

Enclosures & Components

ATCA Ergonomic Handle

Fail safe handles and appropriate assortment of front panels

Enclosures & Components

Backplanes

System Platforms

Cabinets

Switches, Knobs & LEDs

ELMA
Your Solution Partner



Introduction

Elma is a global manufacturer of products for housing electronic systems. The company provides everything from components, such as modular enclosures, cabinets and backplanes, to complete standard or custom system platforms. Elma also manufactures precision rotary switches. Elma offers a fast, flexible response to customer needs and extensive practical knowledge in tailoring solutions to specific applications.

Founded in 1960, Elma is an industry innovator in the design and manufacture of electronic enclosures and passive electronic components. Elma enjoys a leading position in the VME/VME64x, VXI, VXS, PXI, cPCI, ATCA and Rugged COTS packaging markets. Elma's component products consist of switches, knobs, and LED arrays. Headquartered in Switzerland, with partners in 22 countries, Elma has the ability to respond rapidly, with superior solutions to the requirements of its customers. Elma has a broad base of customers in diverse industries such as telecommunications, industrial control, medical electronics, military and defence.

Elma strives to provide products superior in quality, reliability, performance, and consistently presents new, innovative designs to the market. Elma's product line encompasses well over 16,000 parts, including enclosures, cabinets, high quality switches, LED arrays, knobs and much more. Elma also offers design and integration services backed by responsive and knowledgeable technical support.

Elma's leading quality level is reached through training of all employees and following of systematic procedures per ISO 9001 standards to which Elma has been registered.

Why Choose Elma?

Flexibility: Elma tailors solutions to individual applications to ensure fast and cost-effective results.

Experience: extensive practical experience in packaging electronic systems is used to minimise the time taken to develop new customised solutions without compromising system performance or reliability.

Compatibility: because the two key electromechanical components - enclosures and backplanes – are made in-house, Elma guarantees compatibility, consistency and reliability.

Global resources: with manufacturing in Europe and the USA customers benefit from local service backed by global resources.



Switzerland



United States



Germany



France



United Kingdom



Israel

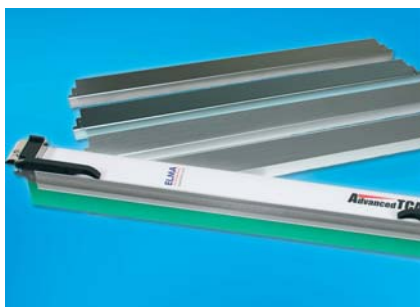


China



Romania

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2: Front Panels for Plug-In Units



AdvancedTCA

ATCA and the ATCA logo are trademarks of the PCI Industrial Computers Manufacturers Group

- AdvancedTCA, the PICMG 3.X family, is a new series of PICMG specifications, targeted to requirements for the next generation of carrier grade communications equipment. This series of specifications incorporates the latest trends in high speed interconnect technologies, next generation processors and improved reliability, manageability and serviceability.
- AdvancedTCA has several key features including Gigabit/Terabit per second bandwidth across each shelf, 150 - 200 W per board and 3 kilowatts per chassis power. It accommodates larger (8 U x 280 mm) boards and a 1.2 mm pitch which allows larger/taller components and more space on each board. Over 100 companies participated in developing the ATCA specification

2.4 Plug-In Units "Ergonomic" acc. to AdvancedTCA

2.4.1 EMC ATCA Front Panels "Ergonomic"

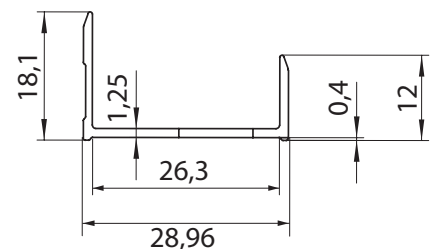
- 8 U x 6 HP
- Conform to the PICMG 3.0 specification
- For boards with thicknesses of 1.6 mm to 2.4 mm
- Made for the ATCA Ergonomic handle family



2.4.1 EMC Front Panel 8 U x 6 HP Aluminium for Overlays

- Extruded aluminium
- Clear passivated
- **Scope of delivery:**
 - EMC front panel

