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Ejector Handles, Front Panels & Accessories

cPCI, VME/64, VPX, VXS









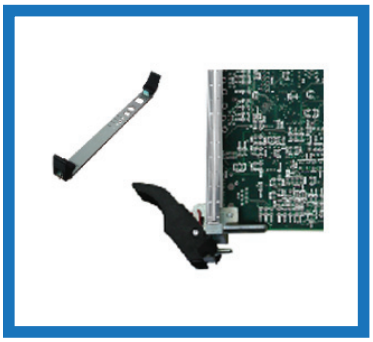


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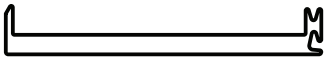
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Front Panels and EMC Springs

Front Panels for Handles or Card Holders

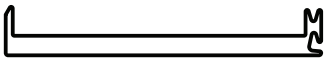


Panels for Use With Continuous EMC Gasket



Grained, anodized front, alodine rear

Height	4HP	5HP	6HP	7HP	8HP	10HP	12HP
3U	66-514-23	66-515-23	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	66-515-26	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

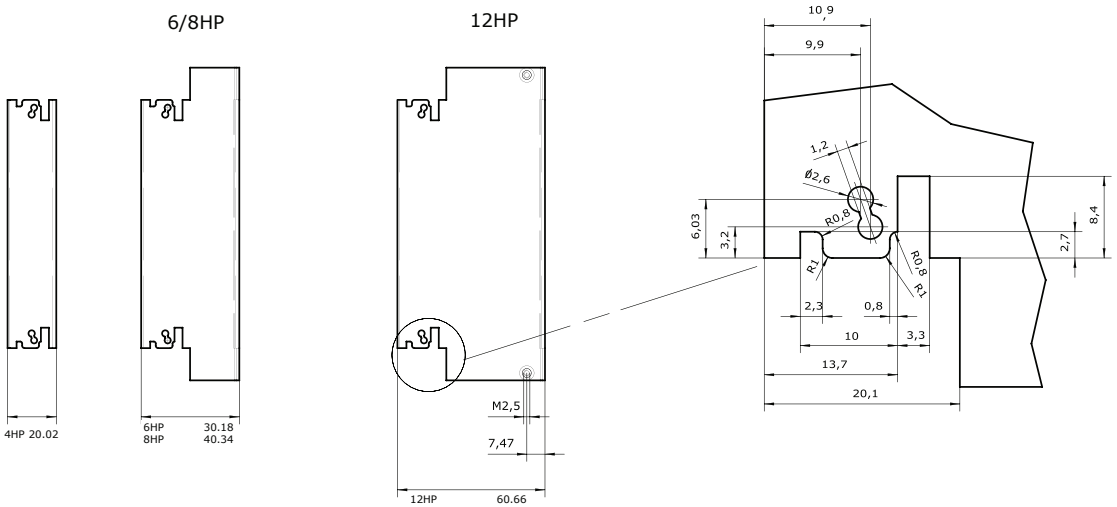
Continuous Gasket



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

