

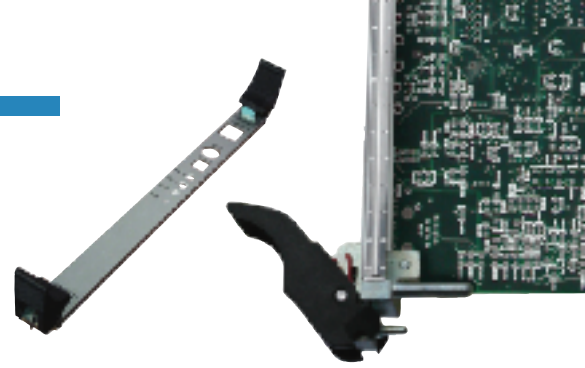
Handles & Accessories

cPCI, VME64X



FRONT PANELS AND EMC SPRINGS

Front Panels for Handles or Card Holders

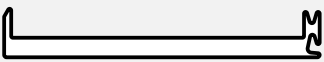


Panels for use with continuous EMC gasket



Grained, anodized front, alodine rear

Height	4HP	5HP	6HP	7HP	8HP	10HP	12HP
3U	66-514-23	-	66-516-23	-	66-518-23	66-520-23	66-522-23
4U	66-514-24	-	66-516-24	-	66-518-24	66-520-24	66-522-24
6U	66-514-26	-	66-516-26	-	66-518-26	66-520-26	66-522-26
8U	-	-	66-516-28	-	-	-	-
9U	66-514-29	-	66-516-29	-	66-518-29	66-520-29	66-522-29



Not grained, not plated

Height	4HP	5HP	6HP	7HP	8HP	10HP	12HP
3U	66-514-63	-	66-516-63	-	66-518-63	66-520-63	66-522-63
4U	66-514-64	-	66-516-64	-	66-518-64	66-520-64	66-522-64
6U	66-514-66	-	66-516-66	-	66-518-66	66-520-66	66-522-66
8U	-	-	66-516-68	-	-	-	-
9U	66-514-69	-	66-516-69	-	66-518-69	66-520-69	66-522-69