Description	Part-No.
EMC front panel	66-AT535-28
EMC front panel with pinhole for microswitch activation	66-AT535-38



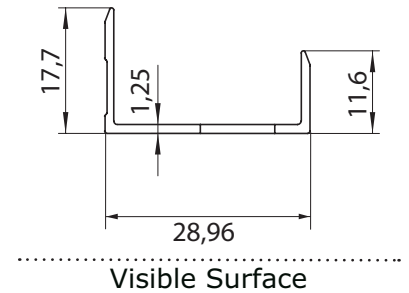
2: Front Panels for Plug-In Units



2.4.2 EMC Front Panel 8 U x 6 HP Aluminium

- Extruded aluminium
- Surfaces: visible part : Clear anodised
rest : Clear passivated
- **Scope of delivery:**
 - EMC front panel

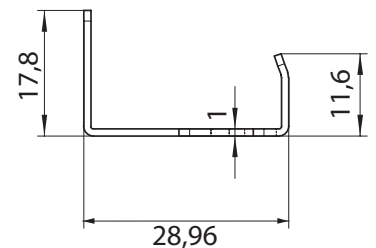
Description	Part-No.
EMC front panel	66-AT536-28
EMC front panel with pinhole for microswitch activation	66-AT536-38



2.4.3 EMC Front Panel 8 U x 6 HP Sheet Steel

- Sheet steel 1 mm
- Galvanized
- **Scope of delivery:**
 - EMC front panel

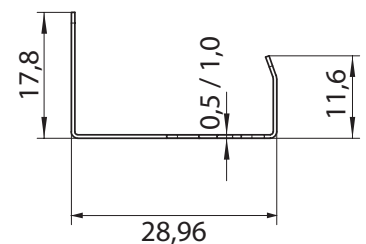
Description	Part-No.
EMC front panel	12T106
EMC front panel with pinhole for microswitch activation	12T107



2.4.4 EMC Front Panel 9 U x 6 HP Stainless Steel

- Stainless steel 0.5 or 1 mm
- **Scope of delivery:**
 - EMC front panel

Description	Part-No.
EMC front panel 0.5 mm	12T104
EMC front panel 1 mm	12T108
EMC front panel 1 mm with pinhole for microswitch activation	12T109



2: Front Panels for Plug-In Units



2.4.5 ATCA Ergonomic Handle

- Pre-assembled
- Easy assembling onto front panel and PCB
- **Scope of delivery:**
 - Handles pre assembled
 - Screws front panel assembly loose packed
 - Screws PCB mounting loose packed

Description	Part No.	
Top handle	AT-300-00	
Bottom handle	AT-301-00	
Top handle with pin for microswitch activation	AT-300-01	
Bottom handle with pin for microswitch activation	AT-301-01	
Bottom handle with ATCA logo	AT-304-00	

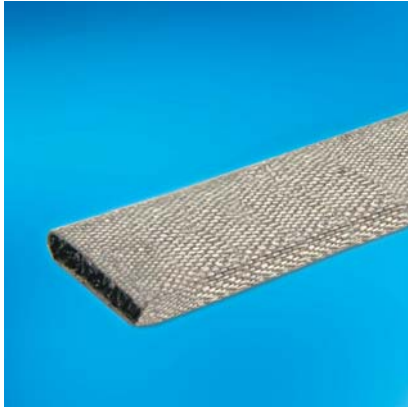


2.4.6 Microswitch for Injector/Ejector Handle

- Technical data and function see 3.5.3

Description	Part-No.	
Microswitch with pre-assembled wire cable length (25 mm)	81-088	

Assembly material for mounting of Microswitch onto front panel acc. to ATCA, 2 pcs.
5686-05 have to be ordered separately