** For use on 6U panels wider than 4 HP*

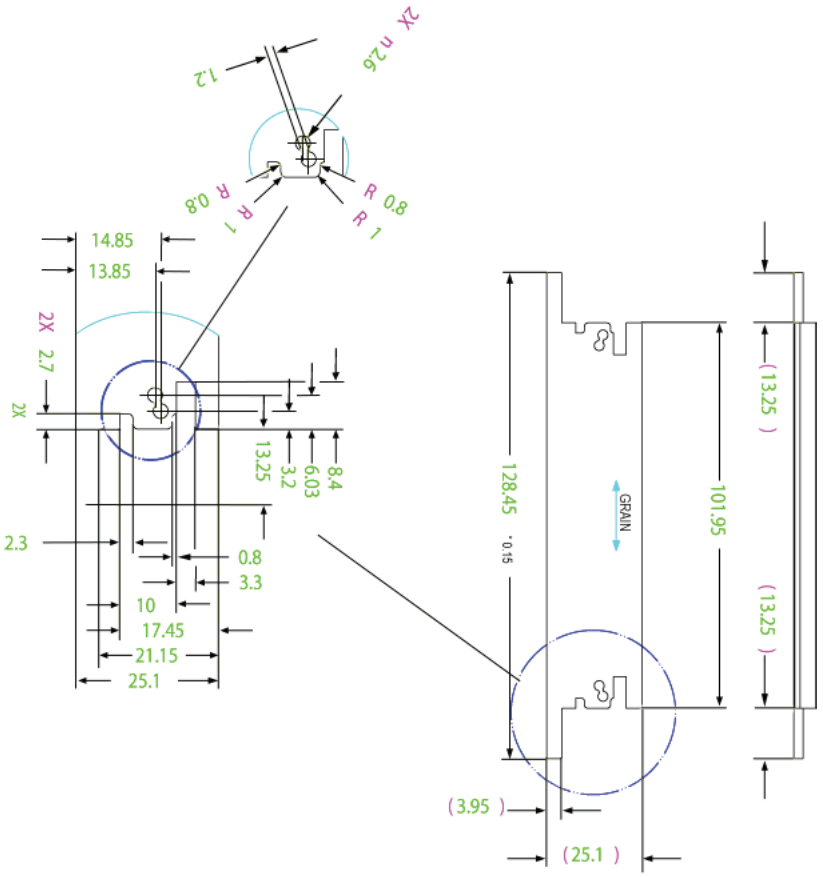
Line Drawings - Panels for Use With Continuous EMC Gasket



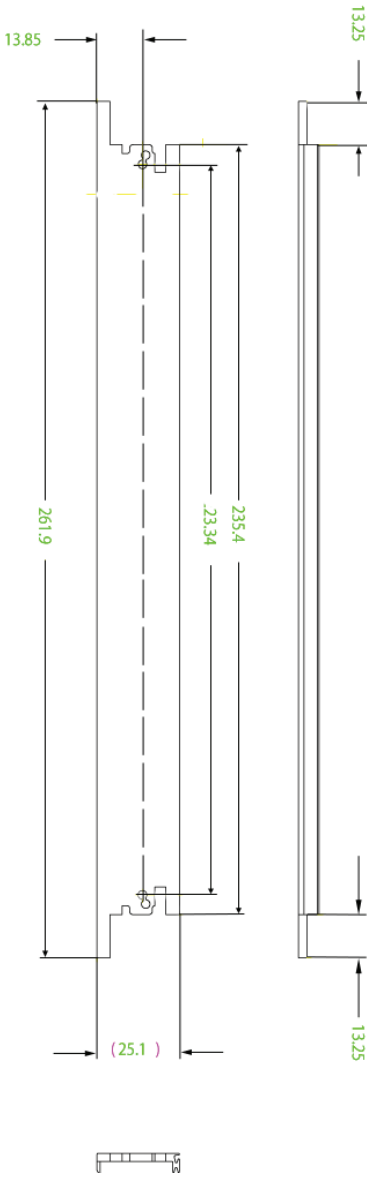
Front Panels and EMC Springs

Front Panels for VPX Boards (with continuous EMC Gasket)

3U Drawing

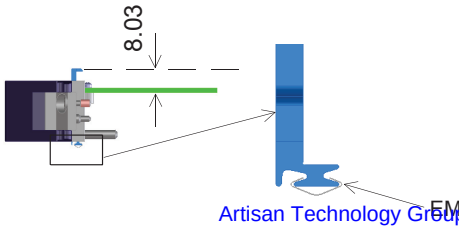


6U Drawing



Height	Description	5HP
3U	Raw	65P305-00
3U	Alodine/Alodine	65P305-10
3U	Anodized/Alodine	65P305-20
6U	Raw	65P605-00
6U	Alodine/Alodine	65P605-10
6U	Anodized/Alodine	65P605-20

Front Panel for VPX (offset spacing)

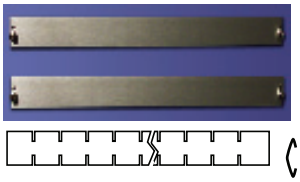


Front Panels and EMC Springs

Filler Panels and Accessories

Extruded Filler Panels with Continuous Gasket

Grained, clear anodized front, alodine rear
Includes: EMC spring, retainers, captive screws, allignment pin