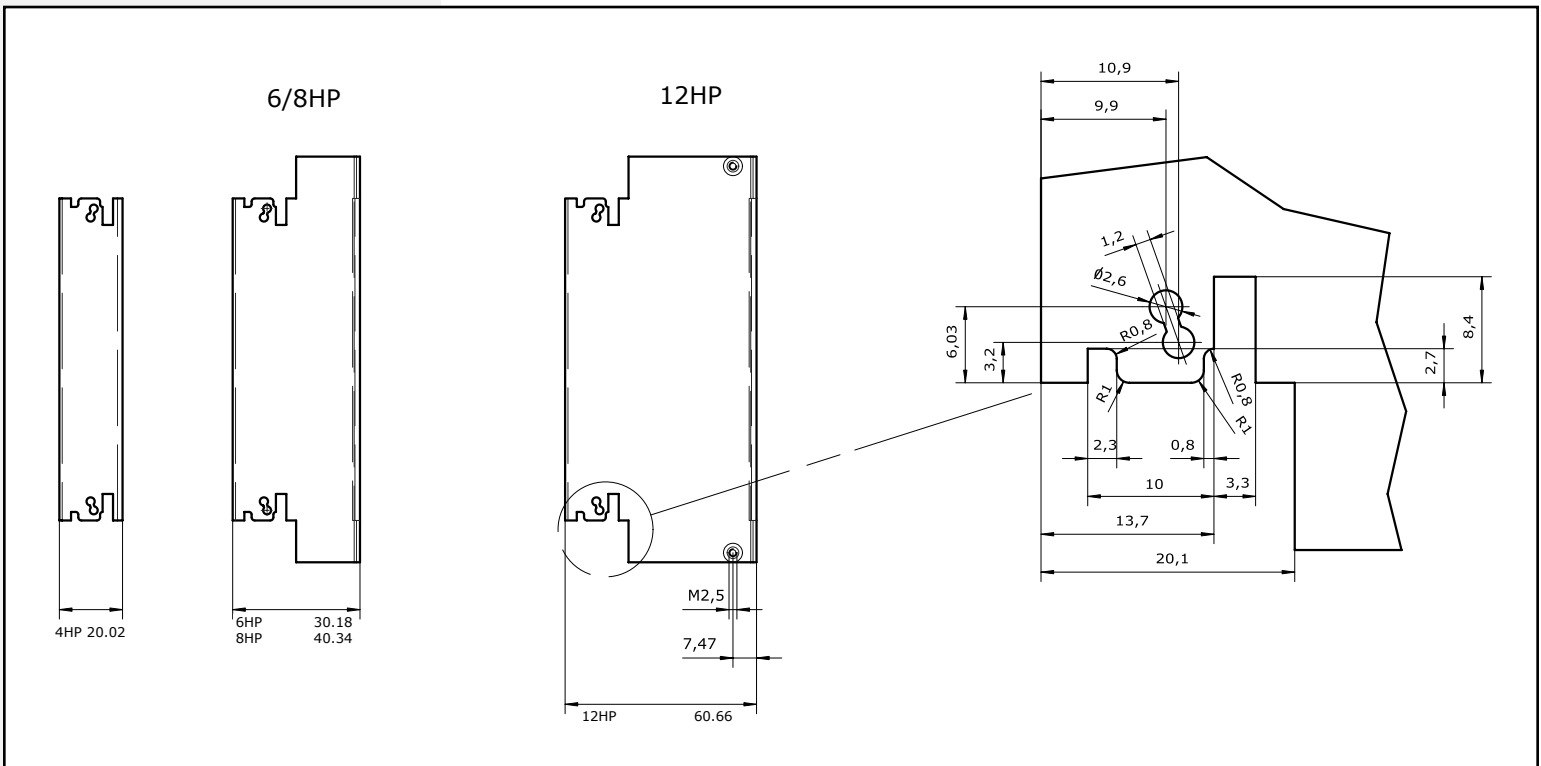
Continuous Gaskets



Height	3U	4U	6U	6U*	8U	9U	-
gasket	CAE005765	CAE005766	CAE005767	CAE006363	CAE007051	CAE005770	-

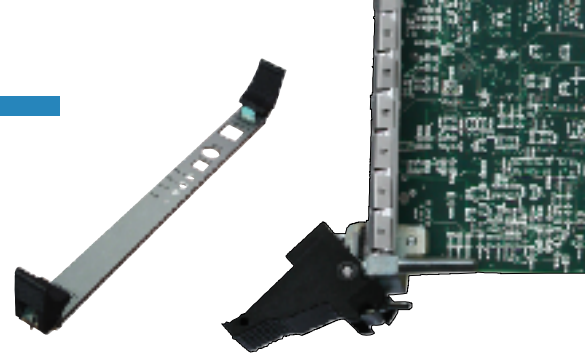
*for use on 6U panels wider than 4HP

Line Drawings - Panels for use with continuous EMC gasket

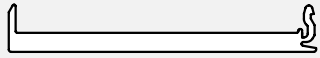


FRONT PANELS AND EMC SPRINGS

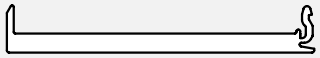
Front Panels for Handles or Card Holders



Panels for use with segmented EMC gasket



Grained, anodized front, alodine rear



Not grained, not plated

Height	4HP	5HP	6HP	7HP	8HP	10HP	12HP
3U	66-544-23	66-545-23	66-546-23	66-547-23	66-548-23	66-550-23	66-552-23
4U	66-544-24	66-545-24	66-546-24	-	66-548-24	-	66-552-24
6U	66-544-26	66-545-26	66-546-26	66-547-26	66-548-26	66-550-26	66-552-26
8U				-	-	-	-
9U	66-544-29	66-545-29	66-546-29	-	66-548-29	-	66-552-29

