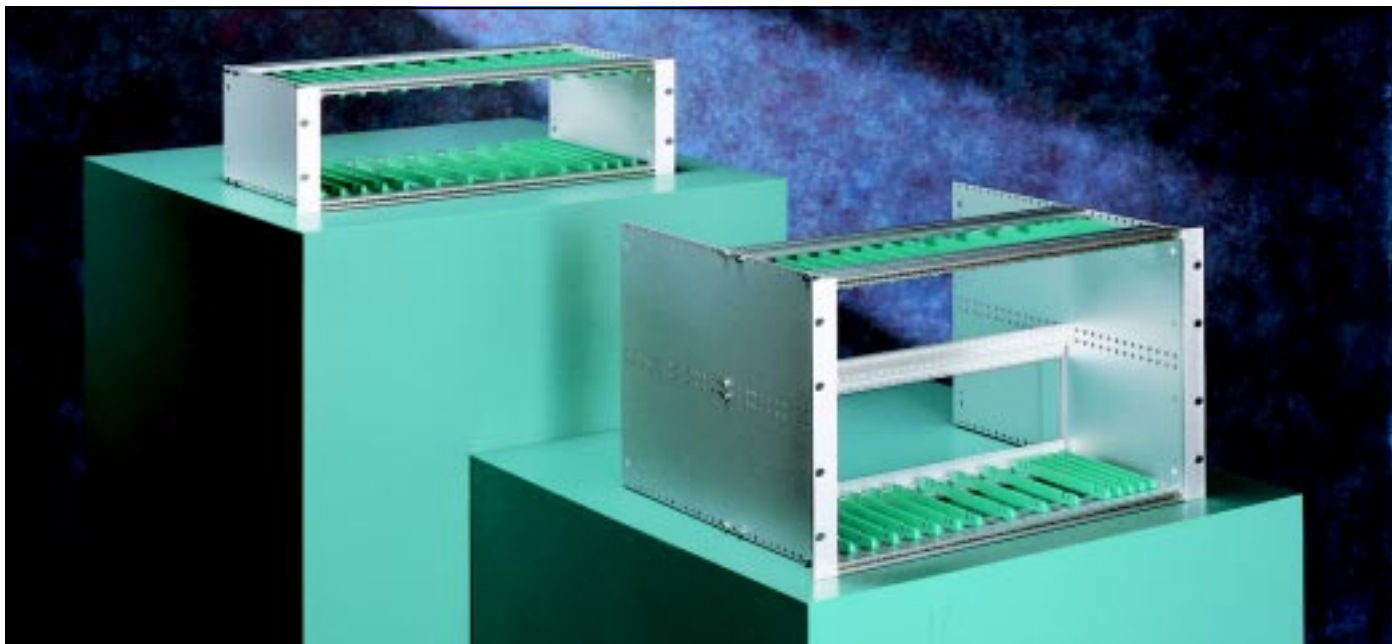


STANDARD SUBRACKS

Ordering information

Height	End plate depth	Width (HP)	Backplane mounting		DIN 41612 connector mounting	
			With handles	No handles	With handles	No handles
3U	180	42	-	950-202583A	-	-
	240		-	950-202587D	-	-
	180	84	950-232563L	950-202581E	950-232568A	950-232050G
	240		950-232564J	950-202585H	950-232569K	950-232051E
6U	180	42	-	950-202584K	-	-
	240		-	950-202588B	-	-
	180	84	950-232604A	950-202582C	950-232607F	950-232052C
	240		950-232605K	950-202586F	950-232608D	950-232053A

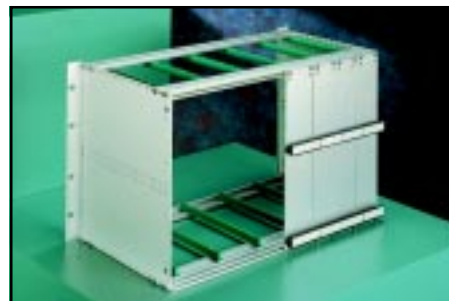
KM6-II UNIVERSAL SUBRACKS



▲ TWO SCREW FIXING



▲ EMC CONVERSION (see page 4.21)



▲ REVERSED SUBRACK

FEATURES

- Strong and versatile
- Two screw fixing of tie bars
- Conforms to IEC 297-3
- Total versatility permits wide range of configurations
- Available in kit or piece-part form
- Accurate location for first time assembly
- Rugged construction
- Pre-tapped holes and machine screws throughout
- EMC conversion (see page 4.21)
- No location mouldings
- With or without front handles

KM6 II Universal Subracks are strong, versatile and easy to assemble.

The tie bars are of large section for rigidity and are secured using two fixing screws into counterbored holes. The screws thus act as location dowels giving a high degree of accuracy.

This version, as the name implies, has the capability of housing Eurocards of different sizes in a variety of configurations.

The frame can be constructed from standard parts in 3U, 4U, 6U and 9U heights.

The endplates, 240mm, 300mm, 360mm or 420mm deep, incorporate a series of punched holes so that the tie bars can be assembled at any required position. 300mm and greater depths also have a pattern of additional holes for fixing the chassis system (page 4.29) 84 HP variants are offered in

Backplane or DIN 41612 connector mounting and are supplied with or without front handles. DIN 41612 rear tie bars are fully tapped.

Please note 4U versions can only be ordered from piece parts. Alternative versions of 3U, 6U and 9U subracks can also be ordered from piece parts.

Location mouldings are no longer required, thus improving assembly time.

ORDER SEPARATELY

DIN 41612 connector frame	4.31
EMC conversion	4.21
Guides	4.34
Divider kits	4.36
Dust covers	4.39
Horizontal mounting	4.40
Backplane spacers	4.31
Chassis kits	4.32
DIN 41612 connectors	4.93

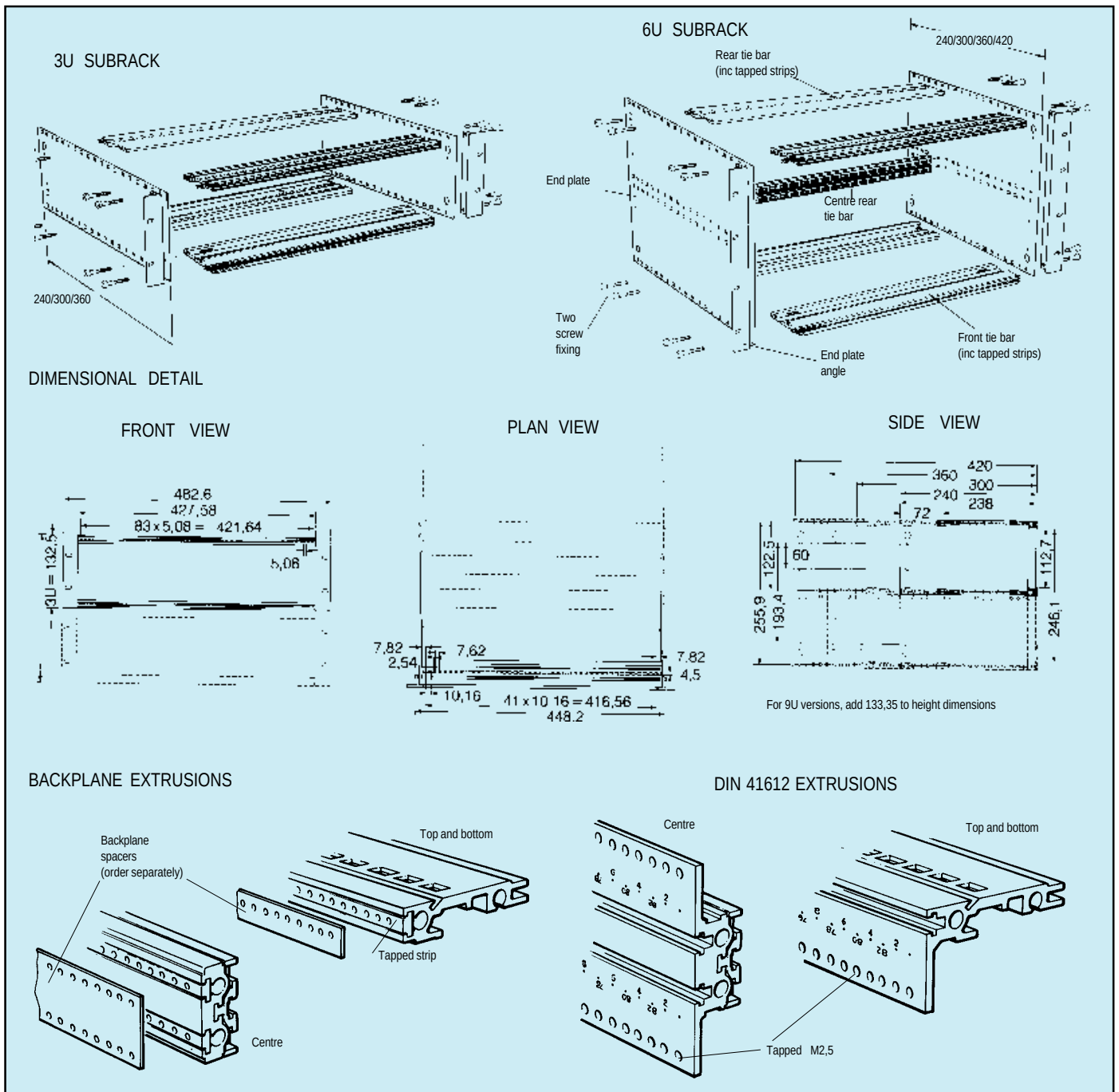
NB. The conductive finish gives excellent electrical conductivity but is more easily marked than anodising. During assembly care should therefore be taken to avoid the deposition of grease and oil, particularly on visible surfaces.

MATERIAL SPECIFICATION

All extrusions	: Aluminium alloy BS 1474 6063T6
End plates	: 2 & 2,5mm aluminium BS 1470 5251-H24 (NS4 H6)
Tapped strips	: MS zinc pass.
Finish	: Conductive, *except rack mounting angles and handles (anodised)
	: *Alocrom 1000 or equivalent

CONTENTS OF KIT

2 end plates	
2 end plate angles	
2 front extrusions	
All fixings	
Assembly instructions	
Rear tie bars -	2 - 3U 3 - 6U 4 - 9U
Tapped strips:	
Backplane variants-	4 - 3U 6 - 6U 8 - 9U
DIN 41612 variants-	2



UNIVERSAL SUBRACKS

Ordering information

Height	End plate depth	Width (HP)	Backplane mounting		DIN 41612 connector mounting	
			With handles	No handles	With handles	No handles
3U	240	42	-	950-202592L	-	-
	240	84	950-232565G	950-202589L	950-232570C	950-232054K
	300		950-232566E	950-223550K	-	-
	360	84	950-232567C	950-202594G	950-232571A	950-232055H
6U	240	42	-	950-202593J	-	-
	240	84	950-232599A	950-202590D	950-232609B	950-232056F
	300		950-232601G	950-223551H	-	-
	360		950-232602E	950-202595E	950-232610F	950-232057D
9U	420	84	950-232603C	950-202597A	-	-
	240		-	950-202591B	-	-
	300		-	950-224198D	-	-
	360		-	950-202596C	-	-
	420		-	950-202598K	-	-

KM6-EC SUBRACK

- Economy range
- Lightweight
- Simple, accurate assembly
- Versatile
- Supplied in kit form
- EMC conversion
- Conductive finish

This lightweight range of IEC 297-3 subracks provides an economical alternative to KM6-**I**. Certain accessories from the KM6-**I** range are compatible with KM6-EC and are identified accordingly in this section.

The EC universally pierced end plates have rows of holes at intermediate U heights with additional mounting positions for superslim slides and for the versatile chassis system.

Versions are available for backplane mounting or for DIN 41612 connectors.

There are two types of backplane extrusion; **Type 1** is a normal version which requires a backplane spacer strip, either insulating or conductive, to maintain the geometry of the subrack. **Type 2** is extended to obviate the need for a spacer; this version is acceptable provided there is no need to insulate the backplane from the extrusion.

Order separately:

	Page
Front tapped strips	4.31
Guides	4.34
Backplane spacers	4.31
Divider kits	4.14
EMC conversion	4.21
Cover kits	4.39
or	4.14
DIN 41612 Conversion	4.31
DIN 41612 Connectors	4.93

M = Denotes minimum order quantity, please contact our sales office.

Note: The finish gives excellent electrical conductivity but is more easily marked than anodising. During assembly care should therefore be taken to avoid the deposition of grease and oil, particularly on visible surfaces.

MATERIAL SPECIFICATION

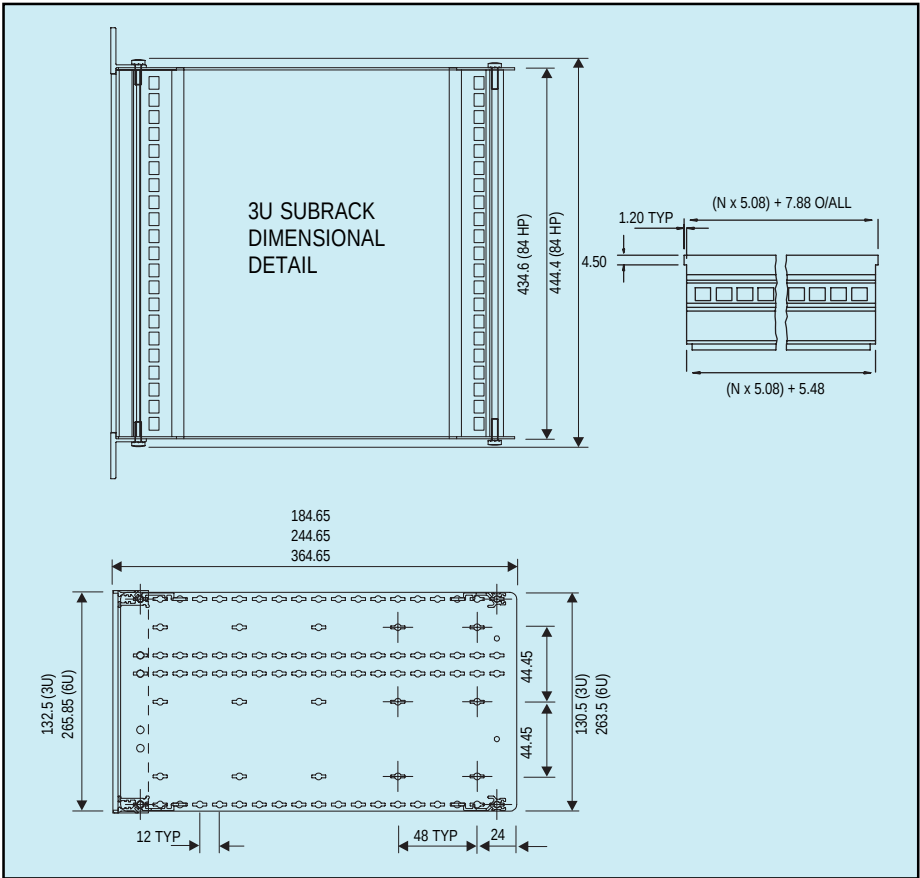
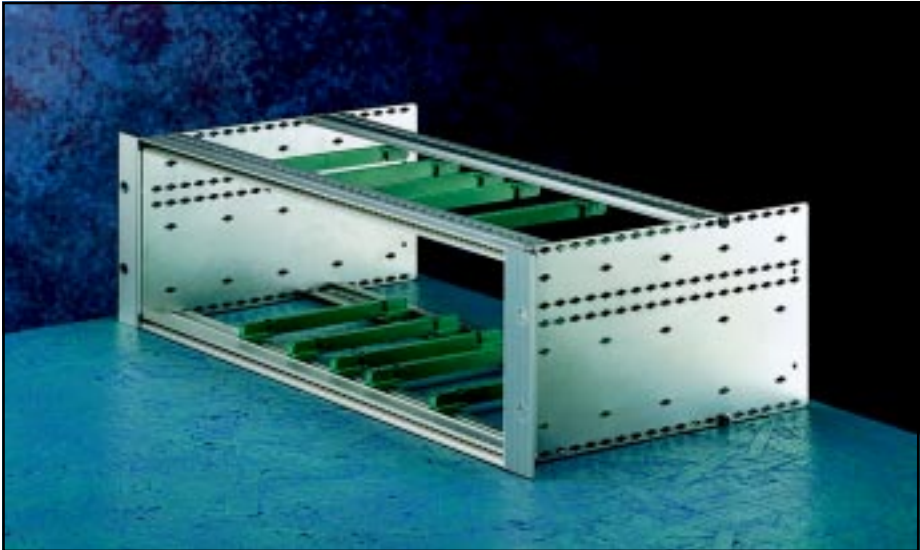
All extrusions : Aluminium alloy BS 1474 6063T6
Alocrom 1000 or equivalent (end plate angle anodised)

End plate : 1.2mm CR4 steel BS 1449 zinc plate and clear passivate

Tapped strips : MS zinc and passivate

CONTENTS OF KIT

- 2 end plates
- 2 end plate angles
- 2 front extrusions
- 2 rear extrusions 3U and 6U
- 1 two part centre rear extrusion 6U
- Fixings
- Tapped strips:
- Backplane versions
- 2 - 3U
- 4 - 6U
- Assembly instructions



KM6-EC SUBRACKS

Ordering information

Height	End plate depth	Width (HP)	Backplane mounting Type 1	Backplane mounting Type 2	DIN 41612 mounting
3U	180	42	956-241016B M	956-256255H M	-
		60	956-241017L M	-	-
		84	956-241018J M	956-250499K M	956-241028F M
	240	42	956-241019G M	956-256256F M	-
		60	-	-	-
		84	956-241020L M	956-250500G M	956-241029D M
6U	180	84	956-241021J M	956-250501E M	956-241030H M
		42	956-241022G M	-	-
		60	956-241023E M	-	-
	240	84	956-241024C M	956-250502C M	956-241031F M
		42	956-241025A M	-	-
		84	956-241026K M	956-250503A M	956-241032D M
	360	84	956-241027H M	956-250504K M	956-241033B M

KM6-EC DIVIDER KITS

Mixed height

Use to partially divide 6U into 2 x 3U sections. Please note that divider plate occupies 2HP of front panel space. These kits can be used as right or left hand dividers.

Full width (2 x 3U)

There are two types of 84HP divider kits:

Type A contains normal front extrusions, with the 'eyebrow'

Type B uses a 'lipless' extrusion, which will permit the fitting of 6U flat front panels. (EMC panels would require modification to the channel section).

CONTENTS OF KIT

Two front extrusions
Divider plate (Not 84HP versions)
Fixings

MATERIAL SPECIFICATION

Extrusions : Aluminium alloy BS 1474 6063 T6
Divider plate: 1.2mm aluminium BS 1470 5251-H22 (NS4H3)
Finish : Alocrom 1000 or equivalent

ORDER SEPARATELY

Tapped strips

DIVIDER KITS

Ordering information

Width (HP)	Types	Order code
24	Mixed	956-241336F 
42	Mixed	956-241337D 
60	Mixed	956-241338B 
84	A	956-242870C 
84	B	956-242871A 

TAPPED STRIPS

Ordering information

Width (HP)	Order code
24	950-202799L
42	950-202739G
60	950-202740L
84	950-202001E

EMC SCREENING

The 240mm and 360mm deep, 84hp versions of KM6-EC can be EMC screened by the addition of various components, some of which are KM6-II compatible. Please refer to P4.02 'A guide to the screening of subracks' for background information.

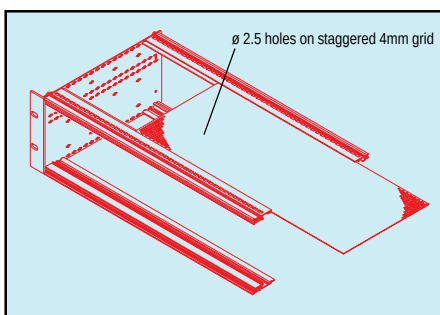
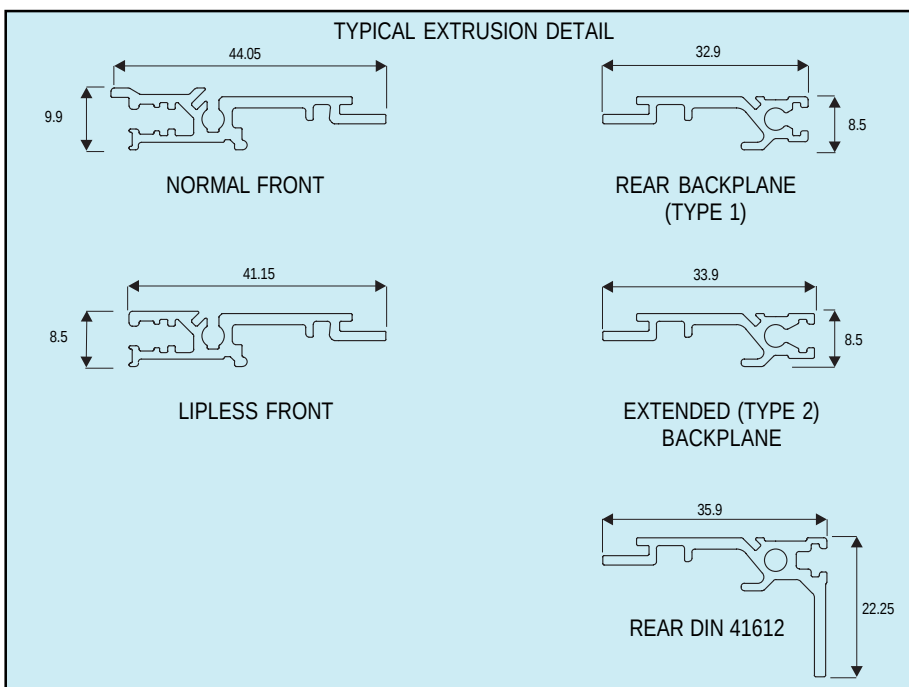
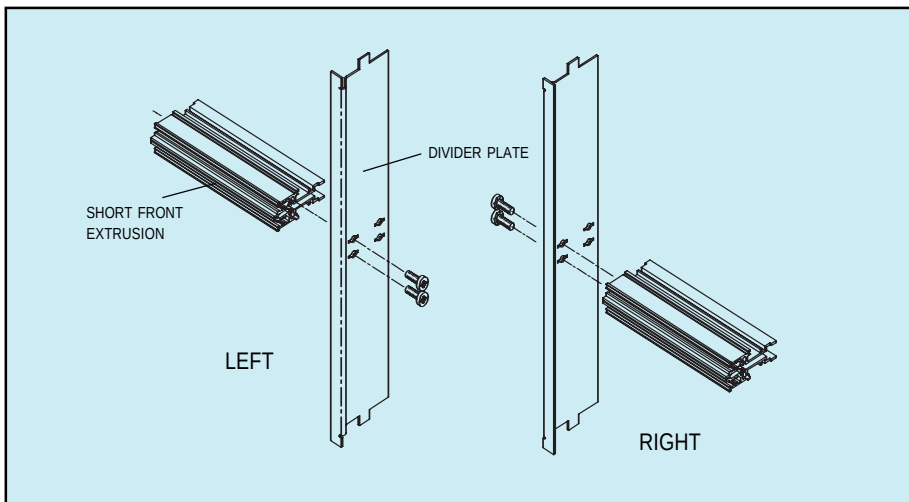
In order to screen overall a KM6-EC you will need an extrusion kit and rear closing angles that are KM6-EC specific; plus tapped strips, top and bottom covers, front and rear panels and EMC fingers from the KM6-II range.

CONTENTS OF KIT:

Extrusion - two extrusions and fixings
Rear closing angle - order singly
Tapped strip - order singly

EMC SCREENING KIT Ordering information

Description	Order code
Extrusion kit 84hp	956-242870C 
Rear closing angle 3U	956-243237J 
Rear closing angle 6U	956-243238G 



1	2	3	4	5	6	7	8	9	10
84	83	82	81	80	79	78	77	76	75

SELF ADHESIVE IDENTIFICATION LABELS

The extrusions of KM6-EC are unprinted. Where it is required to identify slot positions, self adhesive labels can be applied. The labels are printed 1 to 84 and 84 to 1 in black on yellow, on a 1HP pitch. Supplied in multiples of 10 pairs

Ordering information

Description	Order code
Identification label (10 pairs)	956-245524G

TOOLKIT CAD PACKAGE

Similar to the KM6-II Toolkit CAD package, but for KM6-EC range of subracks. Available in IGES and DXF formats plus an Easy CAD2 designer version which includes the EasyCAD2 program.

The toolkit packages are supplied on 3.5" discs.

Ordering information

Description	Order code
D X F format	956-248818H
IGES format	956-248820K
Easy CAD 2 design version	956-248821H

COVERS

The KM6-II covers shown on page 4.39 of the Handbook can be retrofitted and removed without disturbing the end plates.

A simple ventilated KM6-EC cover is also available. This cover slides between the front and rear extrusion, before fitting the second end plate, to protect the pcb area of EC subracks. The ventilation area is 35%.

Supplied singly

Material : 1mm perforated mild steel, zinc plate and passivated

Ordering information

Description	Order code
84HP 160mm ventilated cover	956-250292K 
84HP 220mm ventilated cover	956-250293H 

KM6-EC CASEFRAME

- Desk top or 19" rack mounting
- EMC Upgrade
- Easy access for servicing
- Attractive appearance
- 3U and 6U plug-in capabilities
- 3U, 4U and 8U overall height variants
- Thermal management
- Chassis system compatibility
- Budget priced

The KM6-EC economy subrack has been used as a basis for this caseframe from VERO Electronics. As a result we are able to offer a keenly priced housing for a wide range of product in applications such as computing, process control, instrumentation, test equipment, etc. which can be either desk or rack mounted by the end user.

The use of a standard subrack means that the KM6-EC caseframe can accept most accessories from our KM6-II and KM6-EC subrack ranges, including, for instance, card guides, front panels, plug-in units, divider kits and EMC screening.

The KM6-EC caseframe is also compatible with our versatile Chassis System which permits the mounting of additional components - eg power supplies, mechanical assemblies and cable management. The top and bottom covers are easily removed for system building and servicing requirements.

The caseframe is supplied in assembled form. It should be selected by size (ie height and depth) and, similar to KM6-EC subracks, by rear extrusion type (normal backplane extrusion, extended backplane extrusion or DIN 41612 mounting type). 240mm deep versions are assembled to suit 160mm plug-in units, 360 and 480mm versions for 220mm units. Please see 'Panel Fixing'.

ELECTRICAL CONTINUITY

Careful attention to the masking of painted areas, together with the inherent conductivity of the basic subrack, provides excellent electrical conductivity of the complete assembly. Testing was carried out according to BS7002/IEC 950.

EMC PERFORMANCE

Tests on a 3U/4U KM6-EC caseframe were carried out in our screened facility according to a standard procedure. This procedure is based on MIL-STD 285 using automated frequency control and data recording. Results are shown below for units tested three forms:

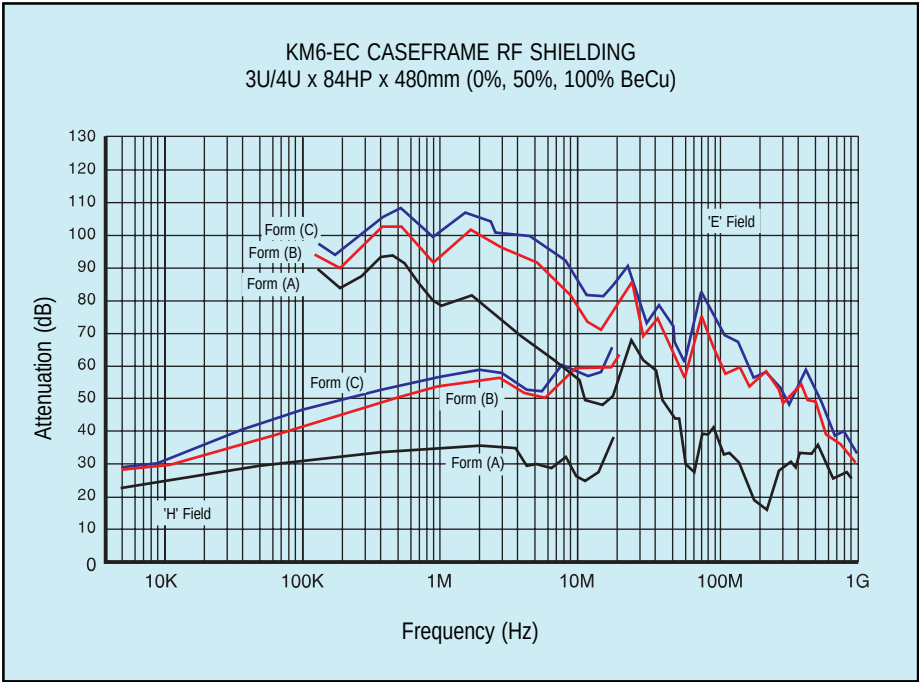
- In basic form, with flat anodised front and rear 84HP panels;
- With 50% BeCu RFI fingers at front and rear interfaces and 84HP EMC panels;
- As b), but with 100% BeCu fingers.

The 3U/4U & 6U/8U can also be fitted with full EMC screening kits to obtain a higher level of screenig.

KM6-EC CASEFRAME

Size	Description	Backplane			Extended Backplane*			DIN 41612		
		240	360	480	240	360	480	240	360	480
3U	Caseframe	956-248478F	956-248479D	-	956-248487E	956-248489A	-	956-248499J	956-248500F	-
3U/4U	Caseframe	956-248481F	956-248482D	956-248483B	956-248492A	956-248493K	956-248494H	956-248503L	956-248504J	956-248505G
6U/8U	Caseframe	-	956-248485J	956-248486G	-	956-248497B	956-248498L	-	956-248508A	956-248509K

* Requires no backplane spacer strip



Ordering information



KM6-EC CASEFRAME

ACCESSORIES (ORDERED SEPARATELY)

DESK MOUNT HANDLES

These handles replace the corner trims on KM6-EC caseframes in desk mounting applications. The handle is available in 3U form for 3U/3U versions and 4U for 3U/4U versions. Supplied as a kit of two.

Material : Aluminium. LM24

Finish : Acrylic, powder coat 'wet look' RAL 7037 Dusty Grey

19 INCH RACK MOUNTING ANGLES

Standard KM6-EC caseframes are 84hp wide and can be rack mounted by replacing the desk top trim angles with a set of rack mounting angles. These angles can be fitted with front handles by drilling them to suit.

Select by the overall height. Rack mounting angles are supplied in packs of 2.

Handles are supplied singly, their fixing screws separately in packets of 10.

TILT/CARRY HANDLE

The 3U and 4U desk top versions can be fitted with an optional tilt/carry handle after drilling the side cover; the handle has a safe load limit of 30kg in both carry and tilt modes. The side cover has a centre punch mark at the drilling position.

Supplied singly, with fixings

TILT FOOT FACILITY

Latest versions of the KM6-EC caseframe have a modified bottom panel which enables the user to fit these feet without any need to drill the panel. It is thus possible to provide a tilt facility at low cost.

The feet are fitted by means of self tapping screws, but it should be noted that if used with a rack mounting caseframe they will intrude into the 'U' below.

Supplied in a kit comprising a set of four feet plus fixings.

Material : UL94-V0 rated ABS

Colour : RAL 7037 Dusty grey

DROP IN FAN TRAY

The bottom cover of the 8U version, which is 1½U high, will accept a drop-in fan tray, with filter and filter retainer cover. The tray has three positions for 120mm fans and is available in two depths - for 160 or 220mm card depths. Unused fan positions can be filled with blanking plates. Contents of kit: 1 fan tray, filter, filter retainer, terminal block, earth lead and fixings.

Order separately: fans, fan fixings and wiring. Please see section 1 of our main catalogue for fans and fan accessories.

HINGED FRONT COVER

Desktop versions of the 4U and 8U caseframes can be fitted with a hinged front cover panel with a PVC (UL94-V0 rated) window, which permits viewing of indicators. This cover is shaped to provide 20mm of clearance for front panel components and handles. The cover panel has a magnetic catch as standard; to prevent unauthorised access to the front of the case, the pull-down knob can be replaced by a keyed lock, purchased separately.

Cover supplied complete, with fixings. Selected by overall height - ie 4U or 8U.

Lock kit includes fixings, cam and keys.

REAR PANELS

The rear aperture permits the use of standard IEC 297-2 panels such as those from KM6-II, also available are a ventilated rear panel and a panel to which can be fitted up to three, 80mm fans.

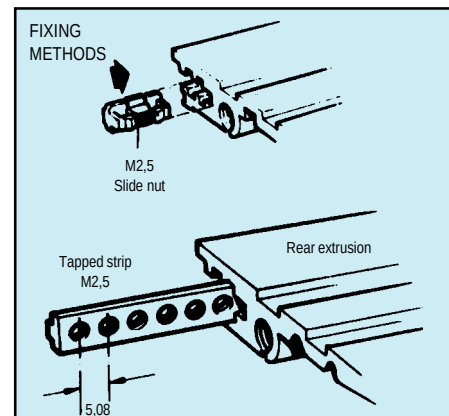
Please see section 1 of our main catalogue for fans and fan accessories.

Panels are supplied with fixing screws.

Order separately, tapped strips or slide nuts for front and rear extrusions.

PANEL FIXING, FRONT AND REAR

The basic caseframe is supplied without front or rear panel fixing capability. The front and rear extrusions will accept standard 84HP tapped strips or M2,5 slide nuts, according to requirements.



RECESSED FRONT

A recess trim kit is available for 3U/4U and 6U/8U versions which provides a facility to set the front extrusions back in the KM6-EC caseframe by 60mm. The trim offers a 'clean' appearance and can be simply modified to permit the passage of cabling from front to rear via the top or bottom covers.

Contents of kit: 2 horizontal, 2 vertical trims plus fixings

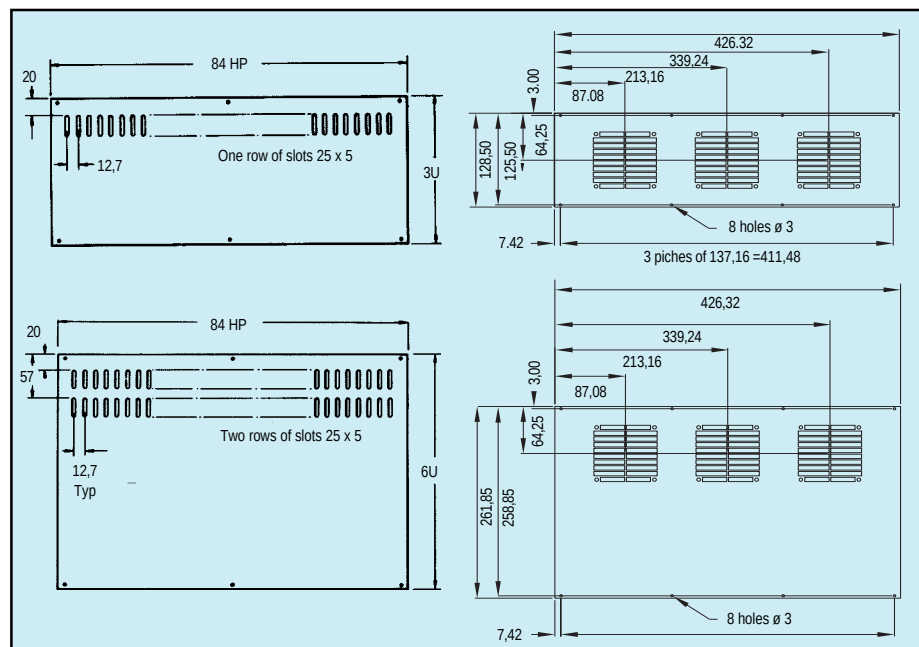
Select by height.

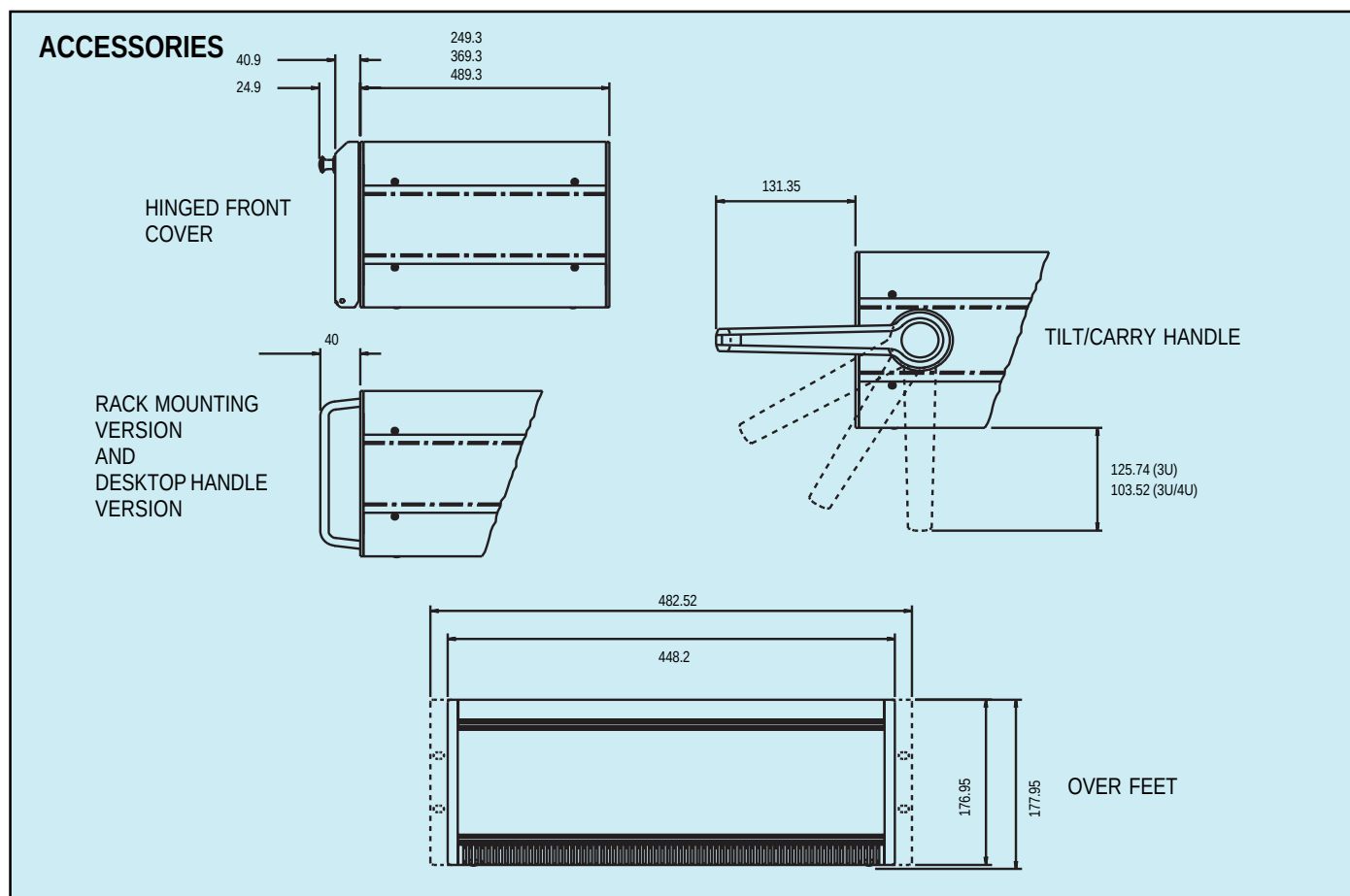
COLOUR TRIM STRIPS

Self-adhesive, RAL 5014 (blue) coloured strips are available to provide colour highlights along the side of the caseframe. They do not interfere with the unit's rack mounting capability.

Supplied singly in 1 metre lengths.

Colours: two paint colours are used as standard: RAL7035 Light Grey and RAL 7037 Dusty Grey. Finish is acrylic, powder coat 'wet look'.



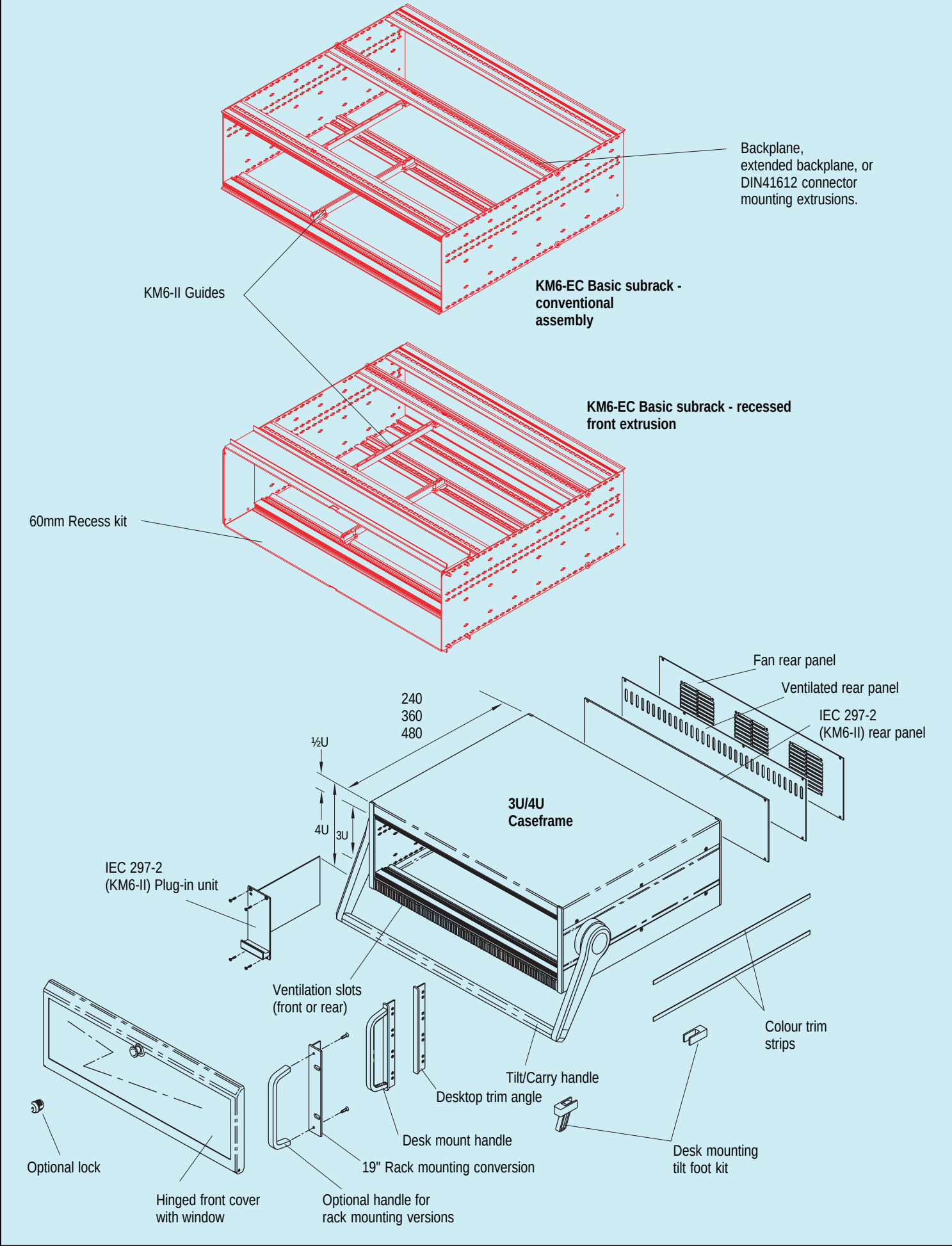


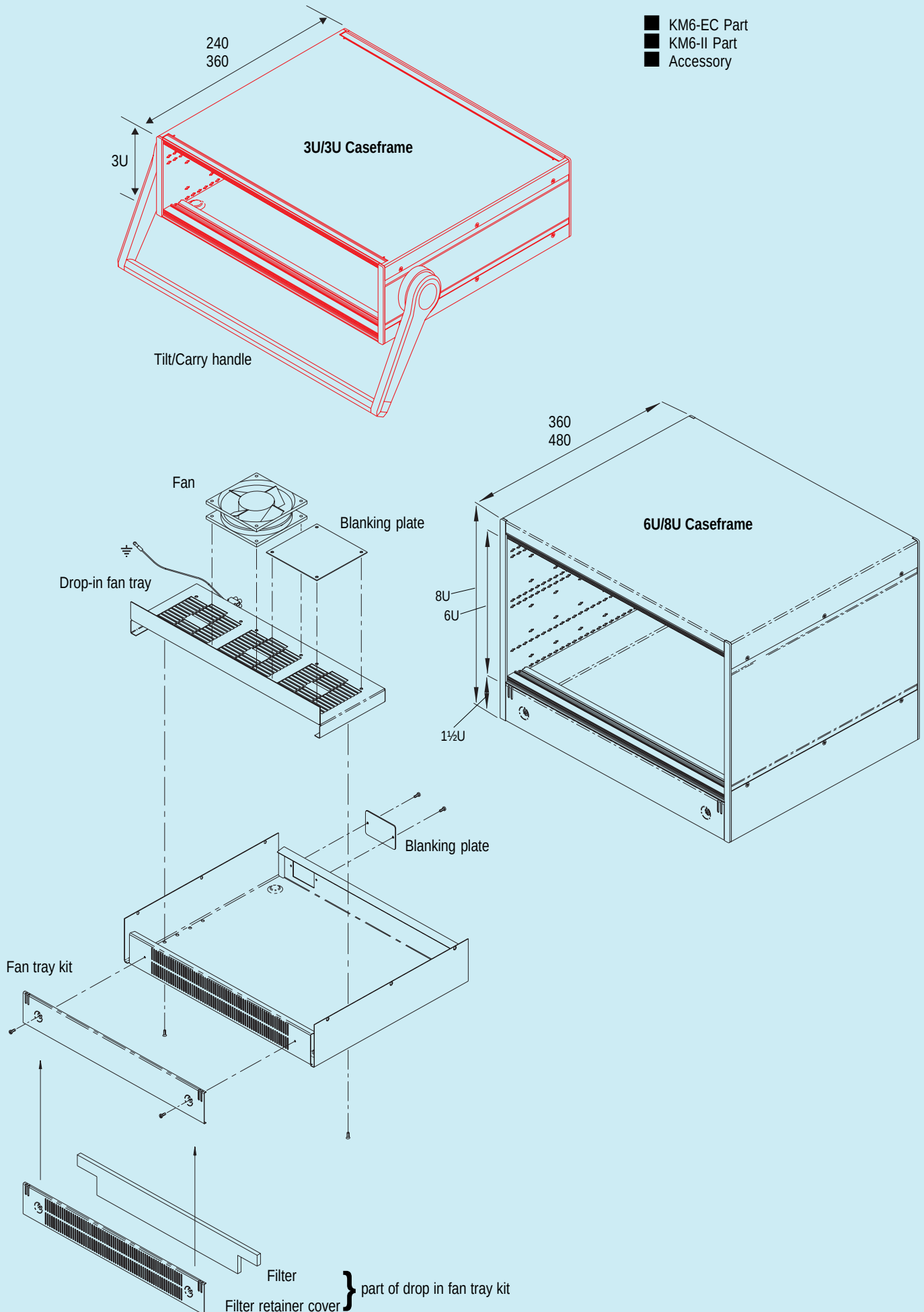
KM6-EC ACCESSORIES

Ordering information

Size	Description	Order code
3U/3U	19" Rack mounting angle (kit2)	956-248514F
3U/4U		956-248515D
6U/8U		956-248516B
3U/3U	Handle for rack mounting versions ea.	50-10117C
3U/4U		50-10116G
6U/8U		50-10118K
M3.5 x 10	Fixing screws for handle pk 10	173-10036K
3U/4U	Hinged front cover ea.	956-248517L
6U/8U		956-248518J
	Lock for front cover	956-248522G
3U/3U 3U/4U	Tilt/carry handle	956-248519G
3U/3U 3U/4U	Ventilated rear panel ea.	956-248520L
6U/8U		956-248521J
3U 3U/4U	Fan rear panel	956-250737J
6U/8U		956-250738G
6U/8U	Drop in fan tray 160mm	956-248511A
6U/8U	Drop in fan tray 220mm	956-248513H
3U/3U	Desk mount handles pk 2	956-250955K
3U/4U	Desk mount handles pk 2	956-250956H
3U/4U	Recess trim kit ea.	956-248595B
6U/8U		956-248596L
84hp	Tapped strip	950-202001E
	Slide nut pk 10	124-30499B
	RFI fingerstrip ea	930-238243F
	Tilt foot kit	956-253240C
	Colour trim strip ea. 1m	956-250488D

CONSTRUCTION & ACCESSORIES





KM6-I EMC CONVERSION

KM6-II EMC CONVERSION KITS

KM6-II Universal subracks and some sizes of KM6-EC can be retrospectively emc screened by the addition of covers and suitable front and rear panels.

Two Basic types of screening cover are available:

OVERALL, (Fig. 1) which provide a screen over both the card area and the rear connector/backplane area. In this version, the rear of the subrack is completed by the addition of conventionally fixed panels, either full width or in combinations of lesser width front panels.

PCB AREA ONLY (Fig. 2) This application requires a motherboard/backplane which is specifically designed to provide rear screening using ground plane technology. With this geometry, only the front aperture requires screening panels.

Covers are generally available in ventilated and unventilated forms. They are designed to maintain intimate contact with the end plates by means of screws and internal flanges. At the interface with the extrusions, the covers have patented dimples in such a way as to provide an interference fit with a slot in the extrusion. The concept of this slot ensures that the card guide location holes are within the screened area of the subrack and also provides additional screening by introducing a labyrinth around the edge of the cover.

'A guide to the EMC screening of subracks' on page 4.02 discusses the effects of various configurations on the overall performance, with particular attention to the use of RFI fingers.

ORDERING AN EMC SCREENED SUBRACK

- 1) Select a Universal subrack kit to suit your card size. Note that, for instance, it is not possible to EMC screen a 220mm long card in a 240 deep subrack.
- 2) Select a conversion kit to suit the subrack and which will also screen the card size (NB some covers are suitable for more than one pcb length).
- 3) Select front and rear panels as appropriate
- 4) Identify total quantity of RFI finger strips required according to the desired performance level of the final assembly. (See page 4.02 for guide).