2.4.7 EMC-Gasket

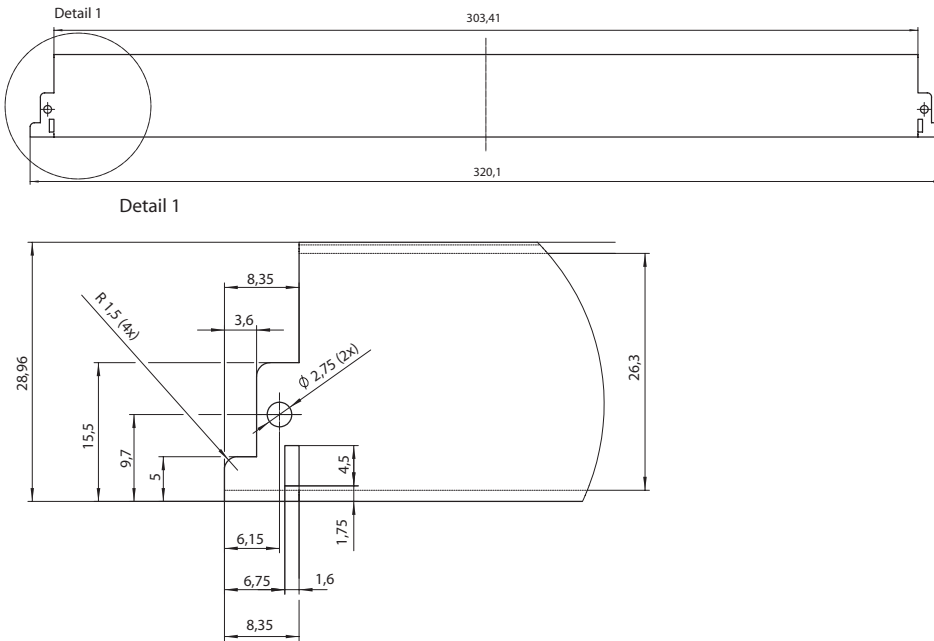
- Core: Polyurethan
- Wrapping: Nickel-copper coated textile

Description	Part-No.
EMC-gasket, for 8U Panel	CAE022003

2: Front Panels for Plug-In Units

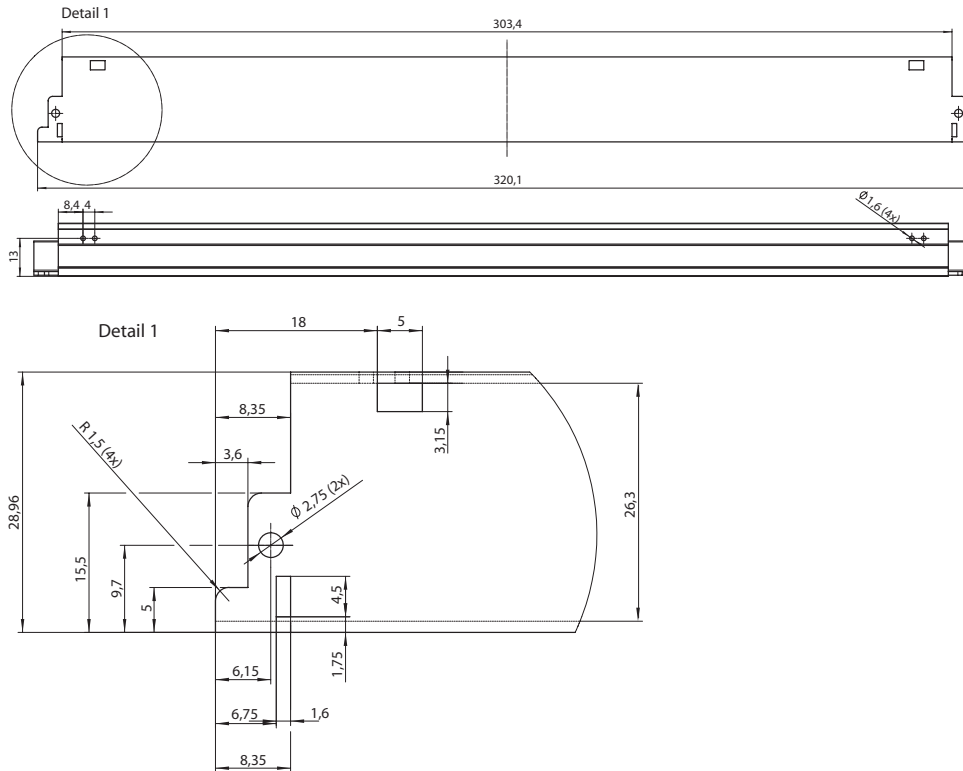
2.4.8 Cutouts for ATCA Ergonomic Handle without Switching Nose