Height	4HP	8HP	12HP
3U	*CAE010398*	*CAE0010399*	*CAE010400*
6U	*CAE010401*	*CAE010402*	*CAE010403*

Card holder/end piece with ESD pin

End piece card holder (zinc die-cast, nickel plated)
Assembly material
(screws M2.5 for fixing of front panel/card holder/printed board)





Fixing Material	Position	1 piece
Zinc	*Top*	*81-070*
Zinc	*Bottom*	*81-071*
Nickel	*Top*	*81-018*
Nickel	*Bottom*	*81-019*

Card holder/end piece without ESD pin

End piece card holder (zinc die-cast, nickel plated)
Assembly material
(screws M2.5 for fixing of front panel/card holder/printed board)





Fixing Material	Position	1 piece
Zinc	*Top*	*81-070-01*
Zinc	*Bottom*	*81-071-01*
Nickel	*Top*	*81-018-01*
Nickel	*Bottom*	*81-019-01*

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



Color	1 piece
Gray	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)
- Reset spring (stainless steel)
- 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



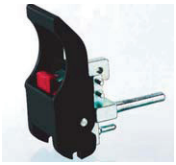
Color	1 piece
Gray	81-207
Black	81-205
Gray (offset)	81-186
Black (offset)	81-188

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*

Blue hot swap LED



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

Handles

Low Profile, Latching for use in Telecom, VPX, VME64x, cPCI and Custom Boards

Scope of Delivery

- Handle gray, button red (plastic, UL94HB)
  Handle black, button red (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***
- ***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



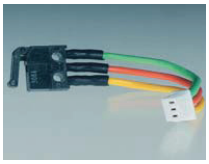
Color	1 piece
Gray	81-098
Black	81-096
Gray (offset)	81-183
Black (offset)	81-185

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

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, UL94V-0)
- 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 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*

Blue hot swap LED



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

Handles

High Leverage, Low Profile Latching for use in Telecom, VPX, VME64x, cPCI and Custom Boards

Scope of Delivery

- Handle black, button red (plastic, UL94V-0)
- 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



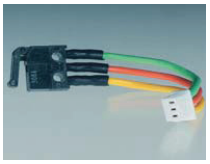
Color	1 piece
Gray	*81-216*
Black	*81-214*
Gray (offset)	*81-115*
Black (offset)	*81-117*

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*

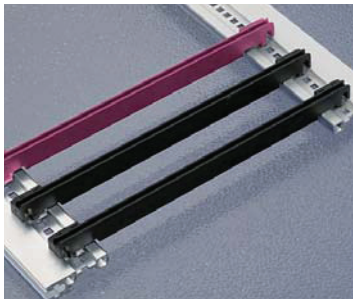
Blue hot swap LED



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

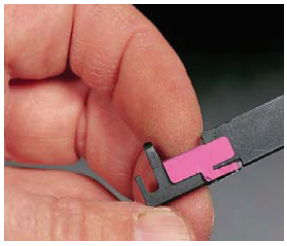
Card Guides for General Use

1 Slot Card Guides



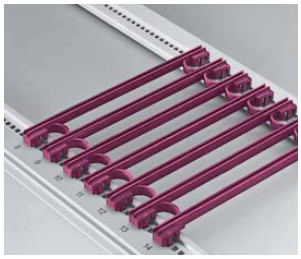
		Card Depth		1 Piece
Card Thickness	1.6mm 0.06”	80mm 160mm 220mm 280mm	3.15” 6.30” 8.66” 11.02”	61-019 61-044 61-039 61-017
Card Thickness	2.0mm 0.08”	160mm 220mm 280mm	6.30” 8.66” 11.02”	61-087 61-039 61-017

ESD Clips



Description	1 Piece
ESD clip front bottom/rear top	61-419-01
ESD clip front bottom/rear top	61-419-02

7 Slot Card Guides in 4HP Steps



	Card Depth		1 Piece
Card thickness 1.6mm	160mm	6.30”	61-076

ESD clip not usable

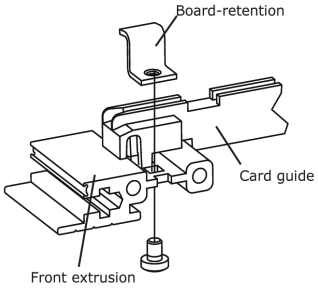
1 Slot Card Guides, 3 Parts



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

*Card Guides must be supported in the middle.