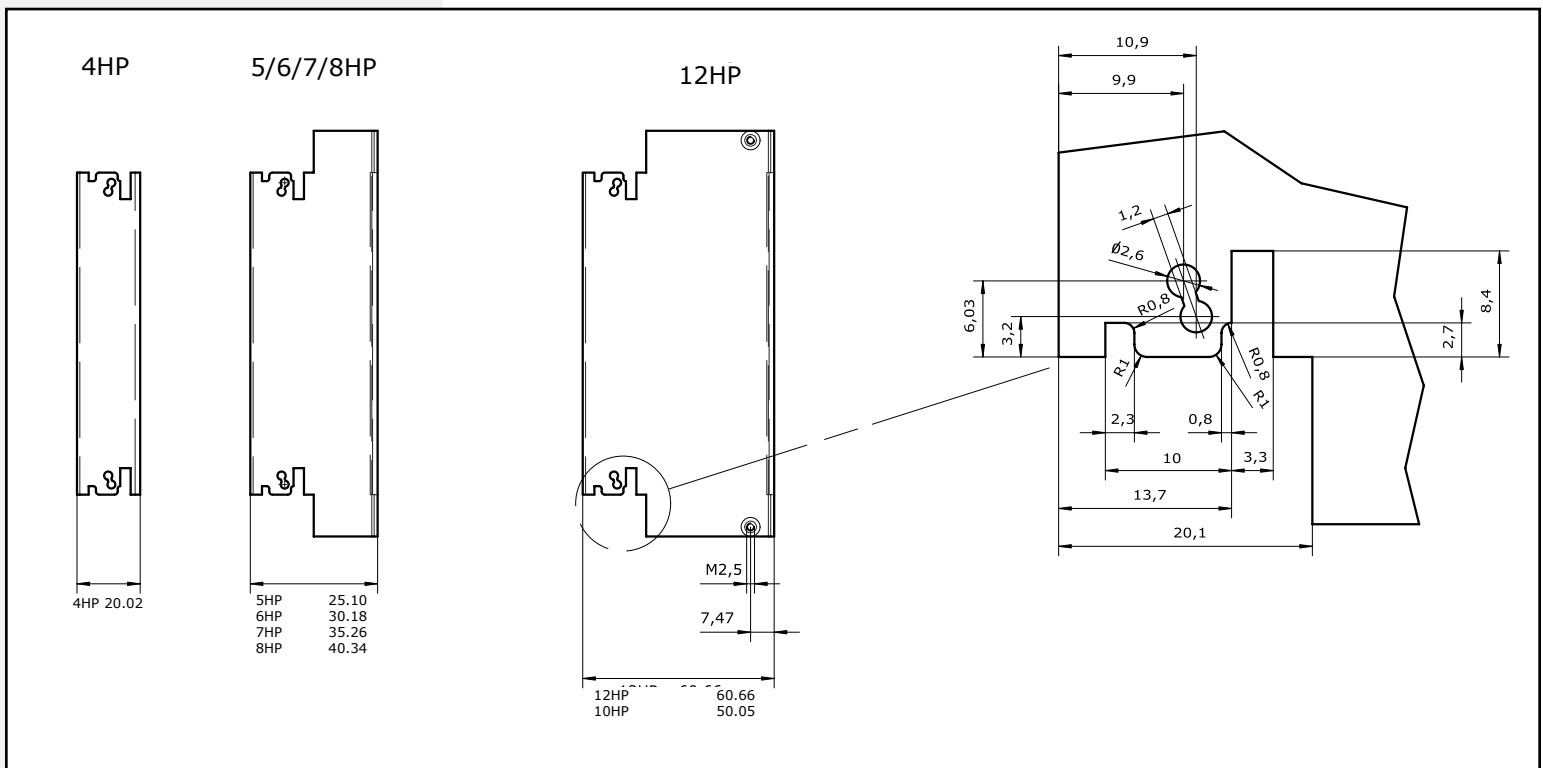
Height	4HP	5HP	6HP	7HP	8HP	10HP	12HP
3U	66-544-63	66-545-63	66-546-63	66-547-63	66-548-63	66-550-63	66-552-63
4U	66-544-64	66-545-64	66-546-64	-	66-548-64	-	66-552-64
6U	66-544-66	66-545-66	66-546-66	66-547-66	66-548-66	66-550-66	66-552-66
8U				-	-	-	-
9U	66-544-69	66-545-69	66-546-69	-	66-548-69	-	66-552-69

Segmented Gaskets



Height	3U	4U	6U	8U	9U	-	-
gasket	81-060-03	81-060-04	81-060-06	81-060-08	81-060-09	-	-

Line Drawings - Panels for use with segmented EMC gasket



FRONT PANELS AND EMC SPRINGS

Filler Panels and Accessories

Extruded Filler Panels with Continuous Gasket

Grained, clear alodine

Includes: EMC Spring, retainers, captive screws, alignment pin



Height	4HP	8HP	12HP
3U	CAE009055	CAE009057	CAE009059
6U	CAE009056	CAE009058	CAE009060



Extruded Filler Panels with Continuous Gasket

Grained, clear anodize front,alodine rear

Includes: EMC Spring, retainers, captive screws, alignment pin



Height	4HP	8HP	12HP
3U	CAE010398	CAE010399	CAE010400
6U	CAE010401	CAE010402	CAE010403



Flat Filler Panels with Segmented Gasket

Grained, clear alodine

Includes: EMC Spring, retainers, captive screws



Height	20HP	24HP	48HP	56HP	64HP
4U	21D420-50	21D424-50	-	-	-
6U	-	-	21D648-50	21D656-50	21D664-50

Card holder/end piece with ESD pin



Position	1 piece
top	81-070
bottom	81-071

Card holder/end piece without ESD pin



Position	1 piece
top	81-070-01
bottom	81-071-01

HANDLES

Ergonomic, Non-latching

Scope of delivery

- Handle gray (plastic, UL94HB)
Handle black (plastic, UL94V-O)
- Card holder (zinc die-cast, galvanized)
- Reset spring (stainless steel)
- Fixing material (M 2.5 screws for mounting front panel/card holders/boards)

Note:

- Will accommodate Microswitch

Top handle *with* ESD pin



Color	1 piece
Gray	81-077
Black	81-075

Top handle *without* ESD pin



Color	1 piece
Gray	81-077-01
Black	81-075-01

Bottom handle *with* ESD pin



Color	1 piece
Gray	81-078
Black	81-076

Bottom handle *without* ESD pin



Color	1 piece
Gray	81-078-01
Black	81-076-01

Label, 18.5 x 10mm



	1 piece
Sheet A4 with 280	81-030

HANDLES

Ergonomic, Latching

Scope of delivery

- Handle gray, button red (plastic, UL94HB)
Handle black, button red (plastic, UL94V-O)
- Card holder (zinc die-cast, galvanized)
- Fixing material (M 2.5 screws for mounting front panel/card holders/boards)

Note:

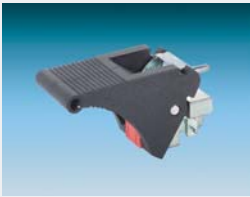
- Will accommodate microswitch
- Optional: screws for fixing front panels M2.5/100 pcs.: 1904-41
- Available with 0.1" offset per PICMG 2.11 R1.0 power interface specification