- Microswitch 81-088 assembled to handle
- Microswitch activation through interlock (sliding button) on handle



2.4.9 Cutouts for ATCA Ergonomic Handle with Switching Nose

- Microswitch 81-088 assembled to front panel
- Microswitch activation through switching pin on lever handle



2: Front Panels for Plug-In Units



AdvancedTCA

ATCA and the ATCA logo are trademarks of the PCI Industrial Computers Manufacturers Group

2.5 Plug-In Units "Classic" acc. to AdvancedTCA

2.5.1 Plug-In Units "Classic"

- 8 U x 6 HP with handles
- Conform to the PICMC 3.0 specification
- For boards with thicknesses of 1.6 mm to 2.4 mm



2.5.1 Front Panel 8 U x 6 HP with Handles acc. to ATCA

- **Scope of delivery:**
 - Galvanised steel front panel incl. captive screws M3
 - EMC gasket
 - Handle set

Description	Part-No.
Steel front panel with handle	CAS000028



2.5.2 Filler Panel 8 U x 6 HP acc. to ATCA

- **Scope of delivery:**
 - Steel filler panel, incl. captive screws M3
 - EMC gasket

Description	Part-No.
Filler panel steel, incl. captive screws M3	CAS000039

2.5.3 Filler Panels with Baffle

- **Scope of delivery:**
 - Steel filler panel, incl. captive screws M3
 - EMC gasket
 - Incl. Baffles

Description	Part-No.
Filler front panel with baffles 8 U x 6 HP x 270 mm	CAS000105
Filler RTM panel with baffles 8 U x 6 HP x 72.5 mm	CAS000106

2: Front Panels for Plug-In Units



2.5.5 Handle Set acc. to ATCA

- **Scope of delivery:**
 - 2 steel handles
 - 2 shoulder screws M2.5, Torx size T10
 - 4 + 4 washers
 - 2 latch spring clips

Description	Part-No.
2 handles	CAE013058



2.5.6 Captive Screw M3

Description	Part-No.
Screw M3 captive	CAE011208

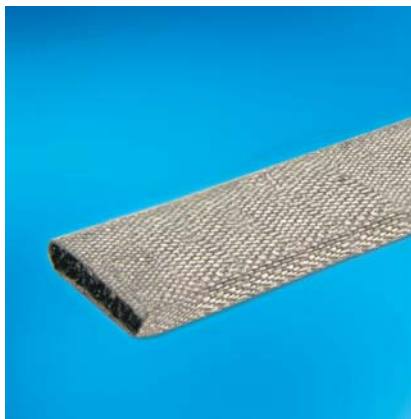


2.5.8 Centering and ESD Pin

- D=3 x 16 mm
- Stainless steel

Description	Part-No.
Centering pin	CAE011383

2: Front Panels for Plug-In Units



2.5.9 EMC-Gasket

- Core: Polyurethan
- Wrapping: Nickel-copper coated textile

Description	Part-No.
EMC-gasket, L = 300 mm	CAE022003



2.5.10 Microswitch for Injector/Ejector Handle

Technical data and function see 3.5.3

Description	Part-No.	
Microswitch with pre-assembled wire cable length (25 mm)	81-088	



2.5.11 Stud for Microswitch Assembling

- D=1,62 x 4 mm
- Stainless steel
- For microswitch mounting to front panels
- **Scope of delivery:**
 - 1 stud

Description	Part-No.
Stud D=1,62 x 4 mm	5686-05

2: Front Panels for Plug-In Units

AdvancedTCA

AdvancedTCA (ATCA) stands for Advanced Telecom Computer Architecture.

ATCA is the first open industry specification for carrier grade equipment incorporating high speed switched fabric technology. ATCA systems are capable of switching and processing 2.5 terabits per second in a single shelf.

What Size are the Boards?

After lengthy deliberations, sophisticated thermal simulations, and a lot of customer feedback, PICMG 3 boards are 8 U (322.25 mm) high and 280 mm deep. This size was carefully arrived at after considering cooling, front panel space, backplane size, and rear panel I/O requirements. Boards are spaced at a 1.2" (6 HP) pitch. The wider pitch accommodates taller components like next generation CPU's with integral heat sinks, off-the-shelf memory modules, and high power DC-DC converters. The wider pitch also improves cooling as more air volume can be circulated over a card.