KM6-II UNIVERSAL SUBRACKS

FOR 160MM BOARDS

Ordering information

End plate	For ordering information see page 4.12
3U x 240mm	
6U x 240mm	
9U x 240mm	

FOR 160 OR 220MM BOARDS

For ordering information see page 4.12	
3U x 300mm	
6U x 300mm	
3U x 360mm	
6U x 360mm	
9U x 360mm	

FOR 280 OR 340MM BOARDS

For ordering information see page 4.12	
6U x 420mm	
9U x 420mm	

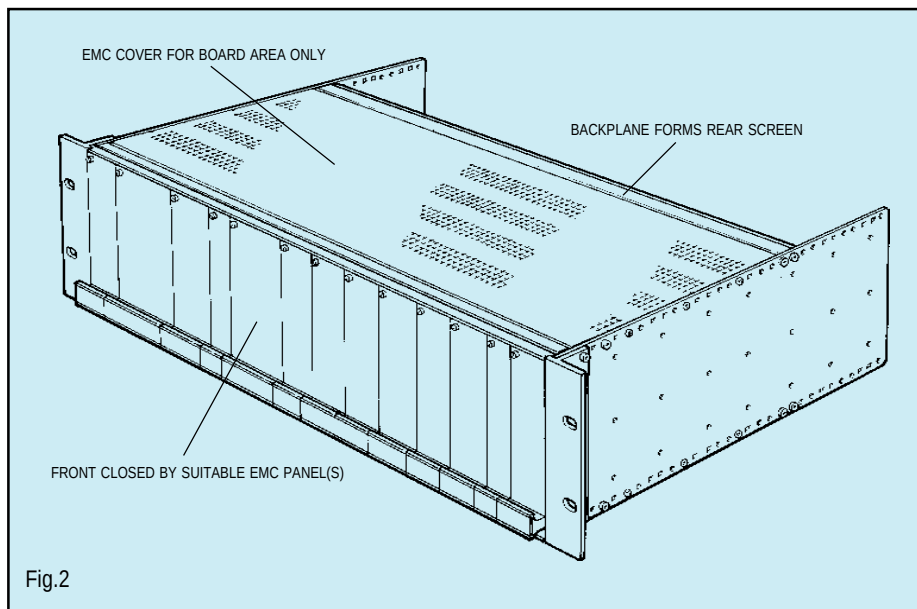
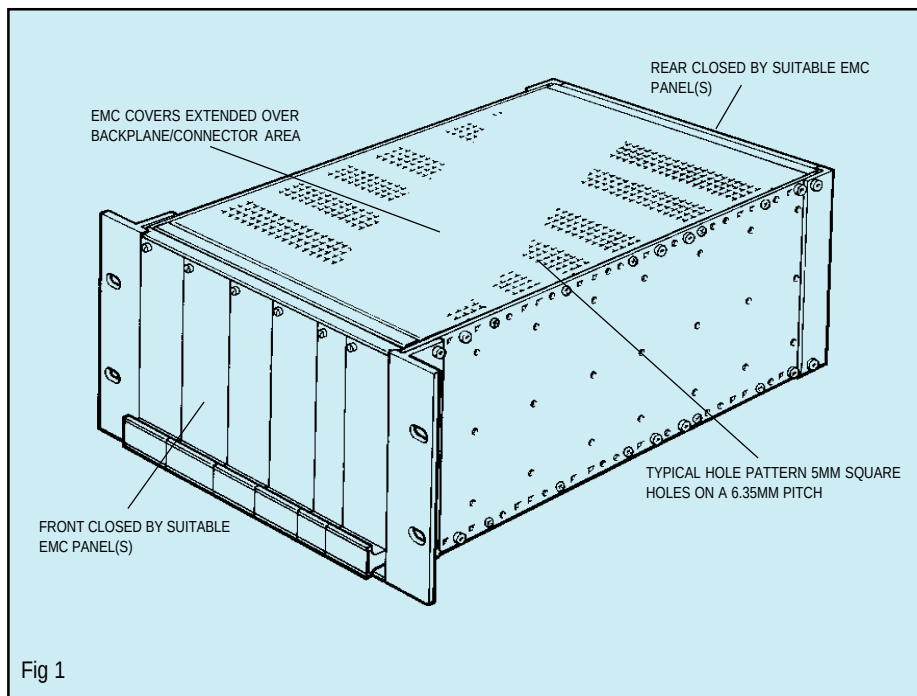
KM6-EC SUBRACKS

FOR 160MM BOARDS

End plate	For ordering information see page 4.13
3U x 240mm	
6U x 240mm	

FOR 160 OR 220MM BOARDS

For ordering information see page 4.13	
3Ux360mm	
6Ux360mm	



EMC CONVERSION KITS OVERALL

This kit contains all the parts required to convert an 84HP subrack for EMC, excluding any front or rear panels.

CONTENTS OF KIT

2 plain tie bars
2 tapped strips
2 rear closing angles
Top and bottom covers (either ventilated or unventilated)

EMC CONVERSION KITS (for 160 or 220 pcbs in 240mm end plates)

Ordering information

Height	Description	Order code
3U	Unventilated	950-240574K
3U	Ventilated	950-240575H
6U	Unventilated	950-240576F
6U	Ventilated	950-240577D
9U	Unventilated	950-240578B
9U	Ventilated	950-240579L

This performance graph shows the results from randomly selected KM6-II subracks, 6Ux84HPx360 with ventilated and unventilated EMC covers. Both were fitted with overall closing panels and a maximum quantity of BeCu fingers.

Measurements were taken at all six faces and the results shown in the graph are calculated as follows:
H field - minimum figures
E field - minimum figures up to 30MHz
above 30MHz the figures for all faces are plotted on a rolling seven point average.

A detailed discussion of our EMC test facility and procedures is shown in our separate leaflet 'The Science of Compliance'. If you require a copy, please contact your local sales office.

NEW BOARD AREA ONLY EMC COVER KITS

KM6-EC COMPATIBLE

New board area only EMC cover kits (Fig.4) For use in situations where the backplane forms the rear EMC screen, these ventilated covers fit between the front, and backplane, extrusion only.

Select by board depth and subrack width (84HP only); end plate depth is not a consideration. Supplied in a kit of two with fixings.

Ordering information

Description	Order code
84HPx160 Ventilated EMC cover	950-259371F
84HPx220 Ventilated EMC cover	950-259372D

EMC CONVERSION KITS (for 160 or 220 pcbs in 300mm end plates)

Ordering information

Height	Description	Order code
3U	Unventilated	950-240580D
3U	Ventilated	950-240581B
6U	Unventilated	950-240582L
6U	Ventilated	950-240583J

EMC CONVERSION KITS (for 160 or 220 pcbs in 360mm end plates)

Ordering information

Height	Description	Order code
3U	Unventilated	950-240584G
3U	Ventilated	950-240585E
6U	Unventilated	950-240587A
6U	Ventilated	950-240588K
9U	Unventilated	950-240589H
9U	Ventilated	950-240590A

EMC CONVERSION KITS (for 280 or 340 pcbs in 420mm end plates)

Ordering information

Height	Description	Order code
6U	Unventilated	950-240562F
6U	Ventilated	950-240563D
9U	Unventilated	950-240564B
9U	Ventilated	950-240565L

RFI FINGER STRIP

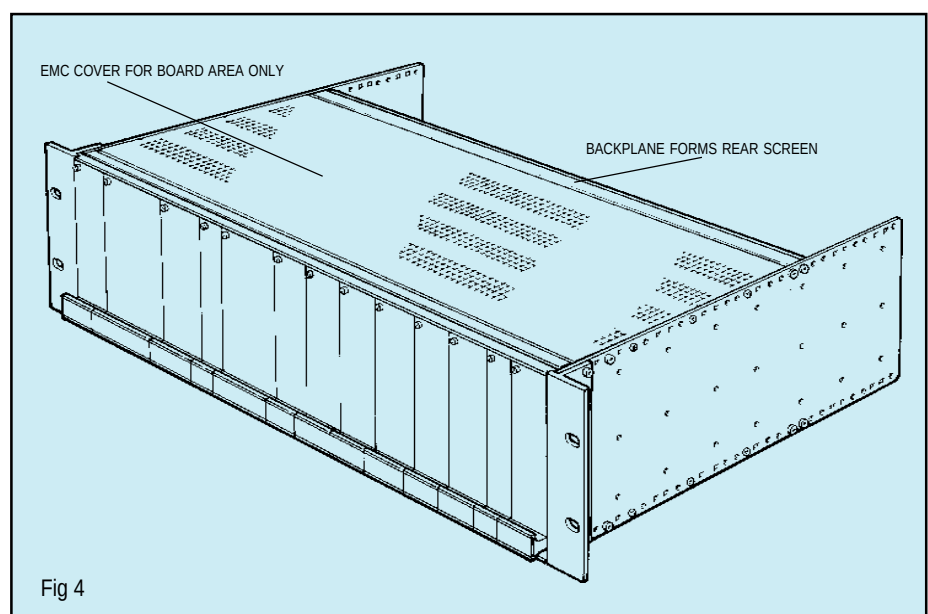
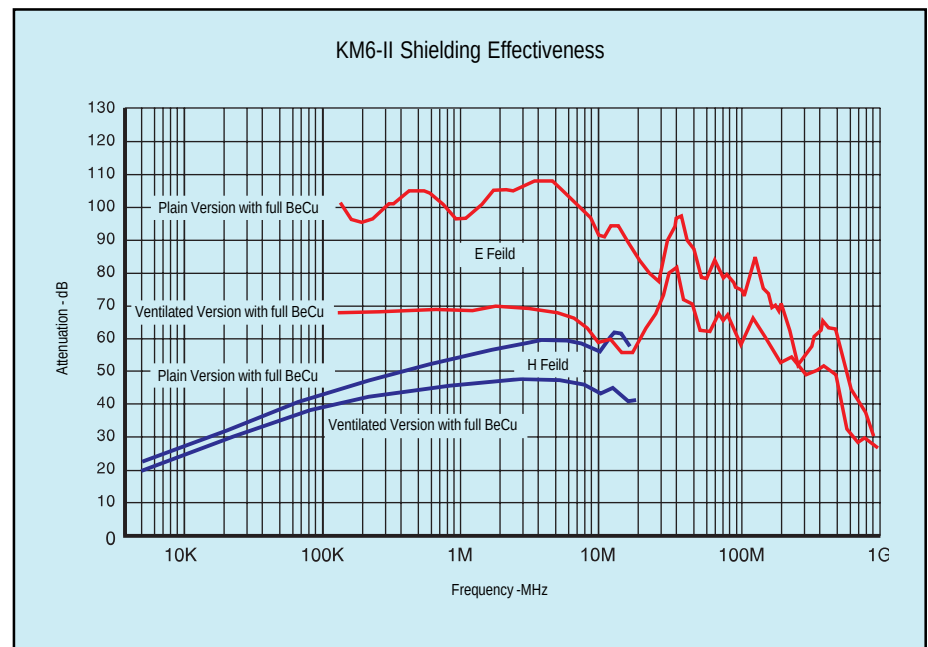
KM6-EC COMPATIBLE

Supplied in lengths of 381mm consisting of 60 fingers. The fingers are self adhesive for easy application and replacement in the field. The quantity of fingers fitted at any panel/subrack interface is selected according to the performance required from the overall screen. Please see page 4.02 for details. They can be cut using a sharp pair of scissors, taking care to avoid crushing during cutting.

RFI finger strip material: Beryllium copper

Ordering information

RFI Finger strip	930-238243F
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NEW 4U AND 7U COMPONENTS

In addition to the conventional methods of EMC screening, by using 4U and 7U components as detailed on pages 4.28 it is possible to create a screened subrack in which the normal plug-in units and any interface wiring is fully enclosed within the screen.

In this form, it is necessary to select the overall covers and panels from these pages.

NEW PRODUCTS ✓

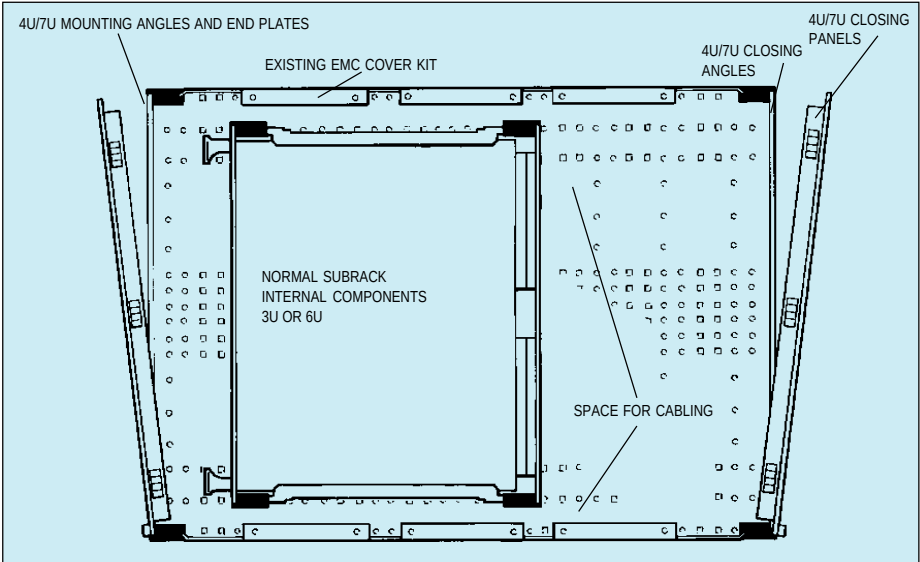
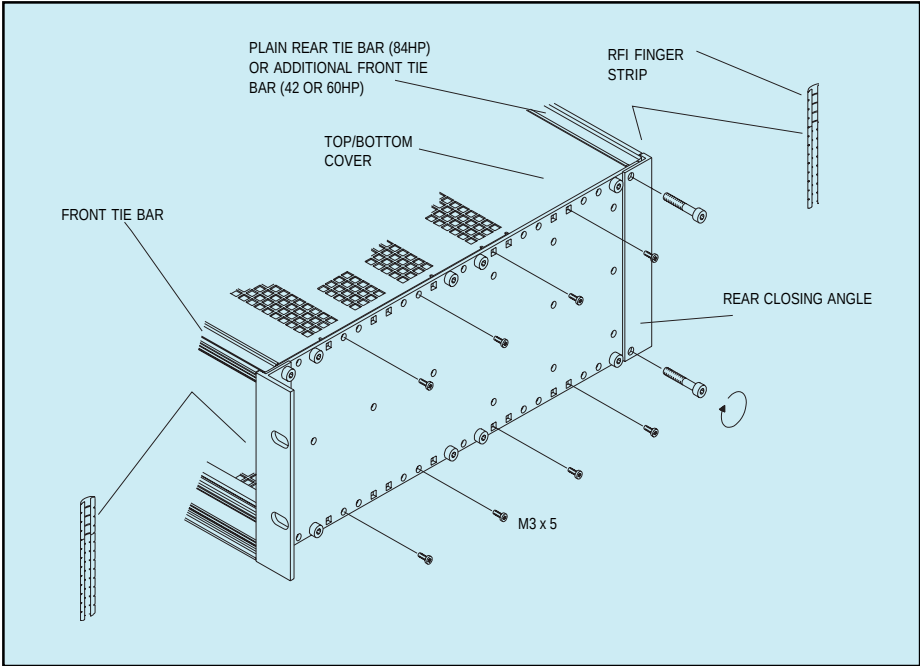


Fig 5

THE OVERALL EMC CONVERSION KITS ARE ALSO AVAILABLE IN THEIR CONSTITUENT PARTS:

NEW In addition to the 84HP versions, a small range of ventilated overall covers is available in 42HP and 60HP widths. In order to fit these, it is necessary to order reduced width front extrusions and tapped strips, M4 fixing screws and rear closing angles.

NEW PRODUCTS ✓



TOP AND BASE COVERS
OVERALL

MATERIAL: 0,9mm aluminium alloy
conductive finish

CONTENTS OF KIT
2 covers
All fixings

Ordering information

160 BOARD in 240mm end plates
KM6-EC COMPATIBLE

Width	Unventilated	Ventilated
42HP	-	950-259417H ✓
60HP	-	950-259418F ✓
84HP	950-240557K	950-240553G

160 or 220 BOARD in 300mm end plates

42HP	-	950-259419D ✓
84HP	950-240556A	950-240552J

160 or 220 BOARD in 360mm end plates
KM6-EC COMPATIBLE

84HP	950-240559F	950-240554E
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280 or 340 BOARD in 420mm end plates

84HP	950-240558H	950-240555C
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REAR CLOSING ANGLES

These are fitted at the rear in conjunction with rear mounting tie bars. EMC Beryllium copper fingers are included to maintain the shield between the subrack and EMC panels.

CONTENTS OF KIT
2 angles

Ordering information

Height	Order code
3U	950-240549J
4U	950-259278G ✓
6U	950-240550B
7U	950-259279E ✓
9U	950-240551L

REAR MOUNTING TIE BARS

Two should be ordered per subrack. Sold in singles. Two tapped strips and fixings are also required.

Ordering information

Width	Description	Order code
84HP	Plain tie bar	950-221909A
84HP	Tapped strip	950-202001E
60HP	Front tie bar top	950-202743E
60HP	Front tie bar bottom	950-202742G
60HP	Tapped strip	950-202740L
42HP	Front tie bar top	950-202736B
42HP	Front tie bar bottom	950-202735D
42HP	Tapped strip	950-202739G
	Pack 100 fixings	950-202734F

OVERALL CLOSING PANELS

KM6-EC COMPATIBLE

These 84HP EMC panels can be used at the front and rear.

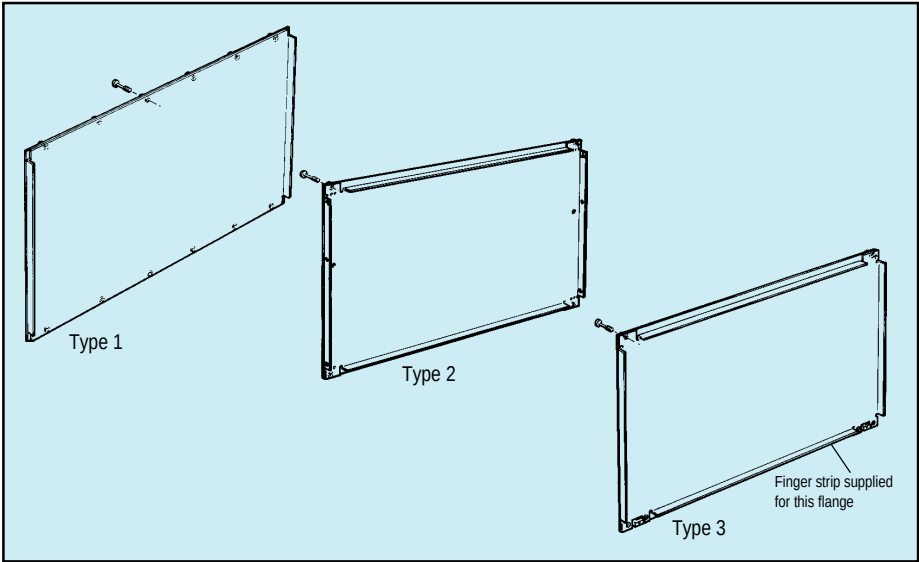
The conductive flanges make contact to EMC fingers attached to the end plates and, for types 2 & 3, to the inner face of the extrusion.

Three types are available:

Type 1, which is secured by twelve captive screws and is available for installations where access is seldom necessary. Contact to the end plates is achieved using beryllium copper fingers.

Type 2 is secured by four captive screws only, relying on beryllium copper fingers to maintain contact on all four edges.

Type 3 is a horizontally hinged panel which relies almost entirely on beryllium copper fingers for contact on all four edges, having only two captive screws. A special finger strip is provided with the kit for the bottom flange only.



▲ OVERALL CLOSING PANELS

Types 2 and 3 are particularly useful in situations where frequent access is likely to be required.

CONTENTS OF KIT

- Panel
- Fixings
- Handles and ident labels (Type 2 only).

Finish: Facia panel etch and clear anodise
 Inner panel conductive.

ORDER SEPARATELY

RFI finger strip 4.22

INDIVIDUAL EMC PANELS

KM6-EC COMPATIBLE

Available in various widths as blanking panels or for mounting circuit boards. Copper fingers are required for maintaining continuity between neighbouring panels.

6U and 9U panels have type C handle format.

CONTENTS OF KIT

- Panel
- Handles and idents (1-3U, 2-6U and 9U).

ORDER SEPARATELY

RFI finger strip 4.22

Card mounting brackets 4.52

OVERALL CLOSING PANELS

Ordering information

Height	Order code		
	Type 1	Type 2	Type 3
3U	950-202694C	951-242957J	951-242960J
4U			951-259284D ✓
6U	950-202695A	951-242958G	951-242961G
7U			951-259285B ✓
9U	950-202696K	951-242959E	951-242962E

NEW PRODUCTS ✓

INDIVIDUAL EMC PANELS

Ordering information

Width	Order code		
	3U	6U	9U
4 HP	951-242963C	951-242969B	951-242975G
6 HP	951-242964A	951-242970F	-
8 HP	951-242965K	951-242971D	-
12 HP	-	951-242972B	-
16 HP	-	-	-
24 HP	951-242968D	-	-



NEW KMS-SUBRACK FOR WALL & RACK MOUNTING



NEW KMS - THE SUBRACK FOR WALL AND RACK MOUNTING

- 3U/14HP to DIN41494/IEC 297-3
- For 3U plug-in modules 100 x 160mm
- Backplane mounting
- Integrated card guides incrementing by 5.08mm multiples
- For wall and panel mounting
- Fast attachment thanks to keyhole perforations for mounting
- For all applications involving only a few plug-in modules
- For rack mounting - on mounting brackets or snap-on mounting on tie bar extrusions 35 to DIN EN 50022
- Sturdy steel construction, completely assembled, all components conductively interconnected
- Good EMC screening
- Separate Wiring cover for installing screw terminal strips

MATERIAL SPECIFICATION

Subrack:	1mm Zintec coated steel
Front extrusions anodised	: Aluminium AlMgSi.05
Tapped strips	: 2mm steel M2.5
Insulating strips	: 1mm PVC

CONTENTS OF KIT

- 1 subrack, completely assembled
- 2 aluminium extrusions, front
- 2 tapped strips, M2.5, spacing 5.08mm
- 2 insulating strips for backplane mounting

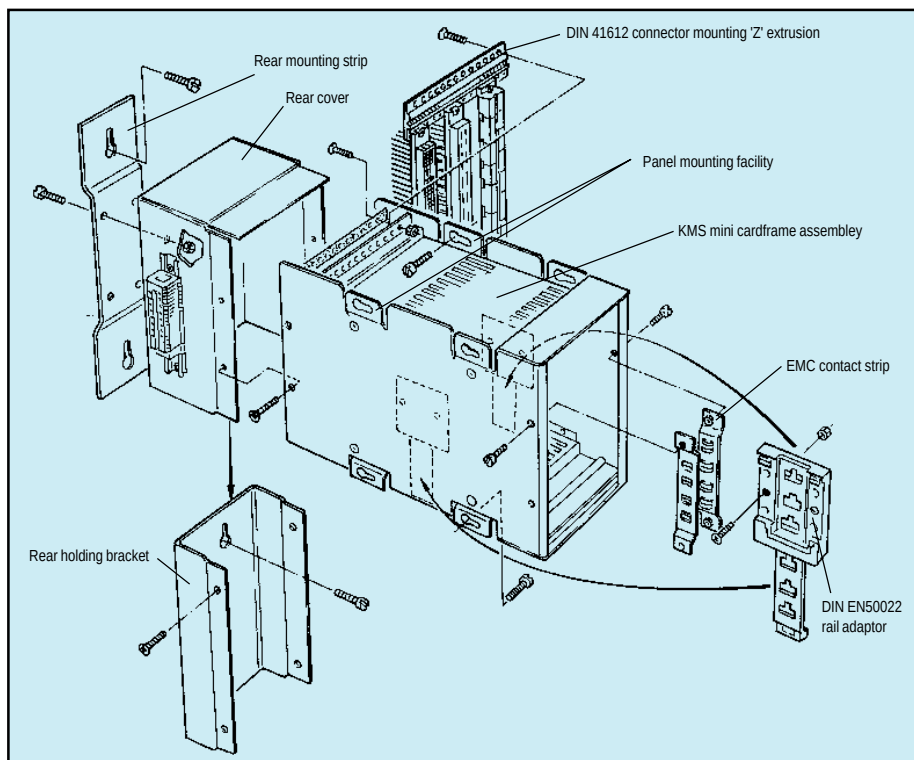
KMS - SUBRACK

Ordering information

Height	Width	Depth	Order Code
	inside	outside	
3U (132.5)	14HP	90mm	207mm
			118-010000K

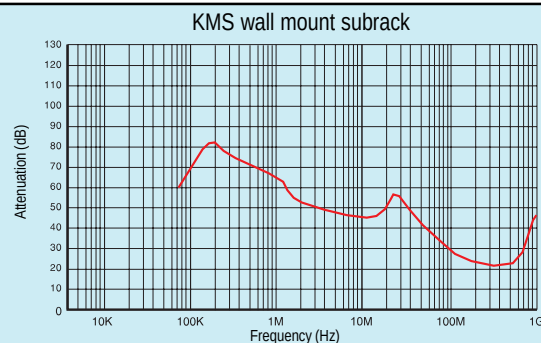
ACCESSORIES

Rear cover - with side opening for cable entry. The rear side features pre-drilled fixing holes for a mounting strip (dimensions: height 132.5mm, width: 84mm, depth 51mm).



EMC testing

A KMS with a backplane and rear hood was fitted with a 14hp emc front panel and standard finger sets. Testing was carried out to VG 95373 part 15. Shielding effectiveness is shown on the graph.



CONTENTS OF KIT

- 1 cover
- 4 fixing screws

MATERIAL SPECIFICATION

1mm steel, hot galvanised

Rear mounting strip - this strip can be fixed to the rear of the cover and features 2 keyhole perforations for mounting. The KMS subrack can thus be mounted on mounting brackets/walls.

CONTENTS OF KIT

- 1 strip
- 1 set of fixing screws

MATERIAL SPECIFICATION

1.5mm steel, hot galvanised

DIN EN50022 adaptor - the KMS subrack features fixing holes for the adaptor on both side panels. The adaptor permits the KMS subrack to be snapped onto DIN extrusions at the sides.

CONTENTS OF KIT

- 1 fixing adapter
- 1 set of fixings

MATERIAL SPECIFICATION

Fixing adapter: polyamide, black

Zextrusions 14HP - these extrusions are necessary if DIN41494 connectors are mounted. The Z extrusions feature two rows of holes, one of these with an M2.5 thread.

CONTENTS OF KIT

- 2 14HP Z extrusions
- 1 set of M2.5 fixing bolts and nuts

MATERIAL SPECIFICATION

Aluminium extrusion AlMgSi0.5

EMC contact strip 3U - this is fastened at the front on the left and right side panels. Fitting this strip permits EMC front panels to be used to full effect.

CONTENTS OF KIT

- 2 contact strips including EMC contact fingers

MATERIAL SPECIFICATION

Contact strip : Zintec coated steel
Contact finger : beryllium copper

ACCESSORIES

Ordering information

Description	Unit	Order code
Rear cover 3U	1 kit	118-010010F
Rear mounting strip	1 kit	118-010014E
Rear holding bracket	1 kit	118-010015B
Extrusion fixing adapter	1 kit	118-010011C
Z extrusions	1 kit	118-010001G
EMC contact strip	1 kit	118-010017G



KM6-II SUBRACK - PIECE PARTS



KM6-II UNIVERSAL - PIECE PARTS

It is possible to order KM6-II Universal subracks from piece parts. This allows special configurations to be achieved. 4U and 7U Universal subracks can only be ordered from piece parts. All basic components are detailed on the next three pages.

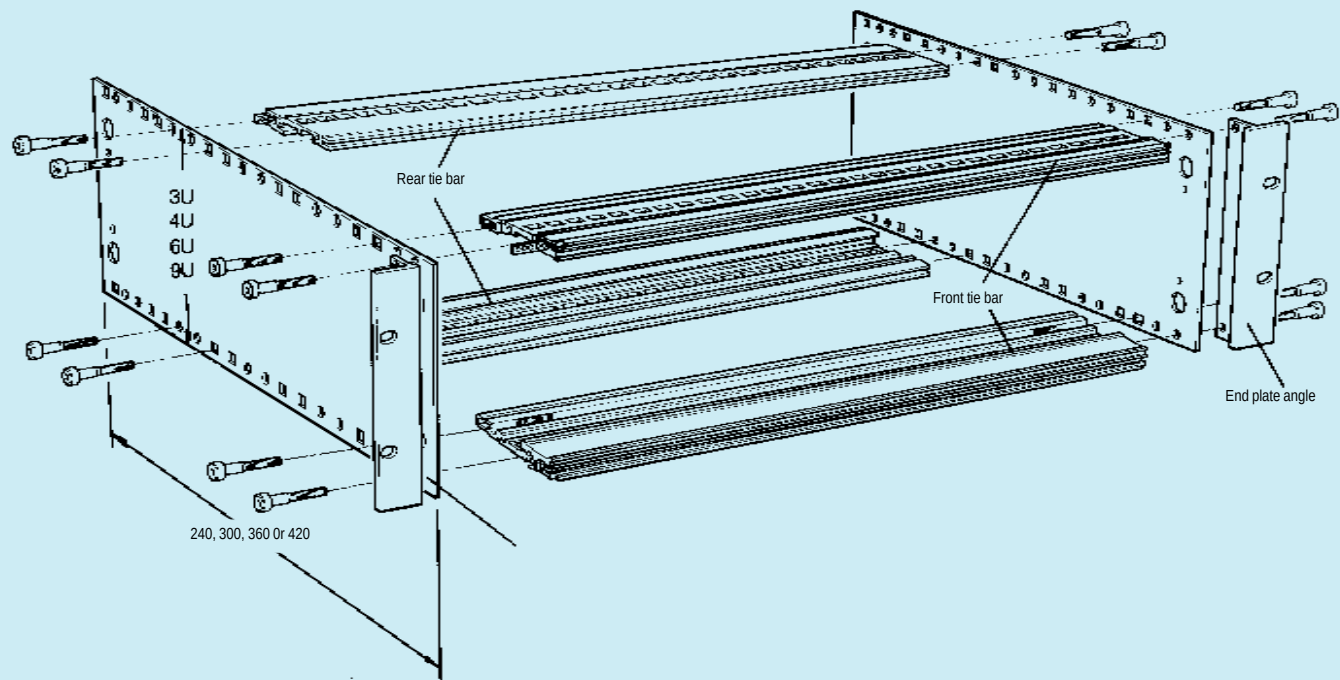
Typical Example:-

WHAT MUST I ORDER?

To achieve a basic 3U Universal subrack you must order the following:

- | | |
|--------------------------|----------------------|
| 2 end plates | 2 or 4 tapped strips |
| 2 end plate angles | 1 packet of fixings |
| 1 front tie bar (top) | (M4 x 25 skt cap) |
| 1 front tie bar (bottom) | 2 rear tie bars |

KM6-II UNIVERSAL SUBRACK



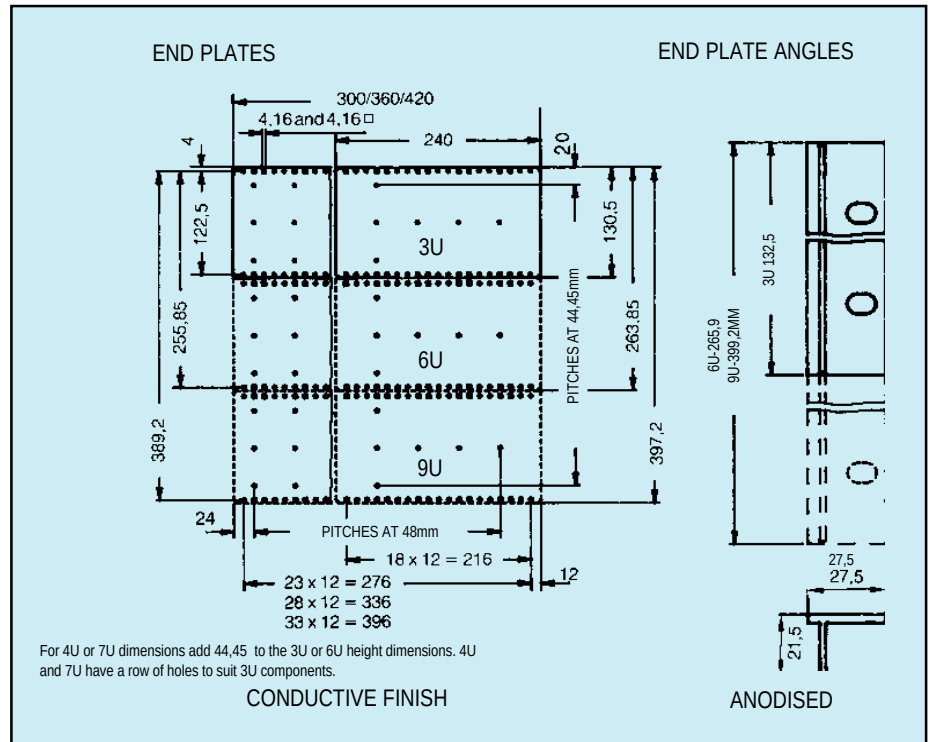
END PLATES AND ANGLES

Universal end plates are punched on a 12mm pitch along their length to enable tie bars to be mounted to suit customer applications.

On 300mm and deeper versions there is also a pattern of intermediate holes to permit the fixing of the versatile chassis system (page 4.32)

Identifications are stamped on the end plate to assist in tie bar location. End plates and end plate angles are sold singly (i.e. 2 required for each subrack). Endplate angles are available with or without handle fixing holes.

The 4U x 360 and 7U x 420 versions can be assembled as 3U/6U + 2 X 0.5U or 3U/6U + 1U.

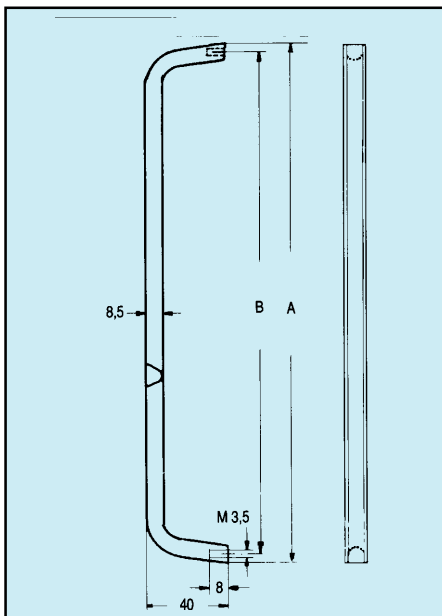


KM6-II END PLATE AND END PLATE ANGLES

Ordering information

Height	End plates					End plate angles	
	Thickness	240mm deep	300mm deep	360mm deep	420mm deep	Less handle holes	With handle holes
3U	2	950-202787G	950-221911C	950-202790G	-	950-202783D	950-232632G
4U	2,5	950-202618H	-	950-202620K	-	950-202616A	-
6U	2	950-202788E	-	-	-	950-202784B	950-232633E
6U	2,5	-	950-221912A	950-202791E	950-202793A	950-202785L	950-232635A
7U	2,5	-	-	-	950-259286H ✓	950-259287F ✓	-
9U	2,5	950-202789C	950-224197F	950-202792C	950-202794K	950-202786J	-

NEW PRODUCTS ✓



SUBRACK HANDLES

KM6-EC COMPATIBLE

- Stylish modern appearance
- Comfortable handgrip
- Range of sizes

As supplied in some standard KM6-II subrack kits, these handles are also available separately. The 3U & 6U end plate angles shown above have the fixing holes, other sizes should be modified accordingly.

MATERIAL SPECIFICATION

Aluminium alloy E6
Finish: Etch and clear anodised

CONTENTS OF KIT - 1 handle
Order separately fixing screws

SUBRACK HANDLES

Ordering information

Description	Height (U)	A	B	Order code
Handle	3	116,3	108,3	50-10117C
Handle	4	160,8	152,8	50-10116G
Handle	6	249,7	241,7	50-10118K
Screw M3, 5 x 10 Countersunk head Pk 10				173-10036K

KM6-II SUBRACK - PIECE PARTS

KM6-II FRONT TIE BARS

KM6-II front tie bars include a two screw fixing facility. Accuracy of alignment is ensured by the dowel fixing screws. A slot enables guides to be secured using M2,5 x 5 screws and a tapped strip.

Dust covers and EMC covers are also attached to these tie bars.

Normal front extrusions have slot identification printed along their length to aid guide location. Top versions also have a printed ident on the front face for panel location.

In addition to the normal front extrusion, there are three other types:

PLAIN, which has no guide location holes; this extrusion is included in EMC conversion kits and can also be used for just attaching additional panels (e.g. for rear socket mounting).

LIPLESS, which has normal guide location holes but offers two facilities; if used as a height dividing extrusion, it is possible to use overall front panels; it will also fit within an EMC screen, permitting the recessing of cards.

INJECTOR/EJECTOR, which is a modified normal front extrusion with an added feature which provides the operating surface for the injection of pcb's. It should be noted that this feature reduces the vertical front aperture to 105,9mm (on a 3U).

These three latter extrusions are supplied in lengths to suit 84HP and are not silk screen printed.

MATERIAL SPECIFICATION

Aluminium alloy BS 14746063T6 conductive* finish.

CONTENTS OF KIT: 1 tie bar

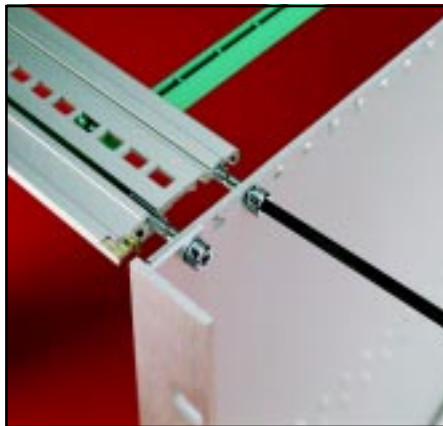
*Alocrom 1000 or equivalent

Ordering information

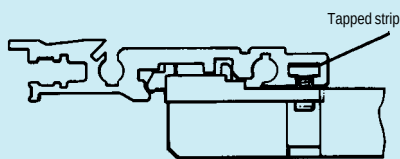
Width	Top	Bottom
24HP	950-202796F	950-202795H
42HP	950-202736B	950-202735D
60HP	950-202743E	950-202742G
84HP	950-202644G	950-202643J
Plain	950-221909A	
Lipless	950-233073A	
Inj / ej	951-232445J	

For tapped strips see P 4.31

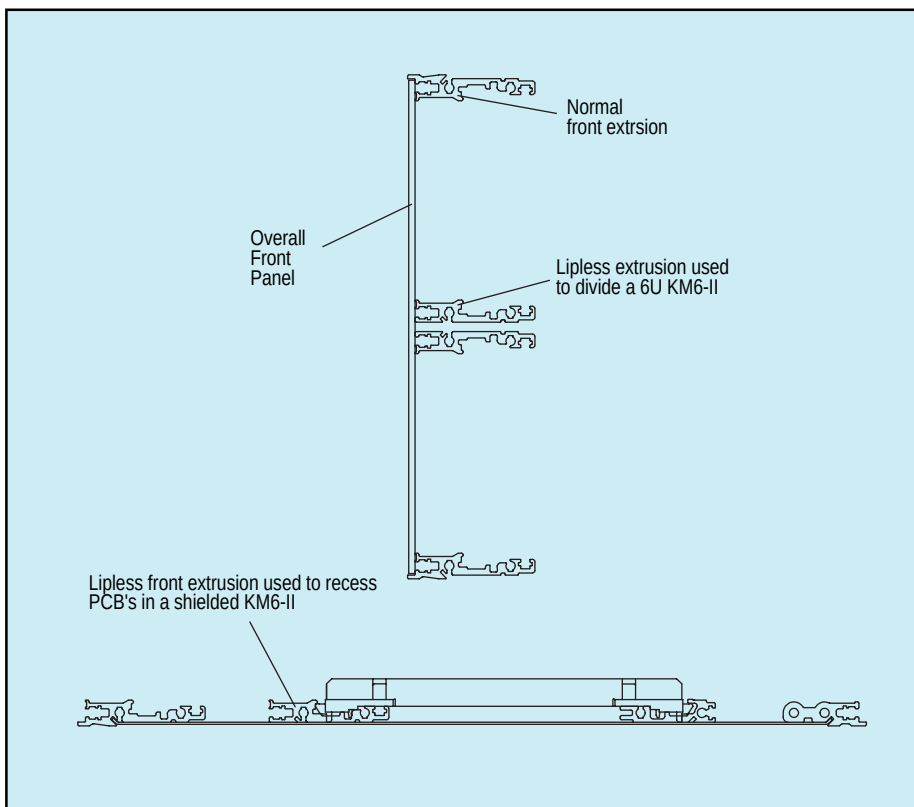
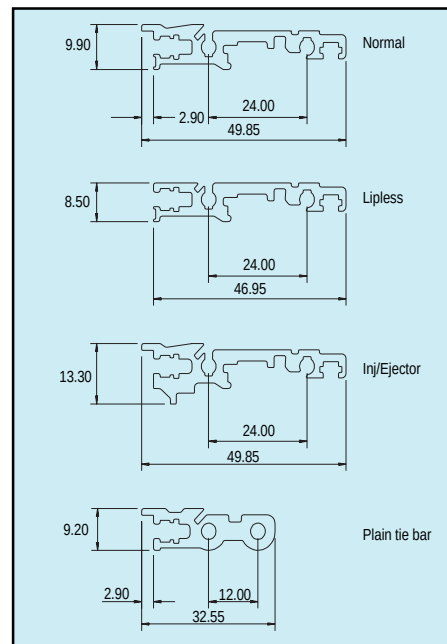
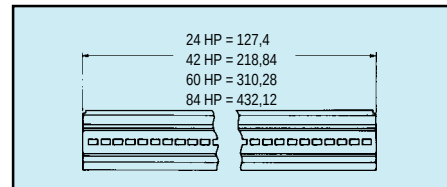
For fixings see P 4.41

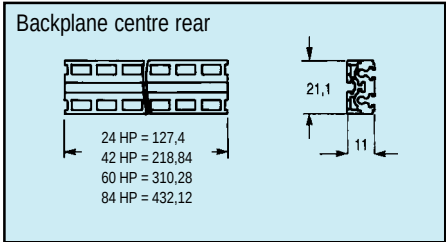


Screw retention of guides in a Universal Subrack



See P4.35 for details



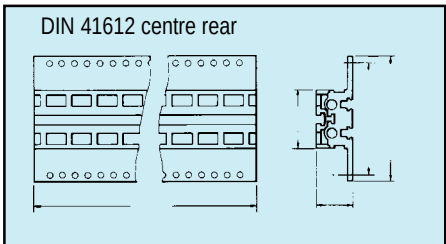


REAR TIE BARS

For backplane mounting, the KM6-II rear tie bars accept tapped strips.

It is important to note that in order to maintain correct connector geometry it is necessary to fit a spacer, either conductive or insulating between extrusion and motherboard/backplane.

For DIN 41612 connector mounting the tie bar is pre-tapped M2.5 on a 1HP pitch. These tie bars are printed with connector location idents, but are not handed.



Top and bottom rear tie bars are supplied singly. The centre rear comprises a two-part extrusion kit and a facility is provided for fitting a forward facing tapped strip if required.

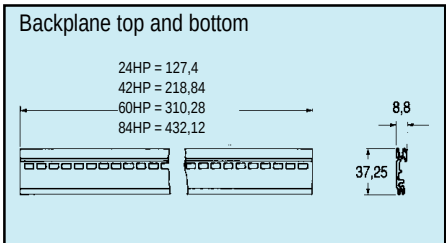
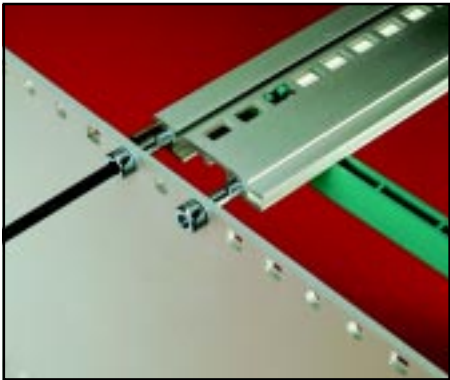
Backplane tie bars can be converted to DIN 41612 by means of a connector mounting frame.

MATERIAL SPECIFICATION

Aluminium alloy BS 14746063T6 conductive* finish.

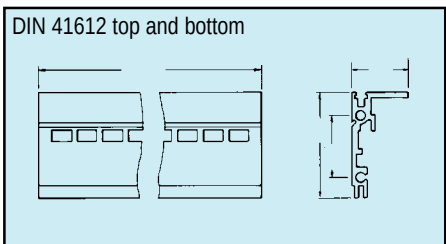
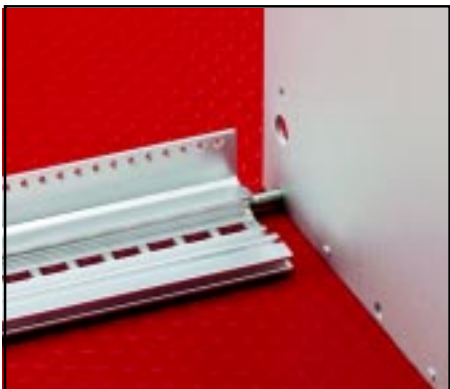
CONTENTS OF KIT: 1 tie bar

*Alocrom 1000 or equivalent



For tapped strips and DIN 41612 conversion see P4.31

For fixings see P 4.41



REAR TIE BARS

Ordering information

Location	Width HP	Backplane mounting	DIN 41612 connector mounting
Top and bottom	24	950-202797D	-
	42	950-202737L	-
	60	950-202744C	-
	84	950-201276D	950-229781E
Centre	24	950-202798B	-
	42	950-202738J	-
	60	950-202745A	-
	84	950-201277B	950-229784K

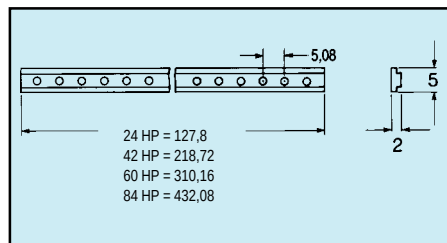
KM6-II SUBRACK ACCESSORIES

TAPPED STRIPS

KM6-EC COMPATIBLE

Tapped M2,5 on a pitch of 1HP, these strips are used for fixing front panels, backplanes, or as an option for chassis plates.

As an alternative to tapped strips, a slide nut suitable for use in front tie bars only can be used where a small number of locations are required.



MATERIAL : Mild steel zinc and colour passivate

CONTENTS OF KIT: 1 tapped strip

Ordering information

Width	Order code
24 HP Tapped strip	950-202799L
42 HP Tapped strip	950-202739G
60 HP Tapped strip	950-202740L
84 HP Tapped strip	950-202001E
Slide nut (Pk 10)	124-30499B

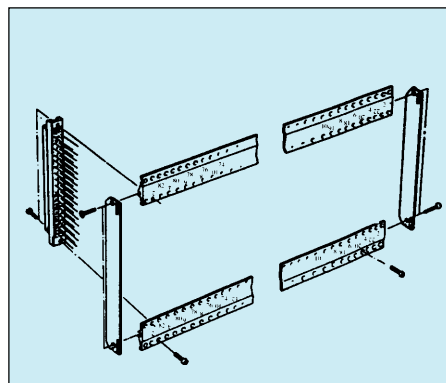
DIN 41612 CONNECTOR MOUNTING FRAME

KM6-EC COMPATIBLE

- Converts backplane extrusions to DIN 41612 mounting
- Separate assembly and wiring possible
- 3U height
- Various widths

This frame is supplied as a kit comprising 2 aluminium extrusions with M2,5 holes on a 1HP pitch, two steel end plates and fixings.

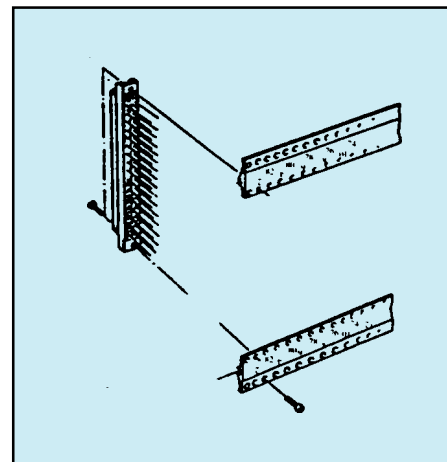
Finish: conductive



Ordering information

Width	Order code
24 HP	950-34247E
42 HP	950-34246H
84 HP	950-34244C

As an alternative to the mounting frame the horizontal extrusions are available in separate kits. A 6HP version is of particular use for mounting one connector to mate with a power supply plug-in units. There is also a version at 84HP width. In both cases, the kit comprises two extrusions and fixings.



Ordering information

Width	Order code
6HP	950-249491B
84HP	950-249489L

BACKPLANE SPACER STRIPS

KM6-EC COMPATIBLE

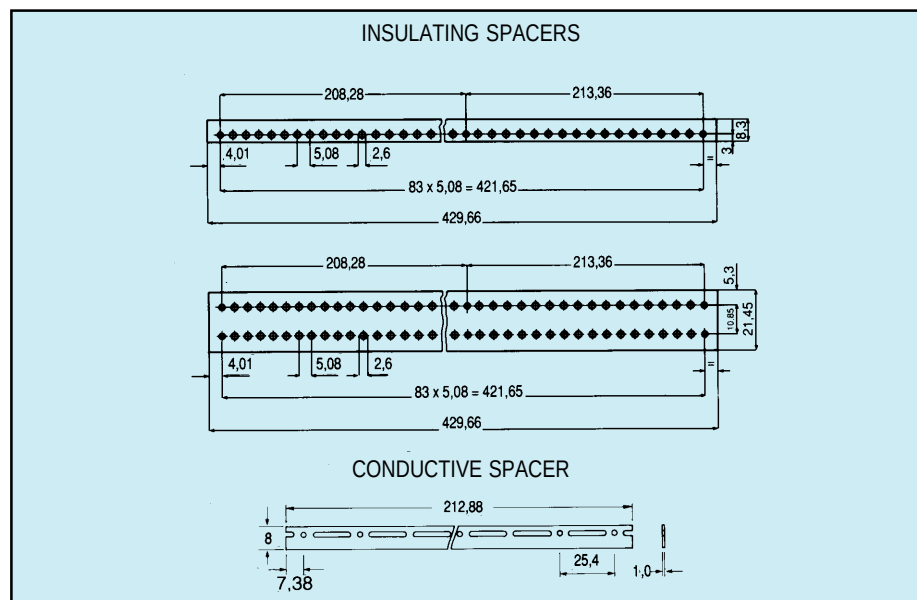
Two types of spacer strips are available, insulating and conductive. The insulating type is available in one and two level versions, each having half shears to aid assembly. The two-level version is used on centre rear tie bars. The 84HP strips can be easily cut down for smaller widths. The conductive strip is 42HP wide. Supplied singly.

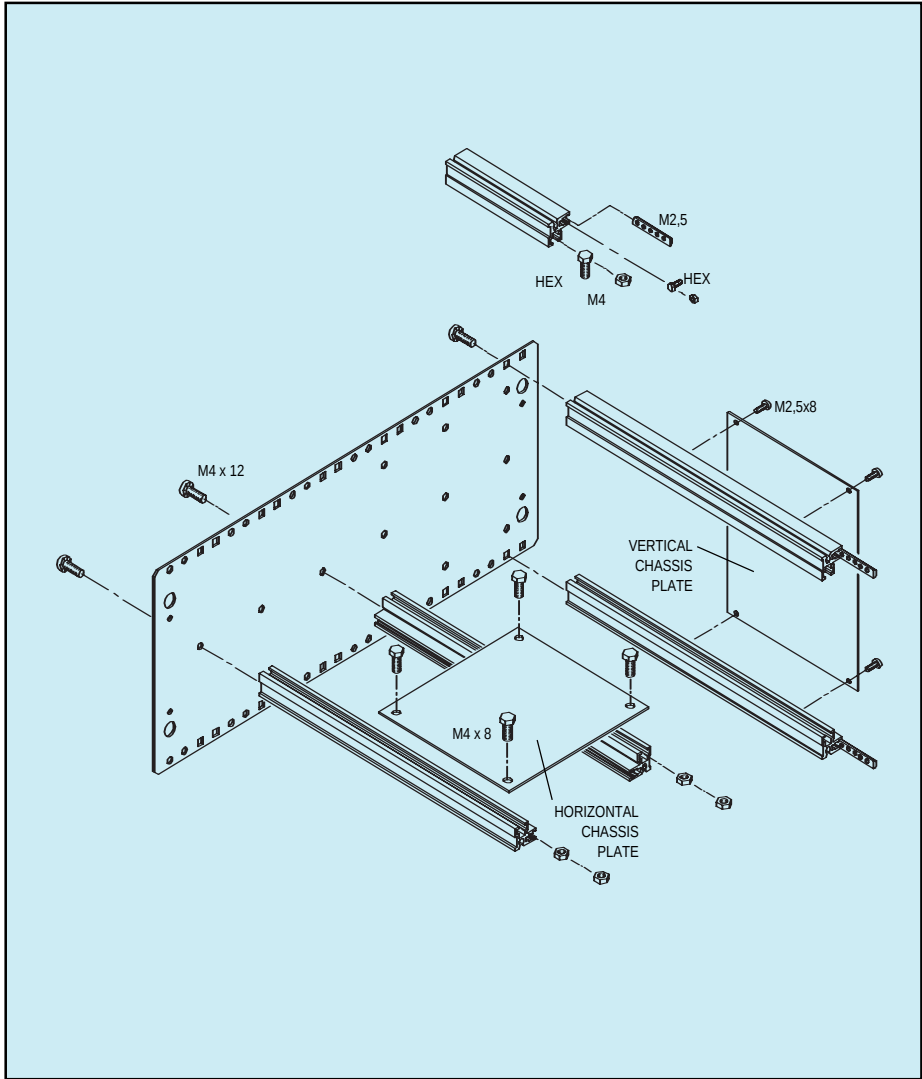
MATERIAL SPECIFICATION

1mm insulating/grey PVC UL94VO
Conductive - 1mm MS zinc and passivate

Ordering information

Description	Order code
Insulating spacer single level	950-10014H
Insulating spacer two level	950-10015E
Conductive spacer 42HP	173-60788B

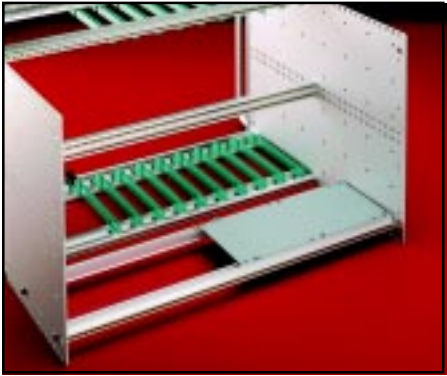




KM6-II CHASSIS SYSTEM

Description	Unit	Order code
Chassis extrusion, 42HP	each	956-242701D
Chassis extrusion, 60HP	each	956-242702B
Chassis extrusion, 84HP	each	956-242703L
Vertical chassis plate 3U x 42HP	each	956-242704J
Vertical chassis plate 3U x 60HP	each	956-242705G
Vertical chassis plate 3U x 84HP	each	956-242706E
Horizontal chassis plate 103mm x 42HP	each	956-242707C
Horizontal chassis plate 103mm x 60HP	each	956-242708A
Horizontal chassis plate 103mm x 84HP	each	956-242709K
Screws M2,5 x 8 hex head	Pk 100	956-243262K
Screws M4 x 8 hex head	Pk 100	956-243263H
M2,5 hex nuts	Pk 100	27-1319C
M4 hex nuts	Pk 100	956-243264F
Extrusion fixing screw M4 x 12 pan posi	Pk 100	956-243261A

Ordering information



KM6-II CHASSIS SYSTEM
KM6-EC COMPATIBLE

The chassis system offers a method of mounting simple plates into subracks. They can be used for carrying additional components such as power supplies, or for securing wiring etc.