Top handle *with* ESD pin



Color	1 piece
Gray	81-097
Black	81-095
Gray (offset)	81-182
Black (offset)	81-184

Top handle *without* ESD pin



Color	1 piece
Gray	81-097-01
Black	81-095-01

Bottom handle *with* ESD pin



Color	1 piece
Gray	81-098
Black	81-096
Gray (offset)	81-183
Black (offset)	81-185

Bottom handle *without* ESD pin



Color	1 piece
Gray	81-098-01
Black	81-096-01

Microswitch for injector/ejector handle



Description	1 piece
Microswitch with pre-assembled wire	81-088

*Microswitch only works with latching handles

Blue hot swap LED



Description	80 pieces
T1, 3mm, 2VDC, 20mA, 25mcd	09-0013-64

HANDLES

Telecom, Latching

Scope of delivery

- Handle gray, button red (plastic, UL94HB)
Handle black, button red (plastic, UL94V-O)
- Card holder (zinc die-cast, galvanized)
- Fixing material (M 2.5 screws for mounting front panel/card holders/boards)

Note:

- Will accommodate Microswitch
- Optional: screws for fixing front panels M2.5/100 pcs.: 1904-41
- Available with 0.1" offset per PICMG 2.11 R1.0 power interface specification

Top handle *with* ESD pin



Color	1 piece
Gray	81-207
Black	81-205
Gray (offset)	81-186
Black (offset)	81-188

Top handle *without* ESD pin



Color	1 piece
Gray	81-207-01
Black	81-205-01

Bottom handle *with* ESD pin



Color	1 piece
Gray	81-208
Black	81-206
Gray (offset)	81-187
Black (offset)	81-189

Bottom handle *without* ESD pin



Color	1 piece
Gray	81-208-01
Black	81-206-01

Microswitch for injector/ejector handle



Description	1 piece
Microswitch with pre-assembled wire	81-088

*Microswitch only works with latching handles

Blue hot swap LED



Description	80 pieces
T1, 3mm, 2VDC, 20mA, 25mcd	09-0013-64

HANDLES

Classic, Latching and Non-latching

Scope of delivery

- Handle black, button red (plastic, UL94HB)
- Card holder (zinc die-cast, galvanized)
- Fixing material (M 2.5 screws for mounting front panel/card holders/boards)

Note:

- Classic Latching Handles will accommodate Microswitch
- Optional: screws for fixing front panels M2.5/100 pcs.: 1904-41
- Available with 0.1" offset per PICMG 2.11 R1.0 power interface specification

Top non-latching handle with ESD pin



Color	1 piece
Black	81-260
Black (offset)	81-160

Bottom non-latching handle with ESD pin



Color	1 piece
Black	81-261
Black (offset)	81-161

Top latching handle with ESD pin



Color	1 piece
Black	81-255
Black (offset)	81-155

Bottom latching handle with ESD pin



Color	1 piece
Black	81-256
Black (offset)	81-156

Microswitch for injector/ejector handle



Description	1 piece
Microswitch with pre-assembled wire	81-088

*Microswitch only works with latching handles

Blue hot swap LED



Description	80 pieces
T1, 3mm, 2VDC, 20mA, 25mcd	09-0013-64

HANDLES

High Leverage, Telecom Latching

Scope of delivery

- Handle black, button red (plastic, UL94HB)
- Card holder (zinc die-cast, galvanized)
- Fixing material (M 2.5 screws for mounting front panel/card holders/boards)

Note:

- Will accommodate Microswitch
- Optional: screws for fixing front panels M2.5/100 pcs.: 1904-41
- Available with 0.1" offset per PICMG 2.11 R1.0 power interface specification

Top latch handle with ESD pin



Color	1 piece
Gray	81-216
Black	81-214
Gray (offset)	81-115
Black (offset)	81-117

Bottom latch handle with ESD pin



Color	1 piece
Gray	81-217
Black	81-215
Gray (offset)	81-114
Black (offset)	81-116

Microswitch for injector/ejector handle



Description	1 piece
Microswitch with pre-assembled wire	81-088

*Microswitch only works with latching handles

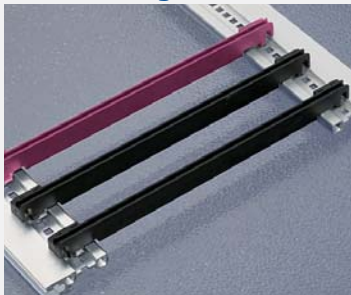
Blue hot swap LED



Description	80 pieces
T1, 3mm, 2VDC, 20mA, 25mcd	09-0013-64

CARD GUIDES FOR GENERAL USE

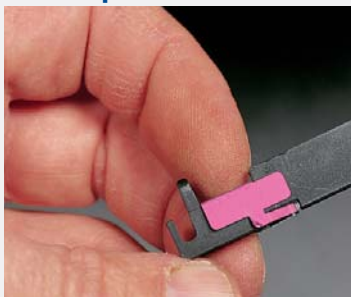
1 slot card guide



	Card Depth		10 Pieces	100 Pieces	1000 Pieces
Card thickness 1.6mm 0.06"	80mm	3.15"	63-319	63-322	-
	160mm	6.30"	63-028	63-029	63-478
	220mm	8.66"	63-103	63-104	63-479
	280mm	11.02"	63-323	63-324	61-017-3
Card thickness 2.0mm 0.08"	160mm	6.30"	63-328	63-329	-
	220mm	8.66"	63-303	63-304	-
	280mm	11.02"	63-445	63-446	-