Elma's ATCA Products and Services

Capabilities

- Simulation
- NEBS certification
- Customisation
- 3D solid modeling
- Manufacturing
- Integration

Systems

- 2 U, 3 U, 4 U, 5 U, 12 U & 13 U
- Redundant 48VDC input (AC input options available)
- Optimised via thermal simulation studies
- IPM sentry shelf management options

Backplanes

- 2, 4, 5, 14 & 16 slots
- Dual star, mesh or replicated mesh
- Compliant to PICMG 3.0
- Optimised via signal integrity studies

Accessories

- Front panels
- Handles
- Shelf managers

Please find further information on www.elma.com

AdvancedMC

AdvancedMC (AMC) brings hot swap and ATCA like features to a new generation of mezzanine modules.

While AMC was developed to be compatible with the ATCA architecture, AMC modules will be used in conjunction with other platform architectures. As its predecessors have shown, good mezzanine cards will be used wherever they can fit, which will encompass a very wide range of carrier form factors and applications.

AMC Products

To build up AMC Carriers and mezzanine modules mechanics in different versions are needed: Covers, Front Panels, Handles, EMC-Gaskets, Card-Guides, Filler Panels, Air Baffles and Micro Switches.

ELMA is still working on those products.

Please find further information on www.elma.com

Customisation is the standard at ELMA. With an extensive offering of modular products as a foundation, Elma is able to leverage existing solutions and proven design concepts to meet any custom application.

uTCA

MicroTCA defines a system architecture that uses AdvancedMC mezzanine cards plugged directly into a backplane architecture to produce smaller form factor systems.

As soon as the standard is issued (planned 2006) ELMA can give some detail information about the products. The dimensions of the necessary uTCA sub racks and systems are geared to modules described in the AMC standard.

Please find further information on www.elma.com

3: Handles

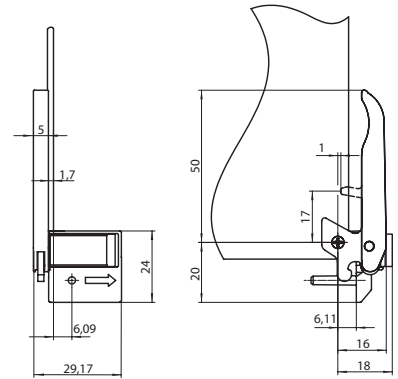


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3.5 Injector/Ejector Handles acc. to AdvancedTCA

3.5.1 ATCA Ergonomic Injector / Ejector Handle

- Pre-assembled
- Self-locking screws for front panel and board mounting (Tuflok)
- Plastic parts black (UL94 V-0)
- Base part including alignment pin (zinc die-cast, nickel plated)
- Other versions available on request
- **Scope of delivery:**
 - Handle pre-assembled
 - Retaining screw pre-assembled
 - Screw for front panel mounting (loose packed)
 - Screw for board mounting (loose packed)



Ergonomic Handle, Microswitch to be assembled on Handle

Description	Part No.	
Front top, rear bottom	AT-300-00	
Front bottom, rear top	AT-301-00	



Ergonomic Handle, Microswitch to be assembled on Front Panel or Board

- Switching pin on lever handle

Description	Part No.	
Front top, rear bottom	AT-300-01	
Front bottom, rear to	AT-301-01	

3: Handles



Ergonomic Handle, ATCA Logo, Microswitch to be assembled on Handle

Description	Part No.	
Front bottom	AT-304-00	



3.5.2 ATCA Classic Handle

- Easy operation
- Material: stainless steel
- With latching (hot-swap)
- For self installation
- **Scope of delivery:**
 - 2 steel handles
 - 2 shoulder screws M2.5, Torx size T10
 - 4 + 4 washers
 - 2 latch spring clips
 - Assembly instruction