The components of this system are designed for maximum versatility, comprising extrusions and flat plates.

The extrusion has an M4 section which will accept hex nuts or screws directly and a section which will accept a KM6-II tapped strip or M2,5 hex nuts and screws. The extrusion is tapped M4 for fixing and our standard subrack kits have additional holes to provide convenient mounting centres.

A series of flat chassis plates is available to suit.

MATERIAL SPECIFICATIONS

- Extrusions
- : aluminium alloy BS1474 6063T6, finish Alocrom 1000 or equivalent.
- Chassis plates
- : 0,9mm Zintec, natural

GUIDES FOR MOUNTING TO FLAT PLATES

GUIDES FOR MOUNTING TO FLAT PLATES

A range of clip-in guides is available for holding PCB's. These guides can be fitted to simple plates of the appropriate thickness.

ANTI-VIBRATION CARD GUIDES

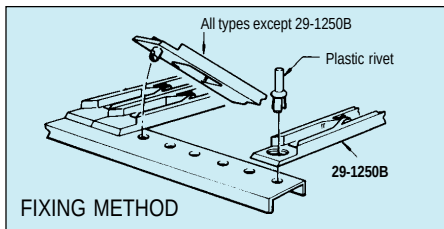
Moulded-in fingers, occurring at frequent intervals down the length of the card slot act as pressure pads, suitable for board thickness of 1,6mm. The guides have also been designed to present maximum surface areas resulting in maximum air circulation.

MATERIAL SPECIFICATION

Material - Nylon 66

Colour - Black

Flammability characteristic UL 94V-2

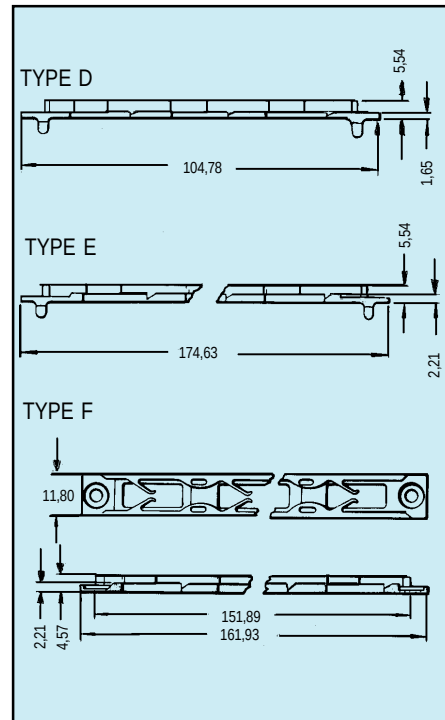
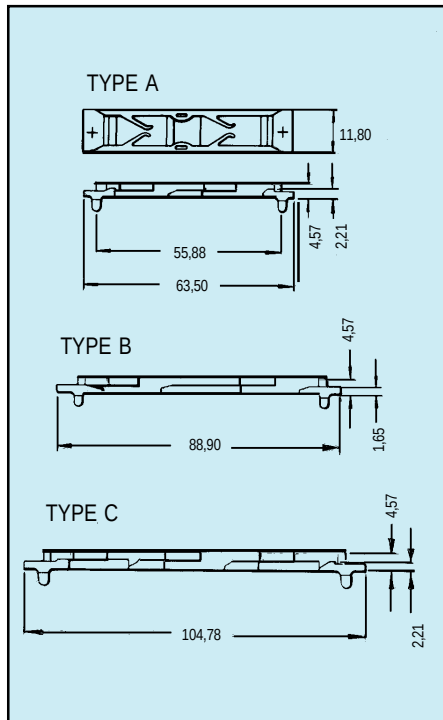


CONTENTS OF KIT

Supplied singly

Material thickness for fixing anti-vibration guides.
Min 1,52 Max 1,78

⚡ Because of the hygroscopic effect of moisture on Nylon 66 it is recommended that one of the holes should be around 3,30 x 3,80 to allow for variation in length if used in potentially humid atmospheres.



Ordering information

Type	Fixing hole pitch	Fixing hole dia.	Order code
A	55,88	3,30 ⚡	29-1246L Ⓜ
B	76,20	3,30 ⚡	29-1247F Ⓜ
C	92,08	3,30 ⚡	29-1248A Ⓜ
D	92,08	3,30 ⚡	29-1249G Ⓜ
E	161,93	3,30 ⚡	29-1251H Ⓜ
F	151,89	3,45 ⚡	29-1250B Ⓜ
Plastic rivet for use with 29-1250B only supplied in packets of 100			29-1345J

Ⓜ = Denotes minimum order quantity, please contact our sales office.

CLIP-IN GUIDES

AVAILABLE IN THREE LENGTHS

A range of guides providing a quick and simple method of circuit board mounting for a wide range of applications.

- Suitable for 1,6mm boards
- Simple to fix - integral pip gives maximum retention with no further fixings required.
- Tapered guide entry in two planes for ease and accuracy of PCB insertion
- 2mm channel depth gives good card locations without wasted PC area
- Unlimited card spacing
- No special tooling required

MATERIAL SPECIFICATION

Material : Nylon 66

Colour : Black

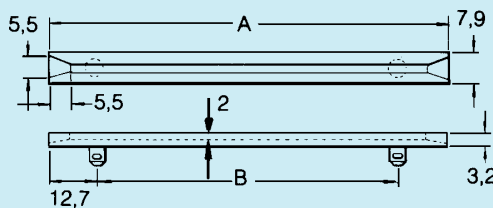
Flammability characteristic UL 94V-2

CLIP-IN GUIDES

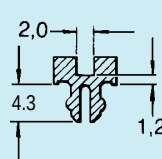
Ordering information

A	B	Order code
101,6	76,2	29-0122C
139,7	76,2	29-0124D
177,8	152,4	29-0126E

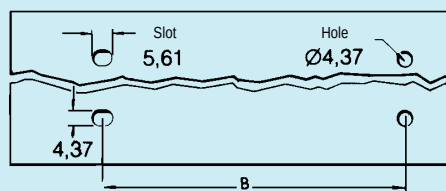
CLIP-IN GUIDE DIMENSIONS

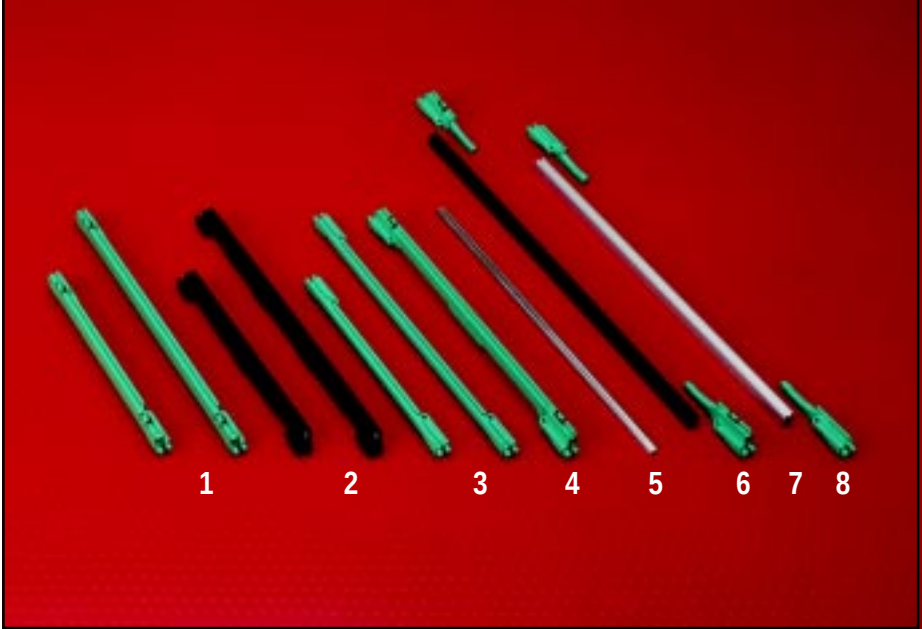
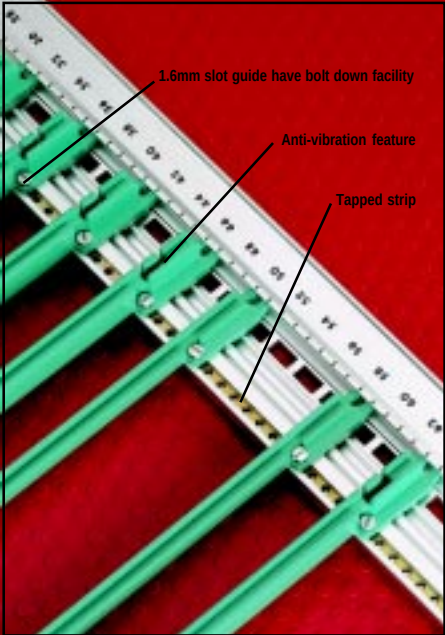


SECTION B



MOUNTING HOLE DETAIL (Plate thickness 1.6mm)





KM6-II GUIDES
 KM6-EC COMPATIBLE

ONE PART GUIDES

- Type 1 PCB
 For Eurocards of 1,6mm thickness, either 100mm, 160mm or 220mm long. Compatible with grounding clip. see page 4.35
- Type 2 PCB
 For Eurocards of 2,4mm thickness, either 160mm or 220mm long.
- Type 3 PIU
 Plug-in unit (piu) type for cards 111,76 or 245,1mm height, 1,6mm thickness, 160 or 220mm long.
- Type 4 PCB
 For Eurocards of 1,6mm thickness, 220mm long, this guide will fit over intermediate extrusions, permitting mixing of pcb depths.Compatible with grounding clip. see page 4.35

THREE PART GUIDES

- Type 5
 Plastic centre section, with aluminium stiffener, for 340mm or 400mm lengths, 1,6mm thickness.
 Order separately: End feet for pcb or piu.
- Type 6
 Three part guide end feet for Eurocards of 1,6mm thickness.
- Type 7
 Aluminium centre section for 340mm or 400mm lengths, 1,6mm thickness.
 Order separately: End feet for pcb or piu.
- Type 8
 Three part guide end feet for piu of 1,6mm thickness.

MATERIALS:

Types 1, 3, 4, 6 and 8
 Luranyl® 2452/1 or equivalent. Colour green.

Types 2 and 5
 Luranyl® 2452/1 or equivalent. Colour black

Type 7
 Aluminium extrusion BS 14746063T6
 Finish: anodised

Luranyl® 2452/1 is a UL94 VI rated material with a continuous rating of 105°C

ONE PART GUIDES
 Ordering information

Guide type	Board length	Order code
1 PCB 1,6mm thick	100	950-242850B
	160	950-232662J
	220	950-232663G
2 PCB 2,4mm thick	160	173-232666F
	220	173-232667D
3 Plug-in-unit	160	950-232664E
	220	950-232665C
4 Low profile	220	950-232668H

One part guides are supplied in packets of 10 but the 160 and 220mm, 1,6 versions are also available in packs of 1000.

1 PCB 1,6mm thick	160	956-243239E
	220	956-243240J

THREE PART GUIDES
 Ordering information

Description	Unit	Order code
5 Plastic centre for 340mm board	Pk 10	950-203004E
5 Plastic centre for 400mm board	Pk 10	950-202637D
6 PCB guide feet	10 prs	950-202635H
7 Aluminium centre for 340mm board	Pk 10	950-203005C
7 Aluminium centre for 400mm board	Pk 10	950-202638B
8 Plug-in guide feet	10 prs	950-202636F

KM6-II SUBRACK ACCESSORIES

PCB GROUNDING CLIP

- Electrostatic Protection
- Occupies 'unused' area of Eurocard
- No screws required

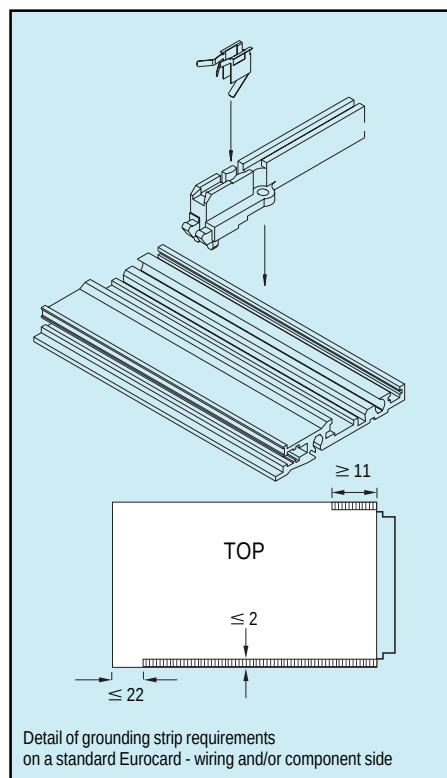
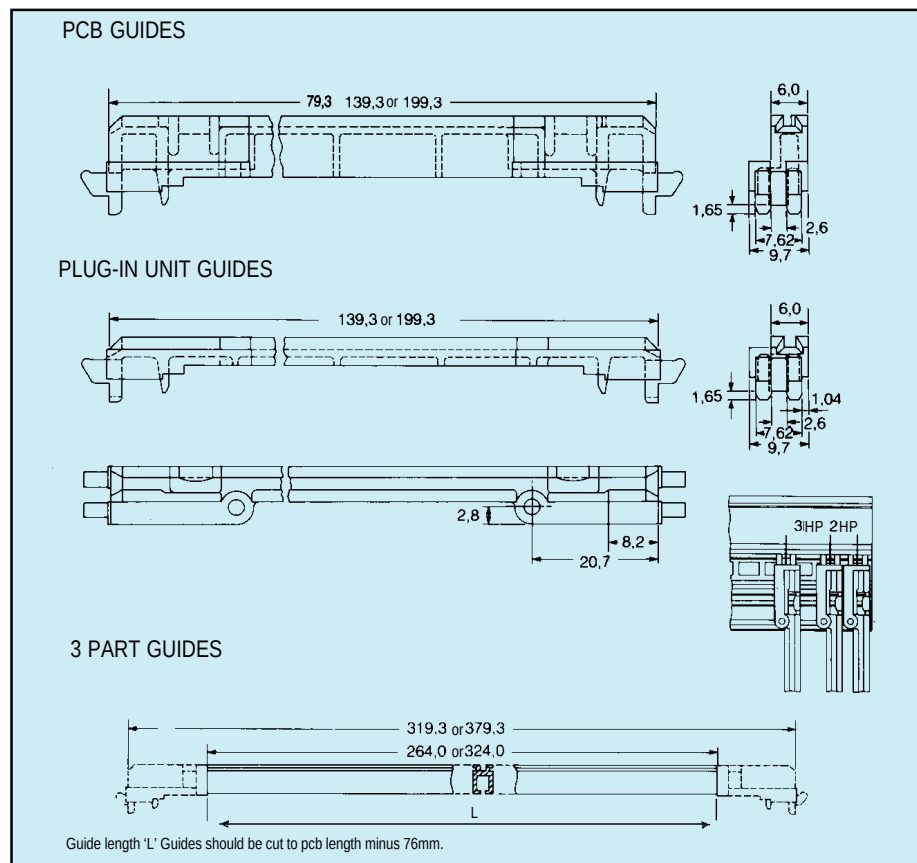
This grounding clip can be inserted into the front bottom or top rear of one-part 1,6mm pcb guides in KM6-II or KM6-EC subracks. Contacts on the clip provide electrical continuity between a suitably equipped Eurocard and, via a spring under the clip, standard front extrusions. Pcb's can, therefore, be grounded before the engagement of connectors. The clip, which is supplied in packs of 10, fits into a 'pocket' in the guide and requires no screw fixings to maintain contact.

The modification required to the pcb takes the form of a conductive strip along the edge of the board, (see illustration) either on the left or right side.

The clip has been tested to IEC 950: 1986 section 2.5.11. In testing, the clip reached a steady temperature of 76 degrees C at 15A, with a resistance path of 7 mOhms. A typical electrostatic discharge would be 12A for a period of 1 microsecond.

It should be noted that the clip is designed to provide a ground path for electrostatic charges, not for a power short circuit or as a ground rail.

Material: 0,15mm spring steel plated



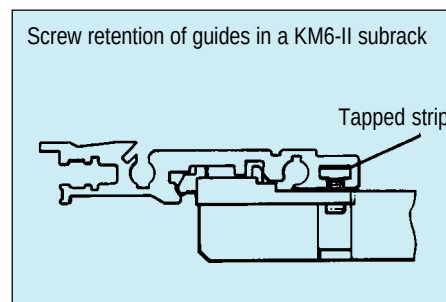
PCB GROUNDING CLIP

Ordering information

Grounding clip pk 10	950-251366F
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POSITIVE GUIDE RETENTION

All KM6-II guides, with the exception of the 2,4mm slot version, can be bolted down to a tapped strip in the front extrusion to give shock and vibration resistance. Tapped strips (supplied singly) should be selected by subrack type and width.



The screw used is M2,5x5mm cheesehead, supplied in a packet of 100.

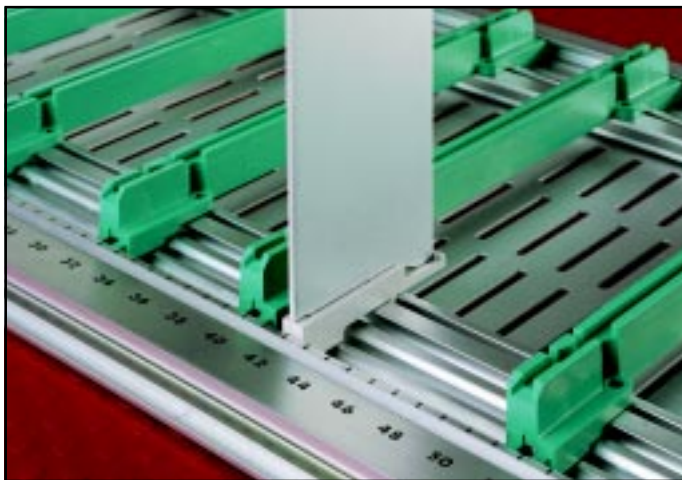
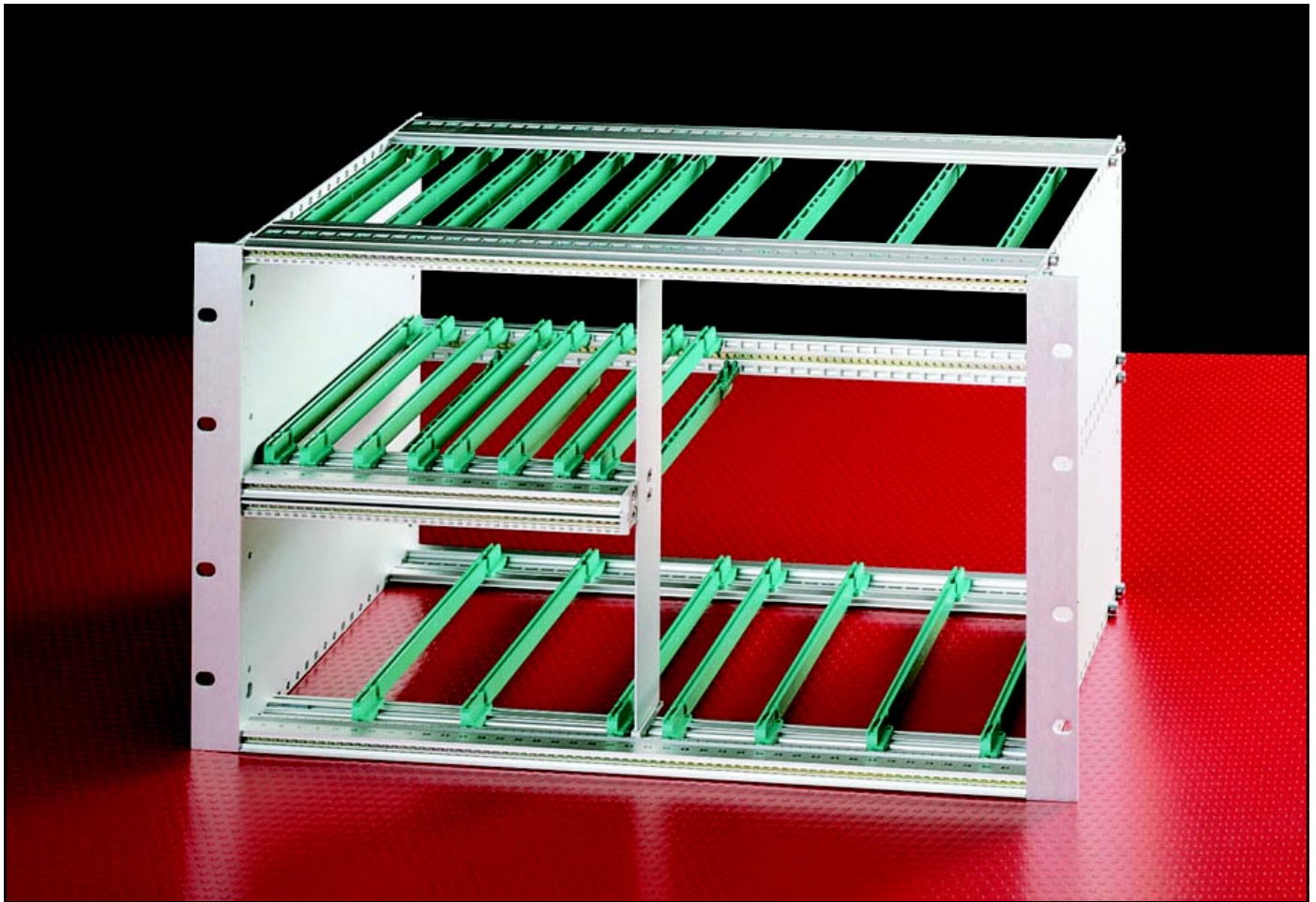
Ordering information

Security fixing screws	M2,5 x 5	173-202579H
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Ordering information

Subrack	Order code
'Standard' 42 HP	173-12706H
'Standard' 84 HP	173-12704C
Universal 24 HP	950-202799L
Universal 42 HP	950-202739G
Universal 60 HP	950-202740L
Universal 84 HP	950-202001E

For other widths and for divider kits, a suitable longer strip should be cut down to suit.



KM6-II 6U FRONT DIVIDER KITS

KM6-II, front divider kits can be fitted after assembly of the subracks.

For use with 6U subracks, these divider kits provide a useful way to mix 3U and 6U board heights within a unit.

The divider section is available in different widths from 21 HP ranged from either the left hand or right hand side.

The design of the kit is such that there is no loss of front panel space. It should be noted, however, that the divider plate restricts the use of 'C' type connectors to plug-in units of 4 HP width, or greater, at the position immediately to the left of the plate.

CONTENTS OF KIT

2 front extrusions and tapped strips
1 6U divider plate (not 84HP version)
Location mouldings (not 84 HP version)
Fixing screws

MATERIAL SPECIFICATION

Divider kit

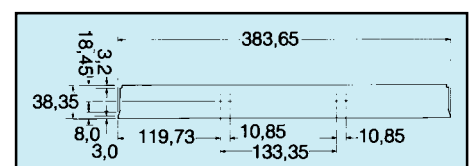
Extrusions : Aluminium alloy BS 1474HE9TF conductive finish
Divider plate : 1,6mm aluminium alloy BS 1470NS4 1/2H conductive finish
Location mouldings : Luranyl 2452/1

KM6-II 9U FRONT DIVIDER PLATE

This plate will divide a 9U subrack into 3U and 6U sections.

It should be ordered in conjunction with 6U front divider kits. (The 6U plate is discarded.)

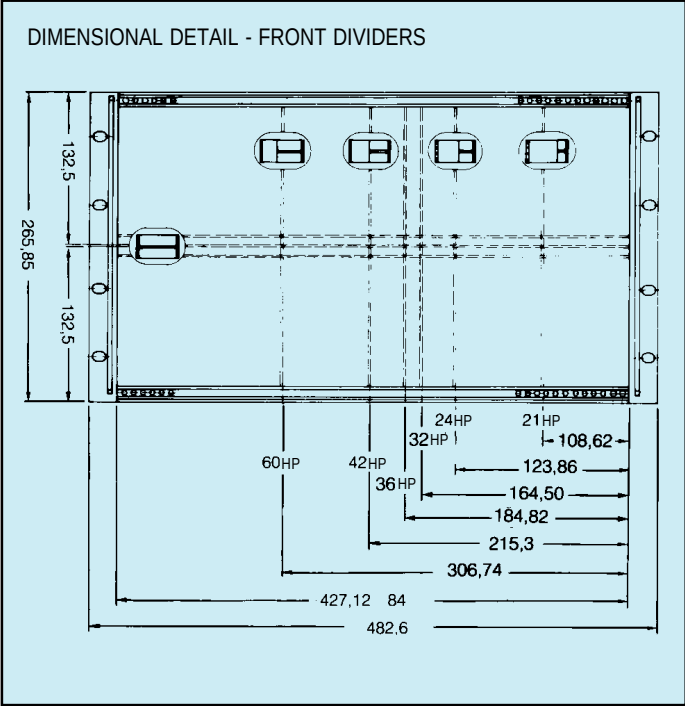
Ⓜ = Denotes minimum order quantity, please contact our sales office.



Ordering information

Description	Order code
9U divider plate	950-202622F Ⓜ

KM6-II DIVIDER KITS



Ordering information		
DIVIDER WIDTH	Order code	
	LEFT HAND	RIGHT HAND
21 HP	950-202604H	950-202609J
24 HP	950-202605F	950-202610B
36 HP	-	950-202615C
42 HP	950-202606D	950-202611L
60 HP	950-202607B	950-202612J
84 HP	950-201275F	

NB: The lipless extrusion shown on page 4.29 can be used as a divider where it is required to use 6U panels overall.

REAR DIVIDER KITS

Rear divider kits reduce the depth of a subrack locally by 60mm, thus permitting a subrack to be divided into different pcb depths (160 and 220mm for instance).

The kit contains rear tie bars, rear divider plate and assembly screws. Tapped strips are not included, but should be cut down to suit from larger ones. The tie bars are tapped in handed pairs and the counterbored end fits to the end plate.

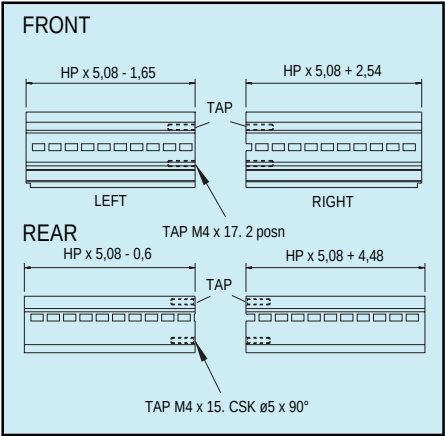
3U and 6U rear divider plates are available

The 6U version should be attached to the centre rear extrusion using a small section of tapped strip in the forward slot of that extrusion.

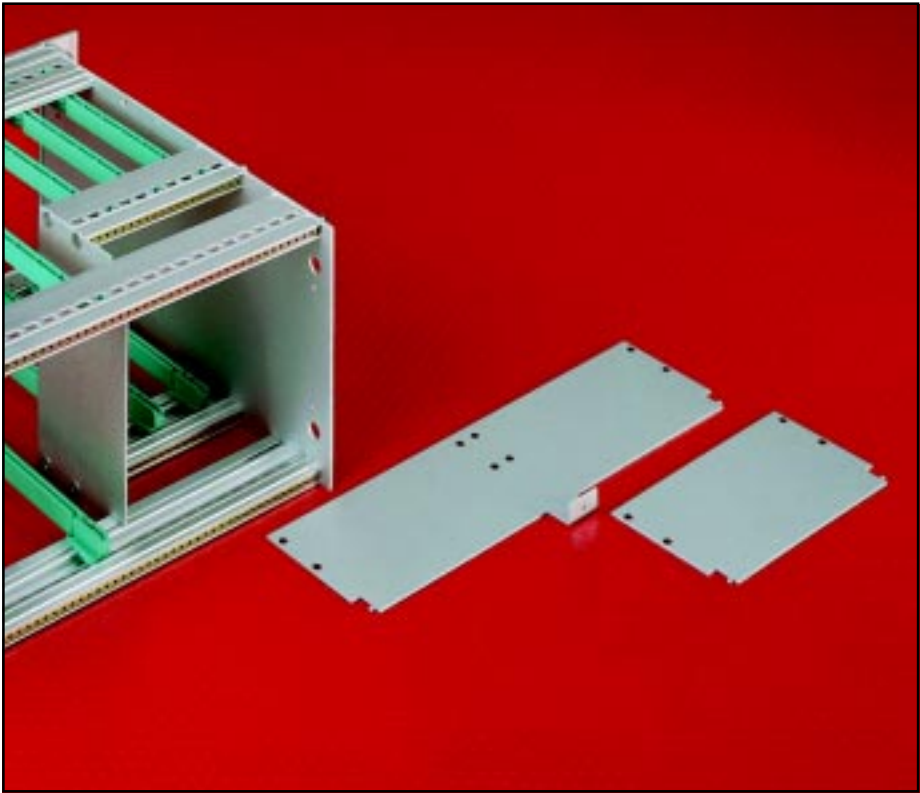
Ordering information	
Right hand	Order code
6U x 36 HP	950-203688D

NON STANDARD DIVIDER EXTRUSIONS

In order to produce other widths of divider kits, a larger, standard width should be modified as shown:



▲ DETAILS FOR NONSTANDARD DIVIDER EXTRUSIONS



KM6-II REAR DIVIDER PLATES

Rear tie bars, tapped strips and fixing screws should be ordered separately (see pages 4.30, 4.31 & 4.41).

MATERIAL SPECIFICATION

1,6mm Aluminium alloy conductive finish.

CONTENTS OF KIT

Divider plate

Fixing screws

Ordering information	
Description	Order code
3U rear divider plate	950-202623D
6U rear divider plate	950-202624B

When fitting a rear divider plate to a 6U subrack a short piece of tapped strip must be fitted to the centre rear tie bar.

PCB RETAINERS

KM6 EC COMPATIBLE

Card retainers are available in two types, normal and security. The normal retainer is positioned directly in front of the guide moulding and is operated by finger pressure as illustrated to release the PCB. The security retainer is designed for extra security in vibrative environments and is operated by a unique screw arrangement.

Once clipped in position in front of a PCB, complete security is achieved by 3 turns anti-clockwise of the retaining screw with a screw driver.

Supplied in packs of 10.

MATERIAL: Noryl (GFN/701 code 1V) black

Ordering information

Description	Order code
Normal retainer	173-13821D
Security retainer	173-24768C

PCB GUIDE NOSE

KM6 EC COMPATIBLE

- Assists location of PCBs
- Extends existing KM6 PCB guide

The guide nose fits to standard 1,6 PCB guides, extending their length to within 5mm of the inside face of a front panel. The increased length is especially useful for locating circuit boards in subracks which are above or below eye level. It also provides a purchase point for the operation of certain types of card ejector.

MATERIAL: Noryl SE1, black

Supplied in packs of 10 pairs

Ordering information

Description	Order code
PCB guide nose	173-232679H

PCB EJECTORS

KM6 EC COMPATIBLE

These are designed to aid the easy removal of printed circuit boards from subracks and case frames. To remove the card, ejectors are pushed downwards and then levered against the front extrusion. The ejectors are of a size that they can be used for easy insertion of boards and at the same time offer some protection to the components of the board.

Supplied in packs of 10 with fixing pins.

MATERIAL: Noryl SE1, green

Ordering information

Order code	173-12659F
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PCB INJECTOR/EJECTOR

PCB's fitted with multiple DIN connectors can require very high insertion and withdrawal forces. These injector/ejectors comprise levers which fit to the PCB and saddles which are retained in front of the guide.

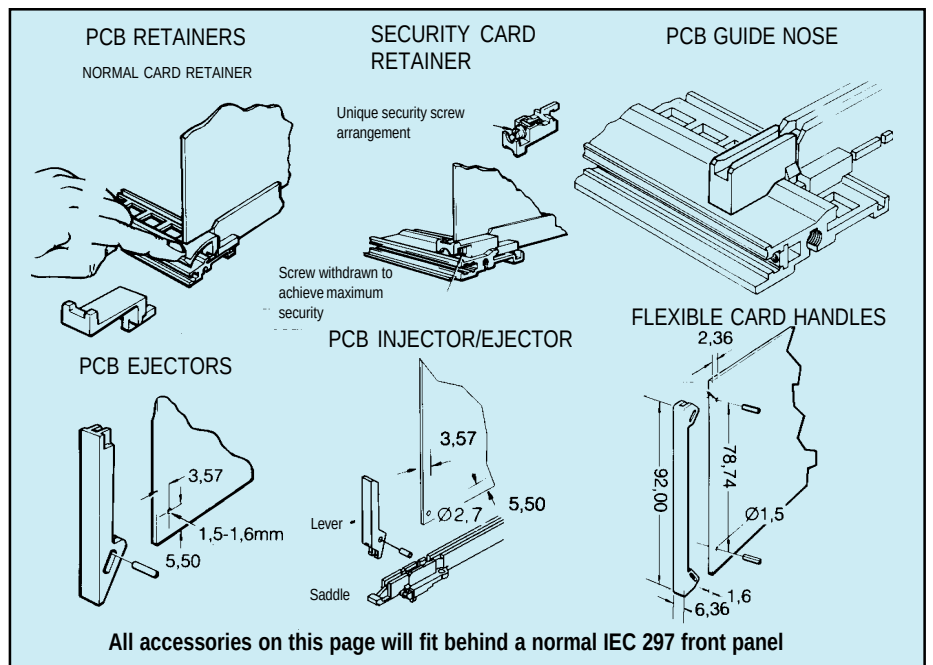
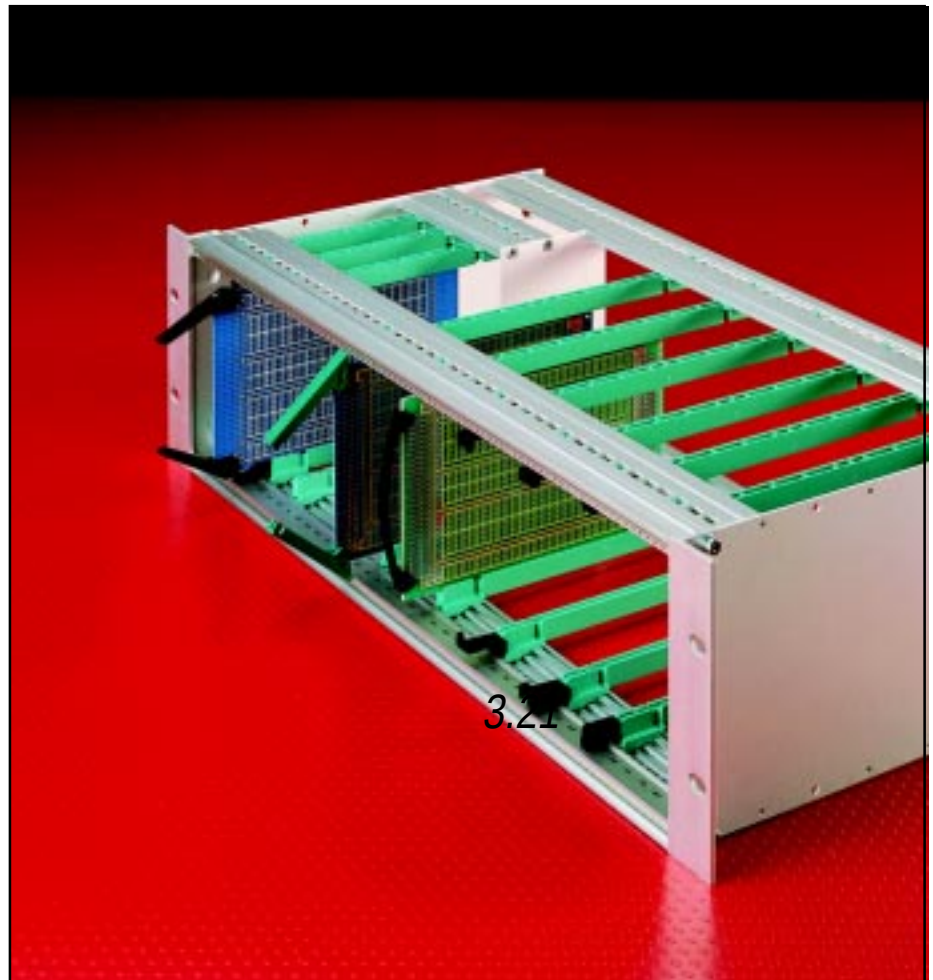
It is recommended that guides are screwed down where insertion forces are excessive. see page 4.33

Supplied in packs of 10 pairs plus fixings

Material: Glass filled nylon 66

Ordering information

Order code	950-251174D
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FLEXIBLE CARD HANDLES

KM6 EC COMPATIBLE

The design of this handle allows a positive grip for card extraction by bowing out from the board when pulled. When not in use it projects less than 2,0mm outward from the card edge, thereby being compatible with KM6 system.

Supplied as a kit comprising 10 handles and 20 tension pins.

Ordering information

Colour	Material	Order code
Natural	Nylon 66	21-1884E
Red		21-1885L
Green		21-1886F
Yellow		21-1887A
Black		21-1888G
Blue		21-1889B

DUST COVERS

TOP AND BASE COVER KITS

KM6 EC COMPATIBLE

This range of top and base covers is suitable for fitting to both Standard and Universal KM6-**I** Subracks and KM6-EC

Two depths are available suitable for protecting the guide area of 160mm or 220mm boards. The covers are available in ventilated or unventilated versions and can be fitted after the subrack has been assembled. A slot in the rear tie bar captures the cover and plastic clips secure it to the front. The cover can thus be easily removed for access.

MATERIAL SPECIFICATION

- Covers : 0,9mm aluminium alloy
BS14705251(NS4H6)
- Finish : Conductive
- Cover retaining clips : Grey ABS

CONTENTS OF KIT

- 2 covers
- 8 retaining clips

TOP AND BASE COVER KITS

Ordering information

Card depth (ventilated)	Order code
160mm	950-202625L
220mm	950-202626J
Card depth (unventilated)	Order code
160mm	950-221913K
220mm	950-221914H



▲ TOP/BASE COVERS

OTHER CONFIGURATIONS

It is possible on Universal Subracks to use the EMC covers as ordinary covers when the tie bars are set in certain configurations. Call us for details.

REAR COVER KITS

KM6-EC COMPATIBLE

Suitable for both Standard and Universal KM6-**I** Subracks, these are available in heights of 3U and 6U and are assembled to the endplates. All KM6-**I** endplates are pre-punched to accept these covers.

The rear cover adds 41mm to the overall depth of a subrack.

MATERIAL SPECIFICATION

- Cover : 0,9mm aluminium alloy
BS14705251(NS4H6)
Conductive finish

CONTENTS OF KIT

- Cover
- All fixings

REAR COVERS

Ordering information

Height	Order code
3U	950-202641B
6U	950-202642L



▲ REAR COVERS

HORIZONTAL MOUNTING MODULES

KM6 EC COMPATIBLE

This unit, fitting into a subrack like a 3U module, is actually a 6U 20 HP subrack on its side. This permits the use of normal guides, front panels, plug-in units etc. and solves the problem of housing double Eurocards in a 3U subrack, a situation which is frequently associated with modern bus systems. The horizontal mounting module offers a number of additional advantages. It can be sub-assembled separately from the main subrack, and it offers "chimney" cooling between the end plates.

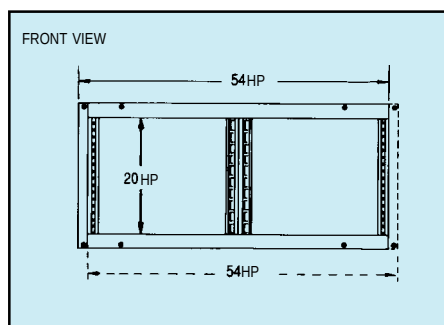
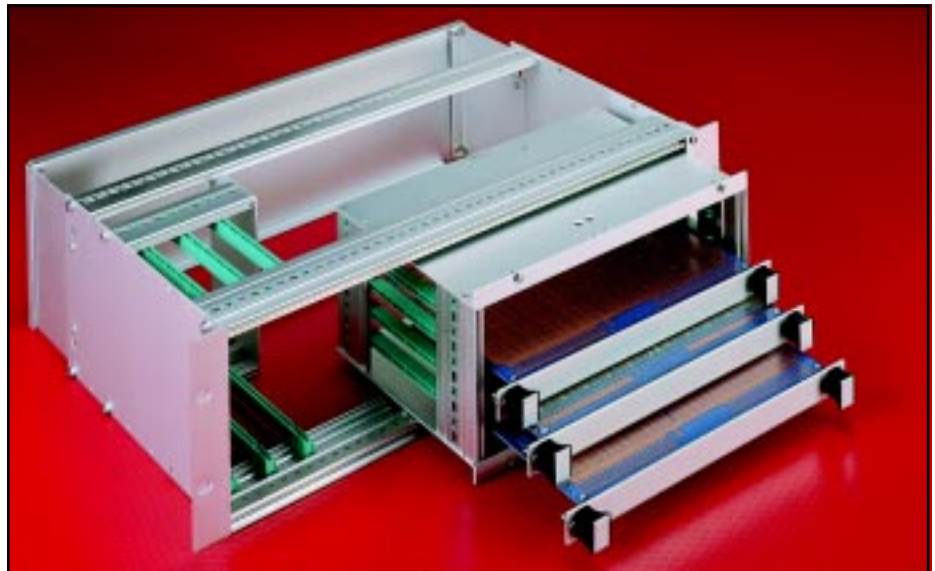
CONTENTS OF KIT

- 1 pair end plates
- 2 front tie bars
- 3 rear tie bars
- 4 insulating strips
- 6 tapped strips
- 2 trim panels
- 1 infill panel
- 1 insulating sheet
- All fixings

By fitting one or two plug-in unit guides to the main subrack the unit can be supported within it if required.

ORDER SEPARATELY

Guides, connector mounting frame, cooling module, accessories.



HORIZONTAL MOUNTING MODULES

Ordering information

Description	Order code
Horizontal module x 160mm	950-202971C
Horizontal module x 220mm	950-202972A
PCB guide 160mm (Pk10)	950-232662J
PCB guide 220mm (Pk10)	950-232663G
Plug-in unit guide 160mm (Pk10)	950-232664E
Plug-in unit guide 220mm (Pk10)	950-232665C

HORIZONTAL MOUNTING KIT

KM6-EC COMPATIBLE

As a lower cost alternative to the modules shown above, this kit comprises front and rear frames which attach to the front and rear extrusions respectively in a 3U backplane subrack or caseframe. Like the module, the unit offers 20 HP of front panel space (i.e. vertically) with an overall width, including the infill panel, of 54HP.

The front frame extrusion is anodised, the remaining components being conductively finished. Please note that this unit is KM6-1 based and requires appropriate guides.

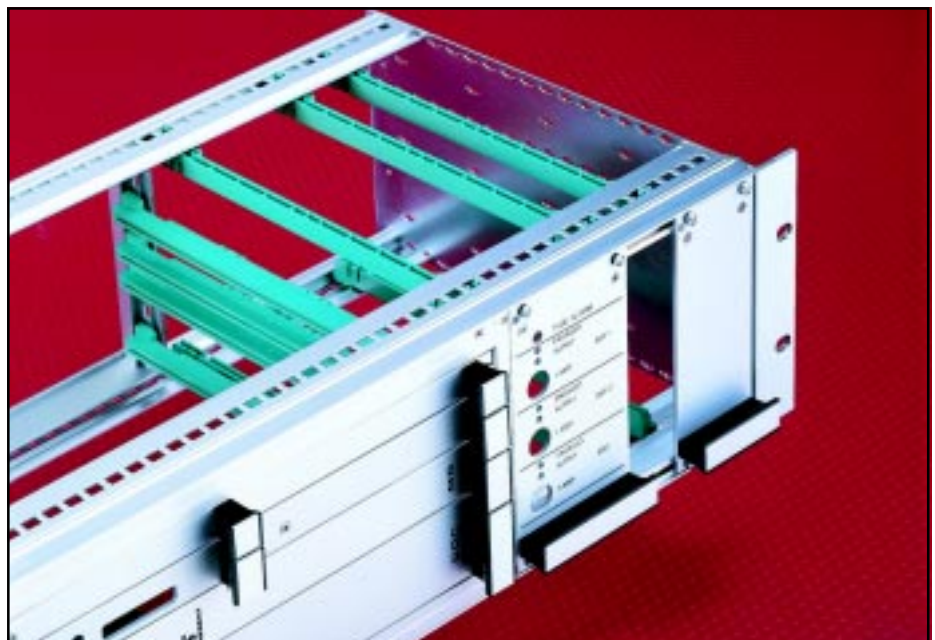
CONTENTS OF KIT:

- 2 front frame extrusions
- 2 front extrusions
- 2 rear frame extrusions
- 2 rear backplane extrusions
- 1 centre rear backplane extrusion
- 6 tapped strips
- 4 insulating backplane spacers
- All fixings

HORIZONTAL MOUNTING KIT

Ordering information

Description	Order code
Horizontal mounting kit	173-44762G
160mm PCB guide (Pk 10)	173-232674G
220mm PCB guide (Pk 10)	173-232677A



KM6-II SUBRACK ACCESSORIES

REAR HINGED CONNECTOR MOUNTING PANEL

KM6-EC COMPATIBLE

This panel kit provides a means of mounting plugs and sockets and provides space for wiring, between the rear hinged panel and the fitted backplane. Available in 3U 84HP. The side plates add 76,2mm to the endplate depth.

MATERIAL SPECIFICATION

Rear hinged connector : 1,6mm aluminium
Mtg. panel assembly : Conductive finish

CONTENTS OF KIT

Contains side plates, rear panel and all necessary fixings.

3U REAR HINGED PANEL

Panel Width		Order Code
84HP	426,72mm	950-202746K



FRAMING KIT

For applications such as the addition of an overall rear panel or where a subrack is reverse mounted on a wall or electrical panel, for instance, this kit provides an aesthetically pleasing frame. It is available in three heights, 84 HP wide.

CONTENTS OF KIT

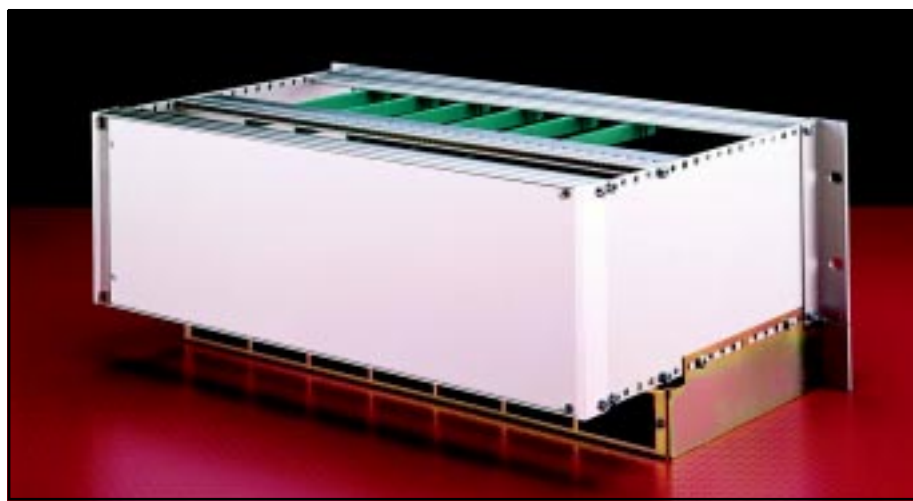
2 closing angles
2 plain extrusions
2 tapped strips
8 fixing screws

MATERIAL SPECIFICATION

Closing angles and plain : BS 1474 HE9TF
extrusions : conductive finish
Tapped strip : MS zinc and colour
passivated

Ordering information

Description	Order code
3U x 84 HP	950-222331E
6U x 84 HP	950-222332C
9U x 84 HP	950-222333A



CONNECTOR PROTECTION PLATES

KM6-EC COMPATIBLE

Suitable for 3U/6U subracks, designed to protect connector and busbar terminations, and wiring against damage. The plates bolt onto pre-drilled positions on the subrack endplates and add 30mm to the overall depth of the subrack.



MATERIAL SPECIFICATION
2,5mm aluminium BS 1470 NS4 1/2H
conductive finish.

CONTENTS OF KIT

2 plates
All fixings

Ordering information

Order code	950-202751F
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KM6-I FIXINGS

Function	Used on	Pk size	Order code
End plate to tie bar extrusions M4 x 25 skt cap screw	Subracks	100	950-202734F
Connector to mounting block screw M2,5 x 10mm	Plug-in units and front panels	100	41-20505G
Connector to rear tie bar screw M2,5 x 6mm	Subracks	100	173-12530B
Connector to cassette mounting bracket screw M2,5 x 6mm	Plug-in units	100	173-12530B
Backplane to backplane extrusion screw M2,5 x 5mm	Subracks	100	173-202579H
Connector to PCB screw M2,5 x 10mm	Plug-in units and front panel	100	41-20505G
Nut for above M2,5	As above	100	27-1319C
Handle to front panel M2,5 x 16 screw	Plug-in units and front panels	100	174-63105C
Guides to front tie bar M2,5 x 6	Subracks	100	173-12530B
Backplane to backplane extrusion M2,5 x 8	Subracks	100	41-227257E



FRONT PANELS AND PLUG-IN UNITS

OPTIONS

To meet the needs of subrack users, we offer a wide range of product conforming to IEC 297-3 DIN 41494.

Versatility is increased by the provision of separate card mounting devices, chosen to suit the user's needs.



With the exception of EMC front panels, which are vertically grained with fixed metal retaining screw inserts, most types are horizontally grained with separate inserts.



Where plastic inserts are supplied as standard, they can be replaced by a unique metal insert. This insert can be applied by hand; application of the special front panel screw provides a reliable earth continuity to the panel.