Card Guide Board-Retention Bar



Description	Material	Packaging Unit	Part Number
Board-retention bar	Zinc-plated steel	20	61-291

Description	1 Piece
Cross recessed round head screw M3 x 4	5331-04
Torx cylinder head screw M3 x 4, size T10	5470-01

Card Guides According to IEEE Standard

One slot Card Guides



Card Thickness: 1.6mm and 2.0mm, 0.060” and 0.080”

Card Depth		Color	1 Pair
80mm	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

Aluminium Card Guides - 1 Slot, 3 Parts



1.6mm
Extrusion: Aluminium
End feet: Plastic UL94 V-0
For card thickness 1.6 mm / 0.06” and 2.0 mm / 0.08”

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 Feet	Color	1 Pair
	Black	61-955-01
	Red	61-955-03

End Feet (Plastic UL94V-0)	Color	1 Pair
	Black	61-961-01

1 Pair = 1 end foot top and 1 end foot bottom

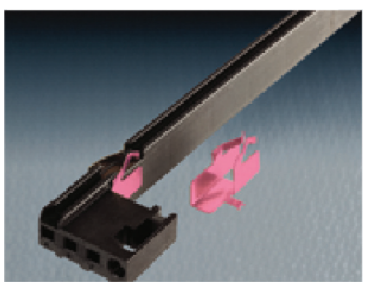
End Feet Offset	Color	1 Pair
	Pearl white	61-961-01

2.4mm
Extrusion: Aluminium
End feet: Plastic UL94 V-0
For card thickness 2.4 mm / 0.094”

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 Feet (Plastic UL94V-0)	Color	1 Pair
	Black	61-956-01

ESD Clips

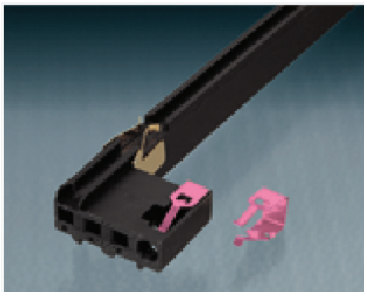


Connecting printed board with case

Description	1 Piece
ESD clip front bottom/rear top	61-419-01
ESD clip front top/rear bottom	61-419-02

Card Guides According to IEEE Standard

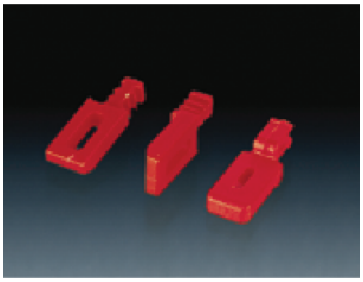
ESD Spring



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

Rugged Screw-mount Card Guides According to IEEE



Card guide, plastic UL94 V-0
Security screw see 1.4.1 (at least one must be used)
Optional mounting see 1.4.2
ESD clip, ESD spring and coding pin see 1.4.3 - 1.4.5

Card Depth		Color	5 Pairs
160mm	6.30”	Black	61-970-01-1
160mm	6.30”	Red	61-970-03-1
160mm	6.30”	Pearl white	61-972-01-1

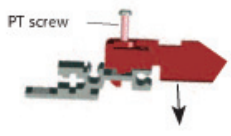
Standard Mounting



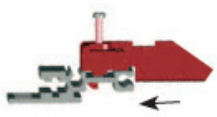
With Stainless Steel Security Screw (from Top)

Description	1 Piece
Cross recessed pan head PT-screw 2.2x12, Inox	5535-12

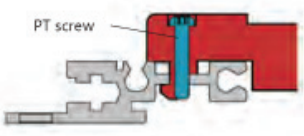
Note: For highest security 2 screws/card guide, 4 screws/pair are necessary.



