



Our *passion* is enclosures.

The evolution in enclosure technology.

**ROLEC** aluPLUS.

The PLUS in technology and design.





ROLEC milestones  
in enclosure development.



aluPLUS

## The evolution: From terminal to electronic enclosure.

**Over 40 years ago** Friedhelm Rose embarked on the development of enclosure technology. His inventions became standards. ROLEC is still setting them today.

Originally designed as terminal enclosures, today ROLEC enclosures primarily protect electrical and electronic components in harsh environments. They are constantly being aligned with current demands – investment in modification, in line with modern CNC-controlled processing machines. ROLEC drives progress.

**ROLEC is constantly setting** new benchmarks in the technology and design of robust industrial enclosures. The new benchmark is the aluPLUS enclosure range! ROLEC accompanies industrial development.

ROLEC produces the trailblazers. The latest self-imposed task: Transfer new technology to conventional enclosure dimensions. Result: aluPLUS. The attachment and installation dimensions precisely reflect those of the familiar standard enclosures, e.g. aluKOM.



# ROLEC aluPLUS. Transfer brilliant ROLEC ideas to standard enclosures.



## Advantages at a glance



Integrated recesses for  
membrane keypads.



Enclosure attachment with closed  
lids.



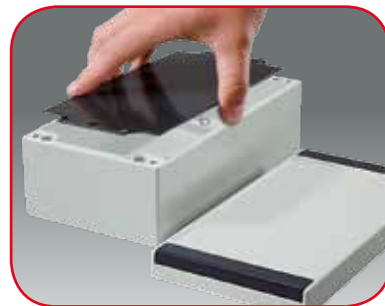
Design covers for the perfect look.



Economical lid supports.



Attachment domes in the enclosures  
and lids for components.



Standardised installation  
dimensions.

**ROLEC** has no role models. Is the standard. ROLEC has its ear to the market. The analysis of thousands of orders shows what users want. Why then constantly repeat working processes, when the same things have been considered for so many requirements?! For example: The recess in the lid surface for protecting the edges of the membrane keypad.

**Another example:** The application of external feet for external fastening is only an auxiliary addition and not essential to the design. aluPLUS enclosures can be fastened with closed lids.

**And another:** Just four screws and even contact pressure guarantee leak-tightness. Why do they need to detract from the appearance?

With aluPLUS the attachment level disappears beneath a retrospectively easy clip-on plastic design cover. The appealing result: An elegant design previously unknown in standard industrial enclosures.

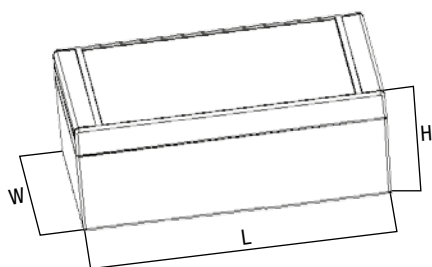
**Lid supports:** Compatibility with standard enclosures was the main target with aluPLUS enclosures. As such lid supports such as those with aluCASE could not be integrated. ROLEC therefore developed economical lid supports as accessories.



## aluPLUS range overview

| Type   | Mat.-No     | L   | W   | H  | D   | E   | g    | M | D | EMV | L | T | DH | Plus |
|--------|-------------|-----|-----|----|-----|-----|------|---|---|-----|---|---|----|------|
| AP 082 | 196.182.000 | 125 | 84  | 59 | 113 | 52  | 395  | ● | □ | ●   | ● | ● | ○  | ●    |
| AP 083 | 196.183.000 | 175 | 84  | 59 | 163 | 52  | 511  | ● | □ | ●   | ● | ● | ○  | ●    |
| AP 100 | 196.100.000 | 100 | 100 | 82 | 87  | 65  | 575  | ● | □ | ●   | ● | ● | ○  | ●    |
| AP 102 | 196.102.000 | 160 | 100 | 82 | 147 | 65  | 767  | ● | □ | ●   | ● | ● | ○  | ●    |
| AP 120 | 196.120.000 | 122 | 120 | 82 | 106 | 82  | 770  | ● | □ | ●   | ● | ● | ●  | ●    |
| AP 122 | 196.122.000 | 220 | 120 | 82 | 204 | 82  | 1110 | ● | □ | ●   | ● | ● | ●  | ●    |
| AP 161 | 196.161.000 | 160 | 160 | 90 | 140 | 110 | 1190 | ● | □ | ●   | ● | ● | ●  | ●    |
| AP 162 | 196.162.000 | 260 | 160 | 90 | 240 | 110 | 1620 | ● | □ | ●   | ● | ● | ●  | ●    |