Front panels in this section are shown in various versions:

Version 1 is an EC variant which is supplied in kit form. It is manufactured from pre-anodised material. Front and rear faces are therefore anodised. The method of manufacture can produce cut edges and these would not be visible in normal use. Version 1 panels have 957 prefix. They are supplied with plastic inserts as standard which can be replaced with a metal type.

Version 2 has an anodised front face and a chromated, conductive, inner face for grounding of front panel mounted components and to conductive front panel extrusions. Version 2 is supplied in kit form with metal inserts as standard.

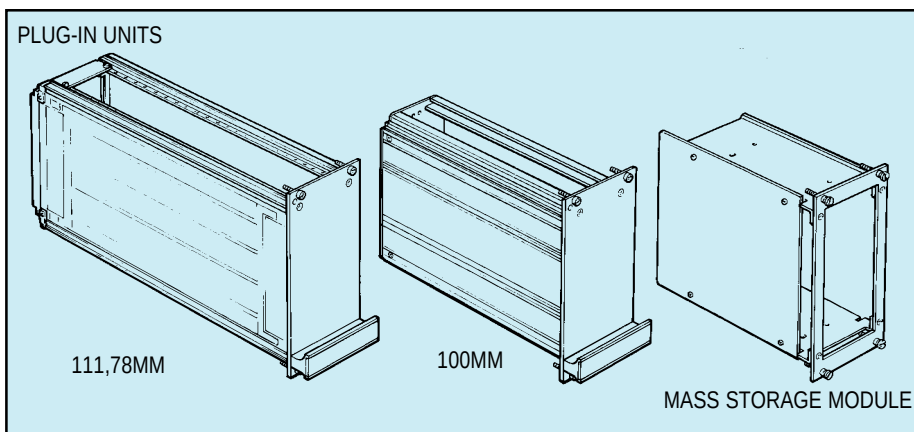
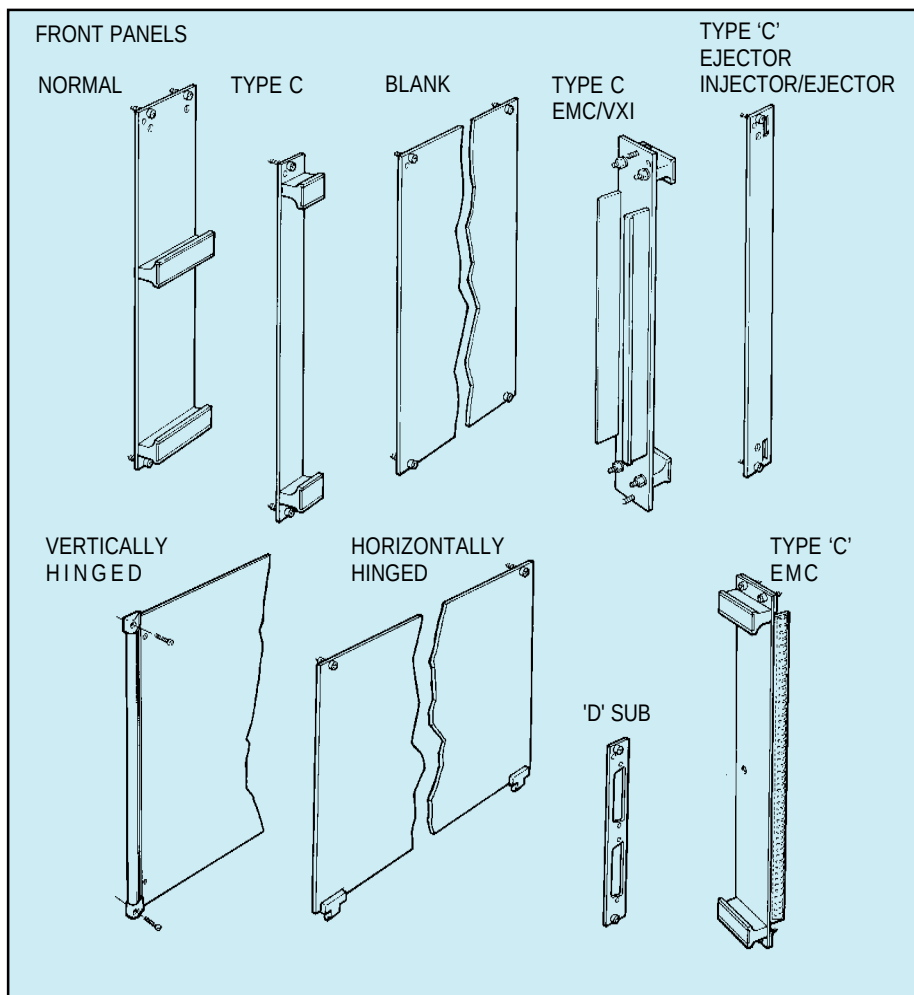
Version 2a has an anodised front face with chromated edges and rear face.

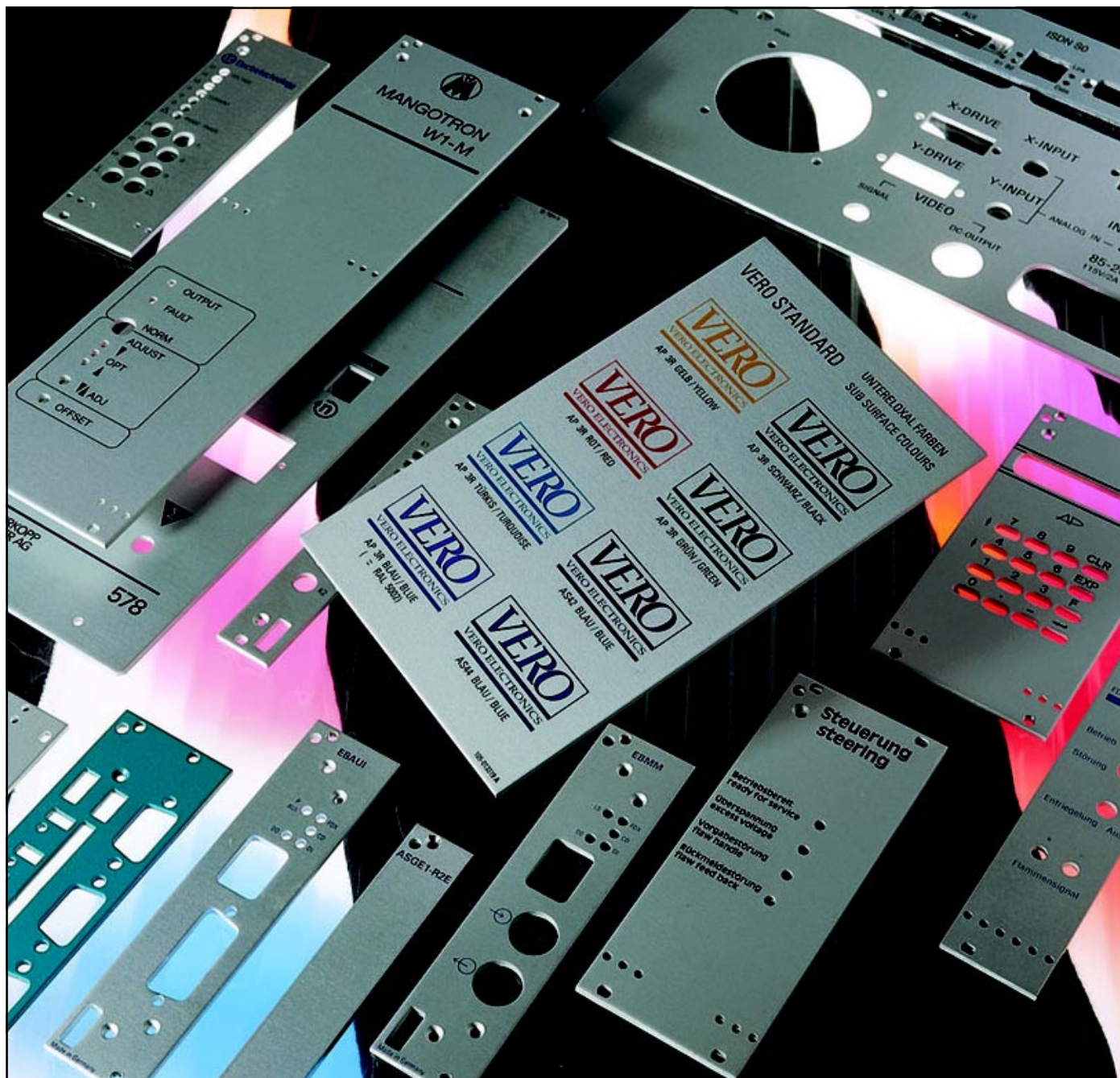
Version 3 is a decorative panel, being entirely anodised after manufacture. It is supplied in kit form with plastic inserts as standard which can be replaced with a metal type.

Versions 2 and 3 are prefixed 953.
Version 2a is prefixed 957

Bulk packing

In addition to separate kits, and subject to a minimum order quantity, we can supply front panels in a bulk packed form, ie with the various components packed together. This offers cost savings in both packing and unpacking time and in the volume of packaging materials used.





In addition to our range of standard front panels we can provide product customised to your requirements:

- Quick quotation
- Punching and milling
- Screen printing - sub surface (anodised finish only) / or normal surface type
- Finishing - anodising / chromating / painting
- Special sizes
- Kit / bulk pack / assembly
- Fast turn-round option

Our Sales Office will be happy to supply you with more information or to arrange a quotation on receipt of your requirements.

KM6-II FRONT PANELS

STANDARD TYPE 3U

KM6-EC COMPATIBLE

- Comprehensive range of widths
- Two versions
- Supplied in kit or bulk pack form
- Conform to IEC 297-3 and DIN 41494

Version 1 has anodised front and inner faces. The method of manufacture can produce two cut edges which will not be visible in normal use. Version 1 panels can be identified by their 957 prefix. Material grain is horizontal and the kit includes plastic retaining inserts as standard. These inserts can be replaced with a metal type - please see page 4.56 for details.

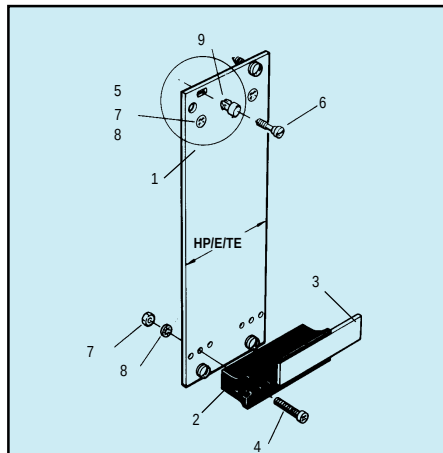
Version 2 has an anodised front face and a chromated, conductive inner face for grounding purposes. Supplied with metal retaining inserts as standard. Version 2 panels are prefixed with 953.

Bulk packing

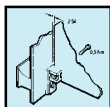
Subject to minimum quantities, we can supply front panel kits in bulk, offering savings in packaging and unpacking time. Please specify 'BULK PACK' when ordering.

CONTENTS OF KIT

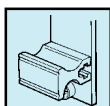
Item	Description	Material
1	Front panel	2,5mm ALMg3 ½ hd
2	Handle	Luranyl® 2452/1, black
3	Ident label	1,5mm A1Mg3 ½ hd
4	Screw M2, 5 x 16	
5	Screw M2, 5 x 7	
6	Special screw M2,5	
7	Nut M2,5	
8	Shakeproof washer M2,5	
9	Retaining insert. See Text	Assembly instructions



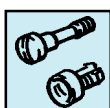
Order separately:



Card mounting brackets Page 4.52

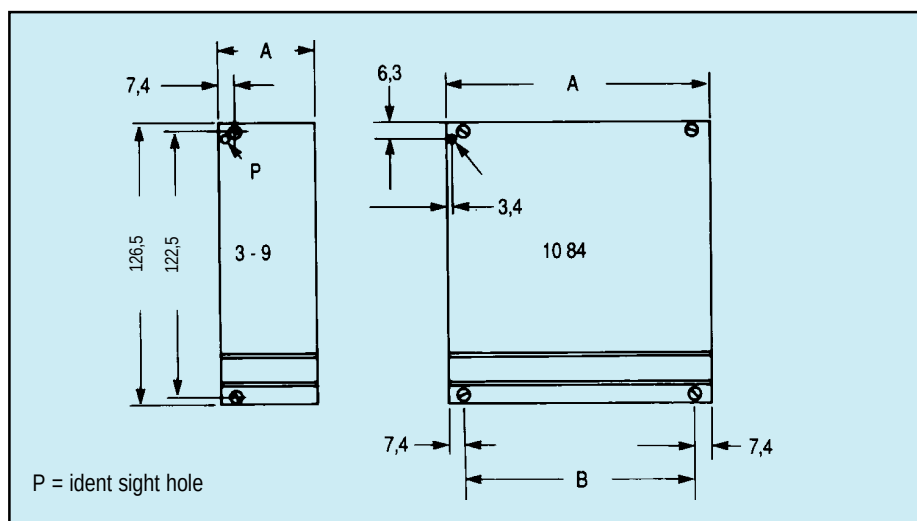


Slimline extruded handles Page 4.47



Screws, bushes Page 4.56

Ⓜ = Denotes minimum order quantity, please contact our sales office.



3U KM6-II FRONT PANELS

Ordering information

Panel width	Dim 'A'	DIM 'B'	3U	
			Order code VERSION 1	Order code VERSION 2
3 HP	14,8	-	957-235347A	953-235335G Ⓜ
4 HP	19,9	-	957-235348K	953-235336E
5 HP	25,0	-	957-235349H	953-235339K
6 HP	30,1	-	957-235351K	953-235340C
7 HP	35,2	-	957-235352H	953-235341A Ⓜ
8 HP	40,2	-	957-235353F	953-235342K
9 HP	45,3	-	957-235354D	953-235376D Ⓜ
10 HP	50,4	35,6	957-235355B	953-235343H Ⓜ
12 HP	60,6	45,7	957-235356L	953-235344F Ⓜ
14 HP	70,7	55,9	957-235357J	953-235345D Ⓜ
21 HP	106,3	91,4	957-235358G	953-235346B Ⓜ
24 HP	121,5	106,7	957-235359E	-
42 HP	213,0	198,1	957-235360J	-
84 HP	426,3	411,5	957-236065F*	-

* This item has no handles

STANDARD TYPE 6U

KM6-EC COMPATIBLE

- Comprehensive range of widths
- Two versions
- Supplied in kit or bulk pack form
- Conform to IEC 297-3 and DIN 41494

Version 1 has anodised front and inner faces. The method of manufacture can produce two cut edges which will not be visible in normal use. Version 1 panels can be identified by their 957 prefix. Material grain is horizontal and the kit includes plastic retaining inserts as standard. These inserts can be replaced with a metal type - please see page 4.56 for details.

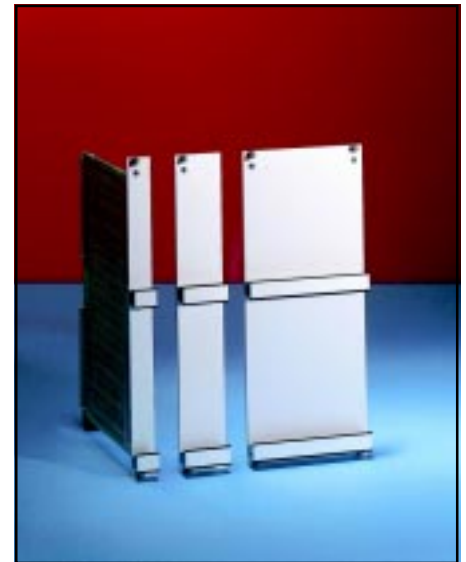
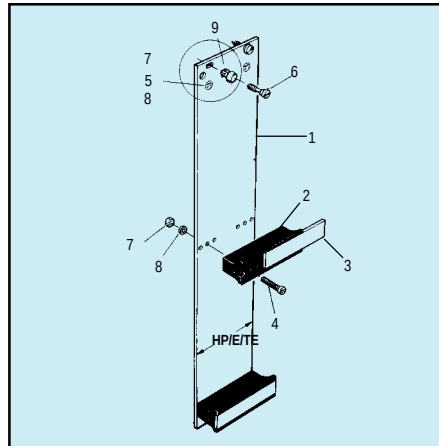
Version 2 has an anodised front face and a chromated, conductive inner face for grounding purposes. Supplied with metal retaining inserts as standard. Version 2 panels are prefixed with 953.

Bulk packing

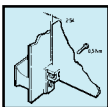
Subject to minimum quantities, we can supply front panel kits in bulk, offering savings in packaging and unpacking time. Please specify 'BULK PACK' when ordering.

CONTENTS OF KIT

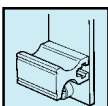
Item	Description	Material
1	Front panel	2,5mm ALMg3 ½ hd
2	Handle	Luranyl 2452/1, black
3	Ident label	1,5mm A1Mg3 ½ hd
4	Screw M2, 5 x 16	
5	Screw M2, 5 x 7	
6	Special screw M2,5	
7	Nut M2,5	
8	Shakeproof washer M2,5	
9	Retaining insert. See Text	Assembly instructions



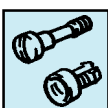
Order separately:



Card mounting brackets Page 4.52

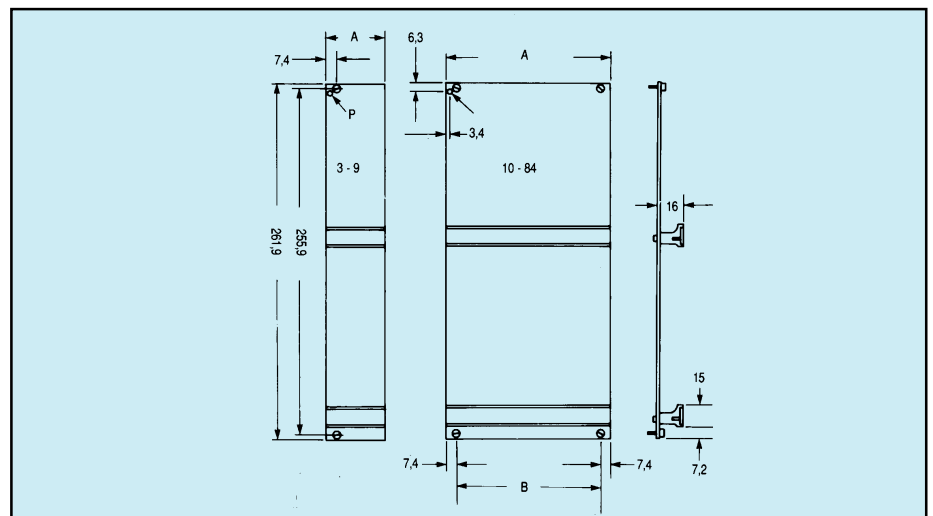


Slimline extruded handles Page 4.47



Screws, bushes Page 4.56

Ⓜ = Denotes minimum order quantity, please contact our sales office.



6U KM6-II FRONT PANELS

Ordering information

Panel width	Dim 'A'	DIM 'B'	6U	
			Order code VERSION 1	Order code VERSION 2
3 HP	14,8	-	-	-
4 HP	19,9	-	957-235459A	953-235442F Ⓜ
5 HP	25,0	-	957-235460E	-
6 HP	30,1	-	957-235461C	953-235444B Ⓜ
7 HP	35,2	-	957-235462A	-
8 HP	40,2	-	957-235463K	953-235446J Ⓜ
9 HP	45,3	-	-	-
10 HP	50,4	35,6	957-235465F	-
12 HP	60,6	45,7	957-235466D	953-235449C Ⓜ
14 HP	70,7	55,9	957-235467B	-
21 HP	106,3	91,4	-	-
24 HP	121,5	106,7	957-235469J	-
42 HP	213,0	198,1	957-235470B	-
84 HP	426,3	411,5	957-236073G	-

* This item has no handles

KM6-II FRONT PANELS

BLANK FRONT PANELS 3U

KM6-EC COMPATIBLE

- Comprehensive range of widths
- Supplied in kit or bulk pack form
- Conform to IEC 297-3 and DIN 41494

Having only the standard sight hole and retaining screw holes, these panels have no handles, leaving the total area free for the mounting of instruments, switches, meters, etc. They can also be used at the rear of a subrack for mounting plug and socket connectors.

The inner face is centre punched at the normal handle and bracket positions. (Version 3 only)

Version 1 have anodised front and inner faces. The method of manufacture can produce two cut edges which will not be visible in normal use. Version 1 panels can be identified by their 957 prefix. Material grain is horizontal and the kit includes plastic retaining inserts as standard. These inserts can be replaced with a metal type - please see page 4.56 for details.

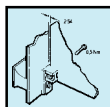
Bulk packing

Subject to minimum quantities, we can supply front panel kits in bulk, offering savings in packaging and unpacking time. Please specify 'BULK PACK' when ordering.

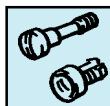
CONTENTS OF KIT

Item	Description	Material
	Front panel	2,5mmg ALMg3½hd
	Special screw	M2,5
	Retaining insert	See text

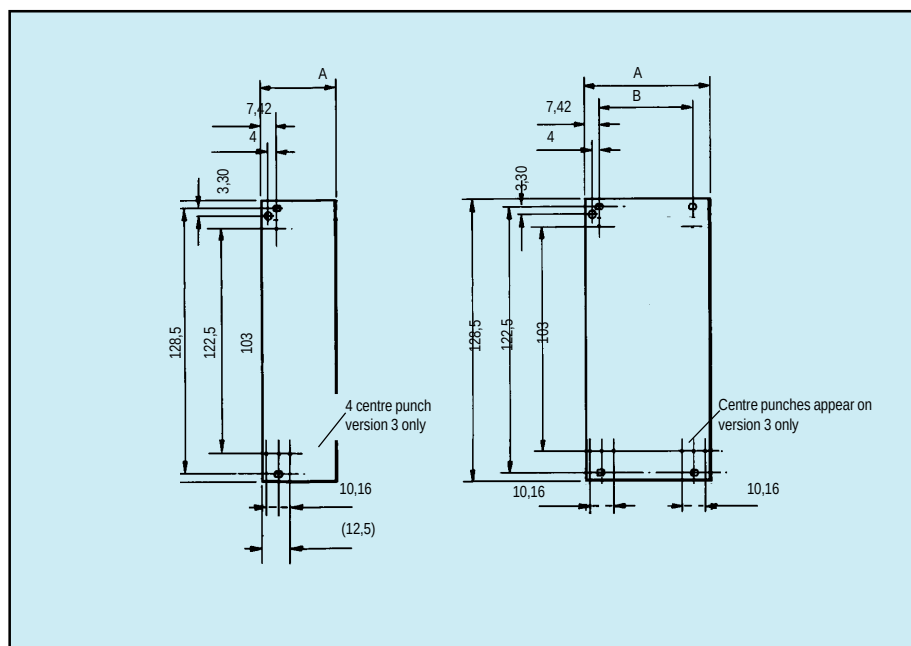
Order separately:



Card mounting brackets Page 4.52



Screws, bushes Page 4.56



Ordering information

Description	Order code
A	VERSION 1
3U/2HP 9,8	957-236038J
3U/3HP 14,84	957-236041J
3U/4HP 19,92	957-236042G
3U/5HP 25	957-236043E
3U/6HP 30,08	957-236044C
3U/7HP 35,16	957-236045A
3U/8HP 40,24	957-236046K
3U/9HP 45,32	957-236047H

Ordering information

Description	Order code
A B	VERSION 1
3U/10HP 50,4 35,56	957-236056G
3U/12HP 60,56 45,72	957-236057E
3U/14HP 70,72 55,88	957-236059A
3U/21HP 106,28 91,44	957-236061C
3U/24HP 121,52 106,68	957-236062A
3U/42HP 212,96 198,12	957-236063K
3U/60HP 304,4 289,56	957-236064H
3U/84HP 426,32 411,48	957-236065F

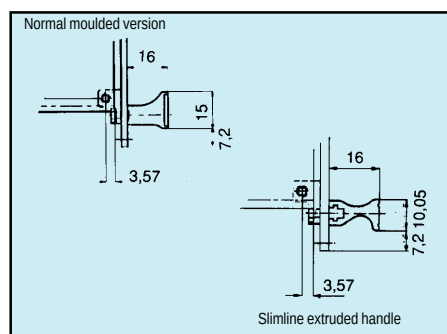
SLIMLINE EXTRUDED HANDLES

When suitably drilled, blank front panels can be fitted with this extruded handle, which is clear anodised. Alternatively, it can be used to replace the moulded plastic handle normally supplied with most of our front panel kits. Offering solvent resistance if needed, the extruded handle can also be used to free up component space.

Supplied in packs of 10 with unique fixings.

Ordering information

Panel width in HP	Order code
3	953-250838E
4	953-250839C
5	953-250840G
6	953-250841E
8	953-250842C
10	953-250843A
12	953-250844K



BLANK FRONT PANELS 6U

KM6-EC COMPATIBLE

- Comprehensive range of widths
- Supplied in kit or bulk pack form
- Conform to IEC 297-3 and DIN 41494

Having only the standard sight hole and retaining screw holes, these panels have no handles, leaving the total area free for the mounting of instruments, switches, meters, etc. They can also be used at the rear of a subrack for mounting plug and socket connectors.

The inner face is centre punched at the normal handle and bracket positions. (Version 3 only)

Version 1 have anodised front and inner faces. The method of manufacture can produce two cut edges which will not be visible in normal use. Version 1 panels can be identified by their 957 prefix. Material grain is horizontal and the kit includes plastic retaining inserts as standard. These inserts can be replaced with a metal type - please see page 4.56 for details.

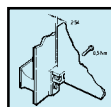
Bulk packing

Subject to minimum quantities, we can supply front panel kits in bulk, offering savings in packaging and unpacking time. Please specify 'BULK PACK' when ordering.

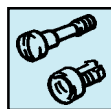
CONTENTS OF KIT

Item	Description	Material
	Front panel	2,5mmg ALMg3 ½ hd
	Special screw	M2,5
	Retaining insert	See text

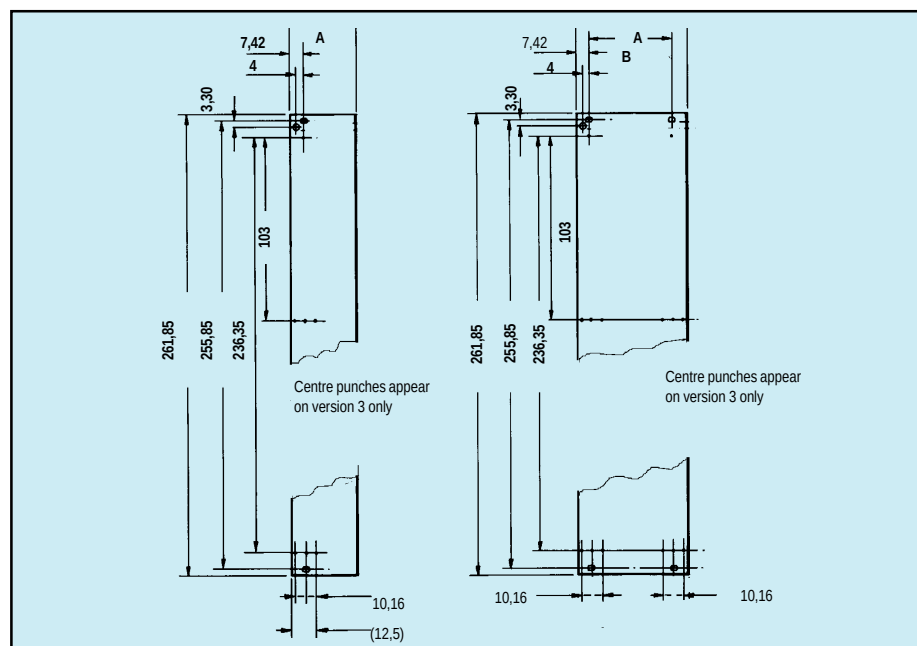
Order separately:



Card mounting brackets Page 4.52



Screws, bushes Page 4.56



Ordering information

Description	Order code
A	VERSION 1
6U/2HP	9,8
6U/3HP	14,84
6U/4HP	19,92
6U/5HP	25
6U/6HP	30,08
6U/7HP	35,16
6U/8HP	40,24
6U/9HP	45,32

Ordering information

Description	Order code
A B	VERSION 1
6U/10HP	50,4 35,56
6U/12HP	60,56 45,72
6U/14HP	70,72 55,88
6U/21HP	106,28 91,44
6U/24HP	121,52 106,68
6U/42HP	212,96 198,12
6U/60HP	304,4 289,56
6U/84HP	426,32 411,48

SLIMLINE EXTRUDED HANDLES

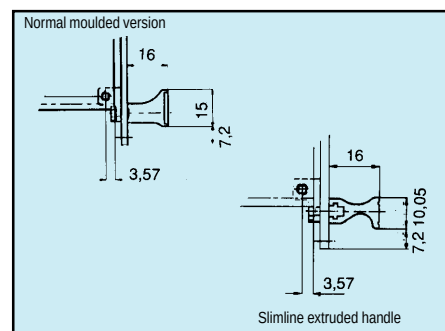
When suitably drilled, blank front panels can be fitted with this extruded handle, which is clear anodised. Alternatively, it can be used to replace the moulded plastic handle normally supplied with most of our front panel kits

Offering solvent resistance if needed, the extruded handle can also be used to free up component space.

Supplied in packs of 10 with unique fixings.

Ordering information

Panel width in HP	Order code
3	953-250838E
4	953-250839C
5	953-250840G
6	953-250841E
8	953-250842C
10	953-250843A
12	953-250844K



KM6-II FRONT PANELS

TYPE C FRONT PANEL

KM6-EC COMPATIBLE

- Handles top and bottom for maximum component space
- Easier connector disengagement
- Typical layout for VME bus plug-in units
- Centre punched positions on reverse face for additional bracket mounting

Version 1 has anodised front and inner faces. The method of manufacture can produce two cut edges which will not be visible in normal use. Version 1 panels can be identified by their 957 prefix. Material grain is horizontal and the kit includes plastic retaining inserts as standard. These inserts can be replaced with a metal type - please see page 4.56 for details.

Version 2 has an anodised front face and a chromated, conductive inner face for grounding purposes. Supplied with metal retaining inserts as standard. Version 2 panels are prefixed with 953.

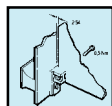
Bulk packing

Subject to minimum quantities, we can supply front panel kits in bulk, offering savings in packaging and unpacking time. Please specify 'BULK PACK' when ordering.

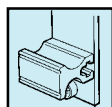
CONTENTS OF KIT

Item	Description	Material
1	Front panel	2,5mmg ALMg3 ½ hd
2	2 handles	Luranyl® 2452/1, black
3	2 ident label	1,5mmg A1Mg3 ½ hd
4	Fixings	

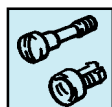
Order separately:



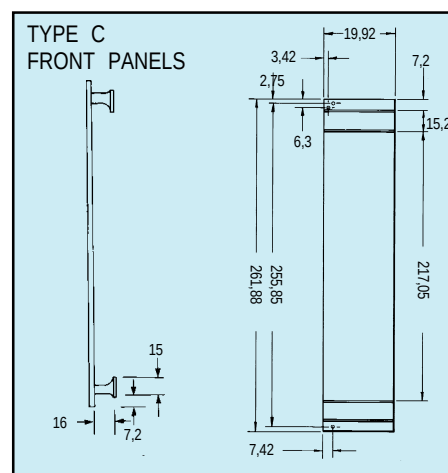
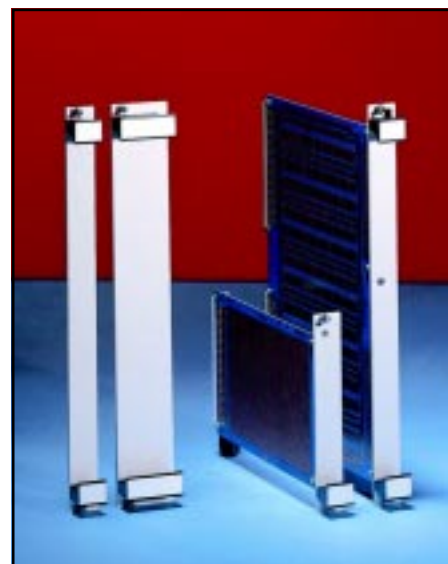
Card mounting brackets Page 4.52



Slimline extruded handles Page 4.47



Screws, bushes Page 4.56



TYPE C FRONT PANELS

Ordering information

Panel	Height width	Order code	
		VERSION 1	VERSION 2
4 HP	6U	957-244797B	953-236016G
8 HP	6U	957-244798L	953-236022A
4 HP	9U	957-244799J	953-236023K
8 HP	9U	957-244800F	-

4HP EJECTOR HANDLES AND FRONT PANELS

KM6-EC COMPATIBLE

- Easy extraction of plug-in units
- Normal KM6 front panel handle appearance
- Choice of plastic or metal card mounting brackets
- 3U, 6U and 9U x 4hp front panels available with facility for additional mounting bracket fixing

These ejector handles provide mechanical assistance for removing plug-in units with high extraction forces. The handle works by bearing on the front extrusion of IEC 297-3 subracks.

Version 1 has anodised front and inner faces. The method of manufacture can produce two cut edges which will not be visible in normal use. Version 1 panels can be identified by their 957 prefix. Material grain is horizontal and the kit includes plastic retaining inserts as standard. These inserts can be replaced with a metal type - please see page 4.56 for details.

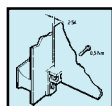
Bulk packing

Subject to minimum quantities, we can supply front panel kits in bulk, offering savings in packaging and unpacking time. Please specify 'BULK PACK' when ordering.

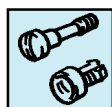
CONTENTS OF KIT

Ejector handles	
10 pairs of handles	Makrolon 9425 glass filled (UL94-VO material)
20 mounting brackets	Luranyl® 2452/1 or die cast Brass
20 hinge pins	
Fixings	
Assembly instructions	
Front panels	
Front panel	2,4mm ALMg3 ½ hd
2 handle idents	1,5mm ALMg3 ½ hd
Fixings	

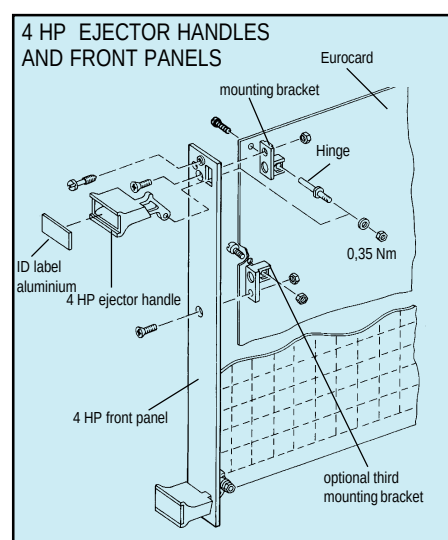
Order separately:



Card mounting brackets page 4.52



Screws, bushes Page 4.56



Ordering information

Description	Order code
Ejector handle kit with plastic brackets	173-202288H
Ejector handle kit with metal brackets	173-202287K
3U x 4 HP front panel kit VERSION 1	957-244801D
6U x 4 HP front panel kit VERSION 1	957-244802B
9U x 4 HP front panel kit VERSION 1	957-244803L
4 HP aluminium ident labels (Pk. 10)	174-39403A

FRONT PANEL INJECTOR/
EJECTOR HANDLES

- Easy insertion/withdrawal of plug-in units
- Straight push-pull action reduces stress on components soldering
- Individual or integrated operating surfaces
- Range of standard panels
- 4 HP and 6 HP variants

With the high insertion and withdrawal forces associated with high pin count connectors, it is desirable to obtain mechanical advantage.

These handles can be used with suitably modified front panels.

They offer a number of advantages over existing designs. They are available in 4 and 6 HP versions, suitable for most standard bus structures; their action, by fitting over the pcb, reduces the sideways forces that can cause damage to soldered components.

The injector/ejector handle can be used either with full width extrusions, or with individual 'saddles' that fit to the front of KM6-II pcb guides. In the latter configuration it is thus possible to address specific, individual plug-in units without contravening the front aperture specified in IEC 297-3.

6U front panels are available, ready to accept the handle and mounting brackets, in 4 HP and 6 HP widths in flat and EMC versions.

CONTENTS OF KIT

- Handle : 10 pairs, handles and brackets plus spacers and fixings
- Saddles : 10 pairs
- Front extrusion : 1 tie bar (top and bottom)
- Front panels : 1 panel plus fixing brackets

FINISHES

- Handles, brackets, saddles and flat panels : Etch and clear anodise

- Front extrusion : Conductive

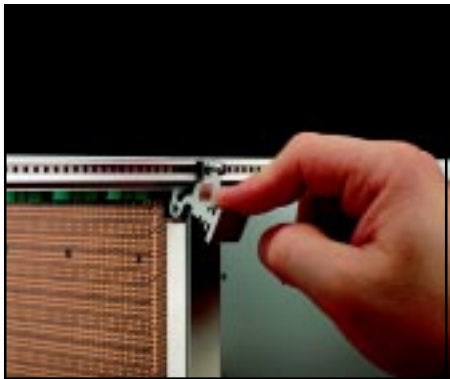
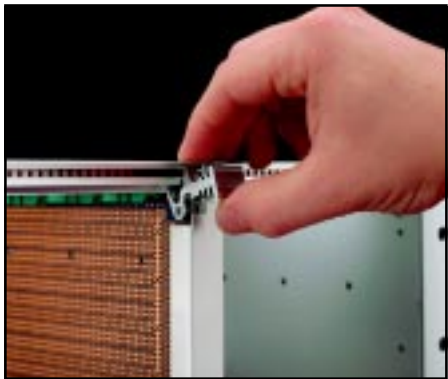
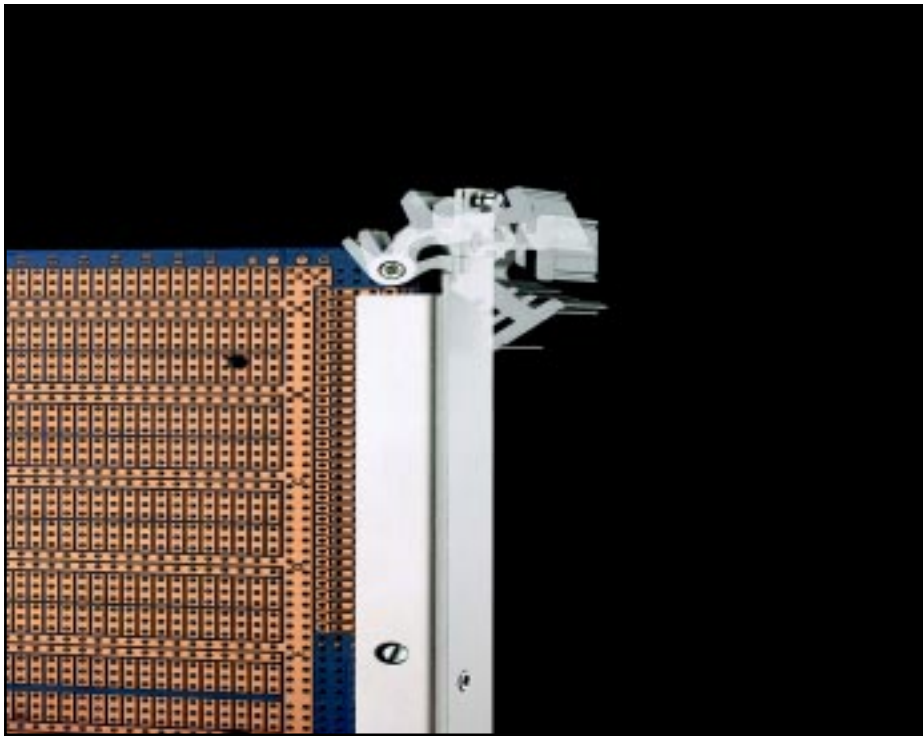
- EMC front panels : Facia panel etch and anodised, inner panel conductive, metal inserts.

MATERIAL SPECIFICATION

- Handles, saddles and front extrusion : AL alloy to BS 1474 HE9 TF

- Flat front panel : 2,5mg AL BS 1470 NS4 1/2H

- EMC front panels : Two parts from 1,2mg AL BS 1470 NS4 1/2H



Screws, bushes Page 4.56

FRONT PANEL INJECTOR/EJECTOR HANDLES

Ordering information

Description	Order code
4 HP Injector/ejector handle kit (10 prs)	951-232416E
6 HP Injector/ejector handle kit (10 prs)	951-232417C
Guide mounted saddle kit (10 prs)	951-232404A
84 HP front extrusion (top or bottom)	951-232445J
6U x 4 HP flat front panel for injector/ejector VERSION 1	957-239589A
6U x 6 HP flat front panel for injector/ejector VERSION 1	957-239590K
6U x 4 HP EMC front panel for injector/ejector	951-232371A
6U x 6 HP EMC front panel for injector/ejector	951-232372K

Note: EMC panels are vertical grain, metal inserts

KM6-II FRONT PANELS

EMC FRONT PANELS

KM6-EC COMPATIBLE

- 3U, 6U, 9U
- Various widths
- Anodised fascia
- Conforms to IEC 297-3 and DIN 41494
- Aluminium ident labels provided
- Fast, easy assembly

APPLICATIONS

Basically designed for use with KM6-II screened subracks, these front panel kits can be used in situations where front panel emission requires control. Construction is two part, with a conductive inner panel and an anodised fascia panel to avoid the fingering marks associated with conductive aluminium finishes.

Front panel grain is vertical, 6U and 9U are 'C' type. Circuit boards are mounted on separate card mounting brackets as required (see page 4.52).

Beryllium copper fingers should be ordered separately. Please see page 4.02 for 'A guide to the screening of EMC subracks'.

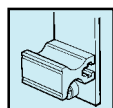
RFI finger strip (see P4.22)	930-238243F
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MATERIAL SPECIFICATION

Facia panel	: 1,2 Aluminium alloy etch and anodised
Inner panel	: 1,2 Aluminium alloy conductive finish
Handles	: Moulding Noryl SE1 black
Handle inserts	: Metal 1,5mm Aluminium

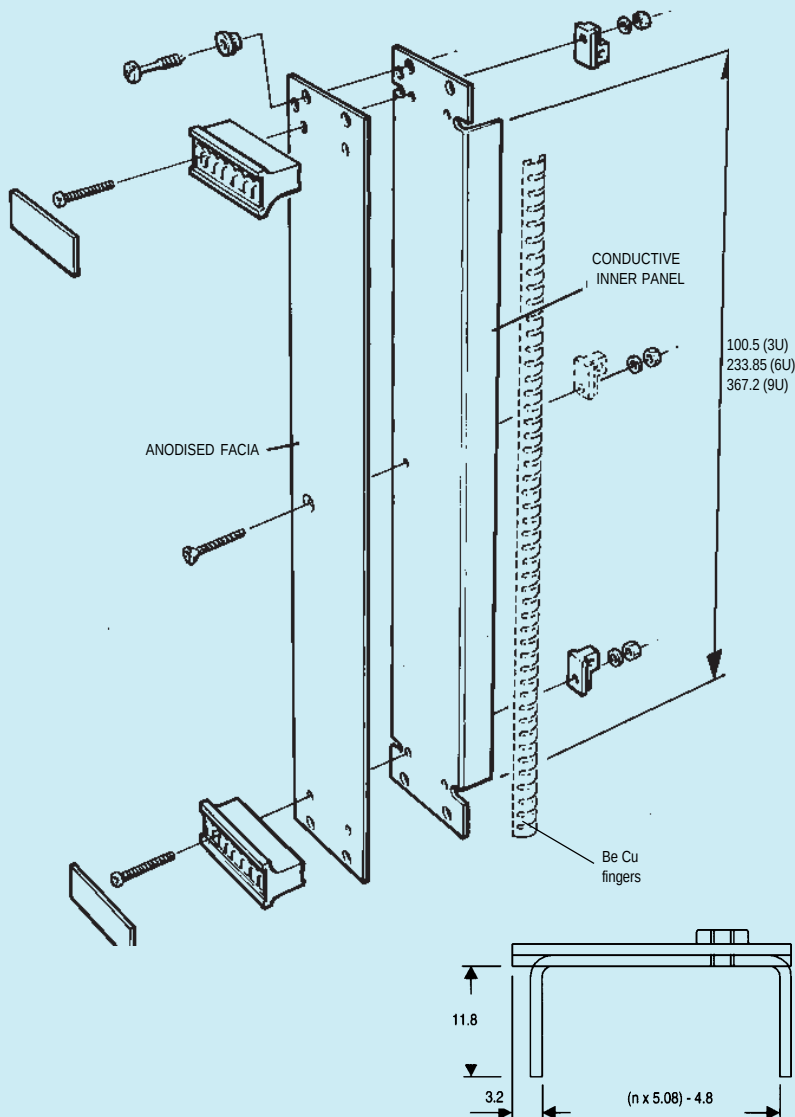
CONTENTS OF KIT

Front panel assembly
Handle(s)
Ident labels
Fixings



Slimline extruded handles Page 4.47

CONSTRUCTION



In addition to the front panels on this page, we also offer screened modules (see page 4.66) and VXI modules and front panels (page 4.70)

INDIVIDUAL EMC PANELS

Ordering information

Width	Order code		
	3U	6U	9U
4 HP	951-242963C	951-242969B	951-242975G
6 HP	951-242964A	951-242970F	-
8 HP	951-242965K	951-242971D	-
12 HP	-	951-242972B	-
16 HP	-	-	-
24 HP	951-242968D	-	-

In addition to the above individual EMC front panels, a range of larger, blank closing panels is available. See also page 4.24

Width	Order code		
	3U	6U	9U
40 HP	-	950-221649A	-
56 HP	-	950-221650E	-
84 HP	950-202694C	950-202695A	950-202696K



To ensure complete versatility, all card mounting brackets are supplied in a kit separate to the aluminium front panel. The brackets are available in various forms to suit different applications.

MATERIAL SPECIFICATION

Normal bracket	: Luranyl α 2452/1 or die cast zinc
Wire wrap bracket	: Luranyl α 2452/1
VME bracket	: Luranyl α 2452/1
Speedwire bracket	: Aluminium extrusion

N.B. Plastics are adversely affected by solvents and care should be taken to avoid contamination of plastic brackets.

NORMAL PCB MOUNTING BRACKETS

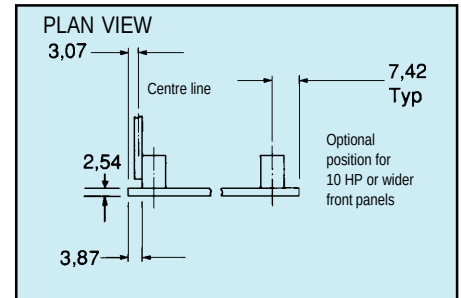
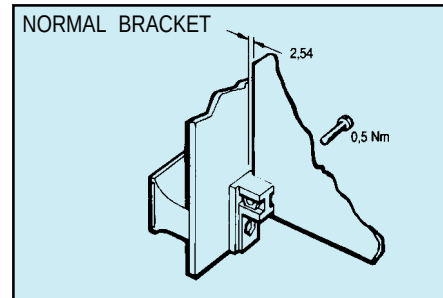
The normal PCB mounting brackets are for use where front panels are mounted into IEC/DIN subracks and caseframes and require the conventional 2,54 gap between the rear of the front panel and the PCB.

Available in two versions moulded in Noryl or die-cast.

The die cast version is now tapped in both axes, making assembly easier and quicker.

Ordering information

10 brackets (plastic) and fixings	173-232669L
10 brackets (metal) and fixings	173-253258D

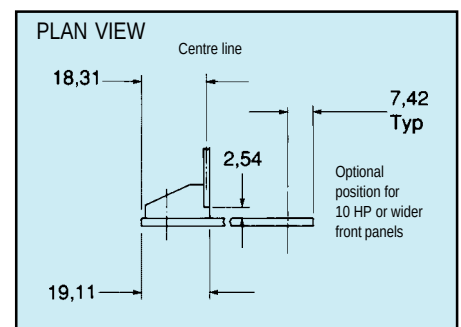
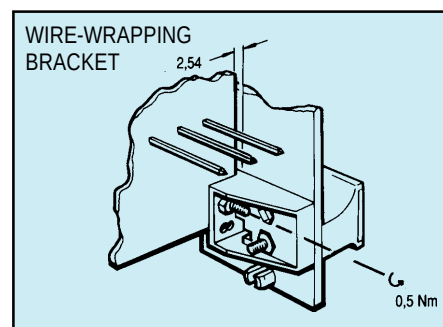


WIRE WRAP PCB MOUNTING BRACKETS

The wire wrap PCB brackets are for use where the card has to be off-set to take account of the length of the wire wrap spills on the printed circuit board. The 2,54mm spacer can be removed for use with cassette modules.

Ordering information

10 brackets and fixings	173-232670D
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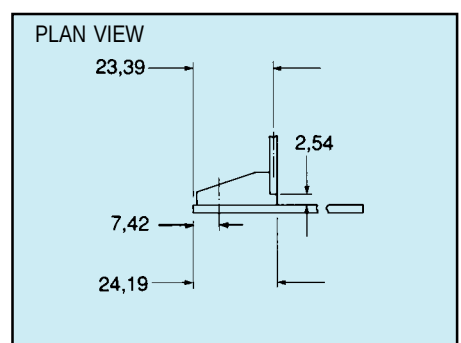
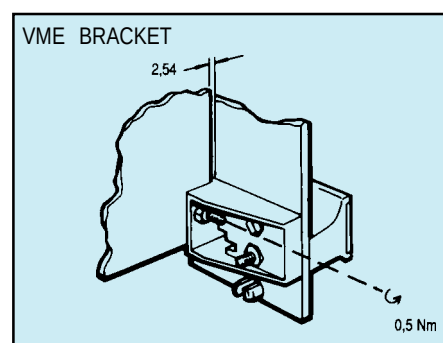


VME PCB MOUNTING BRACKETS

It is possible to use two types of PCB mounting bracket with VME PCBs. The normal PCB mounting bracket (**173-12525B**) should be used with 4 HP wide panels and the VME mounting bracket below used for 8 HP wide panels enabling wire wrap spills to be utilized and still obtaining compatibility with the committed VME backplane.

Ordering information

10 brackets and fixings	173-232671B
-------------------------	--------------------

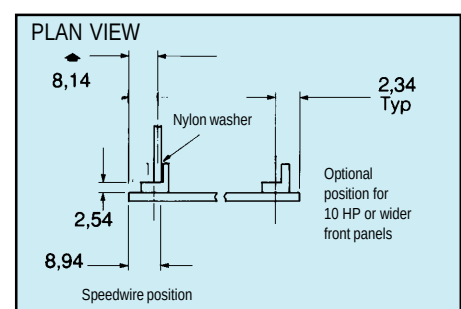
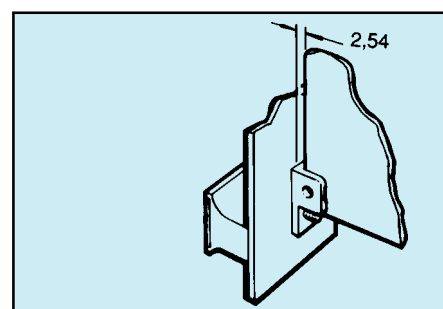


SPEEDWIRE PCB MOUNTING BRACKETS

It is necessary when using the 'Speedwire' wiring system that a small off-set is obtained to account for the height of the speedwire contact on the left hand side of the PCB.

Ordering information

10 pairs and fixings	173-232672L
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KM6-II HINGED FRONT PANELS

KM6-II HORIZONTALLY HINGED PANEL

KM6-EC COMPATIBLE

Typically used in situations where quick access is needed to equipment, but it is not desirable to remove the panel completely - eg as a socket mounting or display panel.

A range of aluminium panels is supplemented by a 3U, 84HP smoked transparent version for use where it is necessary to view instruments or indicators. Standard kits are supplied with plastic hinges. A die-cast metal hinge kit is available separately as an accessory to replace the plastic type.