1. Insert Card Guide



2. Shift Card Guide

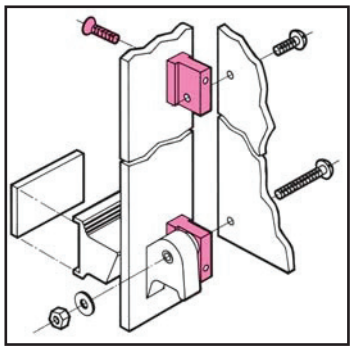


3. Protection by Screwing

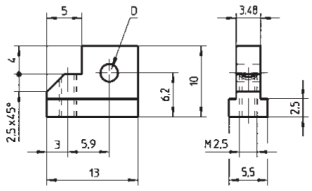
Card Accessories

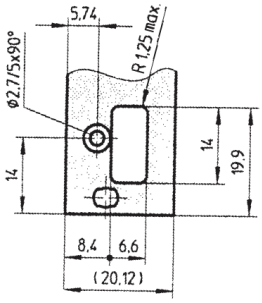
Card holder according to IEEE standards

Card Holder without Swivel Stop



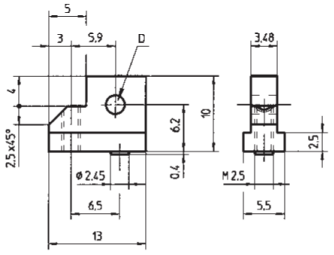
Part	Application	D	10 Pieces	100 Pieces	1000 Pieces
Card holder without swivel stop	without injector/ejector handle	M2.5	63-366	63-466	-
Card holder without swivel stop	with injector/ejector handle	Ø2.5	63-365	63-464	61-155-3

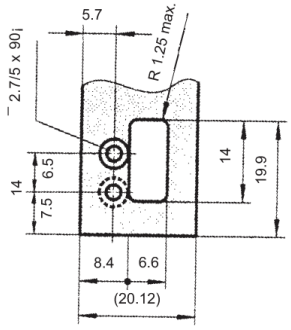




Card Holder with Swivel Stop

Part	Application	D	10 Pieces	100 Pieces	1000 Pieces
Card holder with swivel stop	without injector/ejector handle	M2.5	-	61-156-01-2	-
Card holder without swivel stop	with 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 card	-	1901-06	-

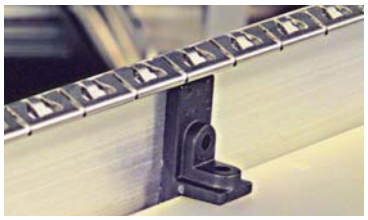
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Accessories

Middle Part

Usable for all front panels

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

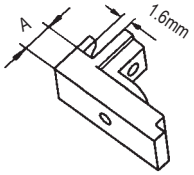


Self-adhesive, can optionally be screwed to front panel and printed board

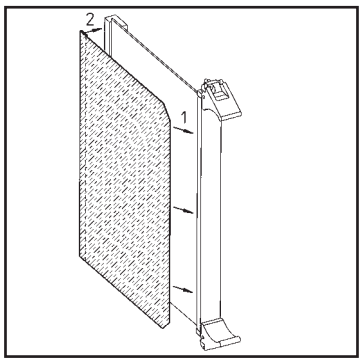
For front panel	A		1 Piece
Aluminum 2.5mm	2.5mm	0.10”	61-960
Stainless steel	4.5mm	0.18”	61-963

Material: plastic UL94V-0

Part	1 Piece
Fixing material	5534-06



Protective Cover for 6U Printed Cards



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		1 Piece
80mm	3.15”	81-010-01
160mm	6.30”	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	1 Piece
PMC Panel Kit, Diecast Zinc	CAE009054