USD Clip not usable for card depth 80mm

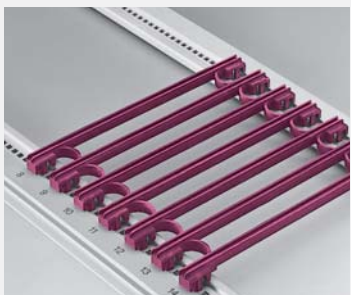
ESD Clips



Connecting printed board with case

Description	10 Pieces	100 Pieces
ESD clip front bottom/rear top	63-863	63-864
ESD clip front top/rear bottom	63-865	63-866

7-slot card guides in 4HP steps



	Card Depth		1 Piece	50 Pieces
Card thickness 1.6mm	160mm	6.30"	61-076	63-364

ESD clip not usable

1-slot card guides, 3 parts

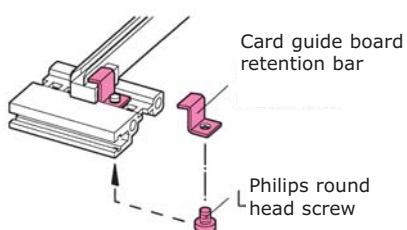


Card guide extrusion, single; not usable with ESD clip

	Card Depth		Length		Aluminum	Plastic
Card thickness 1.6mm 0.06"	160mm	6.30"	112.5mm	4.50"	66-122-20	61-051
	220mm	8.66"	172.5mm	6.90"	66-122-21	61-052
	280mm	11.02"	232.5mm	9.30"	66-122-22	61-053*
	340mm	13.38"	292.5mm	11.70"	66-122-23	61-054*
	400mm	15.74"	352.5mm	14.10"	66-122-24	61-055*
	-	-	1350mm	54.00"	66-122-14	61-059
End Feet	50 Pairs					63-030

*Supports card guides with additional extrusion 66-138

Card guide board-retention bar



Description	Material	Packaging Unit	Part Number
Board-retention bar	Zinc-plated steel	20	61-291
Fixing Material		Packing Unit	Part Number
Philips round head screw M3 x 4		100	1912-04

CARD GUIDES ACCORDING TO IEEE STANDARD

1-slot card guides



Card thickness 1.6 mm and 2.0 mm 0.060" and 0.080"

Card Depth	Color	1 pair
80 mm 3.15"	Black	61-949-01
Card Depth	Color	1 piece
160mm 6.30"	Black	61-950-01
160mm 8.66"	Red	61-950-03

1-slot card guide, 3 parts



Material: plastic UL94V-0

Card thickness 1.6 mm and 2.0 mm 0.060" and 0.080"

Card guide extrusion (aluminum)	Card depth	1 piece
	160mm 6.30"	66-452-20
	220mm 8.66"	66-452-25
	280mm 11.02"	66-452-30
	340mm 13.38"	66-452-35

End foot (plastic UL94V-0)	Color	1 pair
	Black	61-955-01
	Red	61-955-03

End foot (plastic UL94V-0)	Color	1 pair
	Black	61-961-01

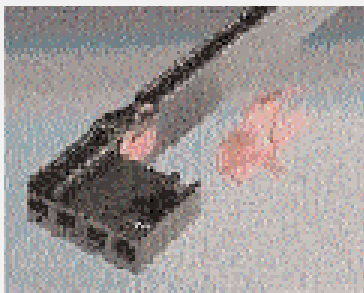
1 pair = 1 end foot top and 1 end foot bottom

Card thickness 2.4 mm 0.0940"

Card guide extrusion (aluminum)	Card depth	1 piece
	160mm 6.30"	66-453-20
	220mm 8.66"	66-453-25
	280mm 11.02"	66-453-30
	340mm 13.38"	66-453-35

End foot (plastic UL94V-0)	Color	1 pair
	Black	61-956-01

ESD clips



Connecting printed board with case

Description	1 Piece	10 Pieces	100 Pieces
ESD clip front bottom/rear top	61-419-01	63-863	63-864
ESD clip front top/rear bottom	61-419-02	63-865	63-866