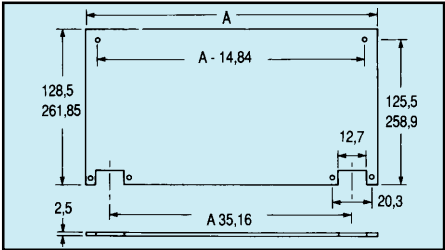
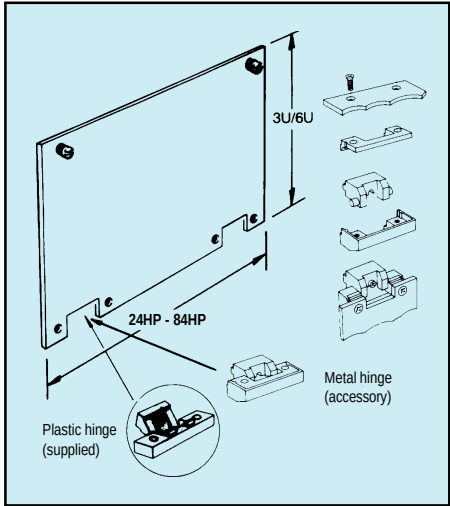
Version 1 anodised front and inner faces. The method of manufacture can produce two cut edges which will not be visible in normal use. Version 1 panels can be identified by their 957 prefix. Material grain is horizontal and the kit includes plastic retaining inserts as standard. These inserts can be replaced with a metal type - please see page 4.56 for details.

MATERIAL SPECIFICATION

- Plastic hinge : Polypropylene, black
- Die-cast hinge : Mazak, black
- Transparent panel : Lexan Polycarbonate UL 94.VO

CONTENTS OF KIT

- Hinged panel
- Two hinges and fixings
- Metal hinge kit:
Two hinge sets and fixings



HORIZONTALLY HINGED PANELS VERSION 1

Ordering information

Panel	Width A	Order code 3U	Order code 6U
24 HP	121,52	957-236180F	-
42 HP	212,96	957-236181D	-
60 HP	304,40	957-236182B	-
84 HP	426,32	957-236184J	957-236190C

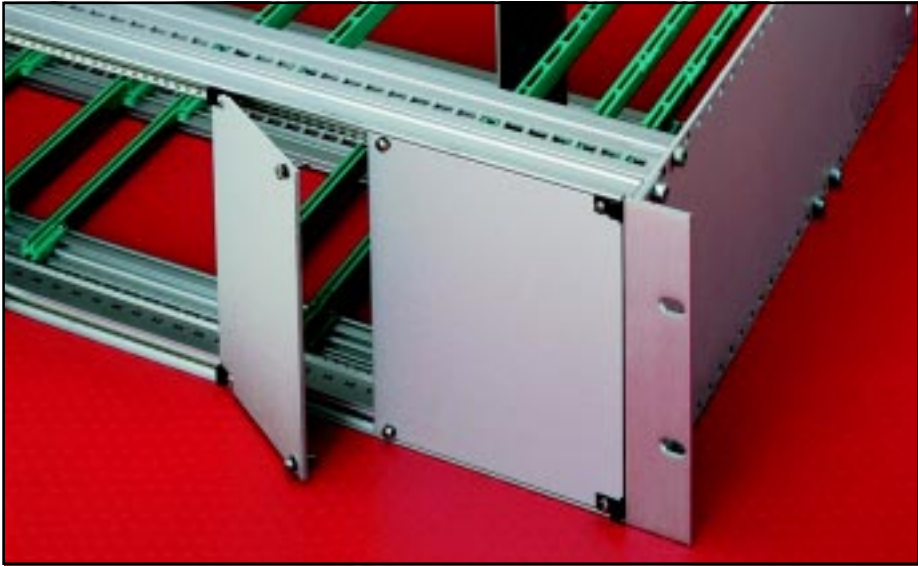
Ordering information

Description	A	Order code
Smoked transparent front panel 3U/84 HP	426,32	953-236516J

Ordering information

Metal hinge kit	174-26556C
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KM6-II HINGED FRONT PANELS



KM6-II VERTICALLY HINGED PANEL

KM6-EC COMPATIBLE

Two hinge types are available: heavy duty metal and a lighter duty, plastic type. They can be hinged right or left as required.
Both types are supplied in 3U and 6U, 84HP wide.

Version 1 anodised front and inner faces. The method of manufacture can produce two cut edges which will not be visible in normal use. Version 1 panels can be identified by their 957 prefix. Material grain is horizontal and the kit includes plastic retaining inserts as standards. These inserts can be replaced with a metal type - please see page 4.56 for details.

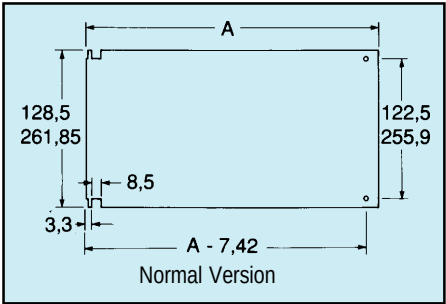
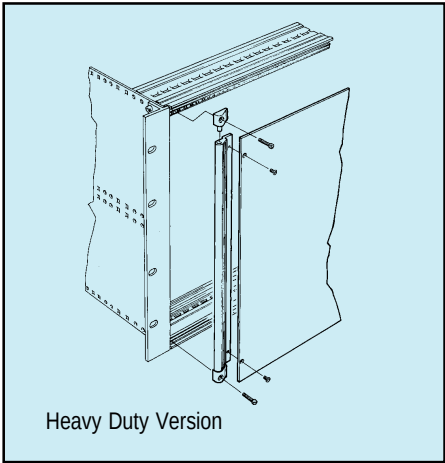
Bulk packing
Subject to minimum quantities, we can supply panel kits in bulk, offering savings in packaging and unpacking. Please specify 'BULK PACK' when ordering.

CONTENTS OF KIT

- Panel
- 1 set of hinges
- All fixings

MATERIAL SPECIFICATIONS

- Plastic Hinges : Luranyl® 2452/1 black
- Metal hinges : Diecast end bracket. extruded aluminium hinge plate



Ordering information

VERTICALLY HINGED PANEL

Description	Order code
3U x 84HP plastic hinge type	957-236121L
6U x 84HP plastic hinge type	957-236124E
3U x 84HP heavy duty hinge type	957-236125C
6U x 84HP heavy duty hinge type	957-236126A

KM6-II FRONT PANELS

25 WAY D SUB CONNECTOR MOUNTING

KM6-EC COMPATIBLE

- IEC297-3 compatible
- Various configurations
- Blanking plate available



This range of panels will fit KM6-II and similar IEC297-3 subracks. Each panel is supplied with fixing screws, inserts and a sight hole. Type 1 also includes a handle and aluminium identification label. The blanking plates can be used to fill unused apertures.

Version 2 has an anodised front face and a chromated, conductive inner face for grounding purposes. Supplied with metal retaining inserts as standard. Version 2 panels are prefixed with 953.

Order singly.

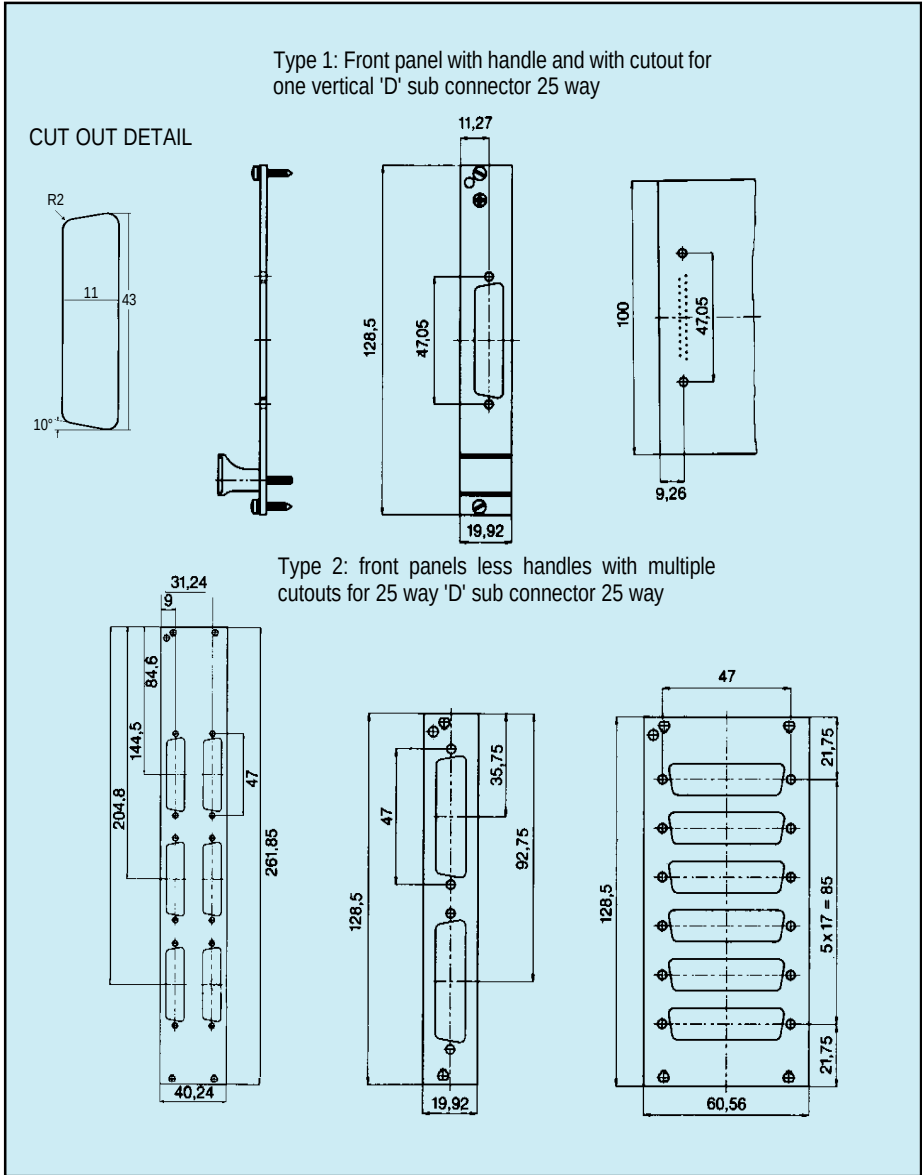
ORDER SEPARATELY

'D' Sub connector, shrouds and fixings.

ⓘ = Denotes minimum order quantity, please contact our sales office.

Bulk packing

Subject to minimum quantities, we can supply front panel kits in bulk, offering savings in packaging and unpacking time. Please specify 'BULK PACK' when ordering.

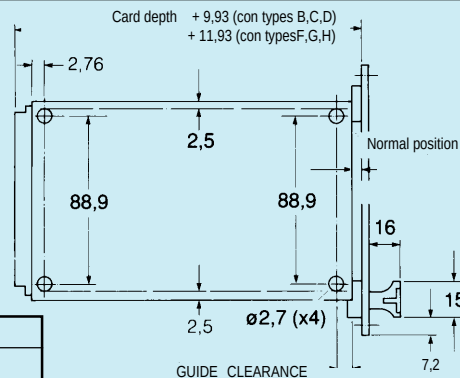
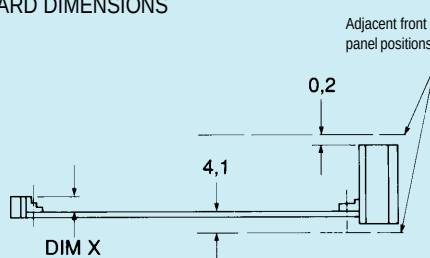


FRONT PANELS FOR 25 WAY D - SUB CONNECTOR MOUNTING

Ordering information			
Type	Height U	Width HP	Order code
1	3	4	953-236501L
2 (No handle)	3	4	953-236503G
	3	12	953-236504E
	6	8	953-236505C
Blanking plate 55 x 13mm			174-10013H ⓘ

USEFUL FRONT PANEL AND CIRCUIT BOARD DIMENSIONS

These dimensions are useful when a Eurocard is to be attached to a KM6 front panel using card mounting brackets.



Connector type (DIN 41612)	B	C	D	E	F	G	H
DIM X	7,6	9,4	9,4	14,4	11,3	16,3	11,3

PCB POLARISING DEVICE MOUNTING BRACKET

KM6-EC COMPATIBLE

This mounting bracket is designed to place the pcb in the normal IEC/DIN position as well as offering a unique polarising feature.

The device is in two parts (plug and socket), and can be fitted at the top or bottom of the pcb/front panel (or both). This item enables the user to code individual cards within a subrack or caseframe

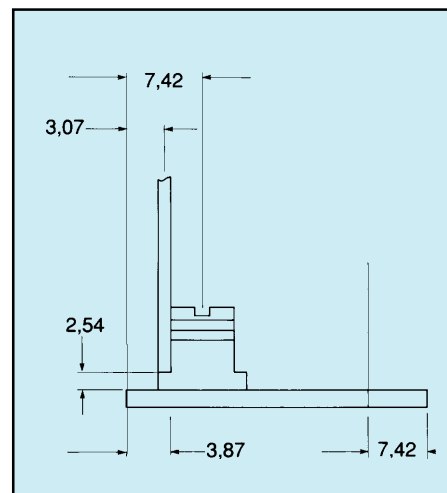
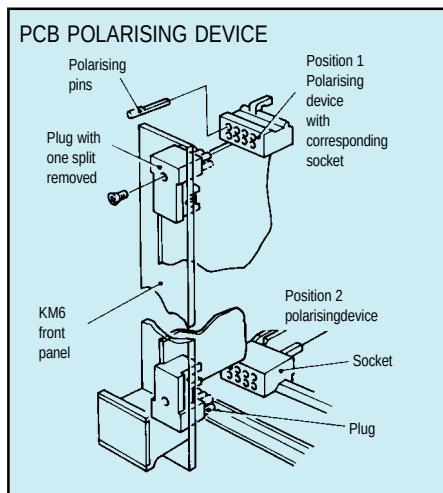
Note: Before the polarising device prevents final insertion, it is possible to partially engage the connector. It is thus not suitable for discriminating on powered up systems.

MATERIAL SPECIFICATION

Plugs and sockets : Nylon 66 black
Polarising pin : Nylon 66 black

CONTENTS OF KIT

1 top socket 2 plugs
1 bottom socket 4 polarising plugs



Ordering information

Polarising mounting bracket	173-24169H
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FIXINGS

Ordering information

Location	Size	Order code	Pack size
Front panel to subrack, Normal	M2,5 x 11*	953-236510K	100
Front panel to subrack, Knurled thumb screw	M2,5 x 11*	953-236512F	100
Plastic bush	for M2,5	953-236507K	100
Metal clip-in bush	for M2,5	953-236506A	100
DIN 41612 connector to PCB	M2,5 x 10 DIN 84	41-20505G	100
DIN 41617 connector to rear tie bar	M2,5 x 6 DIN 84	173-12530B	100
DIN 41617 connector	M2,5 x 8 DIN 84	41-227257E	100
Backplane /motherboard to rear tie bar			
DIN 41617 connector to PCB			
Card to card mounting bracket			
Handle to front panel	M2,5 x 16 special DIN 7985	174-63105C	100
Front panel to module guide rail	M2,5 x 12 DIN 965 countersunk	174-229768E	100
Nut	M2,5	27-1319C	100
Slide nut for front extrusion types	M2,5	124-30499B	10

*Projects behind front panel by approx 7,5mm in normal use.

KM6-II PLUG-IN UNITS

100MM PLUG-IN UNIT (2 RAIL)

KM6-EC COMPATIBLE

- 3U x 160 deep
- 6, 7, 8 and 10hp kits
- Low component count
- Easy assembly
- Strong construction
- Accepts single Eurocards with DIN 41612 connector
- Fits to two pcb guides 950.232662J (Pk 10)

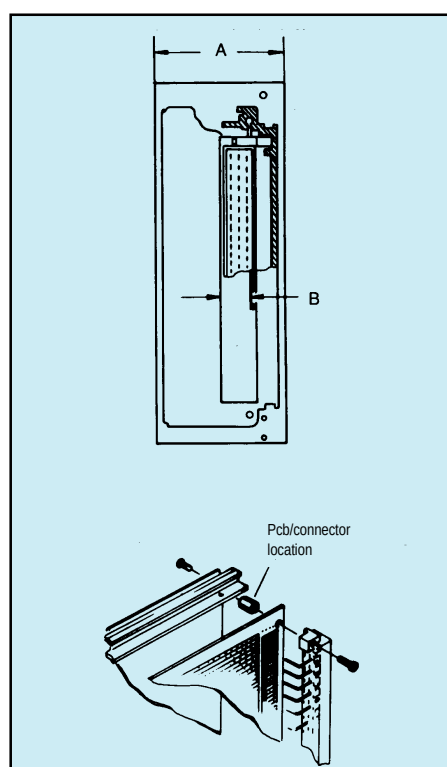
Pcb/connector assemblies attach to the side extrusion via spacers.

Contents of kit:

Front panel
Handle and ident strip
Extruded left side panel
Wrap around right side panel
Fixings

Order separately

Pcb/ connector spacer (metal or plastic)



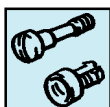
PCB/CONNECTOR LOCATION

CONTENTS OF KIT

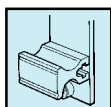
10 Spacers
10 M2,5 x 5 screws

Ordering information

Description	Order code
Metal (Pkt 10)	174-10046J
Plastic (Pkt 10)	174-10047F



Screws, bushes Page 4.56

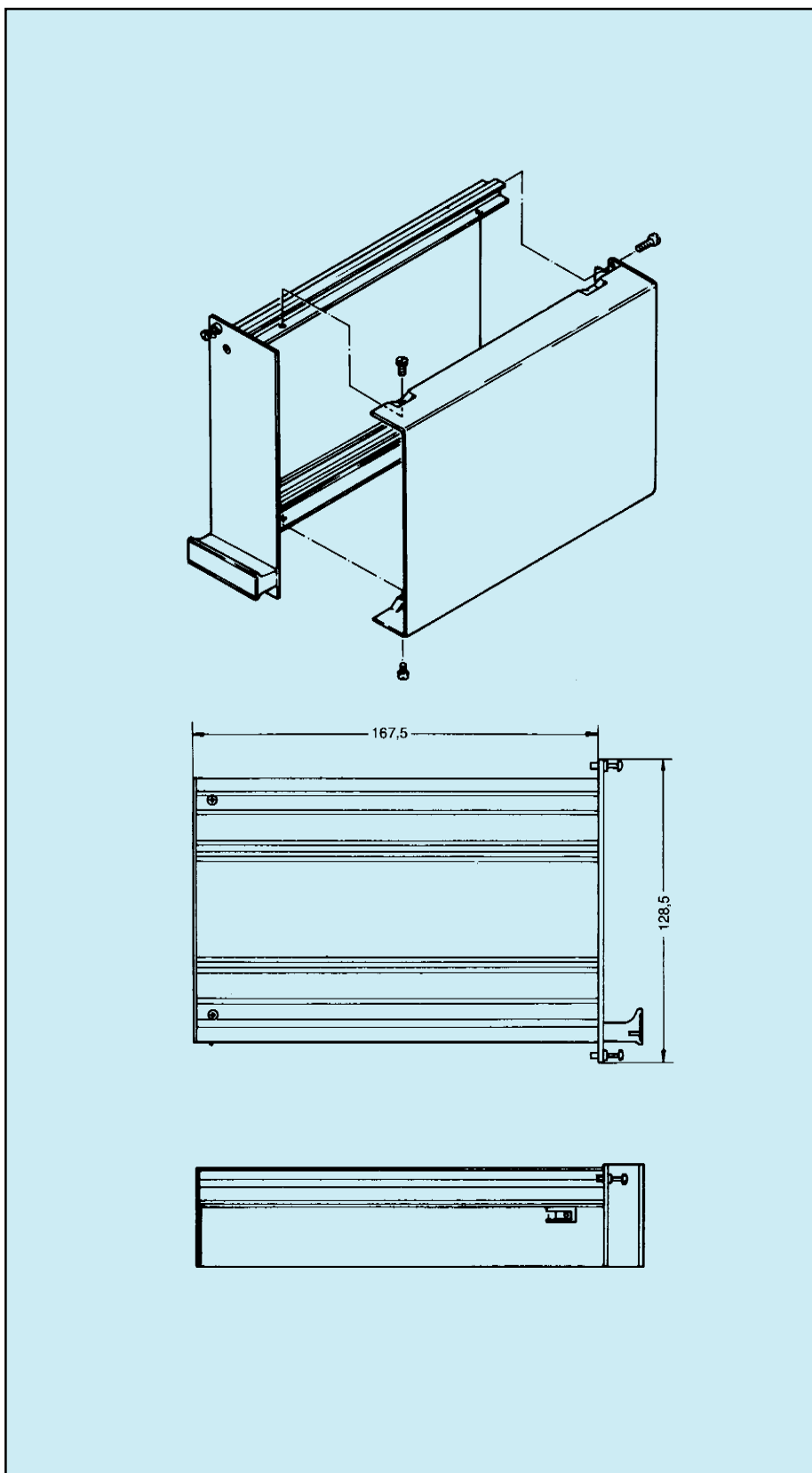


Slimline extruded handles Page 4.47

100mm PLUG-IN UNIT (2 rail) VERSION 1

Ordering information

Description	Height	Width	DIM 'B'	Order code	Max. A	Connector type
2 rail Module 100mm Horizontal grain Plastic insert Anodised	3U	6 HP	30,08	957-235956J	10,0	B, C, D
		7 HP	35,16	957-235957G	12,0	B, C, D, F, H
		8 HP	40,24	957-235959C	12,0	B, C, D, F, H
		10 HP	50,40	957-235961E	12,0	B, C, D, F, H



100MM PLUG-IN UNIT (4 RAIL)

KM6-EC COMPATIBLE

- 3U x 160 deep
- 12,14,21,24 and 42hp kits
- Low component count
- Easy assembly
- Strong construction
- Accept single Eurocards with DIN 41612 connector
- Accessories for fitting additional internal Eurocards
- Fits to four pcb guides **950-232662J** (Pk 10)

Top and bottom covers are available in two versions: flat, ventilated; formed, with ventilation and location holes for internal guides. The flat types slide between the two side extrusions, requiring no additional fixings. The formed type is used where it is required to fit internal guides to carry single Eurocards at positions other than in the side extrusion. In this instance, the circuit board is fixed to the rear panel via mounting brackets. Single Eurocard/DIN41612 connector assemblies fitted in the side extrusion use plastic or metal location spacers, ordered separately.

Contents of kit:

Front panel
Handle and ident strip
2 extruded side panels
Rear panel
Fixings

Order separately

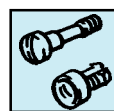
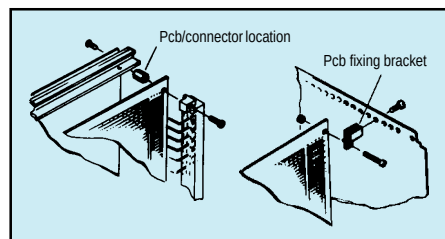
Pcb/ connector spacer (metal or plastic)
Top/bottom covers
Pcb fixing bracket

A - Module

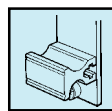
B- Flat ventilated cover (Pk 2)

C -Formed fixed cover (Pk 2 plus fixings)

D - Internal guide (Pk 10)



Screws, bushes Page 4.56



Slimline extruded handles Page 4.47

Ⓜ = Denotes minimum order quantity, please contact our sales office.

100mm PLUG-IN UNIT (4 rail) VERSION 1

Ordering information

Description	Width	DIM 'B'	A	B	C
Module 4 rail			Order code	Order code	Order code
Height 3U	12 HP	60,56	957-235946A	174-10031F	-
Guide 100mm	14 HP	70,72	957-235947K	174-10032C	174-10037K Ⓜ
Horizontal grain	21 HP	106,28	957-235948H	174-10033L	174-10038G Ⓜ
Plastic insert	24 HP	121,52	957-235949F	174-10034H Ⓜ	174-10039D Ⓜ
Anodised	42 HP	212,96	957-235950K	174-10035E Ⓜ	174-10040E Ⓜ

PCB/CONNECTOR FIXINGS

Ordering information

Description	Material	Order code
Pcb/connector fixing (Pkt 10)	Steel	174-10046J
Pcb/connector fixing (Pkt 10)	Plastic	174-10047F
Pcb fixing bracket (Pkt 10)	Aluminium	174-10048C Ⓜ
'Z' bracket (Pkt 10)	Steel	174-10049L Ⓜ
Internal guide (Pkt 10)	Makrolon	174-13014J

KM6-II PLUG-IN UNITS

100MM CASSETTE MODULE (4 RAIL)

KM6-EC COMPATIBLE

Available in 42 HP width this cassette module is 3U high x 160 deep, fitting into four standard card guides. **950-232662J**. guides are supplied in Pks of 10. Cassette modules are designed to house a separately configured set of single Eurocards in such a way that they can be withdrawn from a subrack as a sub-assembly.

The basic module is supplied as a kit comprising two side extrusions, a steel rear panel, and aluminium top and bottom covers.

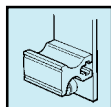
Front panels are ordered separately. Two options are available: an overall panel kit including handle and ident labels, or a kit comprising one 4HP and one 5HP panel plus handles and idents.

Single Eurocards can be fitted to the side extrusion by means of metal or plastic spacers or to internal guides fitted to the top and bottom covers. In the latter instance, the pcb/connector is retained in position by means of mounting brackets.

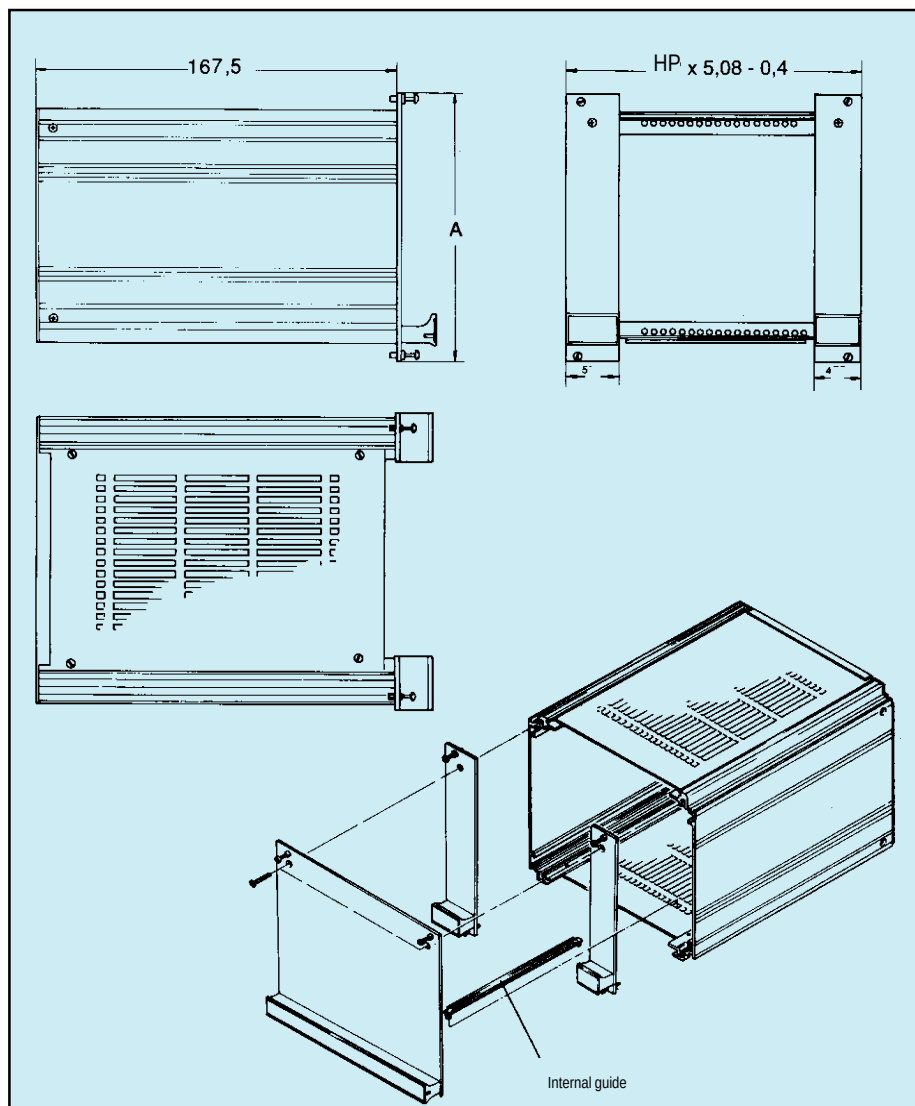
An additional 'Z' bracket enables the user to fix a female connector to the rear panel in such a way as to align it with the normal mounting geometry of the subrack. This permits the internal pcb/connector assembly to be removed separately if required.



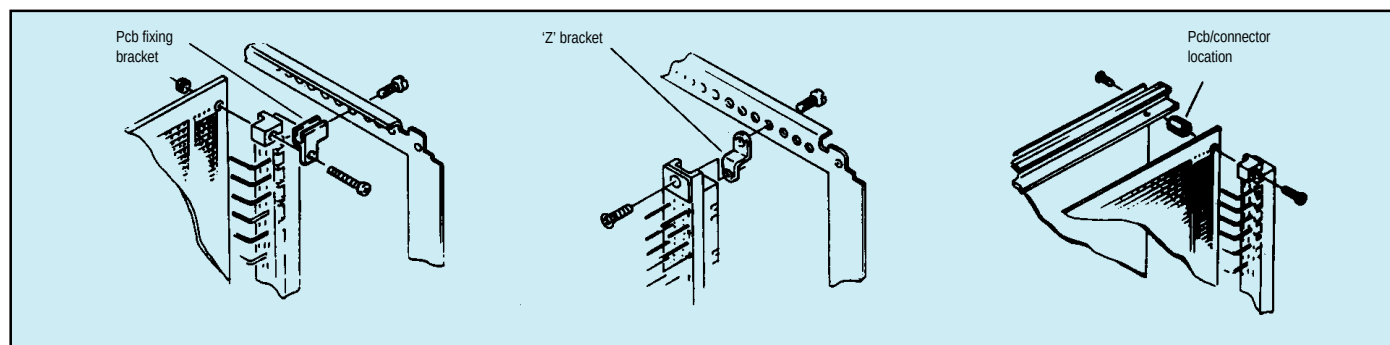
Screws, bushes Page 4.56



Slimline extruded handles Page 4.47



M = Denotes minimum order quantity, please contact our sales office.



3U CASSETTE MODULE VERSION1

Ordering information

Description	Width	Basic kit, no front panels	Overall front panel kit	4 & 5 HP panel kit
Module 100mm 4 rails Horizontal grain, Plastic insert, Anodised	42 HP	174-10020B	957-235942J	957-235941H

Ordering information

Description	Material	Order code
Pcb/connector location (Pkt 10)	Steel	174-10046J
Pcb/connector location (Pkt 10)	Plastic	174-10047F
Pcb fixing bracket (Pkt 10)	Aluminium	174-10048C M
'Z' bracket (Pkt 10)	Steel	174-10049L M
Internal guide (Pkt 10)	Makrolon	174-13014J

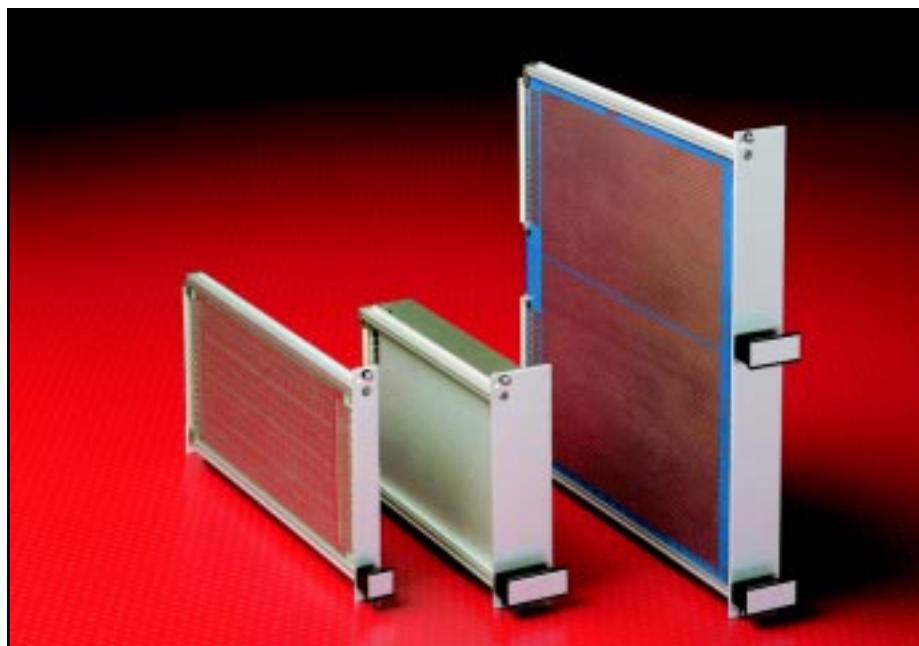
KM6-II 2 RAIL PLUG-IN UNITS FOR 111,8MM HEIGHT GUIDES

KM6-II 2 RAIL PLUG-IN UNITS FOR 111,8MM HEIGHT GUIDES

FEATURES

- Maximum volume
- Alternative PCB positions
- PCB and connector easily removed, no disassembly required
- 3 HP to 9 HP, 160mm or 220mm deep
- Standard front panel with horizontal grain and plastic insert
- Aluminium identification labels
- Easy and fast assembly
- Supplied packed flat
- No adjustment required

Compatible with all KM6-II, KM6-EC, KM7-II and DIPLOMAT subracks and enclosures

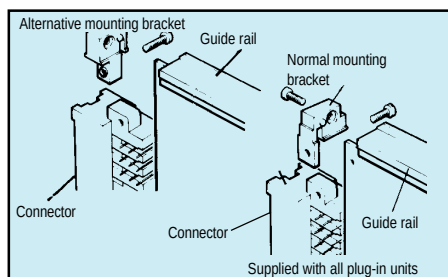


Depth	Dim D	Dim E
160	142,24	7,6
220	203,2	7,15

Connector Type	DIM X
B	7,6
C,D	9,4
E	14,4
F,H	11,3
G	16,3

ALTERNATIVE MOUNTING BRACKETS FOR CONNECTORS

When the alternative card position is employed (without screening) alternative mounting brackets for the connectors should be ordered. Normal mounting brackets are supplied with all 2 and 4 rail plug-in units. Additional normal mounting brackets are available in packs of 10.



MATERIAL SPECIFICATION

Mounting brackets: Mazak 3

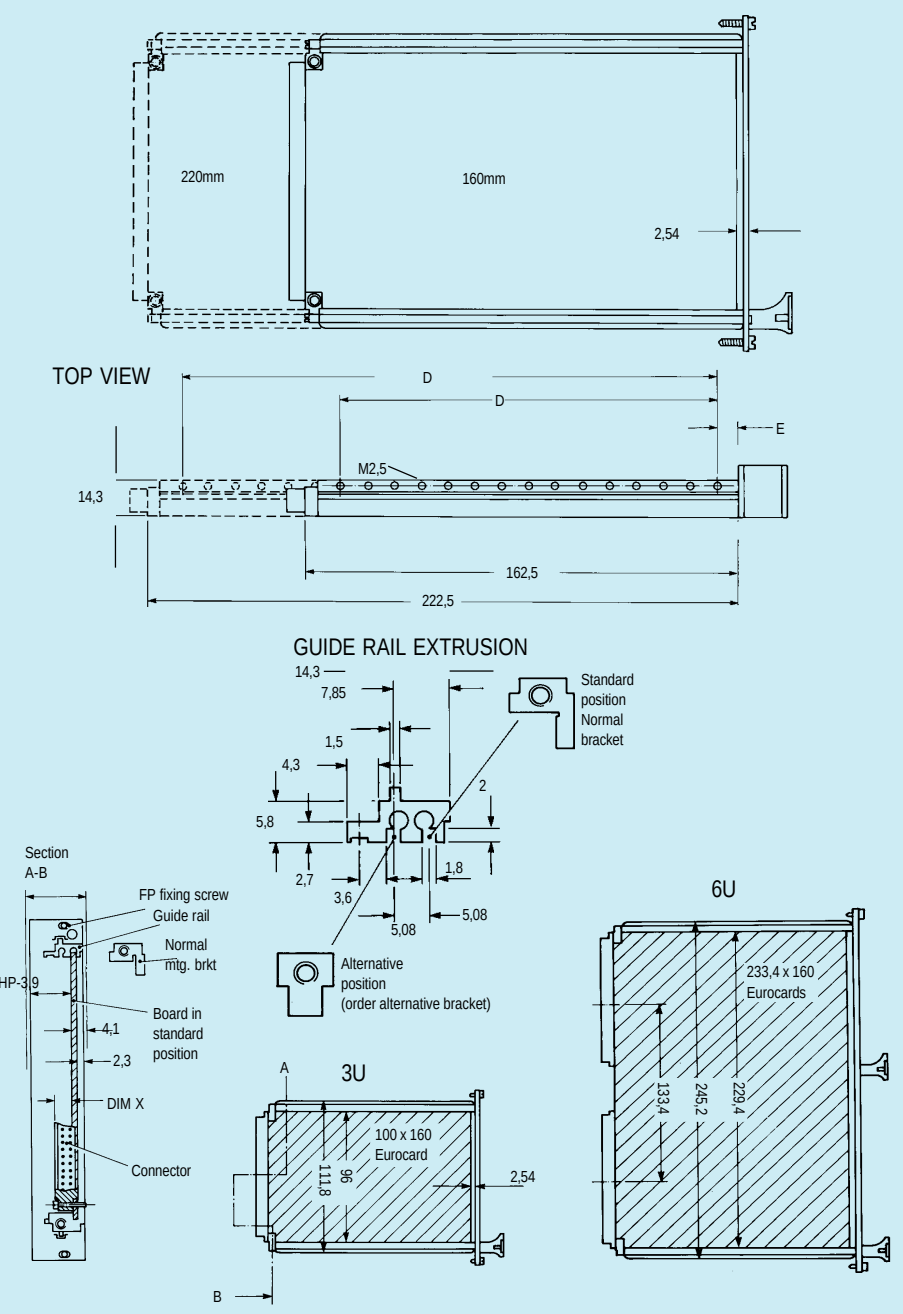
CONTENTS OF KIT

10 mounting brackets
Fixings

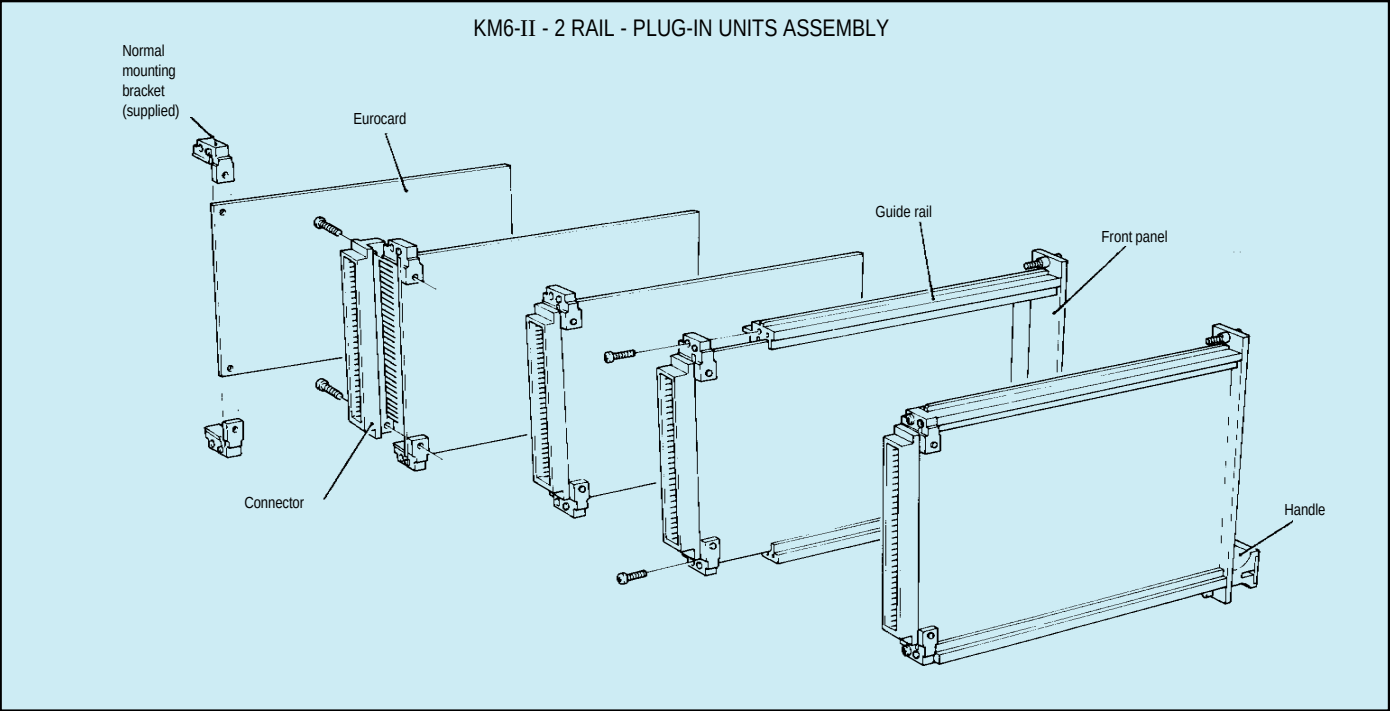
Ordering information

Description	Order code
Alternative mtg. brackets	174-13020F
Normal mtg. brackets	174-13019E

DIMENSIONAL DETAILS



KM6-II 2 RAIL PLUG-IN UNITS FOR 111,8MM HEIGHT GUIDES



CONTENTS OF KIT

- Front panel
- Handle and identification labels
- 2 guide rails
- 2 connector/PCB mounting brackets
- All fixings

160mm modules fit to two piu guides **950-232664E**
220mm modules fit to two piu guides **950-232665C**
Guides are supplied in Pks of 10.

ORDER SEPARATELY

Screens and base plates

MATERIAL SPECIFICATION

- Front panels : 2,5mm aluminium
BS 1470NS4 1/2H
etch and clear anodise
- Guide rails : Aluminium alloy
BS 1474 HE9 TF
etch and clear anodise
- Handle moulding : Luranyla 2452/1
- Ident labels : 1,5mm
aluminium alloy
BS 1470 NS4 1/2H
- Connector mounting brackets : Mazak 3

3U 2 RAIL KM6-II PLUG-IN UNITS VERSION 1

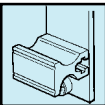
KM6-EC COMPATIBLE

Ordering information

Height	Width	Order code	
		Horizontal grain, plastic insert	
		Anodised	
3U	3 HP	160mm deep	220mm deep
		957-236290K	957-236307H
		957-236294B	957-236308F
		957-236297G	957-236309D
		957-236298E	957-236310H
		957-236304C	957-236311F
		957-236305A	957-236312D
	9 HP	957-236306K	957-236313B



Screws, bushes Page 4.56



Slimline extruded handles Page 4.47

6U 2 RAIL KM6-II PLUG-IN UNITS VERSION 1

KM6-EC COMPATIBLE

Ordering information

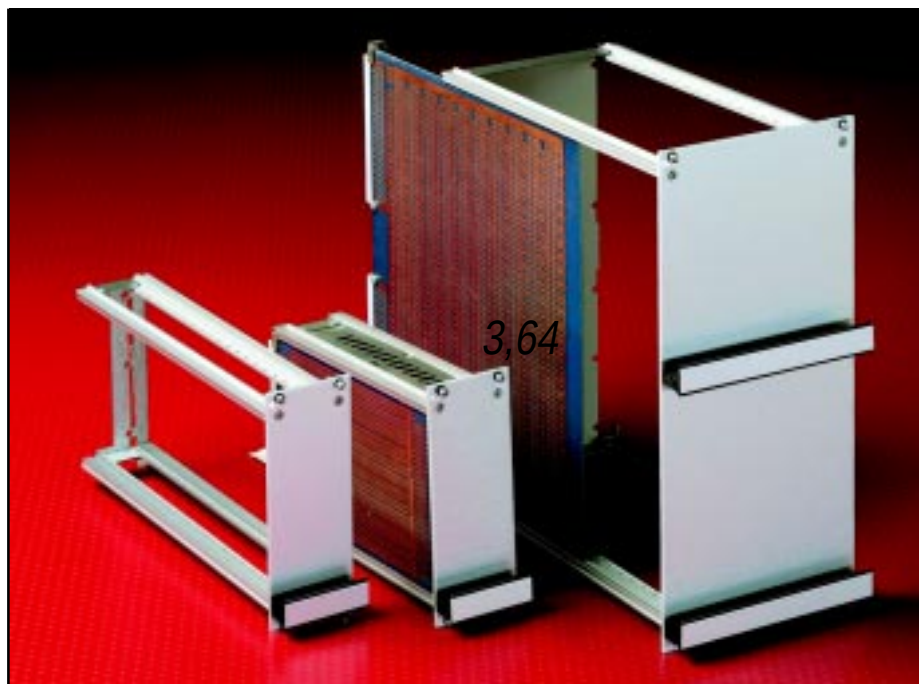
Height	Width	Order code	
		Horizontal grain, plastic insert	
		Anodised	
6U	4 HP	160mm deep	220mm deep
		957-236315J	957-236321C
		957-236316G	957-236322A
		957-236317E	957-236339F
		957-236318C	957-236340K
	8 HP	957-236319A	957-236341H

KM6-II 4 RAIL PLUG-IN UNIT FOR 111,8MM HEIGHT GUIDES

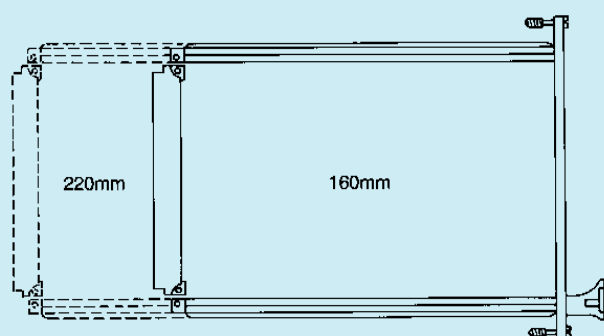
KM6-II 4 RAIL PLUG-IN UNIT FOR 111,8MM HEIGHT GUIDES

FEATURES

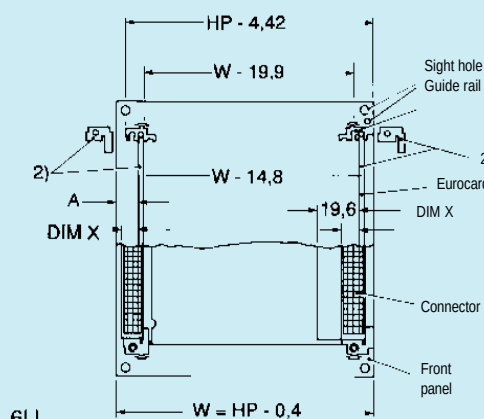
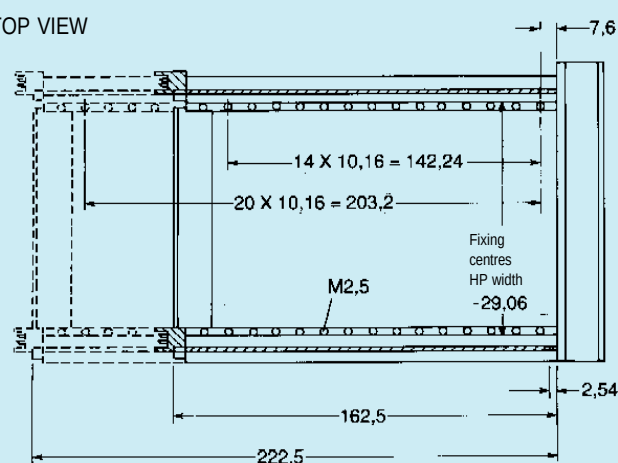
- Maximum volume
- Alternative PCB mounting positions
- PCB and connector easily removed, no disassembly required
- 10 HP to 42 HP, 160mm or 220mm deep
- Standard front panel with horizontal grain and plastic insert
- Aluminium identification labels
- Break-off tags for alternative connector position
- Easy and fast assembly
- Supplied packed flat
- Compatible with all KM6-II, KM6-EC, KM7-II and DIPLOMAT subracks and enclosures



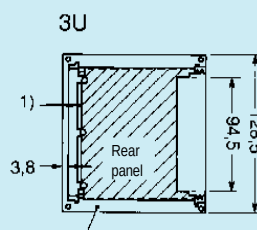
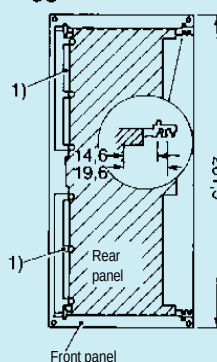
DIMENSIONAL DETAILS



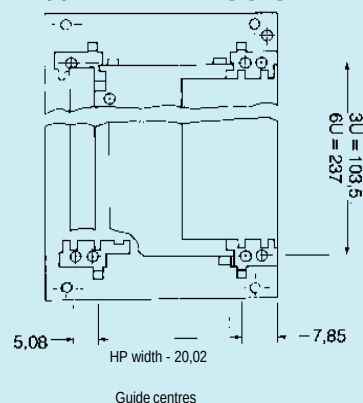
TOP VIEW



6U



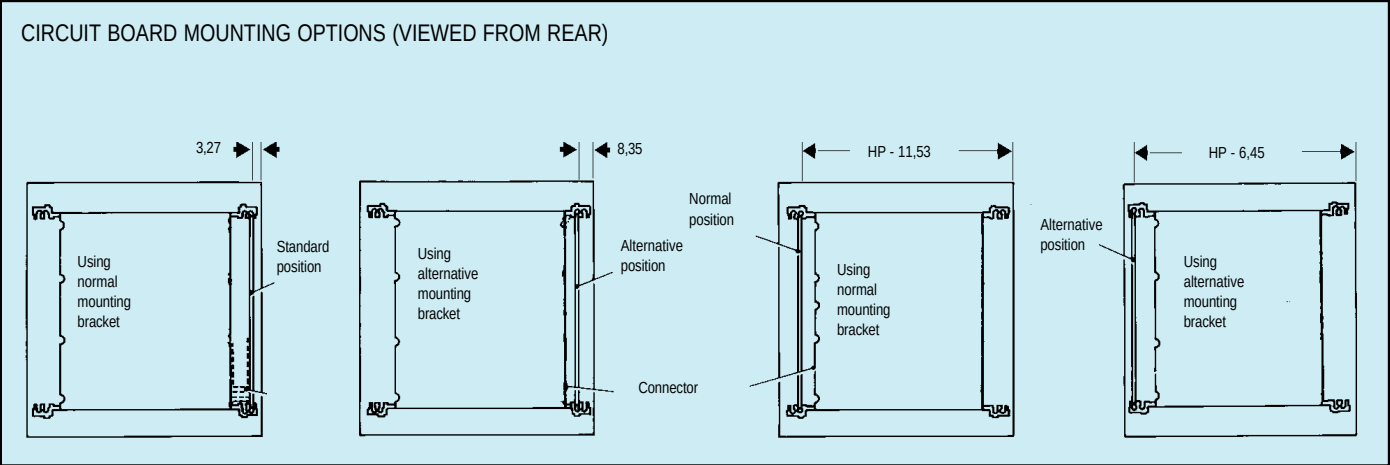
GUIDE RAIL DIMENSIONS



- 1) Break off these tags when fitting connector on this side
- 2) Normal mounting bracket for normal card position. Order separately, alternative bracket, to move Eurocard 5,08mm to the right

Connector type	B	C	D	E	F	G	H
DIM X	7,6	9,4	9,4	14,4	11,3	16,3	11,3

KM6-II 4 RAIL PLUG-IN UNIT FOR 111,8MM HEIGHT GUIDES



MATERIAL SPECIFICATION

- Front panel : 2,5mm aluminium
BS 1470NS4 1/2H
etch and clear anodise
- Guide rails : Aluminium alloy
BS 1474HE9 TF
etch and clear anodise
- Handle moulding : Luranyl® 2452/1, black
- Ident label : Metal 1,5mm aluminium
alloy BS 1470 NS4
1/2H
- Rear panel : 1,0mm PVC clad,
pre-coated steel
- Connector : Mazak 3

ALTERNATIVE MOUNTING BRACKETS FOR CONNECTORS

When the alternative card position is employed (without screening), alternative mounting brackets for the connectors should be ordered. Normal mounting brackets are supplied with all 2 and 4 rail plug-in units.