PMC Filler



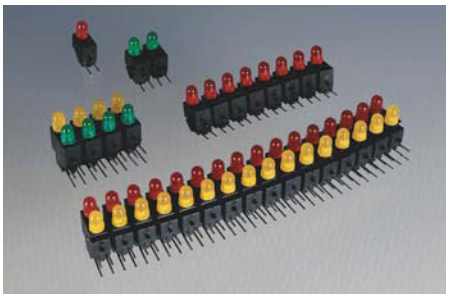
Part	1 Piece
PMC Filler Panel, Stainless Steel	CAE007666

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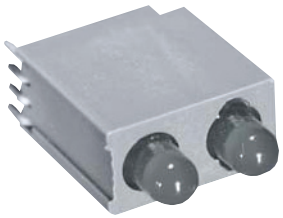
Front Panel LEDs

Elma has a complete line of front panel LEDs compatible with VITA and PICMG based specifications. Elma has carefully designed the LEDs to be centered on single slot front panels.

Through Hole

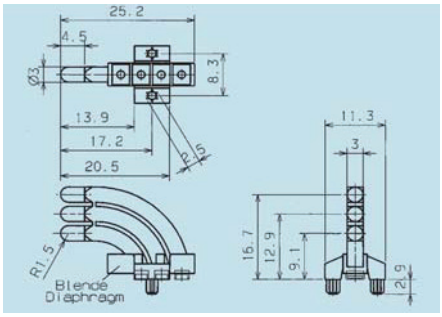


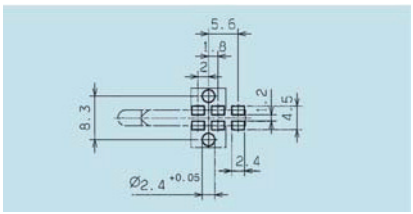
Surface Mount



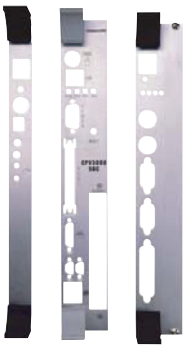


Light Pipe





Custom Panel Capabilities

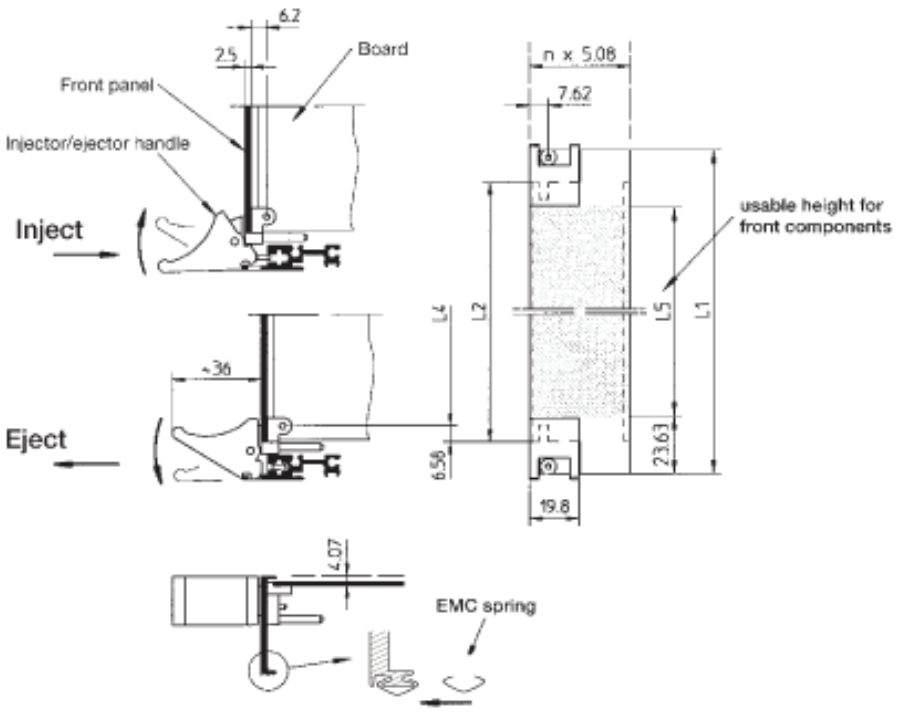


Elma offers the following panel customization services:

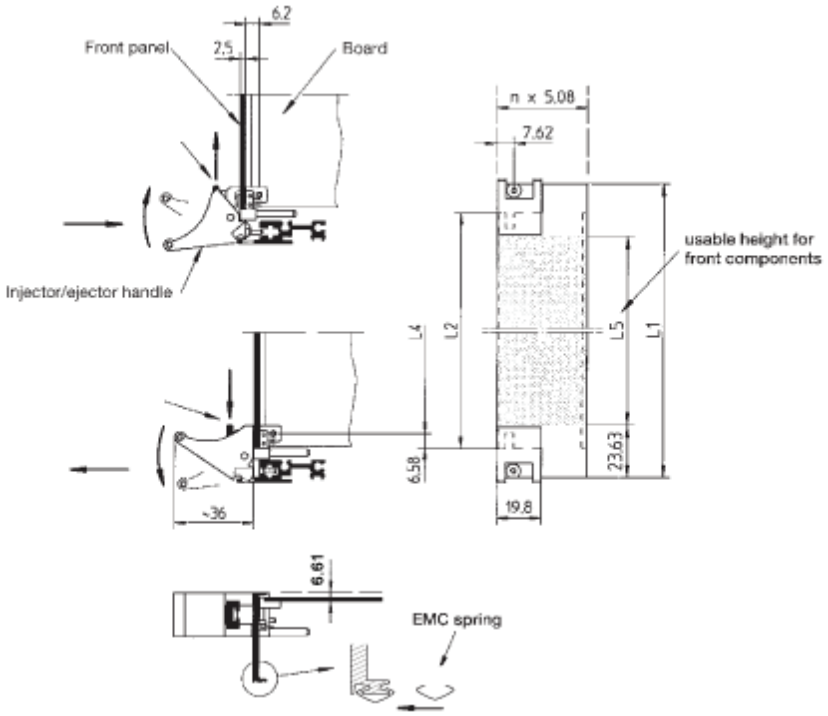
- High speed milling, suitable for volumes from 1-2000 panels
- Punching, suitable for volumes of 2000+ panels
- Silk-screening
- Painting
- Overlays
- Assembly of handles and springs
- 2D and 3D CAD files available for download

Front Panels

Injector/Ejector Handle with or without Locking Feature (function)



Injector/Ejector Handle with or without Locking Feature (function) - Offset spacing



Front Panels

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”	102.5	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”

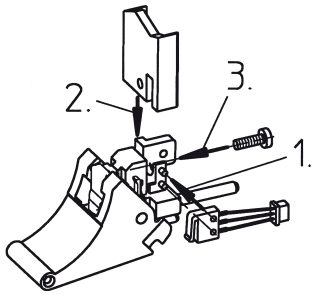
Switch Technical Data

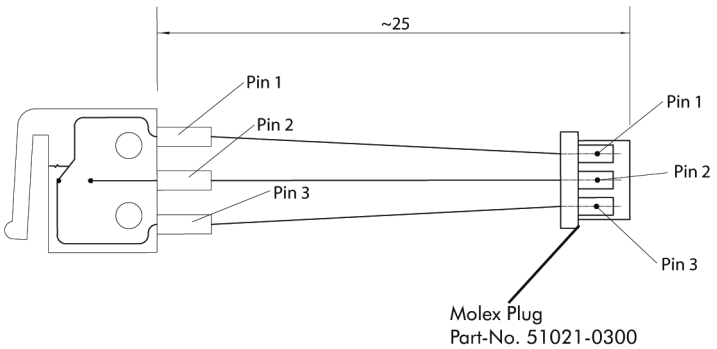
Life circuit:	30 V DC, 5-50 mA	30 000 cycles
	60 V DC, 5 mA	30 000 cycles
	60 V DC, 500 mA	15 000 cycles
Temperature:	25 deg C to 70 deg C	
Humidity:	RF 85% max.	
Vibration:	10 Hz to 55 Hz, 18 g	
Shock:	30 g, 11 msec	