CARD GUIDES ACCORDING TO IEEE STANDARD

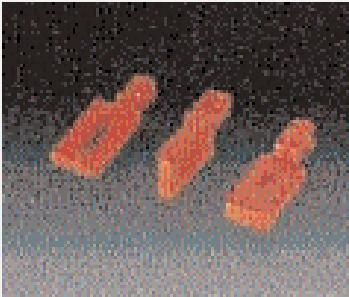
ESD spring



Connecting ESD pin with case

Description	1 piece
ESD clip front bottom/rear top	61-420

Coding pins

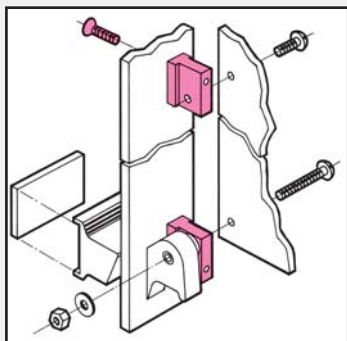


Color	1 piece
Gray	81-054-02
Red	81-054-03
Black	81-054-04

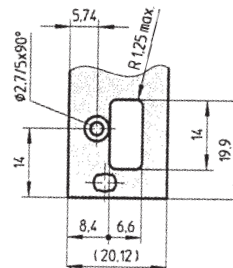
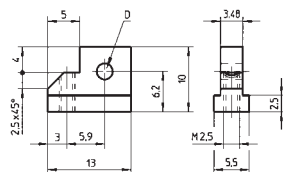
CARD ACCESSORIES

Card holder according to IEEE standard

Card Holder without swivel stop

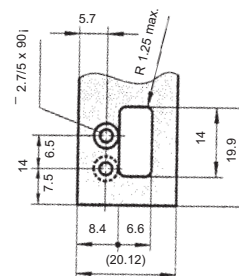
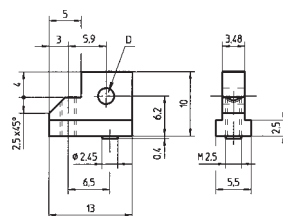


Part	Application	D	10 pieces	100 pieces	1000 pieces
Card holder without swivel stop	w/out injector/ejector handle	M2.5	63-366	63-466	-
Card holder without swivel stop	w/ injector/ejector handle	Ø2.5	63-365	63-465	61-155-3



Card Holder with swivel stop

Part	Application	D	10 pieces	100 pieces	1000 pieces
Card holder with swivel stop	w/out injector/ejector handle	M2.5	-	61-156-01-2	-
Card holder with swivel stop	w/ injector/ejector handle	Ø2.5	-	61-155-01-2	61-155-01-3



Fixing Material

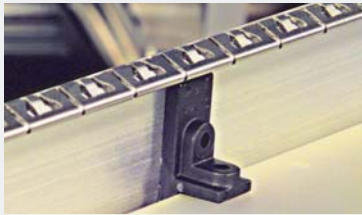
Part	Application	10 pieces	100 pieces	1000 pieces
Philips countersunk screw M2.5 x 8	for card holder	-	1906-08	-
Slotted pan head screw M2.5 x 6	for printed board	-	1901-06	-

ACCESSORIES

Middle Part

Usable for all front panels

For positioning and fixing of 6U and 9U card circuit, card thickness 1.6 mm

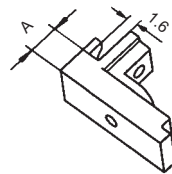


Self-adhesive, can optionally be screwed to front panel and printed board

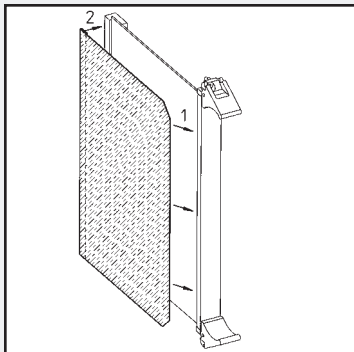
For front panel	A	1 piece
Aluminum 2.5mm	2.5mm 0.10"	61-960
Stainless steel	4.5mm 0.18"	61-963

Material: plastic UL94V-0

Part	Part Number
Fixing material	5534-06-2



Protective cover for 6U printed board



1. Slide protective cover between front panel and printed board.
2. Press adhesive tape on protective cover through pins of connectors to attach onto printed board.

For card depth	Part Number
80mm 3.15in	81-010-01
160mm 6.30 in	81-010-02

Material: polyester film mat, thickness 0.2mm, UL94VTM-2

PMC Bezel

Clear alodine finish,
2 x M2.5 screws,
Conductive elastometric gasket



Part	Part Number
PMC Panel Kit, Diecast Zinc	CAE009054

PMC Filler



Part	Part Number
PMC Filler Panel, Stainless Steel	CAE007666

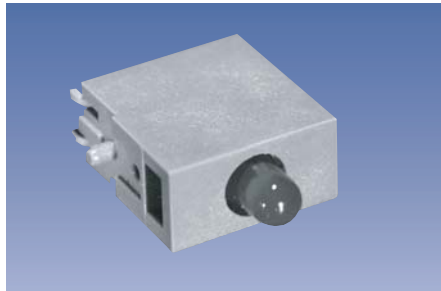
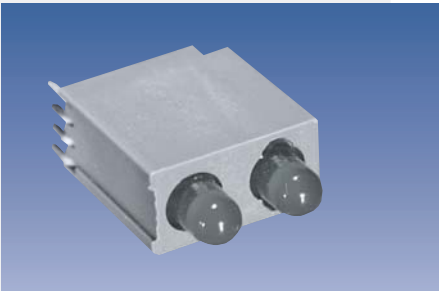
FRONT PANEL LEDS

Elma has a complete line of LEDs specifically designed for cPCI board fronts. Elma has carefully designed the LEDs to be centered on single slot front panels.