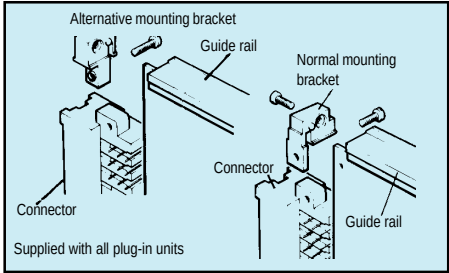
MATERIAL SPECIFICATION

Mounting brackets : Mazak 3

CONTENTS OF KIT
10 mounting brackets
Fixings

Ordering information

Description	Order code
Alternative mtg bracket	174-13020F



CONTENTS OF KIT

- Front panel
Handle and identification strips
4 guide rails
2 std connector/pcb mounting brackets
Rear panel
All fixings

Order separately :
Screens, side plates and base plates

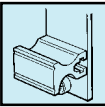
160mm modules fit to four piu guides **950-232664E**
(KM6-I)

220mm modules fit to four piu guides **950-232665C**
(KM6-II)

Guides are supplied in Pks of 10.



Screws, bushes Page 4.56



Slimline extruded handles Page 4.47

3U 4 RAIL KM6-II PLUG-IN UNITS

KM6-EC COMPATIBLE

Ordering information

Height	Width	Order code	
		160mm deep	220mm deep
3U	10 HP	957-236386H	957-236399K
	12 HP	957-236387F	957-236400G
	14 HP	957-236388D	957-236401E
	21 HP	957-236389B	957-236402C
	24 HP	957-236390F	957-236403A
	42 HP	957-236391D	957-236404K

6U 4 RAIL KM6-II PLUG-IN UNITS

KM6-EC COMPATIBLE

Ordering information

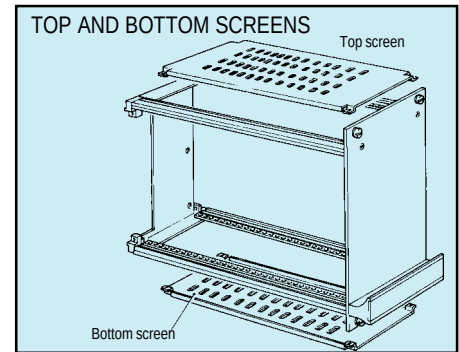
Height	Width	Order code	
		160mm deep	220mm deep
6U	10 HP	957-236393L	957-236405H
	12 HP	957-236394J	957-236406F
	14 HP	957-236395G	957-236407D
	24 HP	957-236397C	957-236409L
	42 HP	957-236398A	957-236410D

TOP AND BOTTOM SCREENS (4 RAIL)

Top and bottom screens give protection over the full length of the plug-in unit and are pierced for ventilation. Fixing is by four and six screws directly into pre-tapped holes in the guide rails.

MATERIAL SPECIFICATION
0,5mm PVC clad pre-coated steel

CONTENTS OF KIT
1 top, 1 bottom; all fixings



3U - COMPATIBLE SCREENS

KM6-EC COMPATIBLE

Ordering information

Plug-in unit size		Top and bottom screens		Plug-in unit side screens					
		160mm deep	220mm deep	Left hand		Standard right hand		Alternative right hand	
Width				160mm deep	220mm deep	160mm	220mm deep	160mm deep	220mm deep
2 R A I L	3 HP	-	-	174-13021C	174-12645C	-	-	-	-
	4 HP	-	-			174-13023H	174-12647H	-	-
	5 HP	-	-			174-13024E	-	174-13023H	174-12647H
	6 HP	-	-			174-13025B	174-12648E	174-13024E	-
	7 HP	-	-			-	-	174-13025B	174-12648E
	8 HP	-	-			174-13027G	-	-	-
	9 HP	-	-			-	-	174-13027G	-
4 R A I L	10 HP	174-12965B	174-12639F	174-13021C	174-12645C	174-13035J	174-12649B	174-13021C	174-12645C
	12 HP	174-12966K	-						
	14 HP	174-12967G	-						
	21 HP	174-12968D	174-12640G						
	24 HP	174-12969A	-						

LEFT HAND SIDE SCREENS

These screens slot into the plug-in unit guide rail. The PCB is moved over to the next slot position, with an alternative connector/PCB mounting bracket utilised. These mounting brackets are supplied with each left hand screen kit.

CONTENTS OF KIT

1 screen, 2 alternative mounting brackets
All fixings

NORMAL RIGHT HAND SIDE SCREENS - 2 RAIL VERSION

These wrap around screens bolt to the guide rails and give full protection to the PCB mounted components.

CONTENTS OF KIT

1 screen, all fixings

NORMAL RIGHT HAND SIDE SCREENS - 4 RAIL VERSIONS

These screens slot in the right hand guide rails and enclose the full area on the right hand side within the unit.

CONTENTS OF KIT

1 screen, all fixings

ALTERNATIVE RIGHT HAND SIDE SCREENS - 2 RAIL

Similar to the standard but narrower to take into account the room necessary to plug the unit immediately to the left of a divider kit in a 6U subrack.

CONTENTS OF KIT

1 screen, all fixings

ALTERNATIVE RIGHT HAND SIDE SCREENS - 4 RAIL

These are used instead of the standard screen when the unit is to be fitted immediately to the left of a divider kit in a 6U subrack.

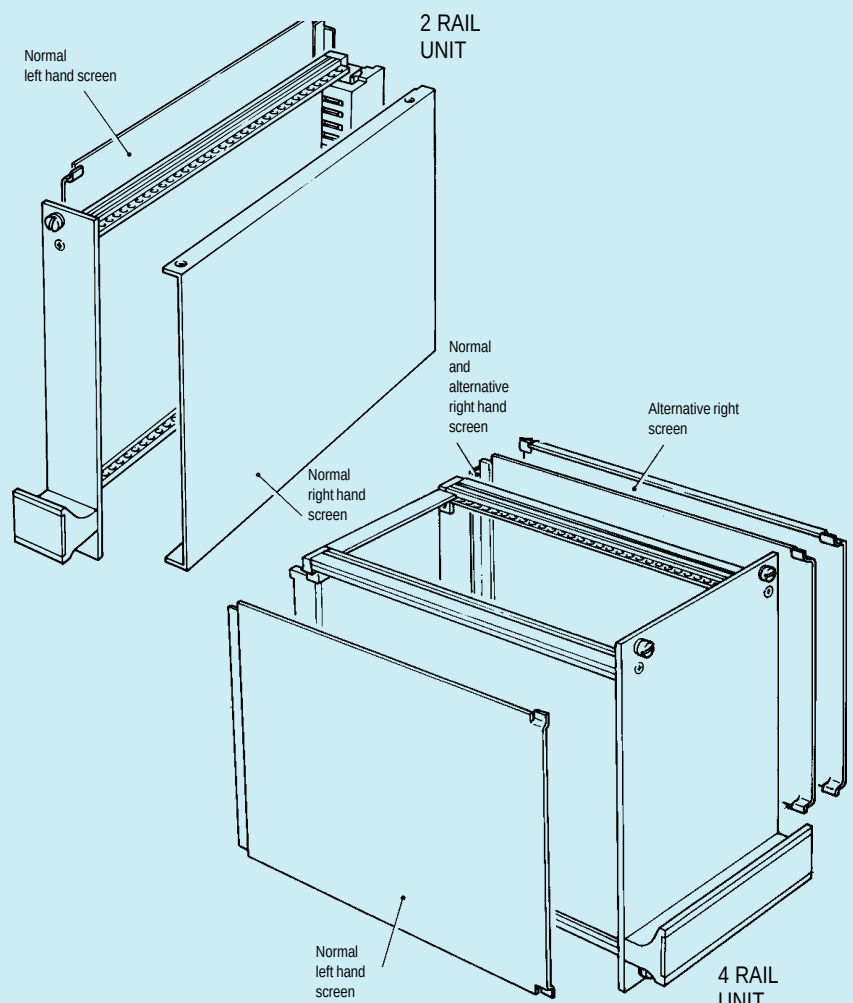
CONTENTS OF KIT

1 screen, 2 alternative mounting brackets
All fixings

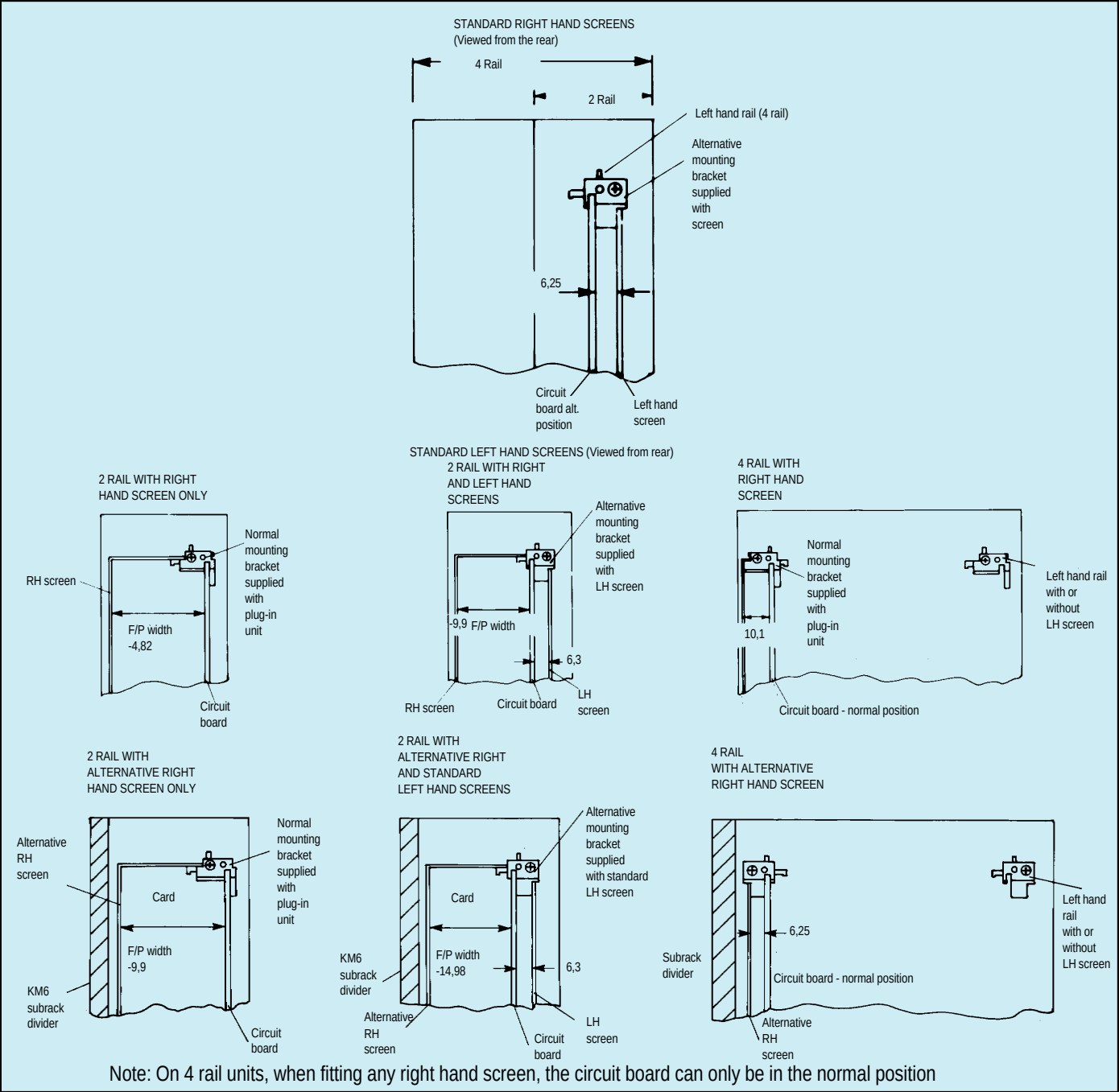
MATERIAL SPECIFICATION (Side screens)

0,5mm PVC clad pre-coated steel

LEFT AND RIGHT HAND SCREENS



PLUG-IN UNITS - SCREENS



6U - COMPATIBLE SCREENS
KM6-EC COMPATIBLE

Ordering information

Plug-in unit size		Top and bottom screens		Plug-in units side screens		
		160mm deep	220mm deep	Left hand 160mm deep	Standard right hand 160mm deep	Alternative right hand 160mm deep
Width				All widths	10 - 24HP	10 - 24HP
4	10 HP	174-12965B	174-12639F	174-13022L	174-13036F	174-13022L
R	12 HP	174-12966K	-			
A	14 HP	174-12967G	-			
I	21 HP	174-12968D	174-12640G			
L	24 HP	174-12969A	174-13848L			



The 6U unit is not a standard option

KM6 - RFI SCREENED PLUG-IN UNITS

KM6-EC COMPATIBLE

- Excellent emc performance at plug-in unit level
- Housing for Eurocards or other components
- Ideal for screening sensitive or high noise circuits
- Conductively finished with interface seals for all-round screening
- Metal retaining inserts for electrical continuity to subrack
- Accessibility to pcb without total disassembly
- Design philosophy makes custom sizes possible

The rear panel of this module is supplied blank to provide maximum versatility in the selection of suitable connectors.

It should be noted that this module cannot be fitted into the slot immediately to the left of a KM6-II divider plate.

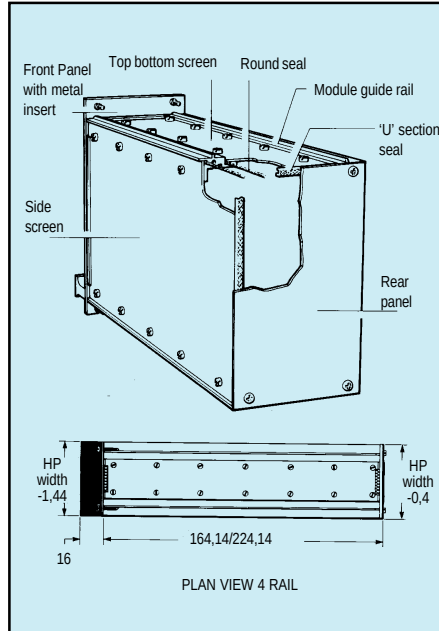
MATERIAL SPECIFICATION

Front panel :	2,5mm aluminium BS 1470 NS4 1/2H Alocrom 1000 vertical grain
Guide rails :	Aluminium Alloy BS 1474 HE9TF Alocrom 1200
Covers :	1,2mm aluminium BS 1470 NS 41/2 Alocrom 1200
Rear panel :	1,6mm Zintec MS Zinc plate and passivate
Handles:	Black Luranyl® 2452/1

CONTENTS OF KIT

4 RAIL 3U	2 RAIL
1 front panel	1 front panel
1 handle and identification	1 handle and identification
4 guide rails	2 guide rails
2 side screens	1 flat side screen
2 top/bottom screens	1 wrap round screen
1 rear panel	1 rear panel
Round and 'U' seals	Round and 'U' seals
Board location	Board location
Fixings	Fixings

Front panels have vertical grain, metal insert and conductive finish.



TYPICAL TEST RESULTS

	Frequency MHz	Level dB (worst case)
'H' field	1.0	28
	10.0	45
'E' field	00.1	>41
	0.1	>63
	1.1	>66
	10.0	>87
	100.0	82
	1000.0	82

NB. At the lower end of the frequency scale, difficulty was experienced in obtaining a sufficient field strength using a small dipole arrangement.

2 RAIL UNITS

Ordering information

Height	Width	Depth	Order code
3U	6 HP	160	951-203797B
3U	6 HP	220	951-203798L

4 RAIL UNITS

Ordering information

Height	Width	Depth	Order code
3U	12 HP	160	951-203799J

SEALING STRIP (1 METRE)

Description	Order code
'U' section	174-43905K



▲ FAN PLUG-IN UNITS 10 HP

FAN PLUG-IN UNIT

KM6-EC COMPATIBLE

FEATURES

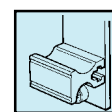
- 3U high
- 10HP wide
- 160mm deep
- Filtered

These modules draw air in through the front panel and blow to the left. They can thus be used to cool horizontally mounted PCBs or 'hot' units such as PSU modules.

The module is filtered and supplied either wired, with fan (**28-202481B**) and wiring or less fan and wiring. Output is 14.4 cfm less filter, 10.1 cfm with filter. The filter can be removed from behind the front panel and is retained in position with a screw. The connector (which is included in both versions) is type H15. Wiring, where applicable, is to Z24 and Z28 with earth to Z32.

MATERIAL SPECIFICATIONS

Front panel	: 2,5mm aluminium BS1470 NS4 1/2H Etched and clear anodised a Vertical grain
Handle	: Luranyl® 2452/1 black
Ident label	: Metal 1,5mm Aluminium
Fan mounting plate	: 1,6mm zintec steel, zinc & clear passivate
Cover and filter plate	: 0,9mm zintec steel, zinc & clear passivate
Filter	: Demembrated polyurethane foam



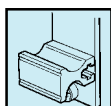
Slimline extruded handles Page 4.47

FAN PLUG-UNITS

Ordering information

Description	Order code
10 HP x 160mm with fan	173-202514C
10 HP x 160mm less fan	173-202956D

Front panels are vertical grain, metal insert and anodised



Slimline extruded handles Page 4.47

KM6-II - SEALED DISC DRIVE MODULES

KM6-II - SEALED DISC DRIVE MODULES

KM6-EC COMPATIBLE

- Conforms to IEC 297-3
- Two versions 3½ disc drives
- Front area sealed to IP54
- Hinged transparent front panels
- Universal mounting facilities
- 3U in height
- 24 HP and 14 HP
- Compatible with all KM6-II subracks, KM7-II, KM6-II DIPLOMAT caseframes and KM6-EC

APPLICATIONS

These unique disc drive housings provide sealing to IP54 on the front aperture, thus overcoming a common problem with IEC 297 Plug-in modules. They are ideal for harsher environments such as factories and laboratories, where dust and moisture attack is likely.

VERSION 2 - 3U x 24 HP

Suitable for two 3½" drives such as: Teac mini FD35 FW, NEC FD 1035, NEC D 3126 or Lupine Titan 20.

VERSION 3 - 3U x 14 HP

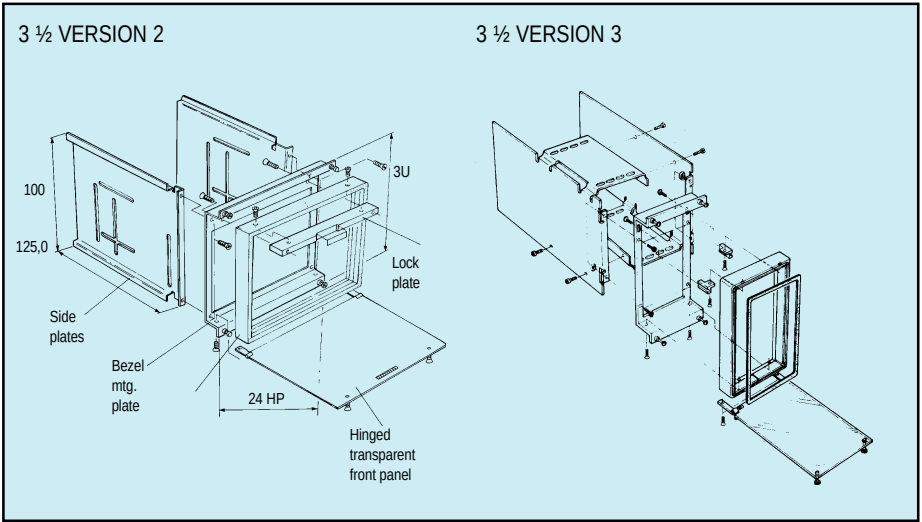
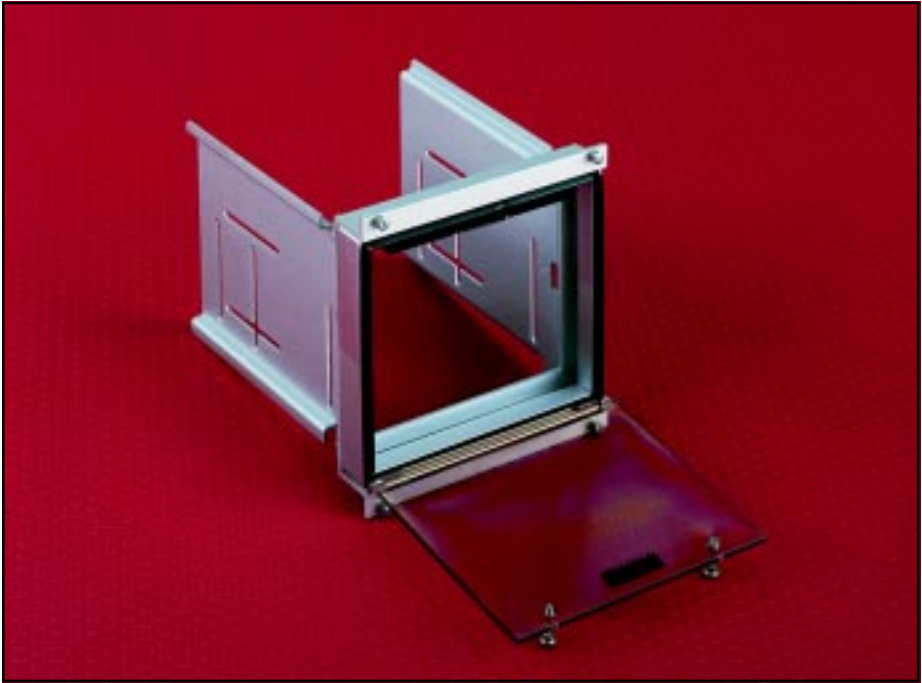
Suitable for one 2 x 3½" drive 25,4mm (1") high.

CONSTRUCTION

The modules consist of a front bezel with a bezel mounting plate, to which are attached two side plates. The side plates incorporate universal mounting positions for different types of disc drive. Also attached to the bezel is a hinged transparent front panel which is held in the vertical plane by a plastic catch or by the two captive screws supplied.

Fitted to the bezel is a neoprene seal which gives the IP54 protection.

Blanking panels are available for unused areas in RAL 9032 (Grey). Mounting kits for these should be ordered separately. All kits should be ordered singly.



MATERIAL SPECIFICATION

3½ VERSION 2 & 3

- | | |
|--------------------------------|---|
| Side plate | : 1,5mm aluminium etch and anodise |
| Bezel mounting plate and bezel | : Aluminium extrusion etch and anodise |
| Transparent front panel | : Polycarbonate extrusion UL94V1 smoke grey |
| Lock plate | : Aluminium extrusion etch and anodise |
| Seal | : Neoprene |

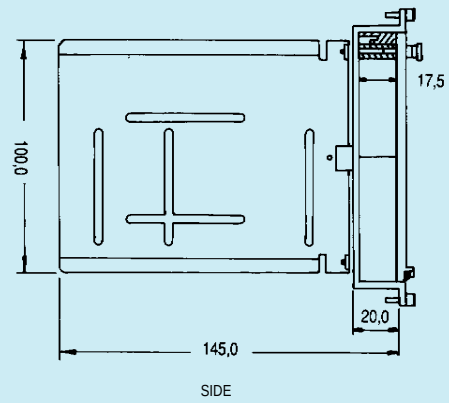
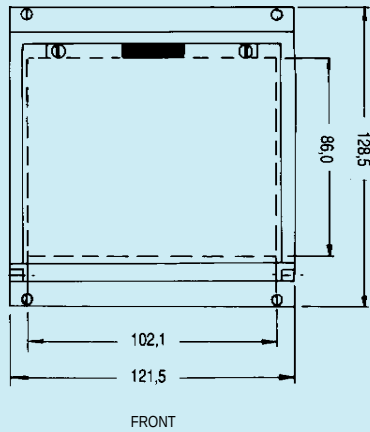
CONTENTS OF KIT

- 3½ VERSION 2 & 3
2 side mounting plates
Bezel mounting plate
Bezel
Hinged transparent front panel
Lock plate
Neoprene seal
All necessary fixings

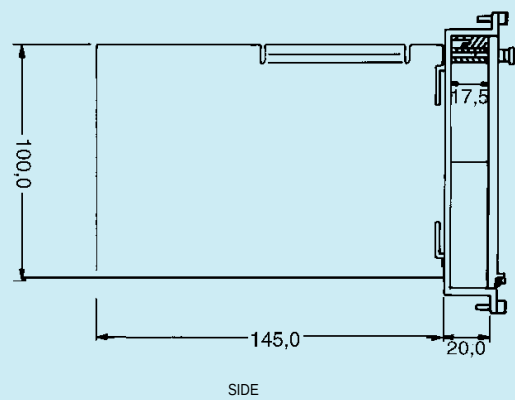
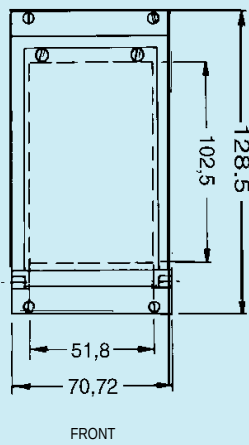
SEALED DISC DRIVE MODULES

Ordering information	
Description	Order code
Version 2 module 3U x 24 HP for 3½"	174-10006C
Version 3 module 3U x 14 HP for 3½"	174-34978G
Blanking panel for 5¼" slimline RAL 7032	174-10204K
Mounting kit for above panel	174-10205G
Blanking panel for 3½" version 3 RAL 7032 ½ height	174-10208J
Mounting kit for 3½" panel	174-10206D

3½ VERSION 2



3½ VERSION 3



GUIDES

Fit to PCB 950-232662J, 160mm
950-232663G, 220mm

Supplied in Pks 10

KM6-II PLUG-IN DISC DRIVE MODULES

KM6-II PLUG-IN DISC DRIVE MODULES

- KM6-EC compatible
- 3U high
- Suitable for 3½" or 5¼" drives
- Simple assembly
- Blanking plates

A series of modules capable of housing various drives and tape streamers.

Style 2 will accept two 5¼" 'slimline' or one mounted 5¼" drive, with facility for mounting a controller board.

Style 8 accepts a 3½" drive of Type B NEC 1037 format

Style 9 will accept a 3½" drive 25,4mm high or a Hard disk drive 40mm high

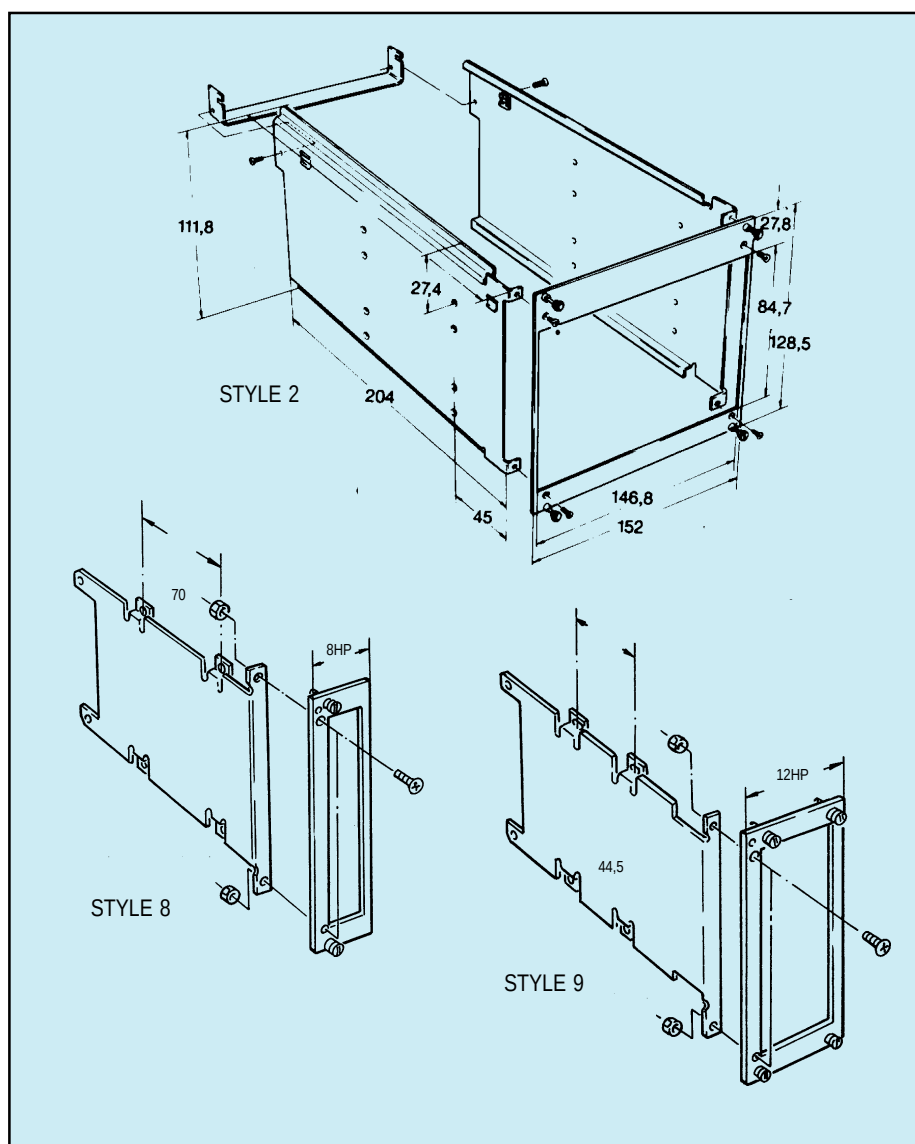
BLANKING PLATES

A 5¼" slimline blanking plate is available, in RAL 7032 (Grey)

GUIDES

Modules style 2, is suitable for use with guides accepting 111,8mm plug-in units.

Style 8 and 9 should be used with Eurocard guides.



Ordering information

Description	Width		Order code
Style 2 module	30 HP	146,8 x 84,7	174-10001G
Style 8 module	8 HP	102,3 x 25,5	174-10198L
Style 9 module	12 HP	102,3 x 44,1	174-10199H
Blanking plate for 5¼" Slimline RAL 7032 Grey			174-10204K
Fixing for blanking plate			174-10205G



VXI HARDWARE SUPPORT

VXI MODULE

FEATURES

- Normal and light duty
- Single and double width
- C and D size
- Easy access

MATERIAL SPECIFICATION

Front panel - Normal duty	: Aluminium extrusion BS1474HE9TF, finish; conductive
Front panel - light duty	: Facia 1,2 aluminium alloy BS1470 NS41/2H Etched and anodised Inner 1,2 aluminium alloy BS 1470 NS4 1/2H conductive finish
Side panels	: 0,9mm zintec steel, zinc & clear passivate

In support of the VXIbus, VERO Electronics offer screened modules in two standard forms.

NORMAL DUTY

This module has a relatively high screening capability, and is available in single and double widths, 'C' and 'D' sizes.

The double width version moves the circuit board to the right by one slot. This facility is likely to be needed where the skyline on the wiring side is greater than normal - when using wire wrapping assembly, or where additional components are required to be fitted on that side.

The module consists of a channel section front panel, incorporating ejector handles and card mounting brackets, ventilated left and right covers and EMC sealing.

Connector screening is incorporated in the side covers. The Eurocard sized PCB provides the guide rail facility for the module as required in the specification.

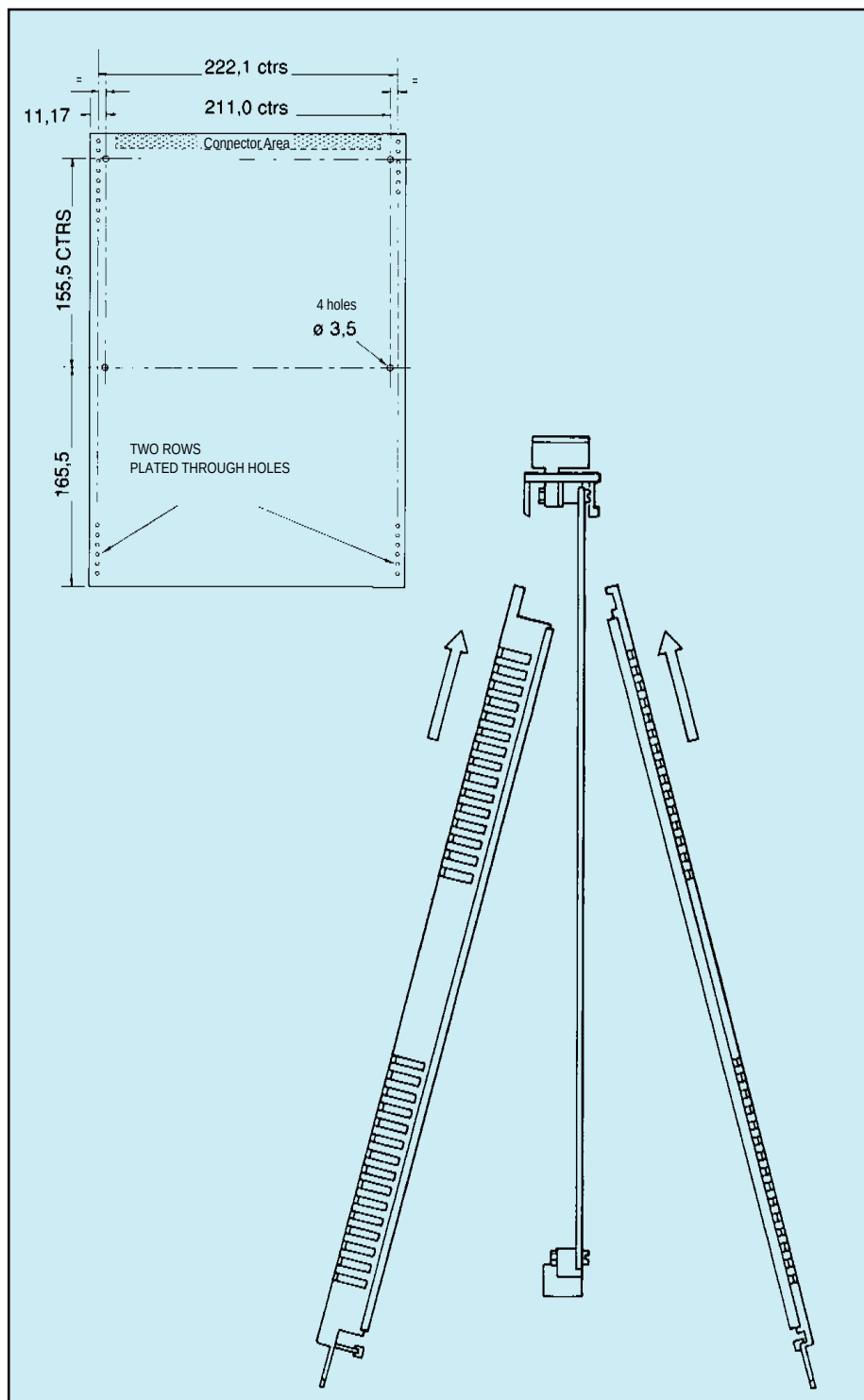
The construction of the side covers is such that access to the PCB can be simply gained by the removal of four screws.

In order to maintain electrical continuity between the metal side covers it is necessary to incorporate a row of plated through holes along the upper and lower edges of the PCB under the area covered by the RFI sealing strip. The spacing of these holes will obviously affect the degree of screening obtained from the module. In addition, four holes are needed to permit the passage of the fixing screws through the board (drilling details as shown).

Continuity between the covers and the front panel is maintained by the incorporation of beryllium copper fingers. More fingers are used to maintain contact between the module and the backplane motherboard ground plane, and between neighbouring modules.

All metal components are conductively finished and the front panel has metal inserts to ensure good electrical contact between the module and the subrack.

The PCB is fitted to the front panel via metal brackets as standard, although plastic brackets are available if they are required.



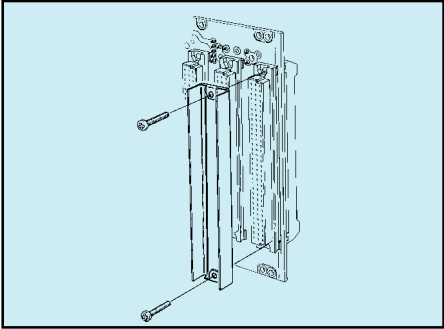
CONNECTOR SHROUD

A connector shroud is available, in beryllium copper, that will enhance the screening performance when it is fitted to the fixed connector on the backplane.

VERO have a great deal of expertise in the production of customised subracks and accessories. We will be happy to quote for your needs in special versions, including punched and screen printed front panels and non standard ventilation. In addition, we can offer advice on special EMC screening requirements. Our facilities at Chandlers Ford in the United Kingdom include a screened room for investigation into EMC problems.

LIGHT DUTY

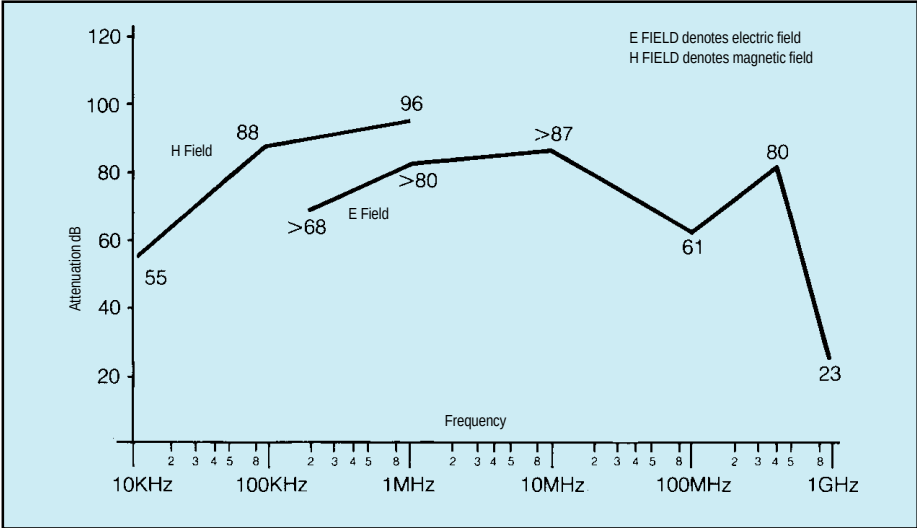
Also in single 'C', size the light duty module can be provided, without any EMC seals, offering a lower cost solution where EMC screening is considered less of a problem. This unit has our two-part front panel and can be upgraded by the addition of seals as needed.



VXI HARDWARE SUPPORT

Ordering information

Description	Order code
'C' Size single - Normal duty module	207-203543A
'C' Size double - Normal duty module	207-203544K
'D' Size single - Normal duty module	207-222524J
'C' Size single - Light duty module	207-222002F
Beryllium copper fingers (strip 84)	950-203353B
Channel section sealing strip (1 metre)	174-43905K
Connector shroud	207-203582B



TYPICAL SHIELDING PERFORMANCE - NORMAL DUTY MODULES

These performance figures were obtained by testing a representative sample from production batches. The tests carried out were in accordance with MIL-STD-285, modified where necessary due to the nature of the module. The figures are given as a guideline. Any additions or modifications will have an effect upon the shielding performance and it is, therefore, essential that these units are retested once the final unit is complete.

Performance figures were obtained reading from the right hand (component) side of the module. The figures stated were obtained from our in-house test facility.



VXI COMPATIBLE FRONT PANEL KITS

Ordering information

Description	Order code
6U x 6 HP Normal duty	207-227109G
6U x 12 HP Normal duty	207-227110L ^M
9U x 6 HP Normal duty	207-227111J ^M
6U x 6 HP Light duty	207-227113E ^M

^M = Denotes minimum order quantity, please contact our sales office.

VXI COMPATIBLE FRONT PANEL KITS

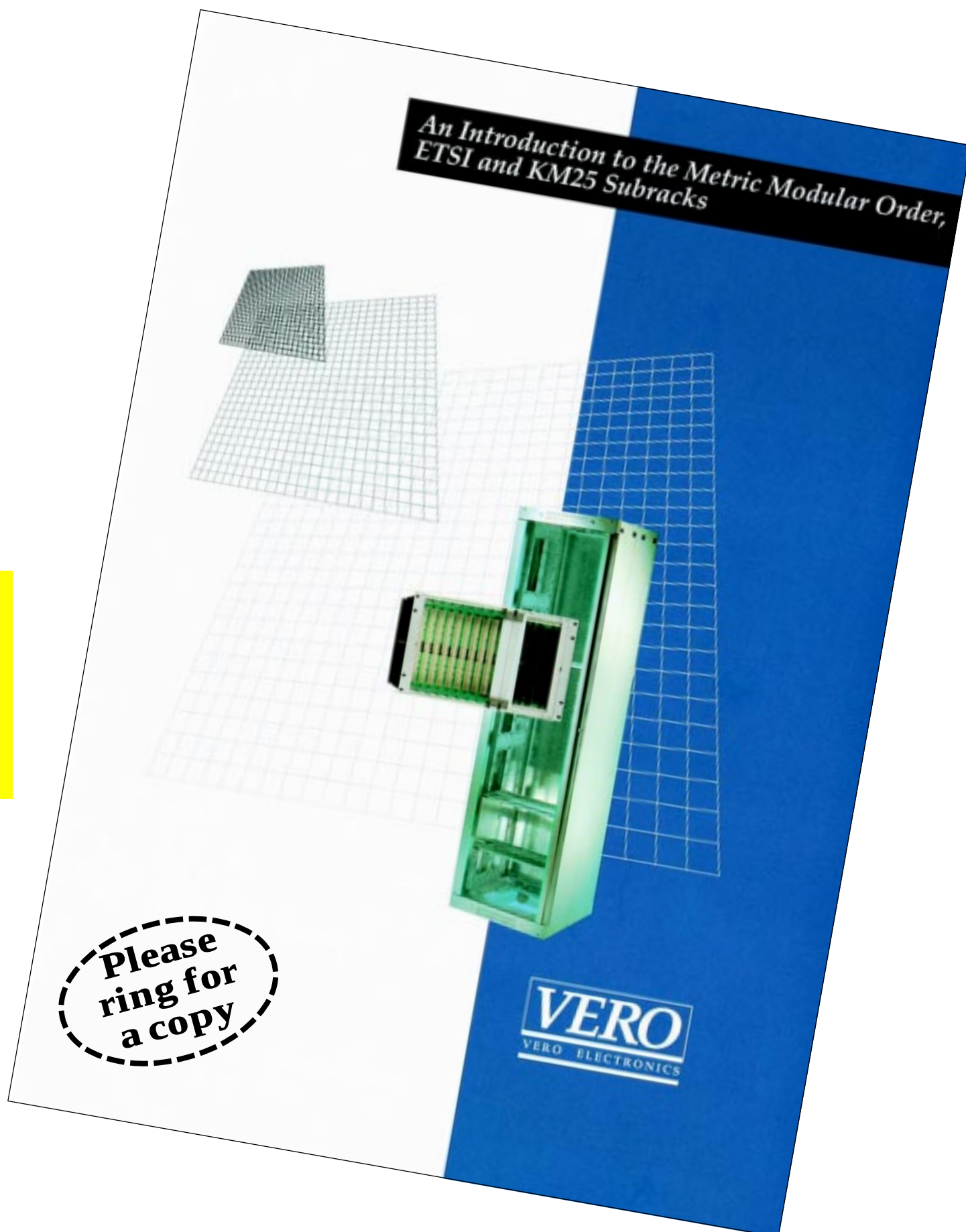
These panels are available separately from the module for situations where EMC screening of the individual pcb is not required, but it is necessary to maintain the overall subrack's RFI screen. Available in the same variants as the VXI modules, the kits include ejector handles, mounting hardware, fixings and EMC fixings.

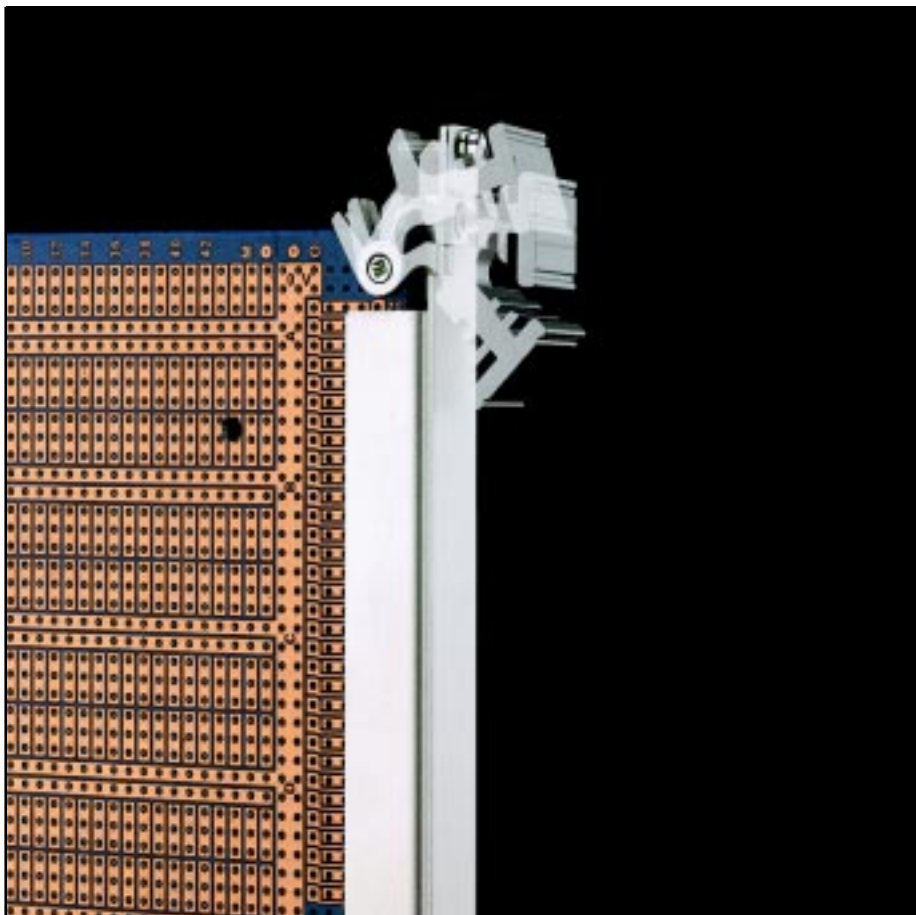


Our circuit board facility offers a range of VXI product, including Monolithic Backplanes and Integrated Systems. Please see Section 9.

VERO, the Metric Modular Order and KM25 subrack system

A document is available which gives background information on the Metric Modular Order and the ETSI metric packaging standard. It also has full details of our KM25 subrack range which is briefly outlined on the next page.





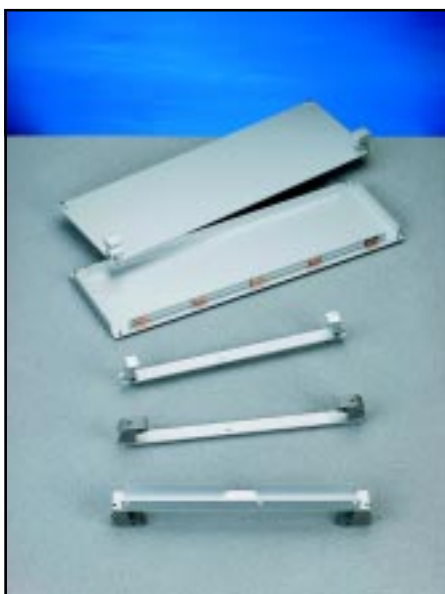
SUBRACKS

- Conform to IEC and IEEE standards
- Range of heights and depths
- Supplied in kit form
- Strong, easily assembled
- EMC screening can be retro-fitted

KM25 subracks are available in kit form in a range of heights and depths with a standard front aperture of 85SP. If required, this aperture can be reduced to 84SP by substituting the right hand mounting angle with an alternative, type 2 angle.

Kits are available with normal, type 'D' front extrusions, or with the extended, type 'E', which is suitable for use with the injector/ejector.

Assembly is simple, featuring screw and half shear location of extrusions. The extrusions can be located at 25mm depth intervals. There are five basic end plate depths, some of which are suitable for EMC screening with the addition of covers and panels.



FRONT PANELS AND ASSOCIATED HARDWARE

- Flat or EMC versions
- With extruded or injector/ejector handles
- 6, 12, 18SU heights
- Various widths
- Metal inserts for grounding

Front panels for KM25 are available in two basic forms - EMC (channel section) and flat types. They are supplied in standard form in a variety of sizes; customised versions can be supplied if you require punching or silk screening etc. under our SPRINT service. Additional sizes can be manufactured as specials.

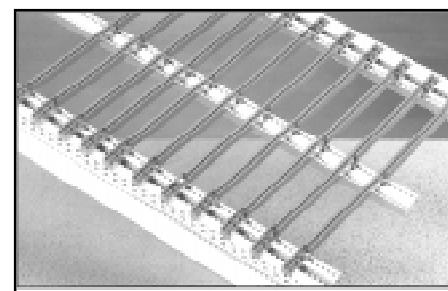


IEC 297 INTEGRATION MODULE

- Enables integration of Eurocards into 12SU KM25
- Uses KM6-II components
- Full modular approach for separate assembly

Based upon 6U components from our KM6-II subrack system, this module provides facilities for the integration of double Eurocard 160mm deep components into a 12SU Metric Modular Order subrack.

The module can be separately assembled and wired as a small subrack. Two widths are available, either 20HP or 40HP internal, occupying 28SP and 48SP of subrack space respectively.



GUIDES

- 1.6 and 2.4mm slot widths
- 175, 225 and 300mm (nom.) PCB lengths
- Snap-in with optional bolt-down for security
- Longer versions have central support and bolt down feature
- Grounding clip option in two positions

KM25 guides are available to suit three different PCB lengths and in versions for a 1.6 or 2.4 PCB thickness. These guides snap into location strips in the front and rear extrusions.

For security in shock and vibration conditions they can be fixed at the front and rear to additional tapped strips in the extrusions. The 225 and 300 versions have an additional fixing facility at or near the mid-point for fixing to a centre support extrusion.

Full details including ordering information are contained in our booklet on the Metric Modular Order

KM7-II CASEFRAMES

This is a superb range of caseframes for direct mounting of circuit boards and plug-in units to IEC 297-3, DIN 41494 pt 5 and BS 5954.

FEATURES

- Conforms to IEC 297-3, DIN 41494 pt5 and BS 5954
- Modern colours
- Integral fold away rack mounting angles
- Robust construction suitable for a wide range of applications
- Easy assembly, no adjustment necessary
- Compatible with the KM6-I range of accessories
- Free-standing or full 19" rack-mounting
- Total access for ease of servicing
- Robust concealed feet
- Available in 3U, 4U, & 6U versions
- Two depths
- Various widths
- Front handles as standard
- EMC versions
- Excellent heat dissipation characteristics



▲ DETAIL OF NEW EMC VERSION CONTACTS

3U KM7-II CASEFRAMES

This range of caseframes is available in three configurations: 240mm and 300mm nominal depth, suitable for 160mm Eurocards; 300mm for 220mm Eurocards.

The construction, with die-cast end plates and one-piece extruded top and bottom covers gives a number of benefits. KM7-II has excellent thermal properties, dissipating heat better than a conventionally constructed case.

A 4U unit has been successfully shock and vibration tested to IEC 68 part 2-27 and 2-6 respectively and to the German Railway (DB) standards.

In its standard form it offers good EMC performance, but for specific EMC applications there is an EMC option.

The easily assembled units are supplied in kit form, although an assembly service can be offered.