Description	Part-No.	
2 handles	CAE013058	

3.5.3 Microswitch Technical Data and Function



Microswitch for Injector/Ejector Handle

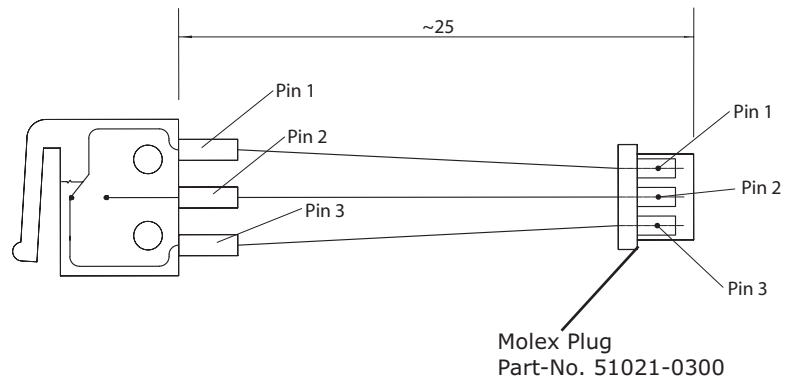
Description	Part-No.	
Microswitch with pre-assembled wire cable length (25 mm)	81-088	

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°C to +70°C	
Humidity:	RH 85% max.	
Vibration:	10 Hz to 55 Hz, 18 g	
Shock:	30 g, 11 msec	

Switch function:

- Switch open: Connection between Pin 1 and Pin 3
- Switch closed: Connection between Pin 1 and Pin 2