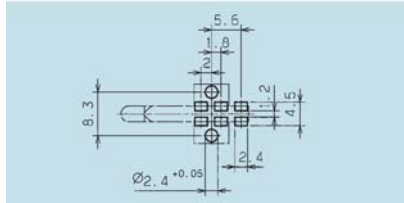
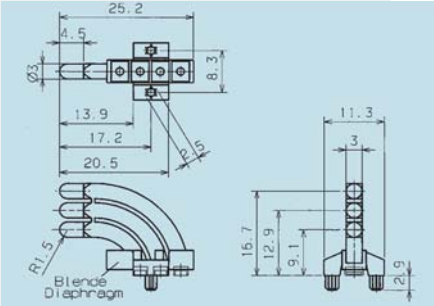
Through hole



Surface mount



Light pipe



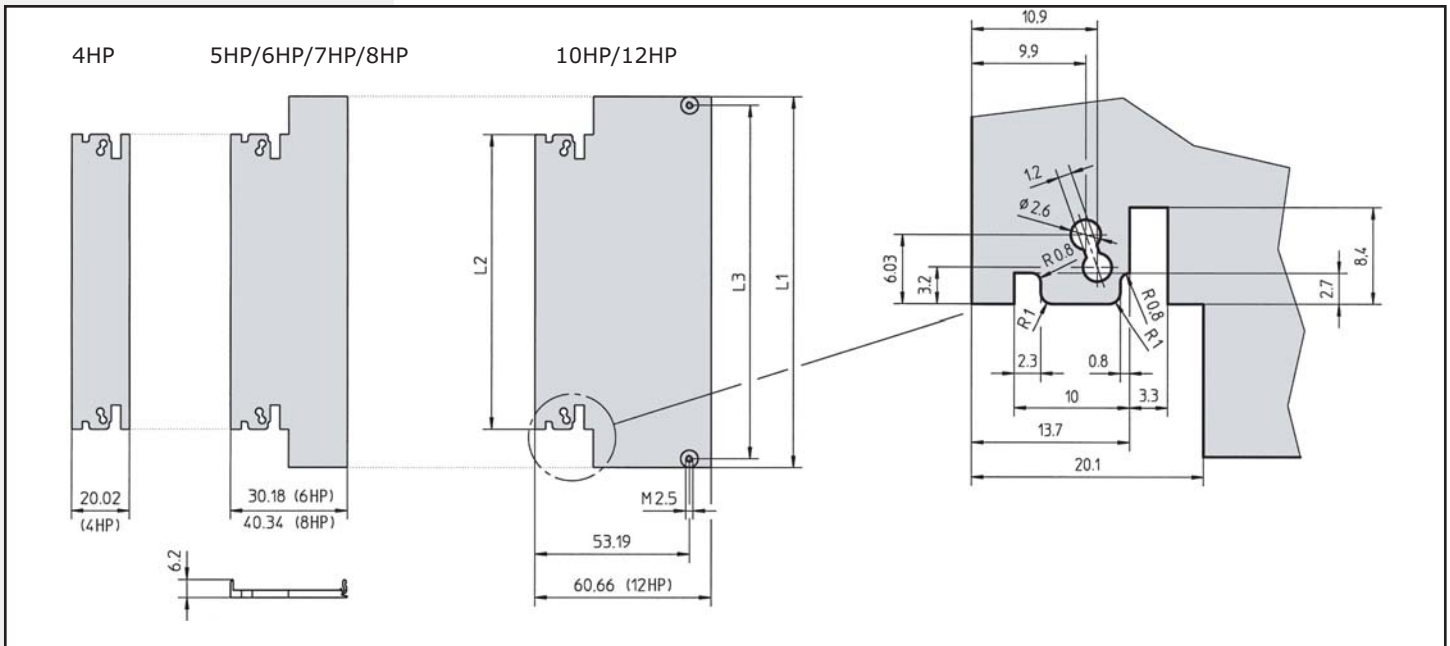
Custom panel capabilities:



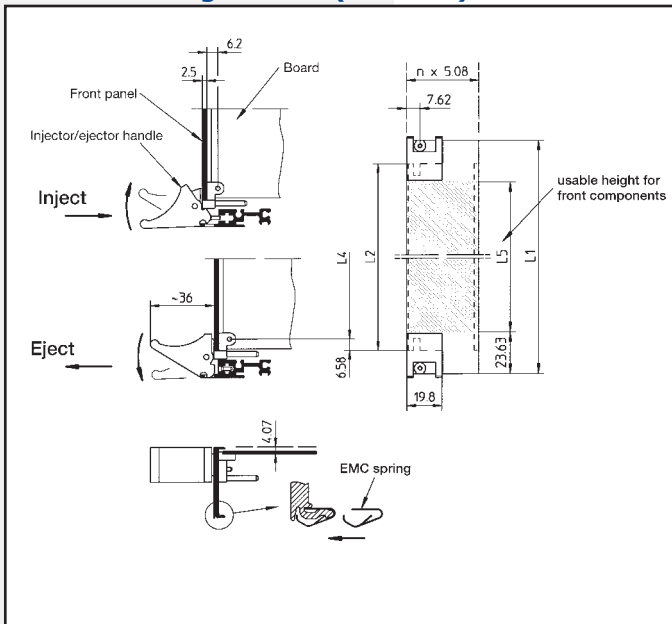
- Elma offers the following panel customization services:
- n High speed milling, suitable for volumes from 1-2000 panels
 - n Punching, suitable for volumes of 2000+ panels
 - n Silk-screening
 - n Painting
 - n Overlays
 - n Assembly of handles and springs
 - n 2D and 3D CAD files available for download

FRONT PANELS

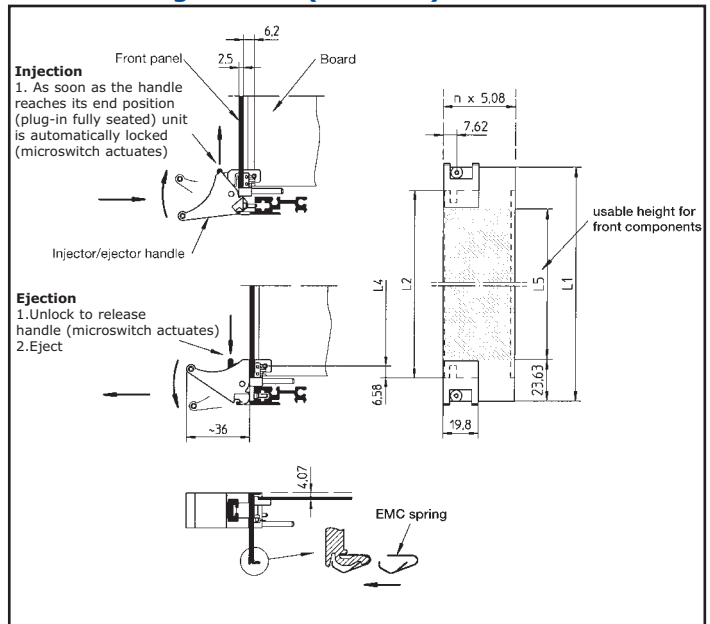
Line Drawings IEEE font panels



Injector/ejector handle without locking feature (function)



Injector/ejector handle with locking feature (function)



Dimensions

Height	L1 mm	L1 inch	L2 mm	L2 inch	L3 mm	L3 inch	L4 mm	L4 inch	L5 mm	L5 inch
3U	128.55	5.06"	102.05	4.01"	122.50	4.82"	88.90	3.50"	81.30	3.20"
4U	173.00	6.81"	146.50	5.76"	166.95	6.57"	133.35	5.25"	125.75	4.95"
6U	261.90	10.31"	235.40	9.27"	255.85	10.07"	222.25	8.75"	214.65	8.45"
9U	395.25	15.56"	368.75	14.52"	389.20	15.32"	355.60	14.00"	348.00	13.70"

FRONT PANELS

Line drawings IEEE front panels injector/ejector handle (offset)

1 mm = 0.0394 inch, 1 inch = 25.4 mm

	L1(mm)	L2(mm)	L3(mm)	L4(mm)	L5(mm)	L6(mm)
3U	100	102.05	122.5	88.9	81.3	128.7
4U	144.45	146.5	166.95	133.35	125.75	173.15
6U	233.35	235.4	255.85	222.25	214.65	262.05
9U	366.7	368.75	389.2	355.6	348	395.4

Technical data

Life circuit: 30 V DC, 5-50 mA 30 000 cycles
 60 V DC, 5 mA 30 000 cycles
 60 V DC, 500 mA 15 000 cycles

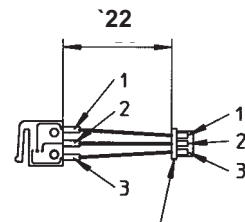
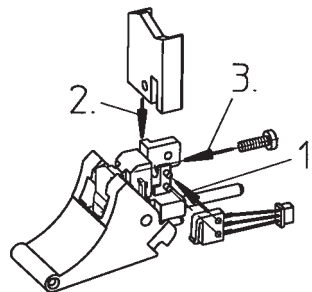
Temperature: 25 deg C to 70 deg C

Humidity: RF 85% max.

Vibration: 10 Hz to 55 Hz, 18 g

Shock: 30 g, 11 msec

Assembly Instructions



Molex plug
 Part No. 51021-0300

Connector on the board:
 Molex Part No. 53398-0390

Switch function:

Switch open: connection between Pin 1 and 3

Switch closed: connection between Pin 1 and 2

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