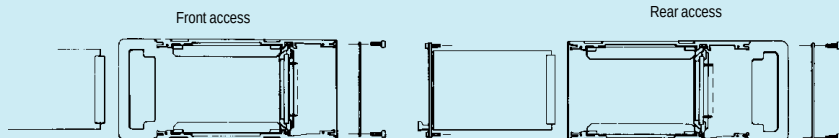
84HP versions are supplied as standard with integral swing-out angles, and concealed feet, permitting the unit to be desk or rack mounted with equal facility.

On 3U 240/160 units, versions are available less mounting angles to which fixed angles can be retrospectively fitted.

KM7-II accepts KM6 guides, which are detailed in the accessories pages.

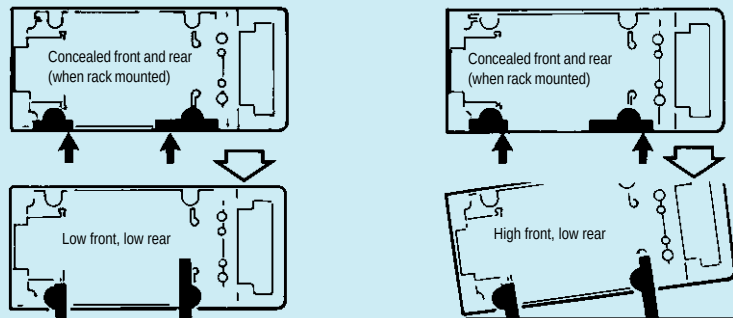
FRONT/REAR/ACCESS

KM6-I front panels and plug-in units can be mounted to either the front or the rear of the KM7-II



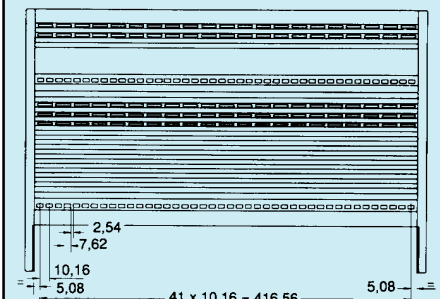
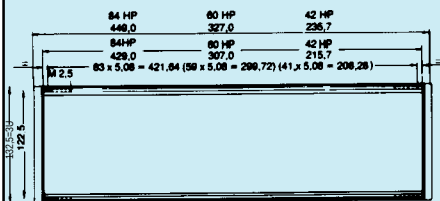
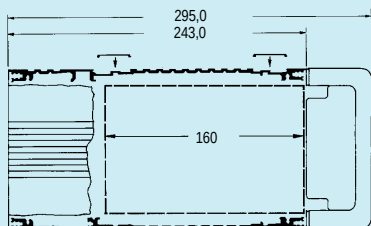
TILT FEET - OPTIONAL POSITIONS

The case has two multi-position feet on the end plate which allow two free standing configurations and can be concealed for rack mounting purposes.

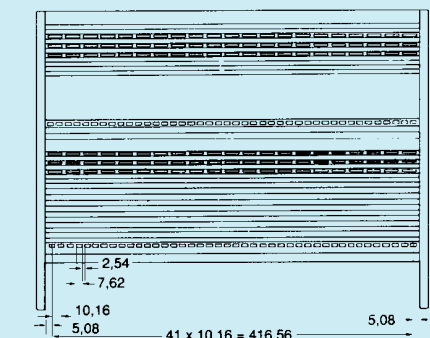
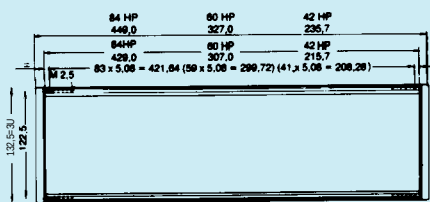
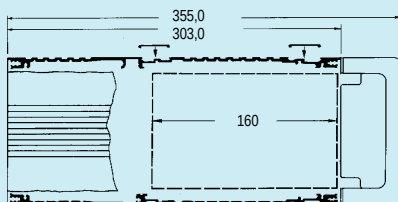


DIMENSIONAL DETAIL

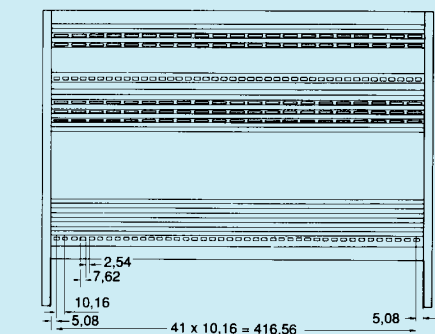
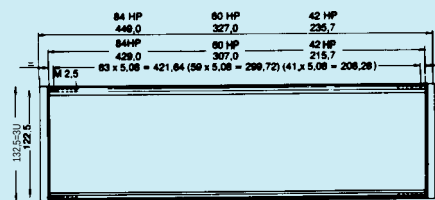
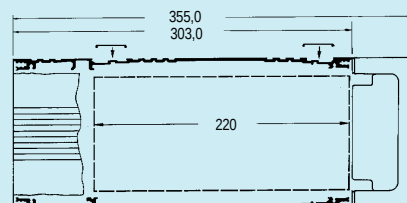
240 DEEP
160 EUROCARDS



300 DEEP
160 EUROCARD



300 DEEP
220 EUROCARD



3U KM7-II CASEFRAMES

NEW EMC VERSIONS AVAILABLE

In all cases, it is possible to supply versions without handles, less feet, less mounting angles and with modified ventilation, subject to minimum order quantity. Please contact our sales office with your requirements.

The bottom cover is ventilated in all standard cases, but there are versions with ventilated or unventilated tops.

NEW - a parallel range of EMC screened 3U KM7-II caseframes is available. In this version emc seals are carried in slots in the end plates. Selective masking of the end plates and top and bottom covers during painting provides good electrical contact at the seal interfaces and to front and rear panels via emc fingers.

In testing, a 3U x 240 x 84hp version with an unventilated top extrusion was fitted with overall closing panels front and rear; three groups of three emc fingers were applied at each vertical corner. It achieved the shielding effectiveness shown in the graph. Testing was carried out to VG 95373 Part 15.

MATERIAL SPECIFICATION

Endplates : Diecast aluminium alloy LM24
Feet : Nylon 66 black
Cover strip : ABS RAL 5014
All extrusions : Aluminium alloy E6

FINISHES

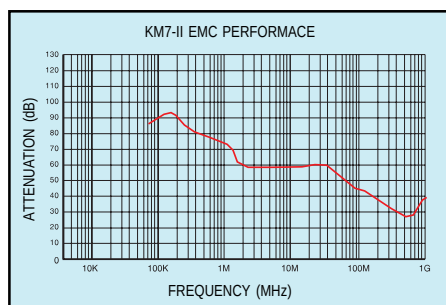
Endplates : Epoxy powder coated RAL 7042 grey
Top & bottom covers : Epoxy powder coated BS 4800 00A05

CONTENTS OF KIT

1 pair of end plates
Top and bottom extrusions
Cover strips
Fixings and tapped strips
Assembly instructions

ORDER SEPARATELY

Guides
Connector or motherboard/backplane mounting kits
Rear panel with tapped strips or slide nuts
Plug-in units



- ▼ With mounting angles
- ▽ Without mounting angles, These versions are for desk mounting only - it is not possible to fit rack mounting angles retrospectively
- Ⓜ Denotes minimum order quantity, please contact our sales office.
- Without mounting angles, Separate rack mounting angles **Order Code 124-10230L** supplied in kits of 2 plus fixings

3U - 240/160 KM7-II CASEFRAMES

	Aperture width	Top cover	Order code ▼	Order code ▼ EMC Version	Order code □	Order code □ EMC Version
	42 HP	Ventilated	124-10229K Ⓜ	-	124-10226H	124-10237A
	60 HP	Ventilated	124-10228B Ⓜ	-	124-10225L	124-10236D
	84 HP	Ventilated	124-10224C	124-10243J	124-10227E Ⓜ	124-10244F
		Unventilated	124-10231H	124-10235G	124-10232E Ⓜ	-

Ordering information

3U - 300/160 KM7-II CASEFRAMES

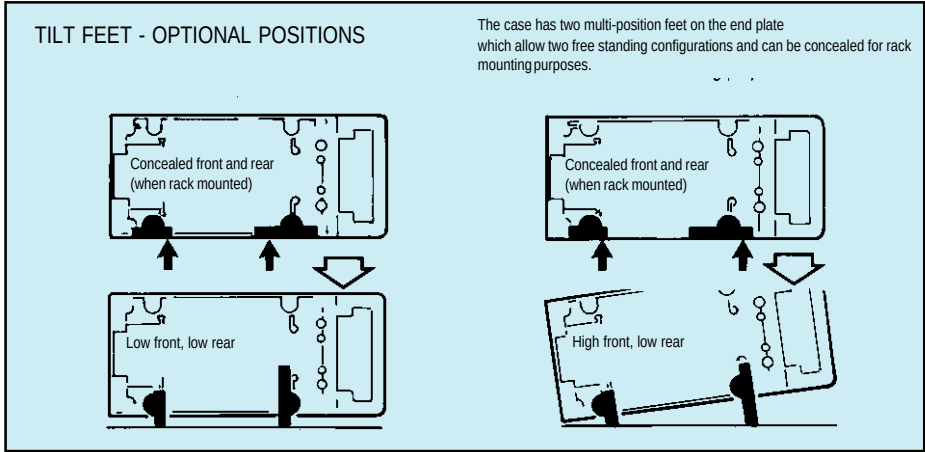
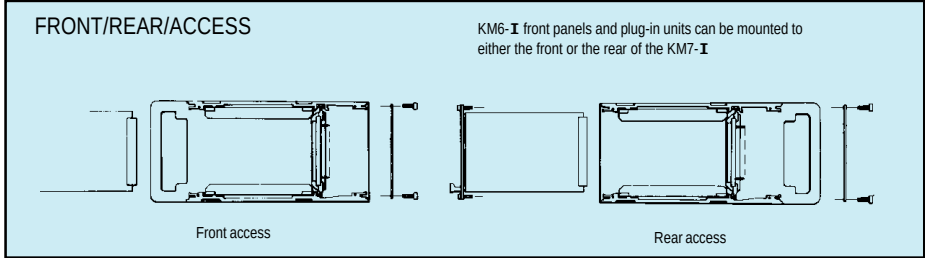
	Aperture width	Top cover	Order code ▼	Order code	Order code ▽	Order code
	42 HP	Ventilated	124-10133G	-	124-10180G	-
	60 HP	Ventilated	124-10132K Ⓜ	-	124-10179F	-
	84 HP	Ventilated	124-10131B	124-10238J	124-10178J	-
		Unventilated	124-10137F	124-10242A	124-10181D	-

Ordering information

3U - 300/220 KM7-II CASEFRAMES

	Aperture width	Top cover	Order code ▼	Order code	Order code ▽	Order code
	42 HP	Ventilated	124-10136J Ⓜ	124-10241D	124-10184F	-
	60 HP	Ventilated	124-10135A Ⓜ	124-10240G	124-10183J	-
	84 HP	Ventilated	124-10134D	124-10239F	124-10182A Ⓜ	-
		Unventilated	124-10138C	124-10234K	124-10185C Ⓜ	-

Ordering information



6U KM7-II CASEFRAMES

This range of accessories is available in three configurations: 240mm and 300mm nominal depths, suitable for 160mm Eurocards; 300mm for 220mm Eurocards.

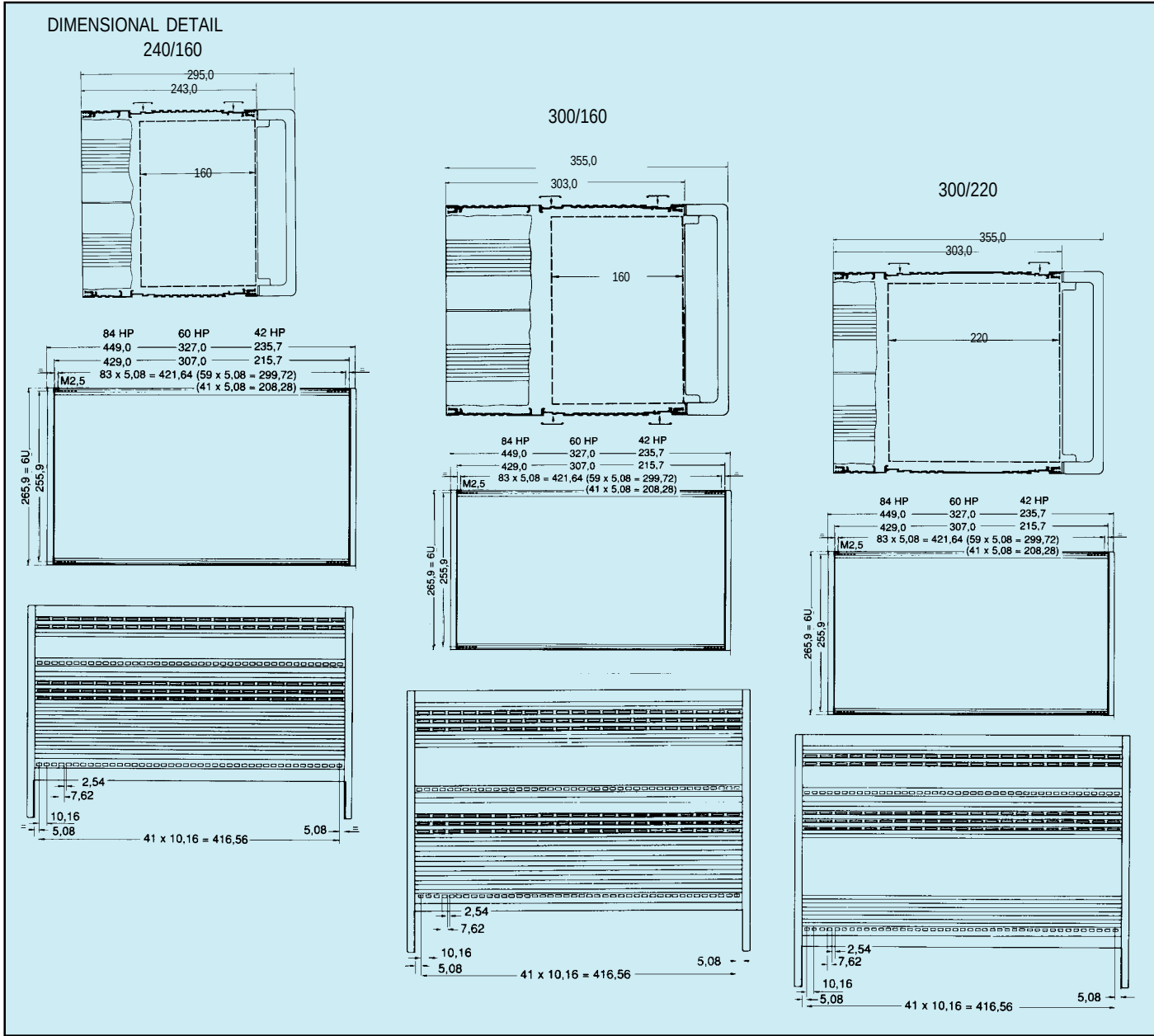
The construction, with die-cast end plates and one-piece extruded top and bottom covers gives a number of benefits. KM7-II has excellent thermal properties, dissipating heat better than a conventionally constructed case.

A 4U unit has been successfully shock and vibration tested to IEC 68 part 2-27 and 2-6 respectively and to the German Railway (DB) standards.

In its standard form it offers good EMC performance.

The easily assembled units are suitable in kit form, although an assembly service can be offered.

84HP versions are supplied with integrated rack mounting angles as standard. 42 and 60HP width units are for desk mounting only, it is not possible to fit rack mounting angles retrospectively to these sizes. All widths are fitted with concealed feet for desk mounting applications.



6U KM7-II CASEFRAMES

Supplied with integral rack mounting angles as standard

It is possible to supply versions without handles, less feet, less mounting angles and with modified ventilation, subject to minimum order quantities. Please contact our sales office with your requirements.

KM7-II accepts KM6 guides which are detailed in the accessories pages.

The bottom cover is ventilated in all standard cases, but there are versions with ventilated or unventilated tops.

MATERIAL SPECIFICATION

Endplates	: Diecast aluminium alloy LM24
Feet	: Nylon 66 black
Cover strip	: ABS RAL 5014
All extrusions	: Aluminium alloy E6

FINISHES

Endplates	: Epoxy powder coated RAL 7042 grey
Top & bottom covers	: Epoxy powder coated BS4800 00A05
Centre rear extrusion	: Etch and anodise

CONTENTS OF KIT

1 pair of endplates
Top and bottom extrusions
Centre rear extrusion (two part)
Cover strips
Fixings and tapped strips
Assembly instructions

ORDER SEPARATELY

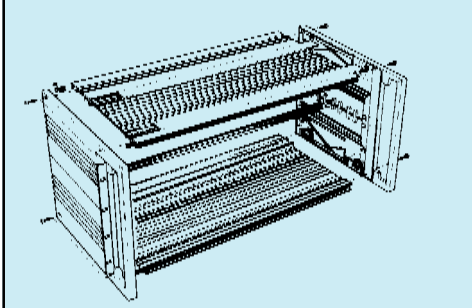
Divider kits
Guides
Connector or motherboard/backplane mounting kits
Rear panel with tapped strips or slide nuts

Ⓜ Denotes minimum order quantity, please contact our sales office.

▼ With mounting angles

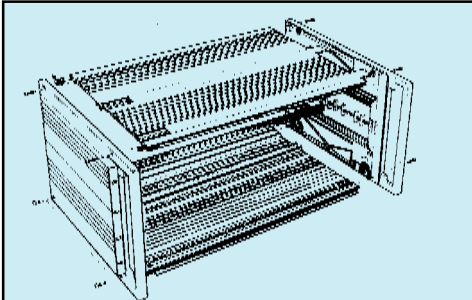
6U - 240/160 KM7-II CASEFRAMES

Ordering information

	Aperture width	Top cover	Order code ▼
	42 HP	Ventilated	124-10141J Ⓜ
	60 HP	Ventilated	124-10140A Ⓜ
	84 HP	Ventilated	124-10139L
		Unventilated	124-10142F Ⓜ

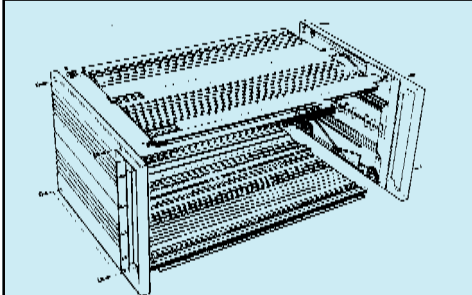
6U - 300/160 KM7-II CASEFRAMES

Ordering information

	Aperture width	Top cover	Order code ▼
	42 HP	Ventilated	124-10145H Ⓜ
	60 HP	Ventilated	124-10144L Ⓜ
	84 HP	Ventilated	124-10143C
		Unventilated	124-10149G Ⓜ

6U - 300/220 KM7-II CASEFRAMES

Ordering information

	Aperture width	Top cover	Order code ▼
	42 HP	Ventilated	124-10148K Ⓜ
	60 HP	Ventilated	124-10147B Ⓜ
	84 HP	Ventilated	124-10146E Ⓜ
		Unventilated	124-10150H

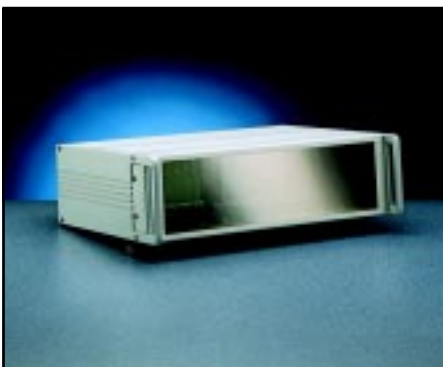
ACCESSORIES



▲ GUIDES



▲ DIN 41612 CONNECTOR/MOTHERBOARD MOUNTING



FRONT COVER (3U & 4U ONLY)



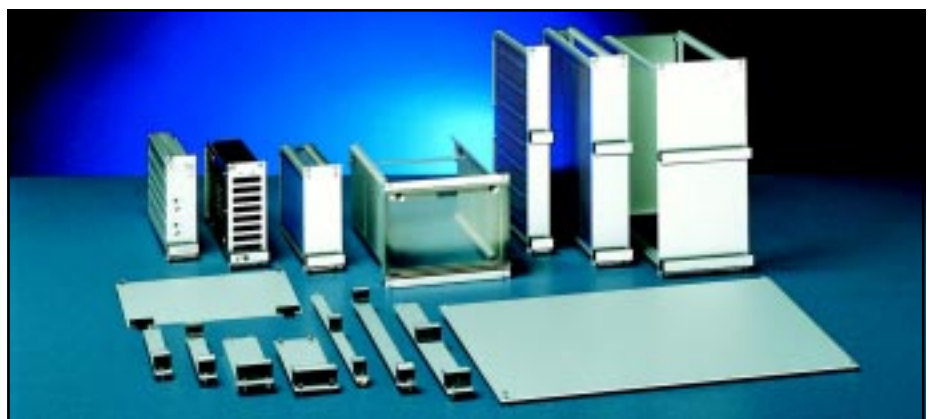
▲ REAR PANELS



▲ DIVIDER KITS



▲ ASSORTED ACCESSORIES



▲ FRONT PANELS & PLUG-IN MODULES

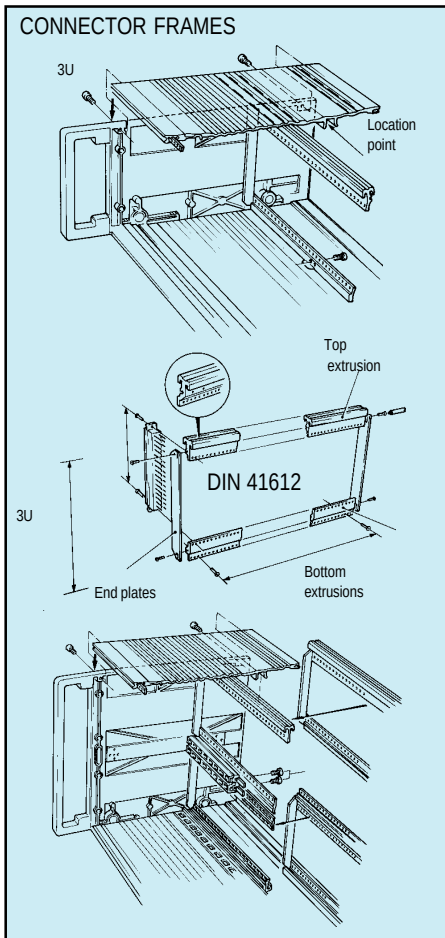
3U & 6U KM7-II CASEFRAMES

CONNECTOR MOUNTING FRAMES DIN 41612

Assembly, wiring and testing away from the confines of the main caseframe are made possible by the use of a connector mounting frame. Select the frame appropriate to the caseframe width from the table below.

MATERIAL SPECIFICATION

Extrusions : Aluminium alloy E6
Etch and clear
anodise
End plates : 1,5m MS zinc and
clear passivate



MOTHERBOARD MOUNTING KITS

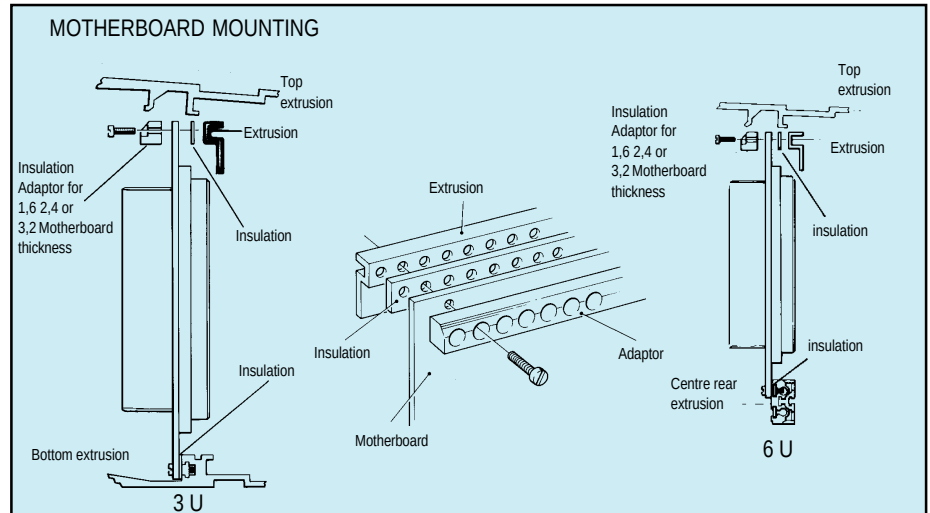
Backplanes are fitted to the KM7-II bottom extrusion via an insulation strip and captive tapped strip. In order to utilise the unique clamping action of the top extrusion, an adaptor is available to allow for the various thicknesses of the motherboard.

MATERIAL SPECIFICATION

Extrusion : Aluminium alloy E6
Etched and clear
anodised.
Insulator : PVC, UL94 VO
Adaptor : ABS

CONTENTS OF KIT

Motherboard/backplane mounting
1 extrusion
2 insulators
Thickness adaptor
Fixings and assembly instructions



Caseframe width	For 1,6 Motherboard thickness	For 2,4 Motherboard thickness	For 3,2 Motherboard thickness
42HP	124-34683A	-	-
60HP	124-34682D	-	-
84HP	124-34681G	124-34685F	124-34689E

CONNECTOR FRAME KIT CONTENTS

2 endplates
Top and bottom extrusions
Fixings
Assembly instructions

ORDER SEPARATELY

DIN 41612 connectors (See end of this section)
Connector fixing screws

DIN 41612 CONNECTOR FRAME

Ordering information

42 HP	124-34695B
60 HP	124-34694E
84 HP	124-34693H

MIXED DIN 41612 CONNECTOR / 1,6MM MOTHERBOARD FRAME

This frame is available split 42HP/42HP and requires an 84HP extrusion, 42HP connector frame and an adaptor/insulator kit. To achieve this version order one of each item in the table.

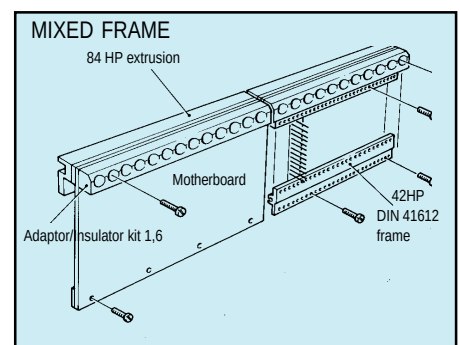
ORDER SEPARATELY

DIN41612 connectors (See end of this section)
Connector fixing screws

DIN 41612/1,6mm MOTHERBOARD FRAME

Ordering information

Width	Order code
84 HP extrusion	124-45282L
42 HP DIN 41612 frame	124-45283H
Adaptor/Insulator kit 1,6mm	124-45285B





DIVISION KIT FOR 3U PCBs (2 X 3U)

In order to divide the 6U KM7-II for two, 3U sections, a pair of front extrusions is required. Selection is dictated by the frame width.

MATERIAL SPECIFICATION
All extrusions : Aluminium E6, etch and anodised

CONTENTS OF KIT
2 front tie-bars
2 tapped strips
Ⓜ = Denotes minimum order quantity, please contact our sales office.

Ordering information		
	Width of frame	Order code
	42 HP	124-10162J Ⓜ
	60 HP	124-10160D Ⓜ
	84 HP	124-10165L



6U INNER FRAME FOR MIXED HEIGHT PCBs (3U + 6U)

When a 6U KM7-II caseframe is split into mixed areas for 3U and 6U PCBs, two kits are required. The first provides the basic divider plate; the second the appropriate front tie-bars for the 3U section.

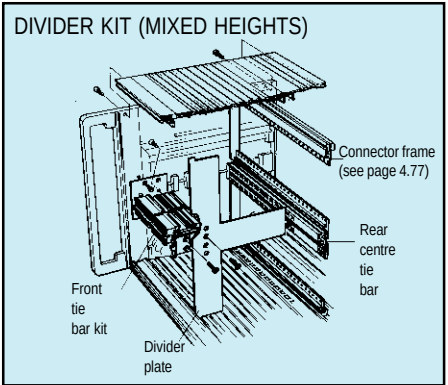
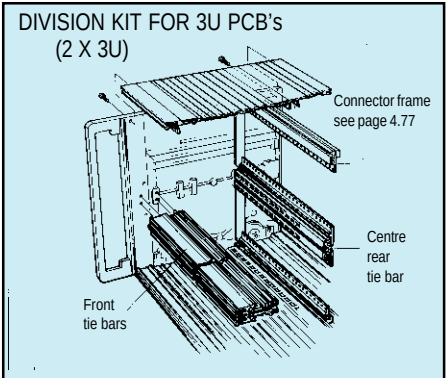
MATERIAL SPECIFICATION

All extrusions : Aluminium E6, etch and anodised
Dividerplate : M.S. zinc and clear passivate

FRONT EXTRUSIONS FOR MIXED HEIGHTS

CONTENTS OF KIT
BASIC DIVIDER PLATE
1 divider plate
Fixings
Note: order by PCB depth
Ⓜ = Denotes minimum order quantity, please contact our sales office.
ORDER SEPARATELY
Front tie bar kit
Motherboard or connector frames
FRONT TIE BAR KIT
1 pair of front tie-bars
2 tapped strips
Location moulding
Inner plate
Note: This kit is unaffected by caseframe depth.

Widths			Widths		
		Order code for all depths			Order code for all depths
24 HP left		124-10168B Ⓜ	24 HP right		124-10169K Ⓜ
42 HP left		124-10123L	42 HP right		124-10124H
60 HP left		124-10170L Ⓜ	60 HP right		124-10171H Ⓜ



DIVIDER PLATE KIT FOR MIXED HEIGHTS
Ordering information

PCB depth	Order code
160	124-10166H
220	124-10167E

Ordering information

3U & 6U KM7-II CASEFRAMES

KM6 GUIDES

The KM7-II Caseframe accepts guides from the KM6 subrack system.

For 100mm high plug-in units, use the PCB guide. There are versions to accept 1,6mm and 2,4mm thick components in 160 or 220mm depths.

For KM6-II 111,8 modules, use the plug-in unit guide which is available in 160 or 220mm depths.

Sold in Pks of 10.

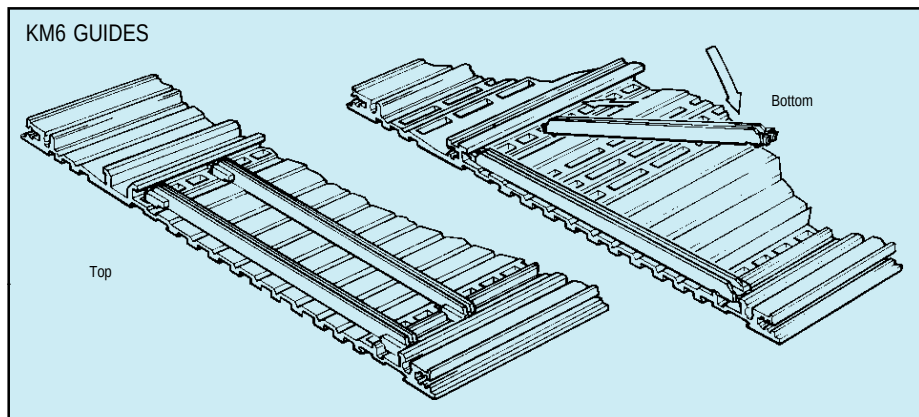
MATERIAL SPECIFICATION

1,6mm guides : Luranyl 2452/1 green
2,4mm PCB guides : Luranyl 2452/1 black

GUIDES

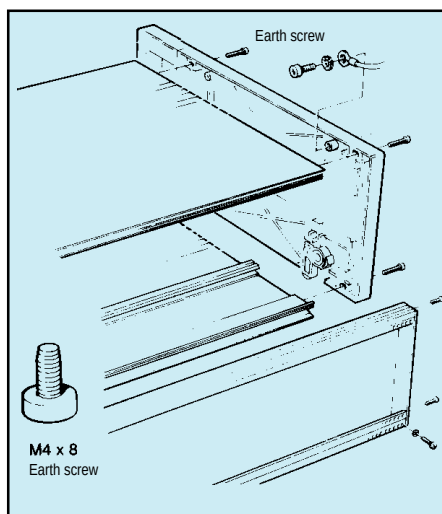
Ordering information

Guide	Board length	Order code
PCB	160	173-232674G
1,6mm thick	220	173-232677A
PCB	160	173-232666F
2,4mm thick	220	173-232667D
Plug-in unit	160	173-232675E
	220	173-232678K



EARTH CONTINUITY

In order to facilitate earth continuity throughout the KM7-II, M4 x 8mm earth screws are available. These are mounted to pillars provided in the KM7-II side castings.



Ordering information

Description	Order code
Earth screws (Pk 100)	124-46455J

KM7-II REAR PANELS

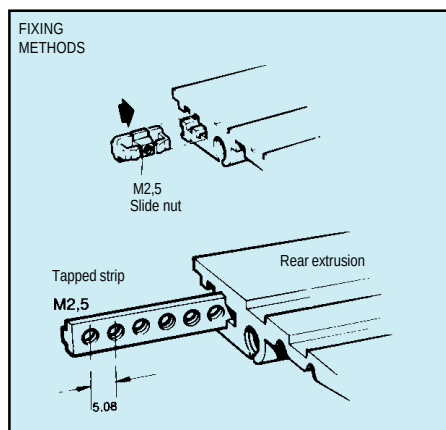
This item is ordered separately by width and height.

The rear panel is PVC-clad steel, incorporating ventilation slots. As an alternative, a standard flat or hinged panel from the KM6-II range can be used. All rear panels are supplied with fixing screws and slide nuts. Alternatively, tapped strips, if required, can be used. These must be ordered separately.

MATERIAL SPECIFICATION

Rear panel : 0,7mm Grey PVC clad pre-painted steel

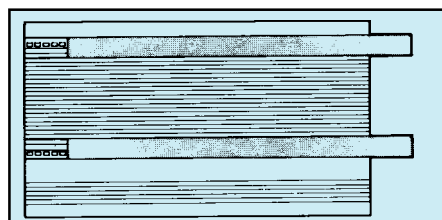
Ⓜ = Denotes minimum order quantity, please contact our sales office.



ADDITIONAL COVER STRIP

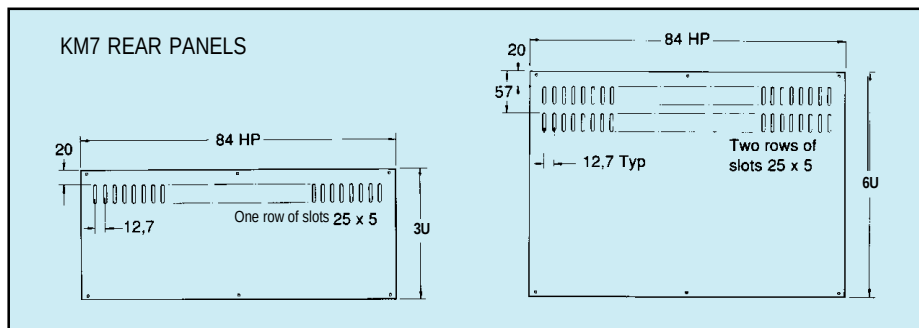
Additional 84HP cover strips are available. Sold in pairs.

MATERIAL SPECIFICATION
ABS, RAL 5014 blue



Ordering information

Description	Order code
Cover strip (pair)	124-10177A



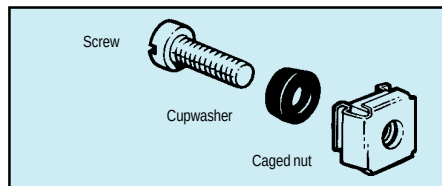
KM7-II REAR PANELS AND FIXINGS

Ordering information

Width HP	Order code			
	3U rear panel	6U rear panel	Tapped strips (each)	Slide nut (Pkt 10)
42 HP	124-10156A	124-10159C Ⓜ	124-34377H	124-30499B
60 HP	124-10155D	124-10158F Ⓜ	124-34376L	
84 HP	124-10154G	124-10157C	124-34375C	

19" FIXINGS

Caged nuts and fixing screws are available for mounting KM7-II caseframes into 19" racks or cases.



19" FIXINGS

Ordering information

Description	Qty	Order code
Fixing screws & cup washers	Pk 10	50-3965A
Caged nuts	Pk 10	50-3966G
Caged nut insertion tool	1	50-2339E

3U FRONT COVER FOR 3U VERSION

This cover, which consists of a metal frame with a polycarbonate window, is available in push fit and lockable versions. It can therefore be used to improve the frontal appearance of the KM7-II and to provide security against tampering with plug-in units.

Trim extrusions with ball catches are fitted to the handle area of the end plates and the cover can then be clipped in place, providing IP30 protection. On the lockable version the mini locks operate in a slot in the extrusion. The unit can be retrospectively fitted, and has an internal height of 16,5mm.

CONTENTS OF KIT

2 trim extrusions
1 cover assembly
2 mini locks on locking versions

MATERIAL SPECIFICATIONS

Extrusions : Aluminium, Epoxy powder coated
grey to RAL 7042

Cover frame : 1m steel, Epoxy powder coated
grey to RAL 7042

Cover window : 3mm smoked Polycarbonate
UL94 V-0

Ordering information

Description	Order code
Cover, 3U x 84HP push fit	124-10216A 
Cover, 3U x 84HP locking version	124-10215D 



3U FRONT COVER FOR 4U VERSION 1

This unit is supplied complete with a pair of 4U trim extrusions and can be fitted to the top 3U of Version 1, 4U caseframes. It will, therefore, allow the user to fit the fan tray and still gain access to the filter. Alternatively air can be drawn into a 1U ventilated front panel at the bottom of a KM7-II. The cover itself is otherwise as described on page above.

Ordering information

Description	Order code
3U cover for 4U VERSION 1, push fit	124-10223F 
3U cover for 4U VERSION 1, locking version	124-10222J 

 = Denotes minimum order quantity, please contact our sales office.



4U KM7 - II CASEFRAMES

VERSION 1 3 + 1U

FEATURES

- 84HP width
- Card depth 160 or 220mm
- 1U fan drawer with quick replacement filter
- 1U front panel in place of fan drawer for individual solutions

Version 1 is available in either 160mm or 220mm plug-in unit configurations with a 1U section which will accept a fitted fan drawer or other electronic components such as large PCBs or a power supply. The top and bottom extrusions are a nominal 300mm in depth, both being ventilated.

The 4U KM7-II includes integral rack mounting angles.

MATERIAL SPECIFICATION

Endplates	: Diecast aluminium alloy LM24
Feet	: Nylon 66 black
Cover strip	: ABS RAL 5014
All extrusions	: Aluminium alloy E6

FINISHES

Endplates	: Epoxy powder coated RAL 7042 grey
Top & bottom covers	: Epoxy powder coated BS 4800 00A05
Division extrusions	: Etch and clear anodised

ORDER SEPARATELY

Front cover
Guides
Connector mounting frame
Motherboard insulating spacer strips
Fan drawer or 1U infill panel
Fans, connectors
Rear panel with tapped strips or slide nuts



▲ 1U FRONT PANEL



▲ 1U FAN DRAWER



▲ FAN GUARD



4U KM7-II CASEFRAMES

Ordering information

Description	Order code ▼	NEW Order code ▽
4U KM7-II 3/1 - 160mm	124-10089G	124-10186L (M)
4U KM7-II 3/1 - 220mm	124-10090H	124-10187H (M)

CONTENTS OF KIT

1 pair of end plates
Top and bottom extrusion
Cover strips
Division extrusions and hardware
Fixings and tapped strips
Assembly instructions

- ▼ With mounting angles
▽ Without mounting angles, These versions are for desk mounting only - it is not possible to fit rack mounting angles retrospectively
(M) Denotes minimum order quantity, please contact our sales office.

1U FRONT PANEL

Used in place of the fan drawer, this panel is supplied with fixings and is available in ventilated and unventilated forms.

1U FAN DRAWER

The fan drawer can be fitted with slim fans according to need. Provision is made for mounting a DIN 41612 two part connector. The filter can be quickly accessed by withdrawing the drawer and swinging up the fan frame. Kit contains drawer, filter fixed connector mounting plate/air baffle and fixings.

Order separately: Fan guard

FANS AND CONNECTORS FOR FAN DRAWER

The fans suitable for fitting into the 1U fan drawer should be 119 x 119 x 25mm slim type. Up to three can be fitted to the drawer.

A DIN 41612 connector mounting facility is designed to accept, typically, an H11 or H15 connector set. The suggested order codes are shown here but full details can be found in the appropriate pages of this Handbook.

FAN GUARD

Attaches to the fan tray to act as a finger guard, this plate is perforated to suit three fans, select by PCB depth.

Ordering information

Description	Order code
1U ventilated front panel	124-10095D
1U unventilated front panel	124-10094G

Ordering information

Description	Order code
Fan drawer	124-10093K

FAN GUARD

Ordering information

Description	Order code
Fan guard 160mm PCB	124-10100F
Fan guard 220mm PCB	124-10101C
Fan 240v 50Hz/117m ³ /hr nom.	28-10004F
Connector H11 female faston	17-10113G
Connector H11 male faston	17-10112L
Connector H15 female faston	17-10115K
Connector H15 male faston	17-10210B



VERSIONS 2 AND 3,
3 + 2 X 1/2U

- 84HP width, 300mm depth
 - Inset design
 - EMC upgrade on 4U version
- These versions accept 160mm pcb's and plug-in units insert by 60mm, with 1/2U of space above and below to aid ventilation.
- Top and bottom extrusions are 300mm depth nominal, both being ventilated.

The 1/2U can be trimmed with visually enhancing extrusions and the front can be closed off by means of a smoked transparent (lexan), overall panel which can be locked to prevent unauthorised access to the plug-in section.

The 4U is available in a version 3 with additional components to provide good emc performance.

The 4U KM7-II includes integral rack mounting angles.

MATERIAL SPECIFICATION

- Endplates : Diecast aluminium alloy LM24
- Feet : Nylon 66 black
- Cover strip : ABS RAL 5014
- All extrusions : Aluminium alloy E6

FINISHES

- Endplates : Epoxy powder coated RAL 7042 grey
- Top & bottom covers : Epoxy powder coated BS 4800 00A05
- Division extrusions : Etch and clear anodised

CONTENTS

- 1 pair of end plates
- Top and bottom extrusion
- Coverstrips
- Division extrusions and hardware
- Fixings and tapped strips
- Assembly instructions

ORDER SEPARATELY

- Guides
- Connector mounting frame
- Motherboard insulating spacer strips
- 1/2 U trim kit
- Lexan front panel
- Rear panel with tapped strips or slide nuts

4U KM7-II CASEFRAMES

Ordering information

Description	Order code ▼	NEW Order code ▼
4U Version 2 3/2 - 160mm	124-10091E	124-10188E M
4U EMC Version 3 3/2 - 160mm	124-10099C	124-10189B M

- ▼ With mounting angles
- ▽ Without mounting angles, These versions are for desk mounting only - it is not possible to fit rack mounting angles retrospectively

M Denotes minimum order quantity, please contact our sales office.

1/2U TRIM KIT

Supplied as a kit containing a pair of anodised aluminium extrusion and fixings, these trims close off the 1/2 U sections providing an attractive frontal appearance.

LEXAN FRONT PANEL

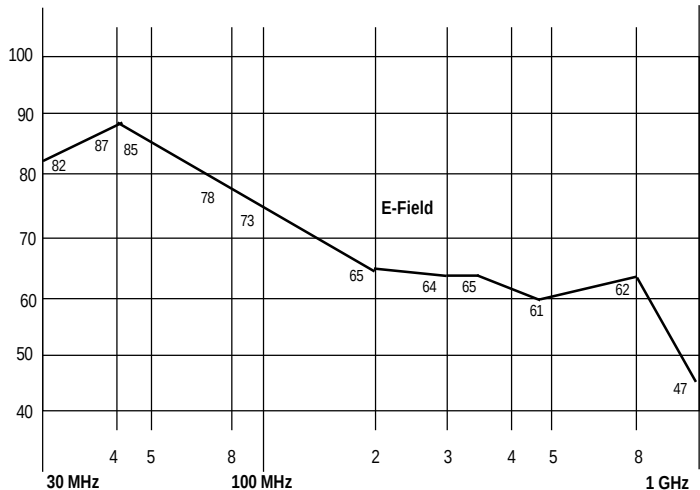
This horizontally hinged panel in smoked Lexan can be locked in position to restrict access, whilst allowing indicators etc to be viewed.

Ordering information

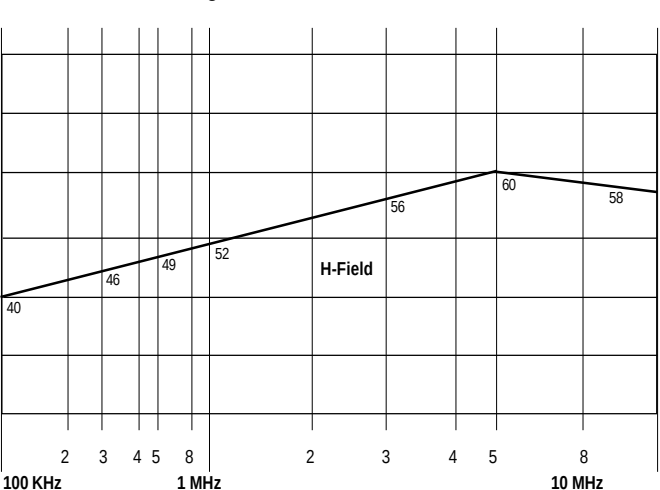
Description	Order code
1/2U trim kit	124-10096A
4U pull down front panel	124-10098F M

4U VERSION 3. TYPICAL EMC PERFORMANCE

E-Field = Denotes electric field



H-Field = Denotes magnetic field



4U KM7 - II CASEFRAMES

CONNECTOR MOUNTING FRAMES DIN 41612

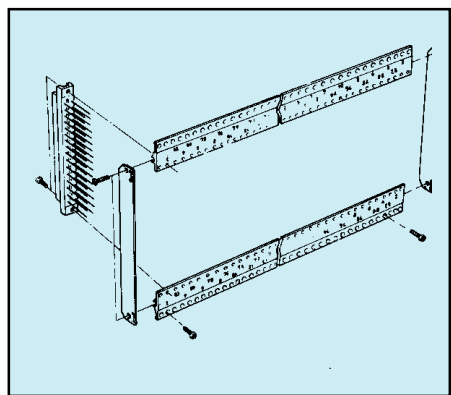
Assembly, wiring and testing away from the confines of the main caseframe is made possible by the use of a connector mounting frame. Select the frame appropriate to the caseframe width from the table below .

MATERIAL SPECIFICATION

- Extrusions : Aluminium alloy E6
Etch and clear anodise
- End plates : 1,5m MS zinc and clear passivate

CONTENTS OF KIT

- 2 end plates
2 extrusions
Fixing screws



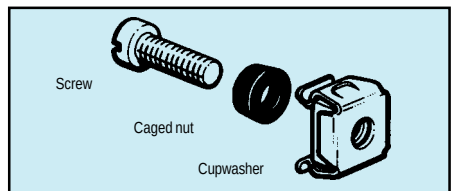
DIN 41612 CONNECTOR MOUNTING FRAME FOR 4U KM7-II ONLY

Ordering information

Width	Order code
42 HP	950-34246H
84 HP	950-34244C

19" FIXINGS

Caged nuts and fixing screws are available for mounting KM7-II caseframes into 19" racks or cases.



19" FIXINGS

Ordering information

Description	Qty	Order code
Fixing screws & cup washers	Pk 10	50-3965A
Caged nuts	Pk 10	50-3966G
Caged nut insertion tool	1	50-2339E

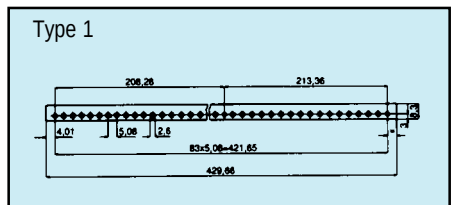
MOTHERBOARD INSULATION SPACER

These are necessary for maintaining the correct positioning of the backplane and connectors.

Single version for the top and bottom of 4U caseframe.

MATERIAL
Grey PVC

CONTENTS OF KIT
Sold Singly



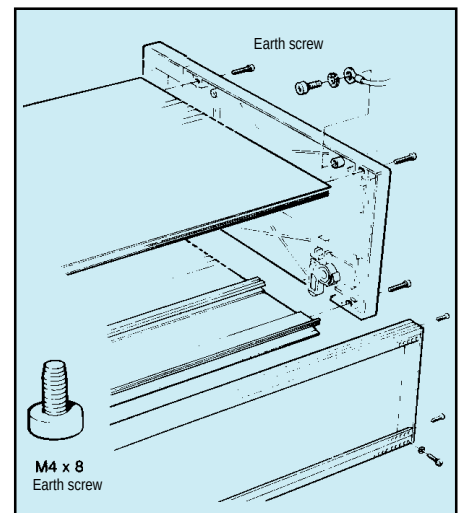
84 HP INSULATION SPACER 4U FRAMES ONLY

Ordering information

Type	Order code
1	950-10014H

EARTH CONTINUITY

In order to facilitate earth continuity throughout the KM7-II, M4 x 8mm earth screws are available. These are mounted to pillars provided in the KM7-II side castings.

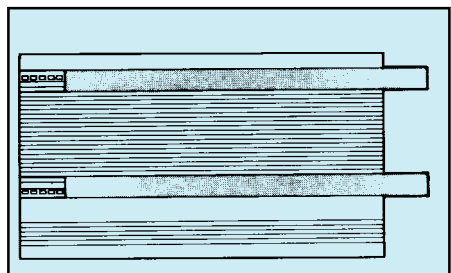


Ordering information

Description	Order code
Earth screws (Pk 100)	124-46455J

ADDITIONAL COVER STRIP

Additional 84 HP cover strips are available. Sold in pairs.



Description	Order code
Cover strip (pair)	124-10177A

Material : ABS
Colour : Blue, RAL 5014

KM7-II REAR PANELS

This item is ordered separately by width and height.

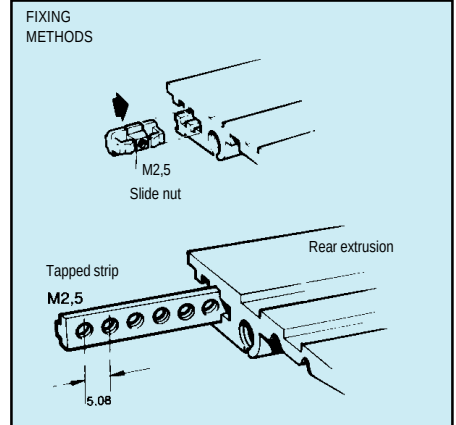
Two variants are available. One incorporates ventilation slots, the other has holes for mounting up to three, 120mm square fans and a power connector; fans (see section 1) and connectors are not included. Unused fan positions can be closed off using separate blanking panels. A faston earthing point is provided. As an alternative to these panels, standard IEC297-3 flat or hinged panels can be fitted at the rear. Rear panels are supplied with fixing screws and slide nuts. Alternatively, tapped strips can be used if required and should be ordered separately.

Material specification: 0,7mm Grey PVC clad steel.

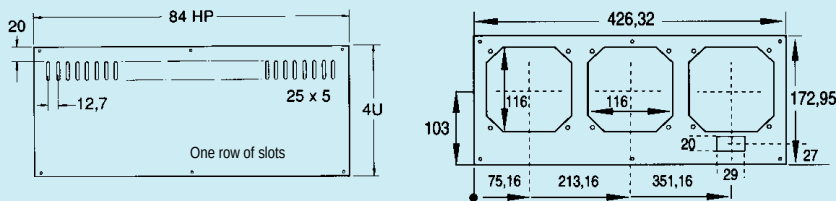
Ordering information

Description	Order code
4U x 84HP ventilated rear panel	124-10172E
4U x 84HP fan mounting panel	124-10220D ^(M)
84HP tapped strip	124-34375C
Slide nuts (Pk 10)	124-30499B
Blanking plate 120mm square	802-560664D

^(M) Denotes minimum order quantity, please contact our sales office.