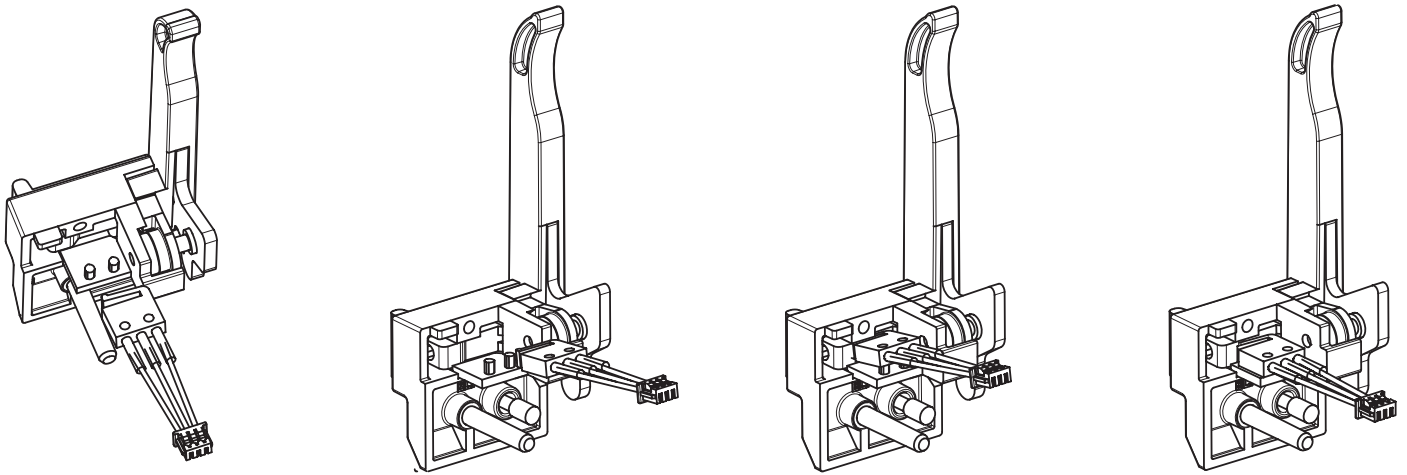


Mates with: 51047-0300
(Molex P/N) 53048-0310
53047-0310
53261-0390
53398-0390

3: Handles

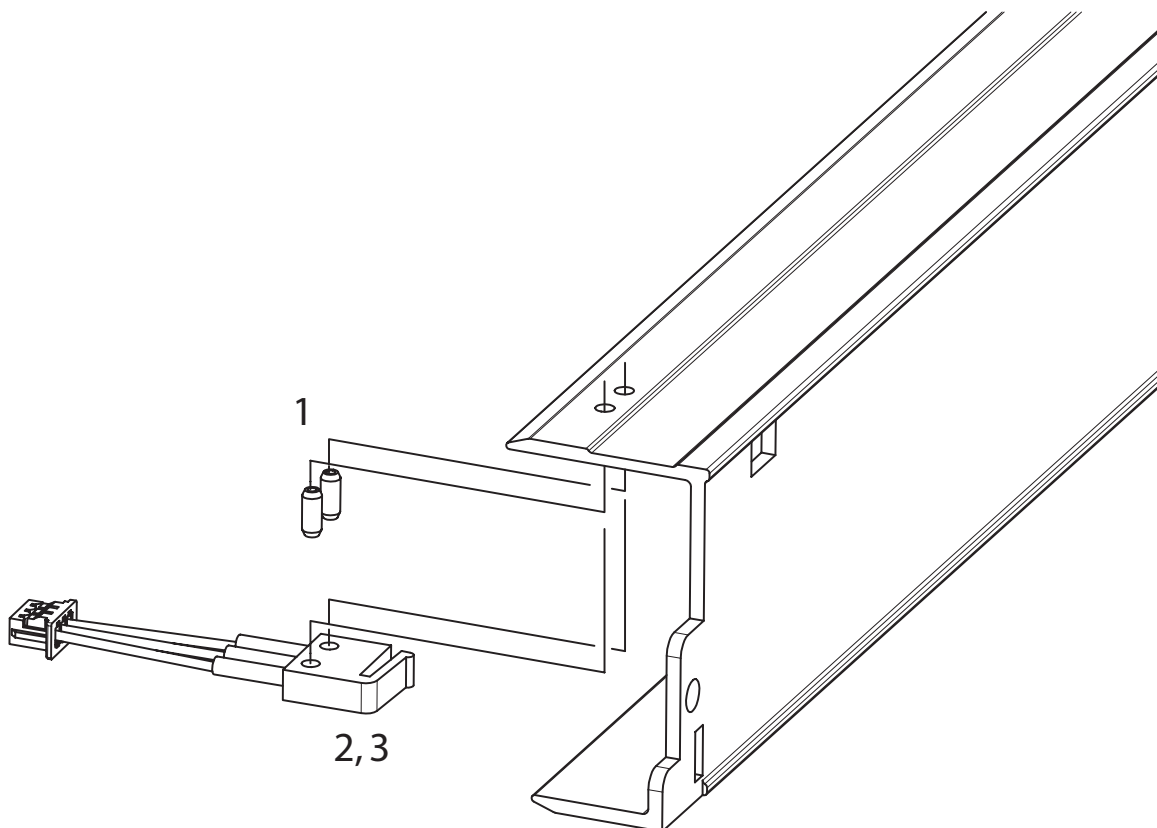
3.5.3.1 Mounting Microswitch to ATCA Ergonomic Handle:

- Possible without tools
1. Handle stays in the locked (closed) position
 2. Check the microswitch orientation according the drawing below
 3. Push microswitch onto the handle