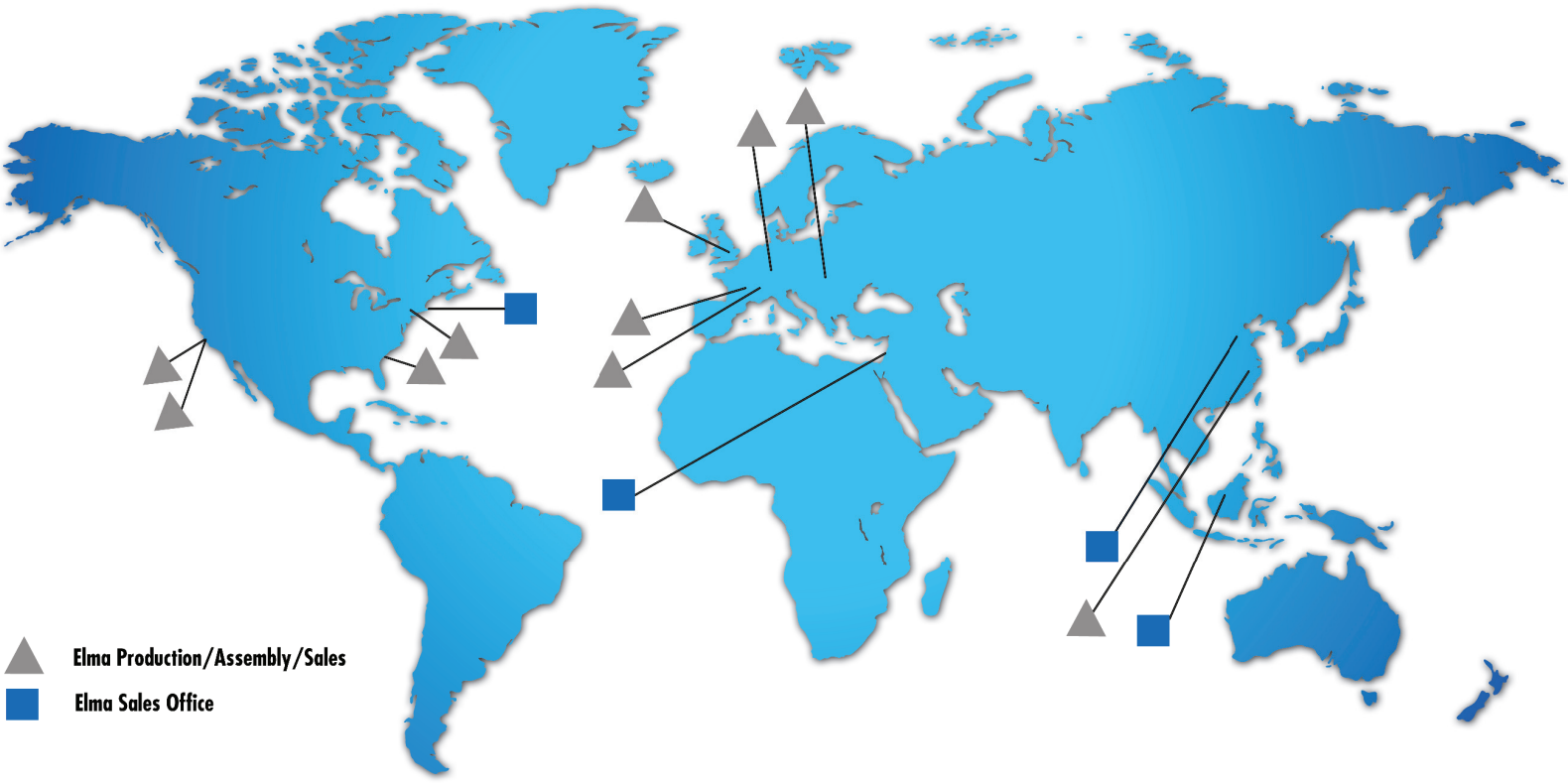
Switch Function

Switch open:	connection between Pin 1 and 3
Switch closed:	connection between Pin 1 and 2

Assembly Instructions







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