KM7 REAR PANELS



KM6 GUIDES

The KM7-II caseframe accepts guides from the KM6 subrack system.

For 100mm high plug-in units, use the PCB guide. There are versions to accept 1,6mm and 2,4mm thick components in 160 or 220mm depths.

For KM6-II 111,8mm KM6 modules, use the plug-in unit guide. These are available in 160 or 220mm depths.

Sold in Pks of 10.

MATERIAL SPECIFICATION

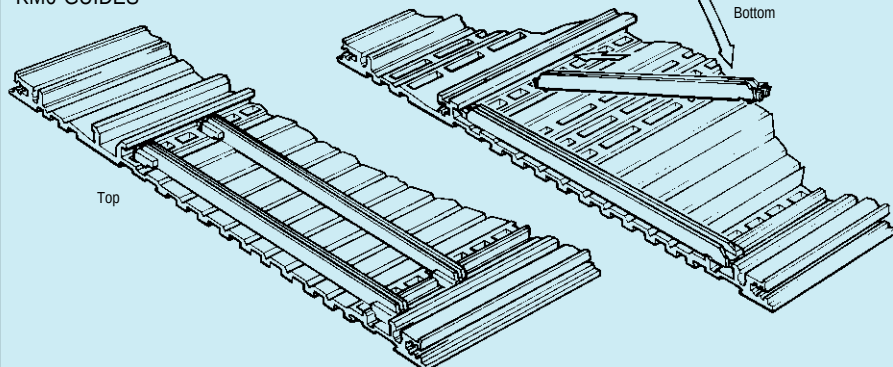
1,6mm guides : Luranyl[®] SE1 green
2,4mm PCB guides : Luranyl[®] SE1 black

GUIDES

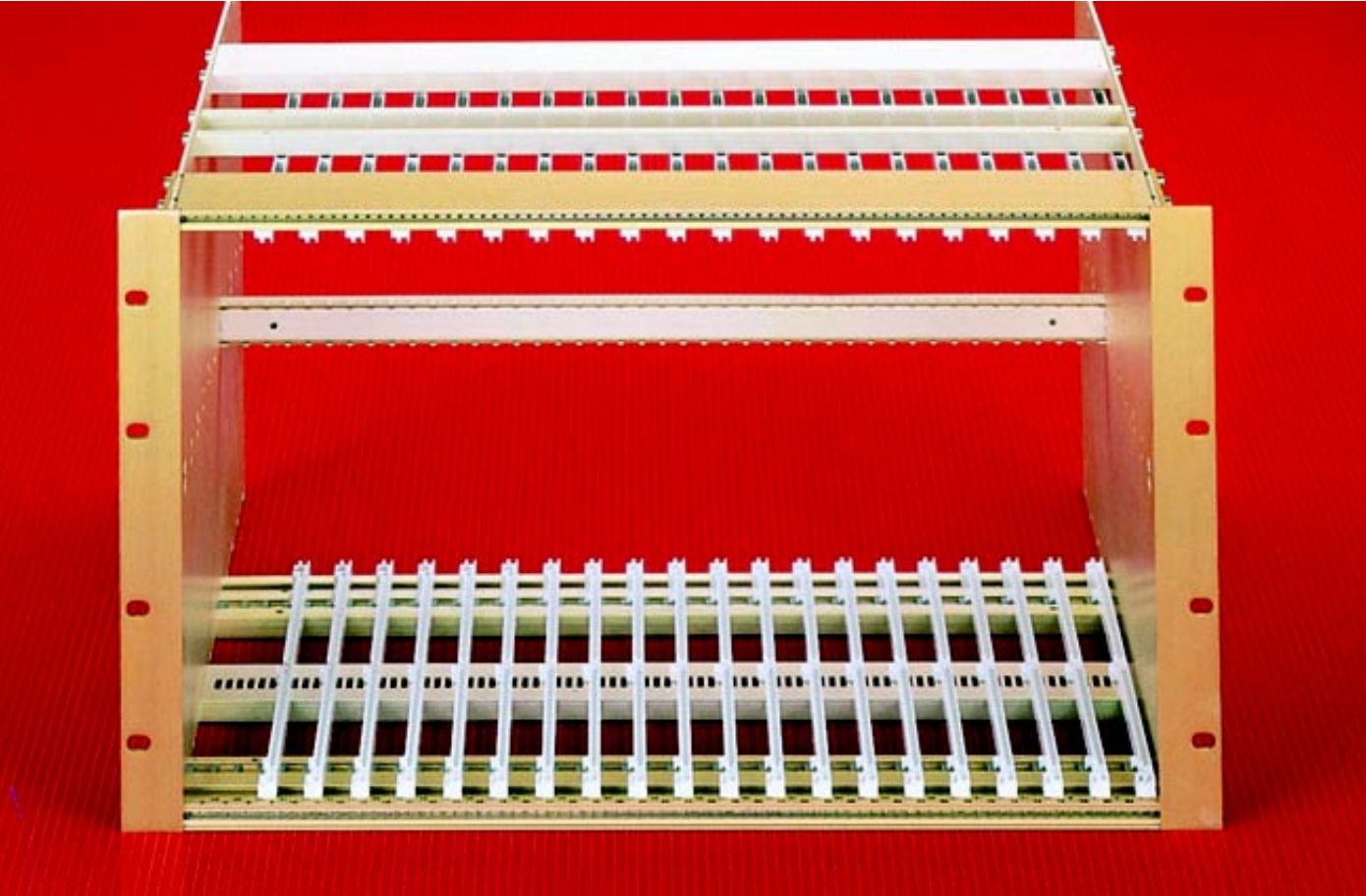
Ordering information

Guide	Board length	Order code
PCB	160	173-232674G
1,6mm thick	220	173-232677A
PCB	160	173-232666F
2,4mm thick	220	173-232667D
Plug-in unit	160	173-232675E
	220	173-232678K

KM6 GUIDES



HEAVY DUTY CARD FRAME HD-167



HEAVY DUTY CARD
FRAME HD-167

HD-167

Ordering information

FEATURES

- Built to meet MIL-STD-167
- Conductively finished
- Accepts both .062" (1,6) & .093" (2,4) Pcb's
- Positive guide locking
- Houses 6U and 9U EUROCARDS up to 400mm deep
- Fully assembled

Based on the popular EUROCARD format specified in IEEE P1101, the HD-167 series frame offers features never before integrated into a single range of frame from any manufacturer, such as positive guide retention and frame subdivision which allows shared backplanes.

A variety of card guides is available which are suitable for either .062"(1,6) or .093"(2,4) thick Pcb's in lengths up to 400mm. They may be spaced on multiples of 0.2"(5,08) centres, allowing system designers flexibility in their choice of any combination of standard board from the open market.

HD-167 frame are suitable for housing boards for all of the most recent popular bus standards including VME, VXI, MULTIBUS® II, etc..

HD-167 frames are suitable for both military and industrial applications in which severe environments including shock and vibration are encountered. Each frame is supplied from the factory, completely assembled to customer specification except for guides.

End plate Height	Card Height	Frame Depth	Card depth		
			160 mm	220mm	400mm
6U (265.9)	233.4	354mm	167-47714B	167-47715K	-
		534mm	-	167-47763G	-
9U (399.2)	366.7	354mm	167-47719J	167-47720K	-
		594mm	-	167-47764D	167-47723A

The part numbers shown above include the following parts:

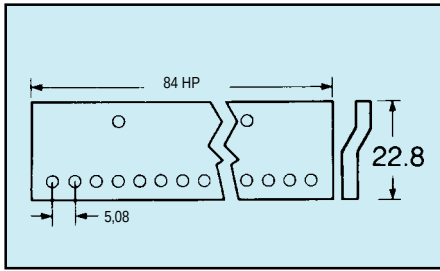
- End plates (2)
- Front & rear tie bar/locking bar assembly
- Centre backplane rail (1-6U, 2-9U)
- Centre support bar (0-160mm depth, 1-220mm, 2-400mm)

Options to be ordered separately:

- Pcb guides
- DIN 41612 (IEC 603-2) connector adaptor rails
- Divided frames
- Backplane spacer (conductive/non-conductive)

Note: This product is specific to the United States market - for lead times outside the U.S.A apply to your local sales office

DIN (IEC) CONNECTOR MOUNTING EXTRUSION



Discreet DIN 41612/IEC 603-2 connector mounting may be accomplished by attaching this extrusion with screws and lock washers to the rear tie bar.

Supplied singly in an 84 HP length and tapped on 0.2"(5,08) centres, the connector mounting extrusion may easily be cut to length by the user, if required, for mixing both connectors and backplanes in the same card frame.

DIN (IEC) CONNECTOR MOUNTING EXTRUSION

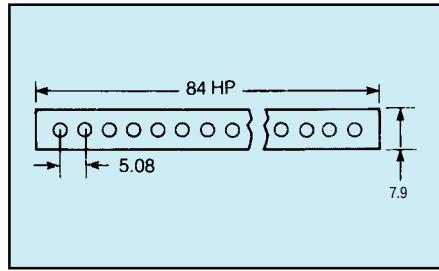
Ordering information

Description	Order code
DIN Connector Ext.	167-47506K

HEAVY DUTY CONSTRUCTION FEATURES

1. Heavy Tie Bars
2. Centre Card guide Support Bar
3. Card Guide Locking Mechanism
4. Conductive Finish Throughout
5. Endplanes and Mounting Angles are 125" thick
6. One Piece Moulded Card Guides for Pcb's up to 400mm deep

BACKPLANE SPACERS



Card frames and backplanes designed in accordance with the most recent bus specifications and the IEEE P1101 mechanical specification require the use of backplane spacers in order to ensure proper daughter board engagement. These spacers are pierced on 0.2"(5,08) centres to allow clearance for backplane mounting screws.

The spacers shown below are supplied singly in 84 HP lengths, in either conductive or non-conductive material. Two pieces are normally required for each 3U section of backplane. Either type may easily be cut to length for special applications.

BACKPLANE SPACERS

Ordering information

Description	Order code
84 HP Conductive Spacer	167-47511K
36 HP Conductive Spacer	167-47593E
24 HP Conductive Spacer	167-47594B
84 HP Non-conductive	167-47507G
36 HP Non-conductive	167-47595K
24 HP Non-conductive	167-47596G

FRONT PANELS & CARD MOUNTING BRACKETS

Individual front panels for Pcb's add rigidity, aid in directing air flow, assist in board extraction, and provide some EMI shielding. HD-167 front panels are conductively finished and when inserted, are electrically coupled to the card frame.

The conductive, card mounting brackets supplied with each front panel kit meet dimensions specified in IEEE P1101.

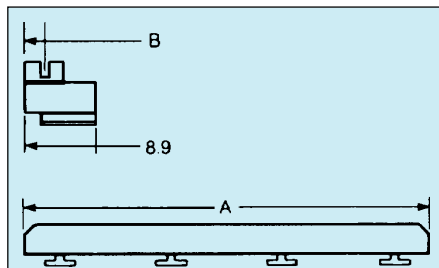
Front panels are supplied as kits consisting of the panel, handles, mounting brackets (except 24 HP and 36 HP) and hardware. Front panel kits are available as standard in four widths and three heights. Alternative sizes, custom hole punching and silk-screening are available at competitive prices.

FRONT PANELS & CARD MOUNTING BRACKETS

Ordering information

Width	Order code		
	3U	6U	9U
4 HP	167-47566H	167-47568B	167-47572E
4 HP	167-47567E	167-47569K	167-47573B
4 HP	-	167-47570L	167-47574K
4 HP	-	167-47571H	167-47575G

PCB GUIDES



Pcb guides are required for daughter board mounting. Two guides must be used for each daughter board. In the case of Pcb guides for boards 220mm in depth or greater, a projection is moulded-in to engage the centre support bar(s). This provides restraint from the effects of shock and vibration and also provides mechanical alignment of the guide.

PCB GUIDES

Ordering information

PCB length	PCB Thickness	Dim. A	Dim. B	Order code
160 mm	1.6 mm	166.2	3.05	167-47500F
220 mm	1.6 mm	226.2	3.05	167-47501C
340 mm	1.6 mm	346.2	3.05	167-47503H
400 mm	1.6 mm	406.2	3.05	167-47504E
160 mm	2.4 mm	166.2	2.67	167-47450B
220 mm	2.4 mm	226.2	2.67	167-47463L
340 mm	2.4 mm	346.2	2.67	167-47465E
400 mm	2.4 mm	405.2	2.67	167-47466B

Note: This product is specific to the United States market - for lead times outside the U.S.A apply to your local sales office

HEAVY DUTY CARD FRAME HD-167

FRAMES WITH INTEGRAL COOLING

Each of the frames detailed in the preceding pages are available with integral cooling fans. The addition of fans increases the overall height of the unit by 1U (1.75" or 44,45mm). Units using 354mm deep end plates have one fan tray with three fans while units with 534mm or 594mm deep end plates have the option of being supplied with two fan trays, each having three fans.

Each fan tray assembly is supplied with a remote front panel which incorporates a lighted on/off indicator. Fan trays are normally assembled at the factory in a centralized position to provide maximum cooling of the boards in the frame.

Fans used are sleeve bearing, 115V AC input. 90 c.f.m. Each cooled frame is supplied complete with an IEC receptacle and 6 foot line cord.

FRAMES WITH INTEGRAL COOLING

Ordering information

Basic Frame	Integrally cooled frame	
Order code	One Tray	Two Trays
167-47714B	167-47333F	N/A
167-47715K	167-47334C	N/A
167-47718A	167-47335L	167-47354F
167-47719J	167-47336H	N/A
167-47720K	167-47337E	N/A
167-47723A	167-47338B	167-47355C
167-47763G	167-47339K	167-47356L
167-47764D	167-47340L	167-47357H
167-47877H	167-47341H	N/A
167-47878E	167-47342E	N/A
167-47879B	167-47343B	N/A
167-47880C	167-47344K	N/A
167-47881L	167-47345G	167-47358E
167-47882H	167-47346D	167-47359B
167-47883E	167-47347A	167-47360C
167-47884B	167-47348J	167-47361L
167-47885K	167-47349F	N/A
167-47886G	167-47351D	N/A
167-47887D	167-47352A	N/A
167-47888A	167-47353J	N/A

Ordering information

Basic Frame	Integrally cooled frame	
Order code	One Tray	Two Trays
167-47889J	167-47362H	167-47382L
167-47890K	167-47363E	167-47383H
167-47891G	167-47364B	167-47384E
167-47892D	167-47365K	167-47385B
167-47897L	167-47366G	167-47386K
167-47898H	167-47367D	167-47387G
167-47899E	167-47368A	167-47388D
167-47900H	167-47369J	167-47389A
167-47905D	167-47370K	167-47390B
167-47906A	167-47371G	167-47391K
167-47907J	167-47372D	167-47392G
167-47908F	167-47373A	167-47393D
167-47913F	167-47374J	167-47394A
167-47914C	167-47375F	167-47395J
167-47915L	167-47376C	167-47396F
167-47916H	167-47377L	167-47397C
167-47921H	167-47378A	167-47398L
167-47922E	167-47379E	167-47399H
167-47923B	167-47380F	167-47400L
167-47924K	167-47381C	167-47401H

END PLATES & END PLATE ANGLES

End plates and end plate angles are conductively finished and supplied singly by ordering the part number shown below. End plates are made of 0.125" aluminium sheet and end plate angles are 0.100" extrusions.

EXTRUSIONS & TAPPED STRIPS

The following extrusions are available in 17.0" (431,8) lengths. Each part number includes the extrusion, tapped strip, the locking bar assembly and guide spacer if applicable.

END PLATES & END PLATE ANGLES

Ordering information

Height	Description	Depth	Order code
6U (265.9)	End plate	354mm	167-47489G
	End plate	534mm	167-47468G
	Mtg. Angle	N/A	167-47496A
9U (399.2)	End plate	354mm	167-47488K
	End plate	594mm	167-47467K
	Mtg. Angle	N/A	167-47497J

EXTRUSIONS & TAPPED STRIPS

Ordering information

Description	Order code
Front top/bottom extrusion	167-47797E
Rear top/bottom extrusion	167-47798B
Rear centre extrusion	167-47494G
Centre support extrusion	167-47493K

Note: This product is specific to the United States market - for lead times outside the U.S.A apply to your local sales office

CUSTOM CONFIGURATIONS

VERO Electronics specialises in customisation of its standard parts and is capable of designing a version of the HD-167 series frame to your specifications.

To assist you with your custom design, VERO makes available at a nominal charge, a series of drawings which contain outline of the following HD-167 parts:

- End plates
- End plate angles
- Extrusions (including profiles)
- Divider plates
- Backplane spacers
- Front panels

These drawings are available as files created under AUTOCAD® V10.0 or 1GES compatible files on 5¼" floppy disks in IBM PC format.

The cost of these drawings is credited on your first order for custom product.

CUSTOM CONFIGURATIONS

Ordering information

Description	Order code
5¼" Disk AUTOCAD® Files	167-47729E
5¼" Disk IGES Files	167-47730F

MATERIAL SPECIFICATIONS

Part	Material	Finish/Specification
Sheet aluminium	Aluminium alloy 5052-H32	Gold Iridite per MIL-C-5541
Extrusion	Aluminium alloy 6063-T6	Gold Iridite per MIL-C-5541
Card guide	Grey Noryl 225	UL 94 VO
Conductive spacer	Aluminium alloy 6063-T6	Aluminium alloy 6063-T6
Non-conductive spacer	Black rigid PVC	None
Tapped strip	Mild steel	Gold chromate

PIECE PARTS

Ordering information

Description	Where Used	Order code
Socket head cap screw M4 x 30mm	End plate and angles to tie bars Extrusion to divider plate	167-47512G
Set screw M2.5 x 5mm	Locking bar assembly	167-47787J
Screw M2.5 x 6mm	Backplane	167-47792J
Screw	End plate angle to end plate (divider frame)	167-47791A
Screw M2.5 x 8mm	Connector mounting extrusion to tie bar	167-47786A
Hex nut M4	End plate Angles to end plate (divided frames only)	167-47688L
Lockwasher M4	End plate angle to end plate Type 2 Divider plate to rear tie bar	167-47689H
Screw M2.5 x 12mm	Monolithic Backplanes to rear tie bar	167-47686F

PIECE PARTS

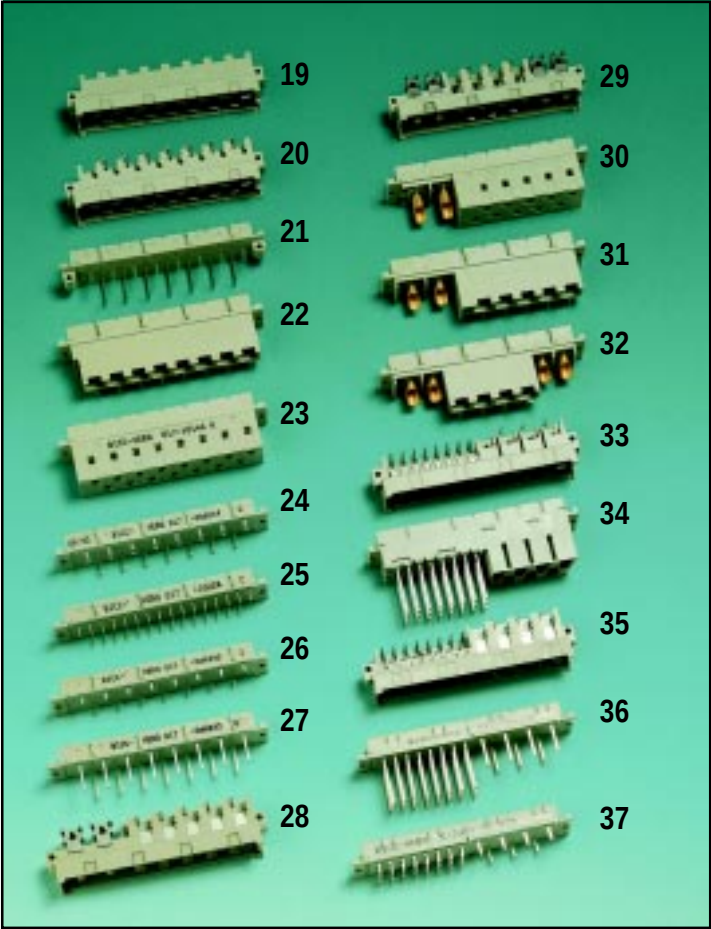
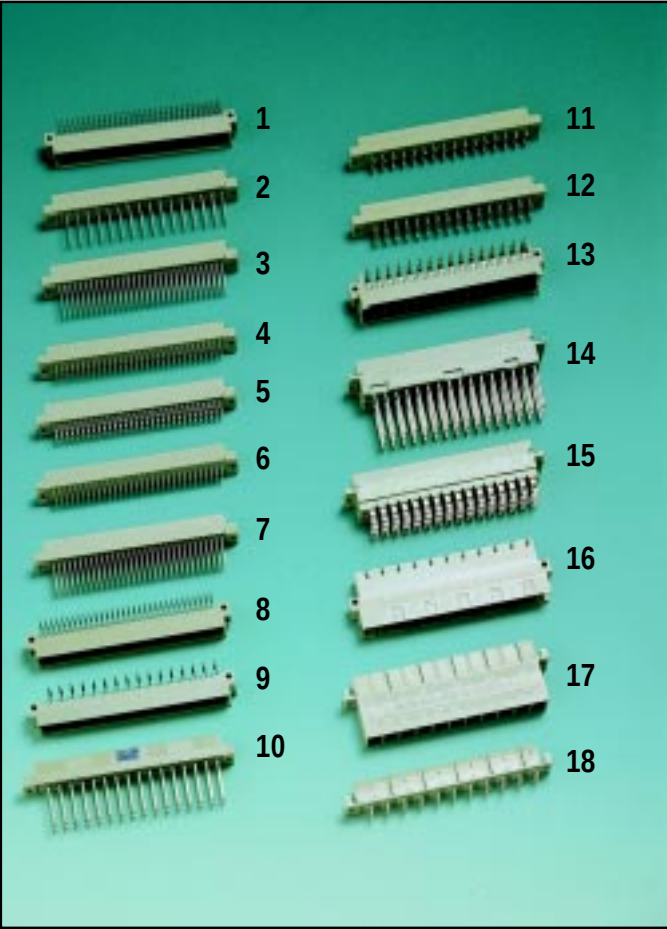
Accessory Hardware

The following items may be ordered as accessory items or spares as required. They are supplied in packs of ten pieces.

Note: This product is specific to the United States market - for lead times outside the U.S.A apply to your local sales office

CONNECTORS CONFORMING TO DIN 41612

VERO Electronics maintains a range of connectors that conform to the DIN 41612 norm and some that could be termed enhanced standard developed from customers special requirements.



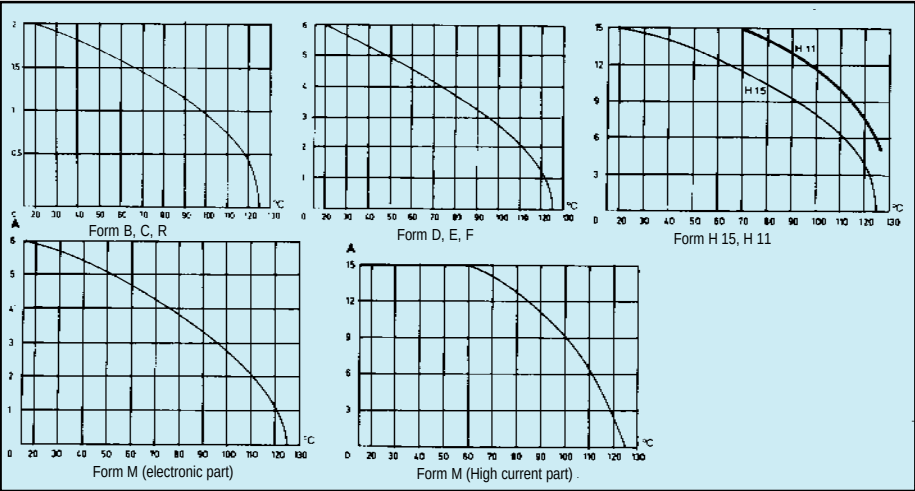
CONNECTOR QUALIFICATION

VERO connectors conform to DIN 41612, Part 5 with regard to their nominal values, claims and testing.

Performance class	Mating cycles	Surfaces	Gas test
1	500	Contact area gold plated Termination Tin plated	10 days
*2	400	Contact area gold plated Termination Tin plated	4 days
3	50	Contact area gold plated Termination Tin plated	—

* VERO connectors in general meet performance class 2: Life span 400 mating cycles. 200 cycles, then 4 days of gas testing. Measurement of the resistance. 200 mating cycles followed by visual inspection. No degradation from surface material through to the sub-material, and no lessening of functionality.

RATING CURVES. (OPERATING CURRENT/AMBIENT TEMPERATURE)



VDE 0110 B/2.79, TABLE 4

Minimum values of air and creepage distances in mm

Reference voltages (to Table 1) upto:

DC voltage	V	15	36	75	150	300	450	600
AC voltage (rms)	V	12	30	60	125	250	380	500
Insulation group Ao	L	0.06	0.1	0.15	0.25	0.5	0.8	1.1
	a	0.1	0.15	0.2	0.35	0.7	1.1	1.5
Insulation group A	L	0.15	0.2	0.25	0.4	0.8	1.2	1.6
	a	0.2	0.25	0.35	0.5	1	1.5	2
Insulation group B	L	0.4	0.5	0.7	1	1.6	2.4	3
	a	0.6	0.8	1	1.3	2	3	4
	b	0.8	1	1.3	2	3	4	5.5
Insulation group C	L	0.8	1	1.2	1.6	2.5	3.5	4.5
	a	1.2	1.5	1.7	2.2	3	4.5	6
	b	1.7	2	2.3	3	4	6	8
Insulation group D	L	1.6	1.8	2	2.5	3.5	5	6.5
	a	2.3	2.6	3	3.5	5	7	9
	b	3.2	3.5	4	5	7.5	10	13

L = Air distance

a = Creep distance as Table 3

VDE 0110 b/z.79, table 3

Creeping current strength

Creeping current strength ¹⁾ (Minimum value)	Creeping-distances ²⁾ without ribs with ribs (8a)	
KB 100	b	$\frac{a+b}{2}$
KB 380	$\frac{a+b}{2}$	a
KB>600	a	a

1) DIN 53480/VDE 0303

2) For insulation group Ao and A generally creepage-distance a

Type	Order code	DIN description	★ POS.	Description	class
3 ROW FORM C male 64/96	17-2876D	C64M - C1A	8	Dip solder, angled. Contacts: full rows A & C	2
3 ROW FORM C male 96/96	17-2622B	C96M - C1A	1	Dip solder, angled. Contacts: full rows A, B & C	2
3 ROW FORM C female 32/96	17-2875J M	C32F - C1H	2	Wire wrap. Contacts: even numbers rows A & C	2
3 ROW FORM C female 64/96	17-2874C	C64F - C1H	3	Wire wrap. Contacts: full rows A & C	2
3 ROW FORM C female 64/96	17-2624C	C64F - C1D	4	Dip solder. Contacts: full rows A & C	2
3 ROW FORM C female 64/96	17-2625J	C64F - C1W	5	Solder eyelet. Contacts: full rows A & C	2
3 ROW FORM C female 96/96	17-2479F	C96F - C1D	6	Dip solder. Contacts: full rows A, B & C	2
3 ROW FORM C female 96/96	17-2626D	C96F - C1H	7	Wire wrap. Contacts: full rows A, B & C	2
2 ROW FORM D male 32 way	17-2873H	D32M - C1A	9	Dip solder, angled. Contacts: full rows A & C	2
2 ROW FORM D female 32 way	17-2872B	D32F - C1H	10	Wire wrap. Contacts: full rows A & C	2
2 ROW FORM D female 32 way	17-10720L	D32F - C1D	11	Dip solder. Contacts: full rows A & C	2
2 ROW FORM D female 32 way	17-10110H M	D32F - C1W	12	Solder eyelet. Contacts: full rows A & C	2
3 ROW FORM F male 48 way	17-2631A M	F48M - C1A	13	Dip solder, angled. Contacts: full rows B, D & Z	2
3 ROW FORM F female 48 way	17-2636J M	F48F - C1H	14	Wire wrap. Contacts: full rows B, D & Z	2
3 ROW FORM F female 48 way	17-45497F M	F48F - C1W	15	Solder eyelet. Contacts: full rows B, D & Z	2
FORM H male, 11 way *	17-10112L M	H11M - C2A	16	Faston/dip solder, angled, LP 32**	1
FORM H female, 11 way * ②	17-10113G	H11F - C2S	17	Faston 6.3 x 0.8mm	1
FORM H female, 11 way * ②	17-10137C M	H11F - C2S	18	Dip solder, 2 per contact	1
FORM H male 15 way *	17-10210B	H15M - C2G	19	Faston 6.3 x 0.8mm, LPZ32**	1
FORM H male 15 way *	17-10493D	H15M - C2A	20	Dip solder, angled, LPZ32**	1
FORM H female 15 way * ②	17-10223G M	H15F - C2D-90°	21	Dip solder, angled	1
FORM H female 15 way * ②	17-10115K	H15F - C2S	22	Faston	1
FORM H female 15 way * ②	17-10144K M	H15F - C2Sr	23	Screw connection	1
FORM H female 15 way * ②	17-46844A M	H15F - C2W	24	Solder eyelet	1
FORM H female 15 way * ②	17-10224C M	H15F - C2D	25	Dip solder, 2 per contact	1
FORM H female 15 way * ②	17-46842J	H15F - C2D	26	Solder, 4mm long	1
FORM H female 15 way * ②	17-46843E M	H15F - C2D	27	Solder, 13mm long	1
FORM H 15 male 10 + 2 way*	17-10038E M	H15M - 10WVZ 32+2 HA/W	28	10 Angled dip solder/faston + 2 dip solder/screw, LPZ32**	
FORM H 15 male 7 + 4 way*	17-10235E M	H15M - 7WVZ 32+4 HA/W	29	2 + 2 dip solder/screw + 7 angled dip solder/faston	
FORM H 15 female, 10 + 2 way * ②	17-10039A M	H 15 F 10 SR+2 HA/L	30	10 screw, 2 solder	1
FORM H 15 female, 10 + 2 way * ②	17-10138K	H 15 F 10 FA+2 HA/L	31	10 faston, 2 solder	1
FORM H 15 female, 7 + 4 way * ②	17-10236A M	H 15 F 7 FA+4 HA/L	32	2 solder, 7 faston, 2 solder	1
FORM M male mixed 24 + 7 way *	17-24311L	Male mixed, form M	33	Dip solder, angled 24 + 7, LPZ32**	2
FORM M female mixed 24 + 7 way * ②	17-24312G M	Female mixed, form M	34	24 wire wrap, 7 faston	2
FORM M male mixed 24 + 7 way *	17-10225K	Male mixed, form M	35	Dip solder, angled. 24 + 7 Dip solder/faston, LPZ32**	2
FORM M female 24 + 7 way * ①	17-10227B	Female mixed, form M	37	24 + 7 Dip solder	2

M = Denotes minimum order quantity, please contact our sales office.

* With integrated polarisation

① Use coding wedge 17-10234J (Pk 10)

** Leading pin position

② Use coding wedge 17-10064F (Pk 10)

Order coding keys separately



HEAVY DUTY CONNECTOR CODING DEVICE

This coding device is suitable for use with DIN 41612 types B, C & D connectors. It will prevent incorrect board insertion and costly mis-mating. The device is manufactured from zinc alloy to BS 1004A and offers a very strong polarizing feature that is easy and quick to assemble. Supplied in a packet containing 10 kits.

Ordering information

Compatible connectors	Order code
B, C and D	41-24324G

An alternative coding device is available in red plastic. Also supplied in packs of 10 kits.

Ordering information

B,C and D	17-2856E
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★ POS. For photo position see p. 4.93

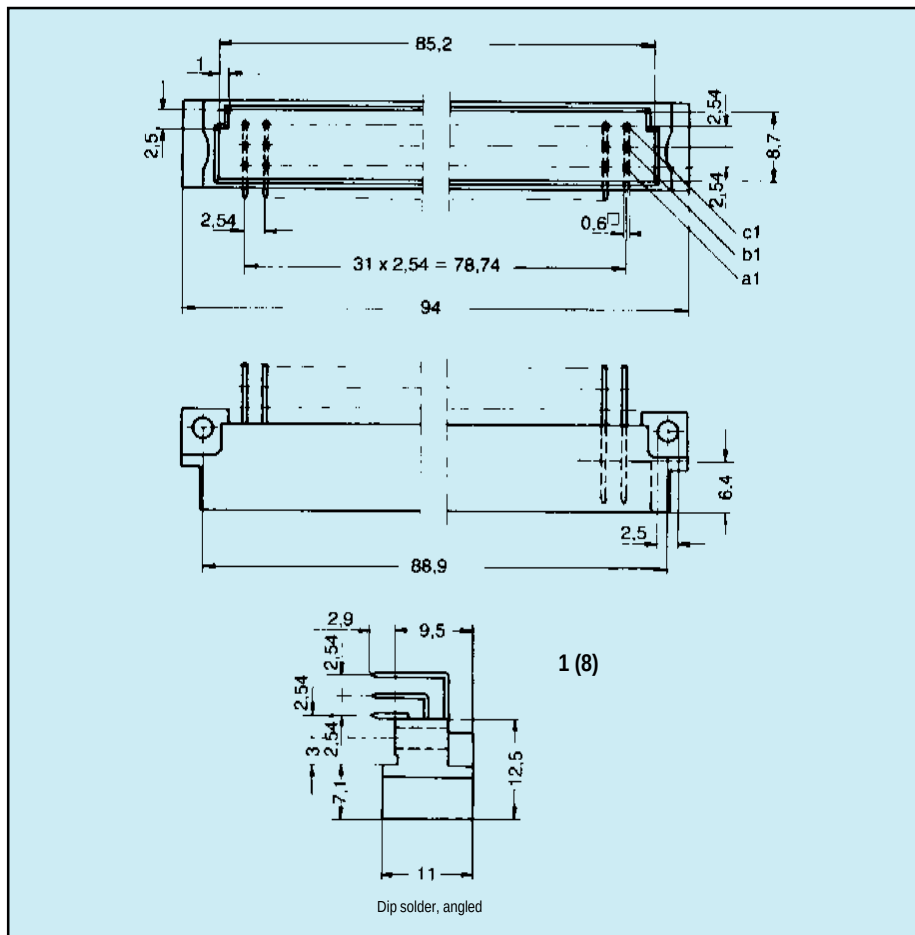
CONNECTORS TO DIN 41612

3 ROW FORM C

MALE 64/96,96/96

- Angled dip solder terminations
- Rows on 2.54mm pitch
- For PCBs with nominal thickness of 1.6mm
- Height of 11mm
- Selectively hard gold plated contacts which ensure a reliable contact at high connection forces
- Discrimination notches prevent incorrect connection

Position No's. 8 & 1

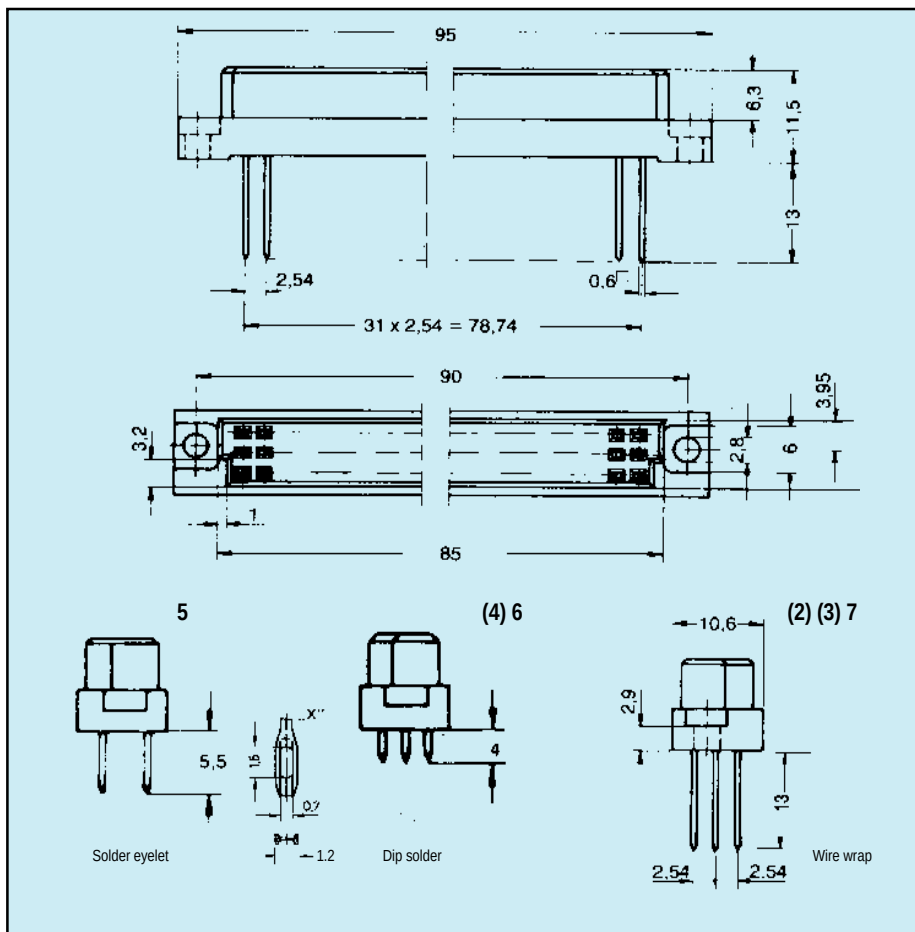


3 ROW FORM C

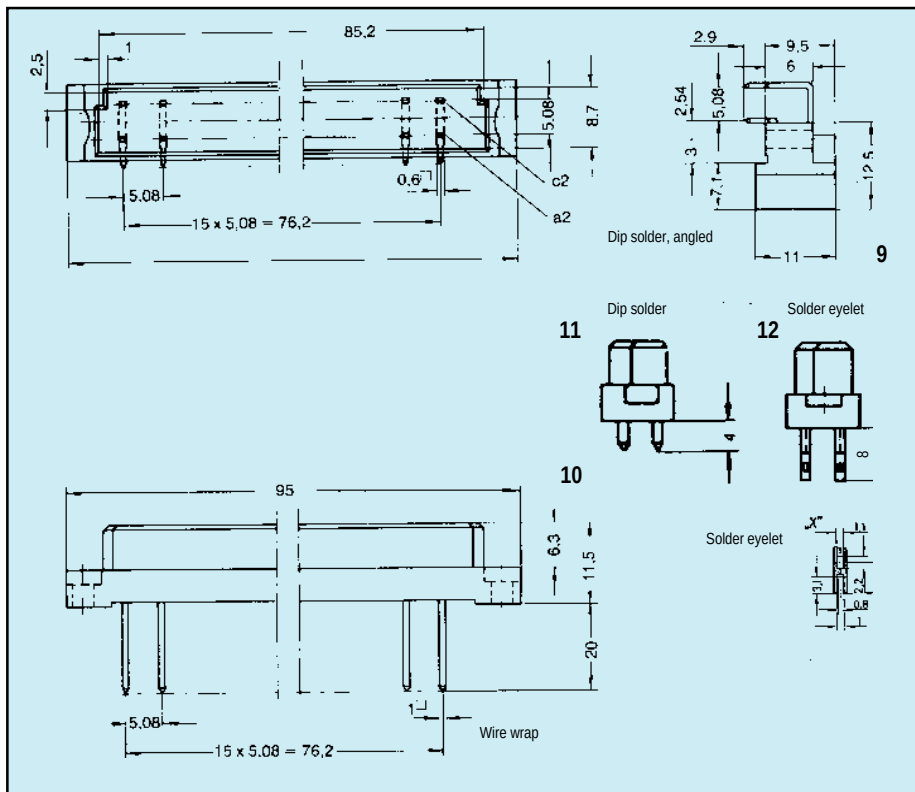
FEMALE 32/96, 64/96, 96/96

- Wire wrap, solder eyelet or dip solder terminations
- Three rows
- Selectively gold plated contacts, zinc plated terminations

Position No's. 2 to 7



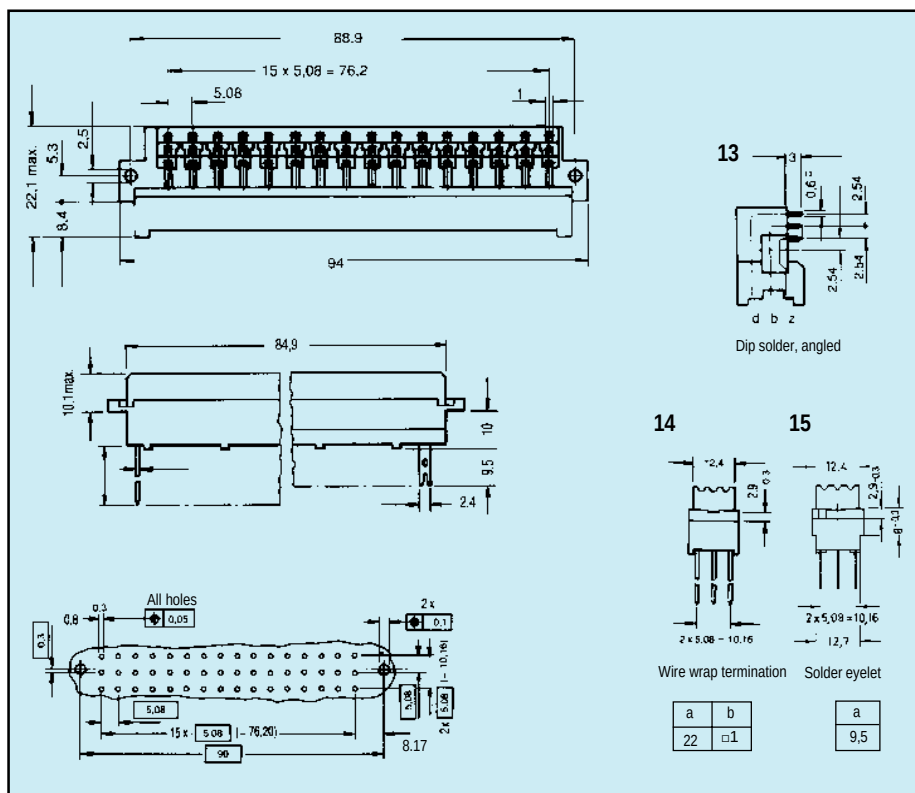
★ POS. For photo position see p. 4.93



2 ROW FORM D MALE 32 WAY FEMALE 32 WAY

- Two rows, inter-row spacing 5.08mm
- Angled dip solder, Wire-wrap, solder eyelet or dip solder terminations
- For PCBs with a nominal thickness of 1.6mm
- Height 11mm
- Discrimination notches in the housing prevent incorrect connection
- Coding for connector construction forms are available
- Selectively gold plated contacts, zinc plated terminations

Positions 9 to 12



3 ROW FORM F MALE 48 WAY FEMALE 48 WAY

- Three rows, inter-row spacing 3.81mm
- Connectors with higher insulation to VDE 0110 Group C 380V /450V
- Operating current 4.0A at 70°C
- Angled dip solder, solder eyelet or wire wrap terminations on 5,08mm matrix
- Selectively gold plated contacts, zinc plated dip solder terminations
- For PCBs with a nominal thickness of 1.6mm
- Discrimination notches prevent incorrect connection
- Selectively gold plated contacts, zinc plated solder or wire wrap terminations
- Higher insulation body, to VDE 0110 Group C 380V / 450 V
- Solder termination 1mm square

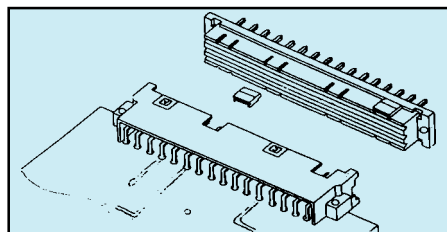
Positions 13 to 15

CONNECTORS WITH INTEGRATED POLARISATION

The number of coding combinations can be calculated with the formula

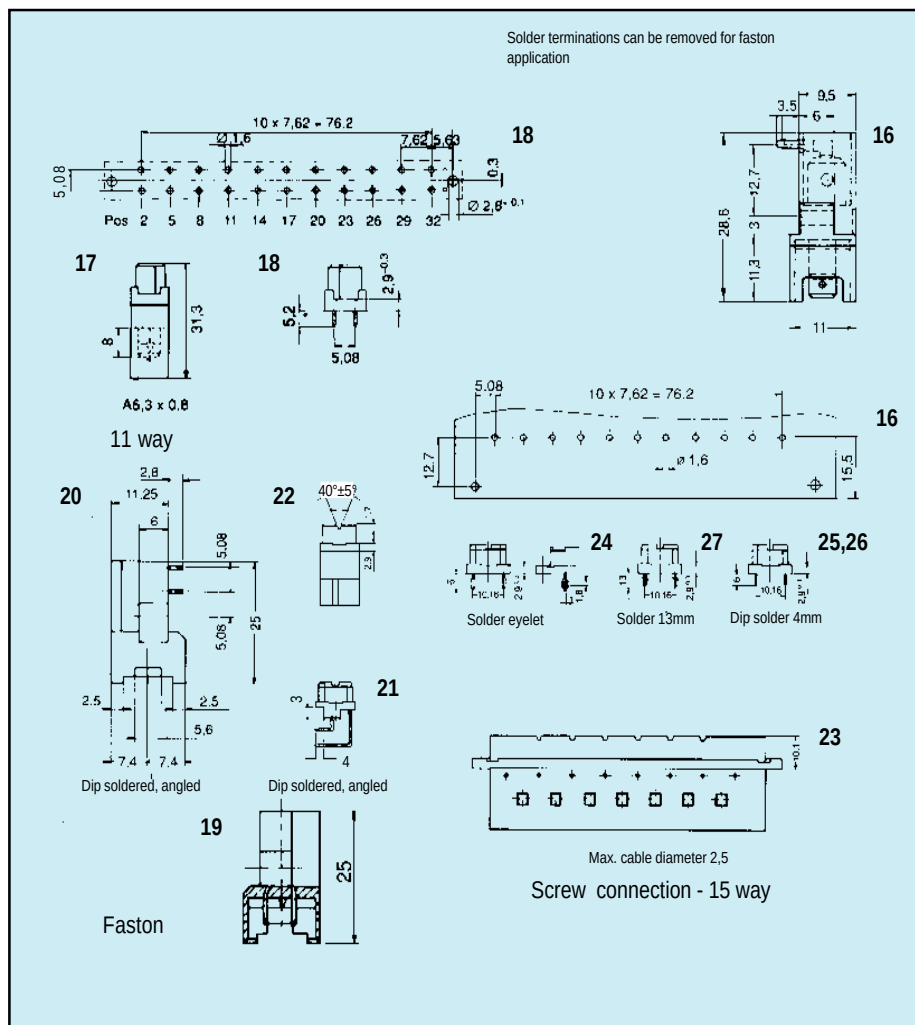
$$C = \frac{n!}{r!(n-r)!}$$

★ POS. For photo position see p. 4.93

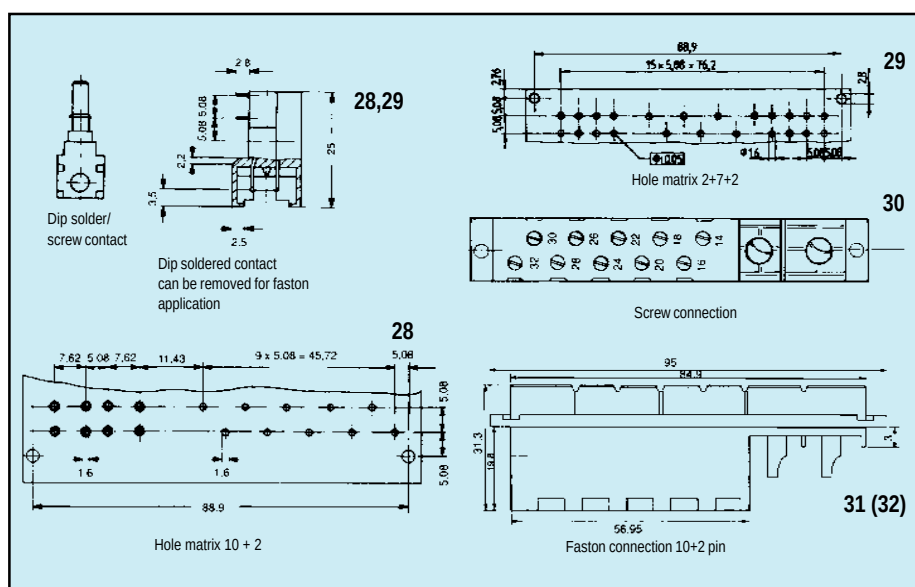


Many of the following connectors can be polarised without loss of contact. Coding wedges, which should be ordered separately, are fitted to the female. The corresponding break-out feature is removed from the mating male.

Positions 16 to 27



Positions 28 to 32

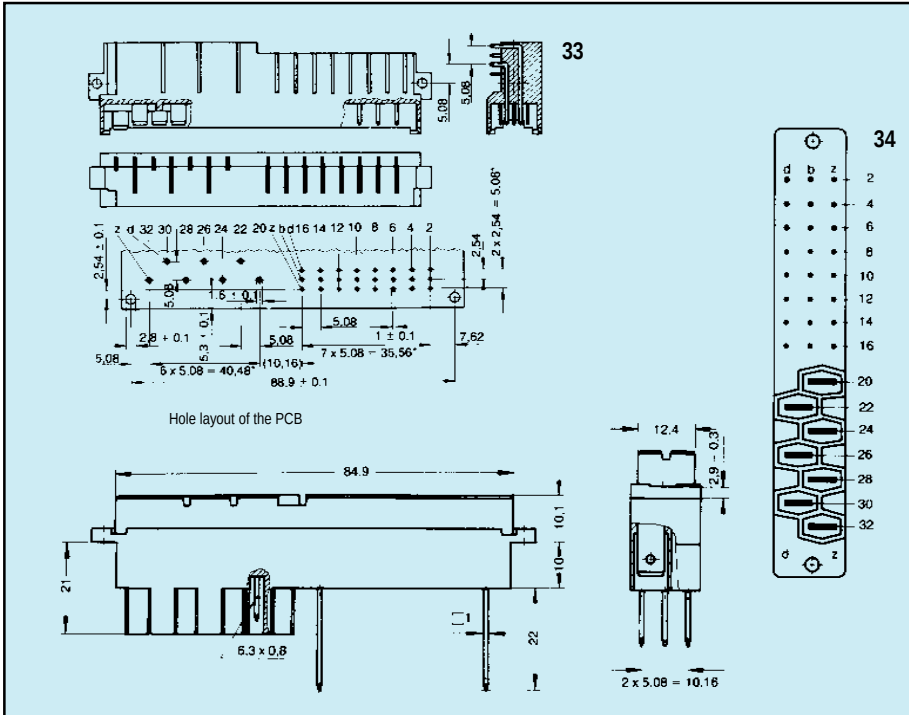


VERO Electronics *Technical Enquiries* ☎ U.K. 01703 260211 U.S.A. 1 800 242 2863

FORM M MALE AND FEMALE MIXED 24 + 7 WAY

- Mixed connector with two separated areas for electronic and heavy current wiring
- Electronic wiring on 24 contacts (first mate last break contact z24)
- Heavy current wiring on 7 contacts (first mate last break contact z32)
- Selectively gold plated and zinc plated angled terminations for automatic dip solder (Electronic contacts)

Positions 33 & 34



FORM M WITH INTEGRATED POLARISATION MALE AND FEMALE 24+7 WAY

- 24 electronic and 7 heavy current (15A)
- First mate, last break contacts in both areas
- Dip solder and wire wrap (22mm x 1□) terminations
- Coding without loss of contacts
- 8 coding positions = max 70 combinations
- Selectively gold plated contacts in the electronic area and silver plating in the heavy current section give excellent contact performance

Positions 35 to 37