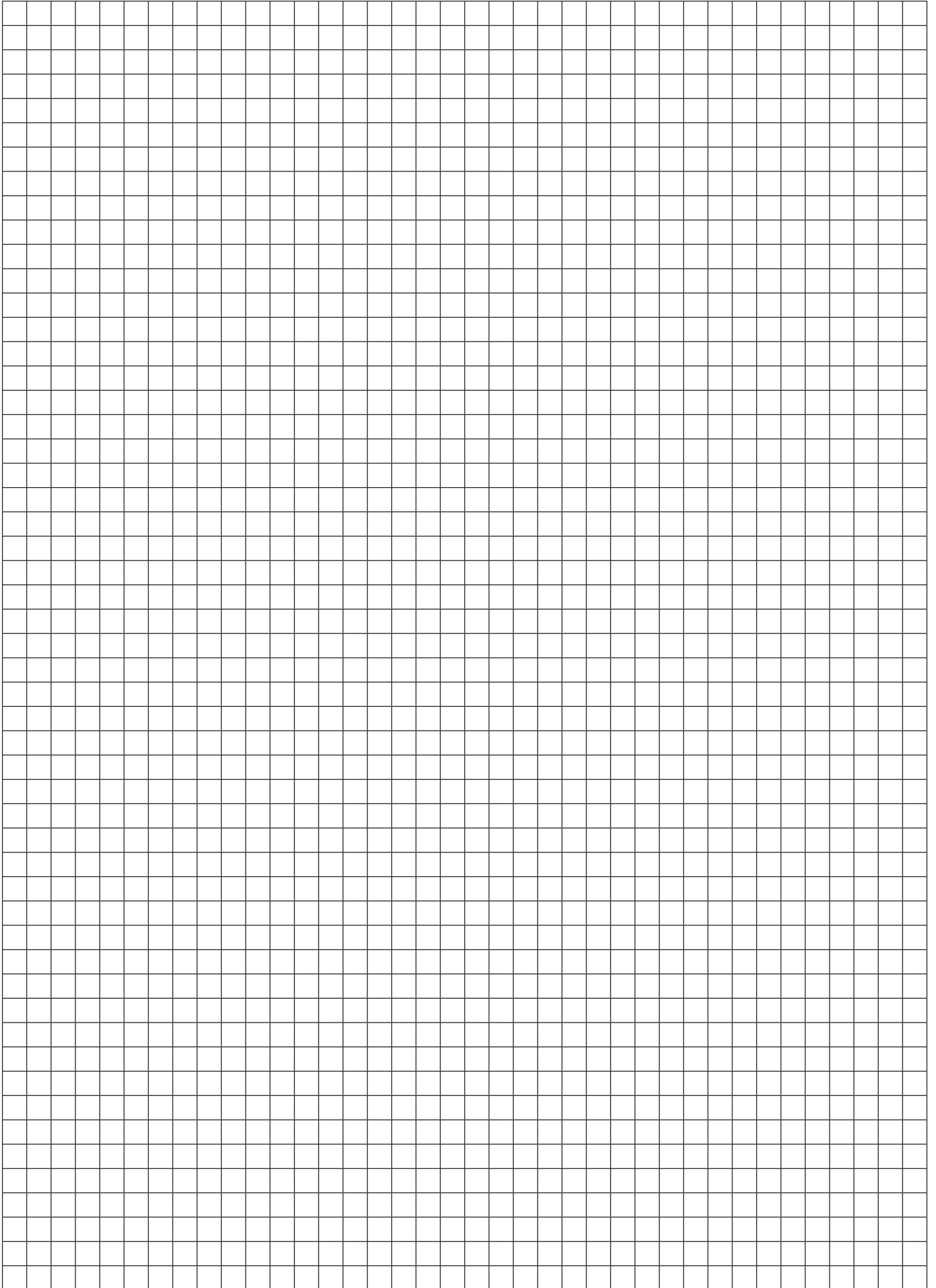


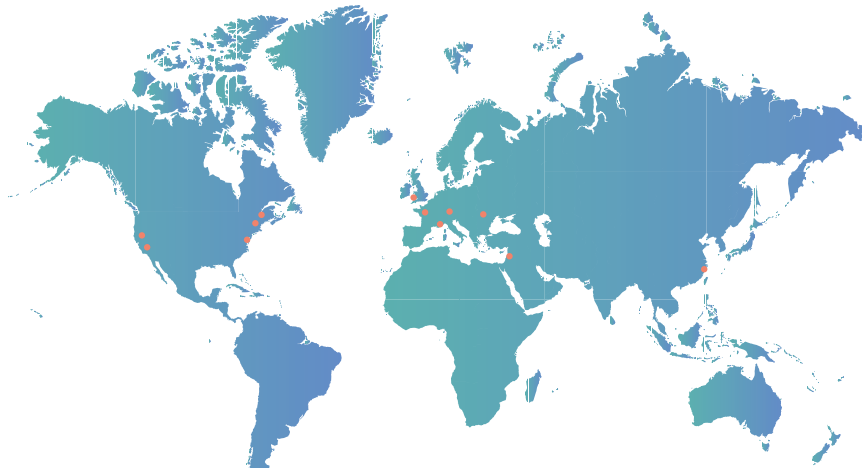
3.5.3.2 Mounting Microswitch to Front Panel:

1. Press studs (ELMA part number: 5686-05) into the panel
2. Check the microswitch orientation according the drawing below
3. Push microswitch onto the studs



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