□ Standard ● Available ○ Not available



Installation dimensions

## Technical information

### Enclosure

Die-cast aluminium  
EN AN-44300 DIN EN 1706  
(GD AL SI 12 / DIN 1725)  
1° mould slope for casting  
ejection, internal measures  
diminishing circulatory towards  
enclosure bottom by 1°.

### Lid screws

Stainless steel 1.4567, captive.

### Integrated recess

1.7 mm recess in the lid for  
membrane keypad or front  
plates, membrane dimension-  
al data for standard powder  
coating.

### Optional lid support

Screw hinge, cover screw with  
plastic element from stainless  
steel 1.4567 and polyamide  
(PA6).

### Clip-on design cover

Plastic PBT in RAL 7016, an-  
thracite grey.

### Internal mounting

Attachment webs in the bottom  
section and attachment domes  
in the top section ensure  
secure fastening of installed  
components.

### Ingress protection

IP 66 / EN 60529  
IP 67 / EN 60529 (optional)

### Gasket

Silicone gasket  
(-50°C bis +140°C)  
Optional: Chloroprene gasket  
(-30°C bis +90°C)

### Coating

Powder coated in RAL 7035,  
light grey,  
optional: Special colours



**M**

Mounting plates



**D**

Silicone gasket



**EMV**

Shielding



**L**

Corrosion proof  
coating



**T**

Supporting rails  
for terminal blocks



**DH**

Lid support



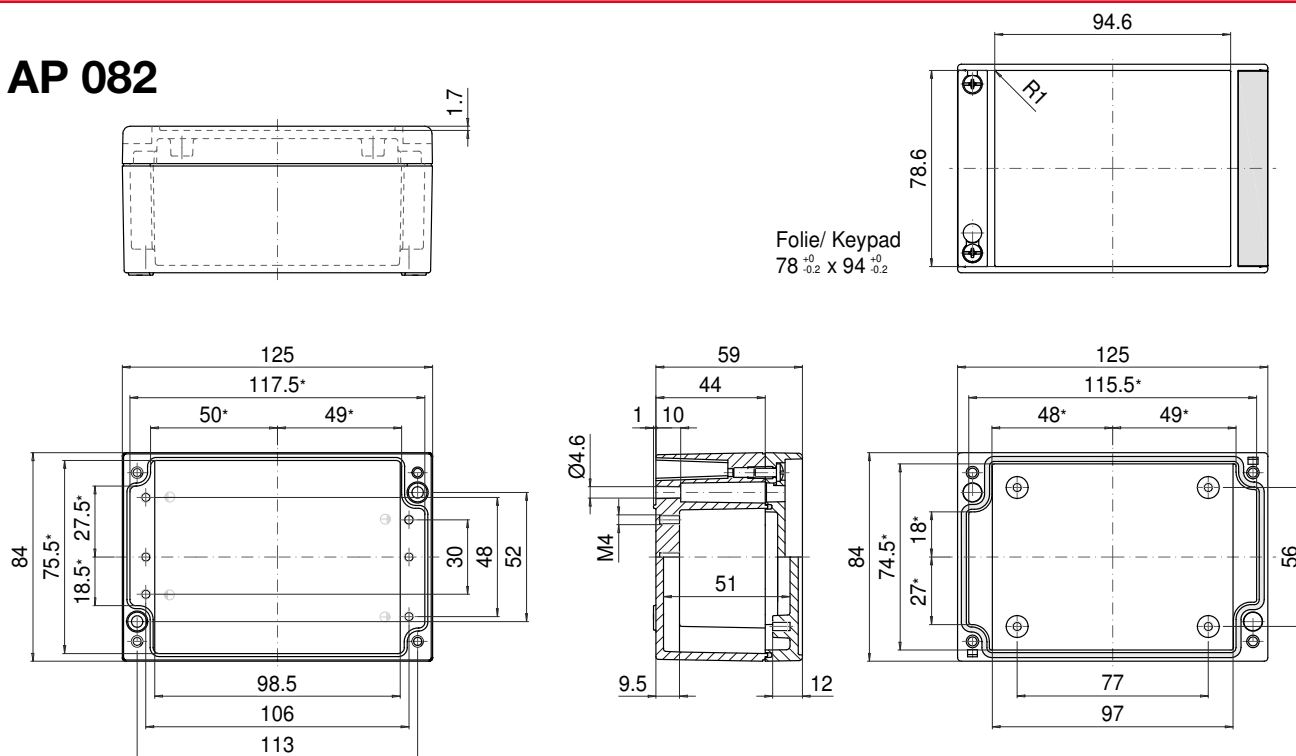
**PLUS**

Protection class  
IP 67

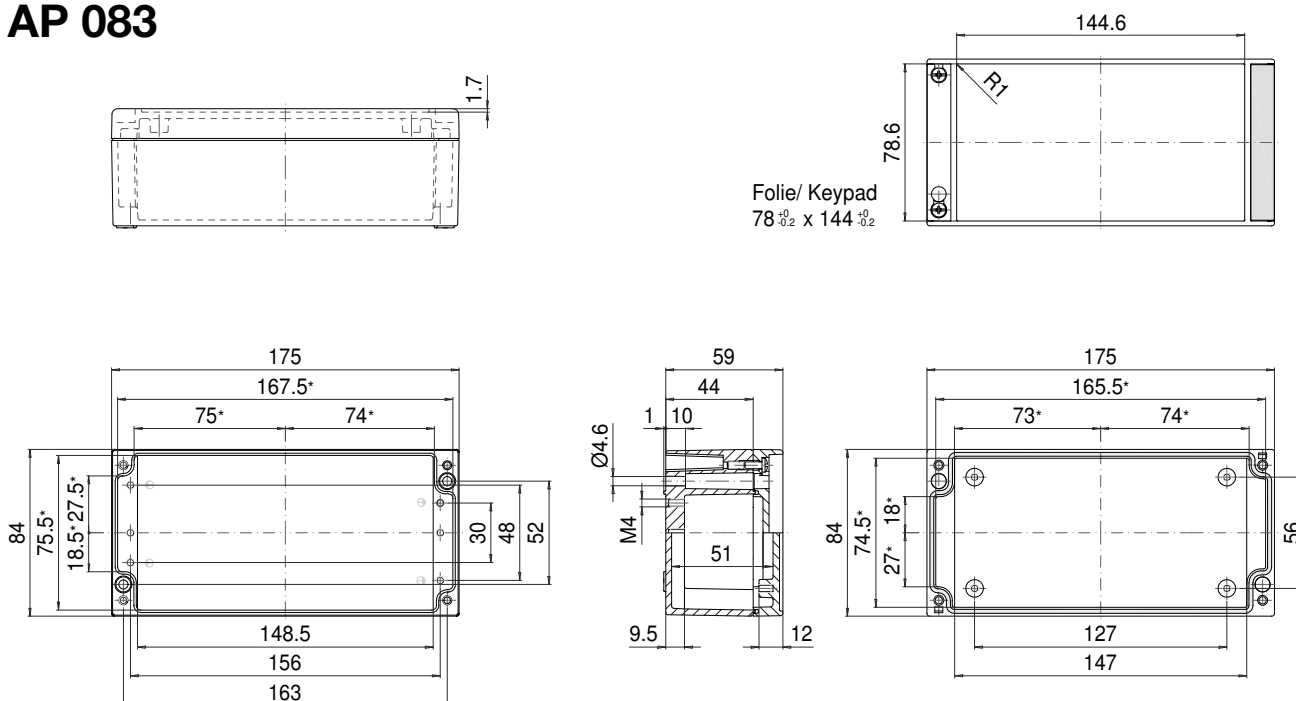
# ROLEC Attachment and installation dimensions

aluPLUS

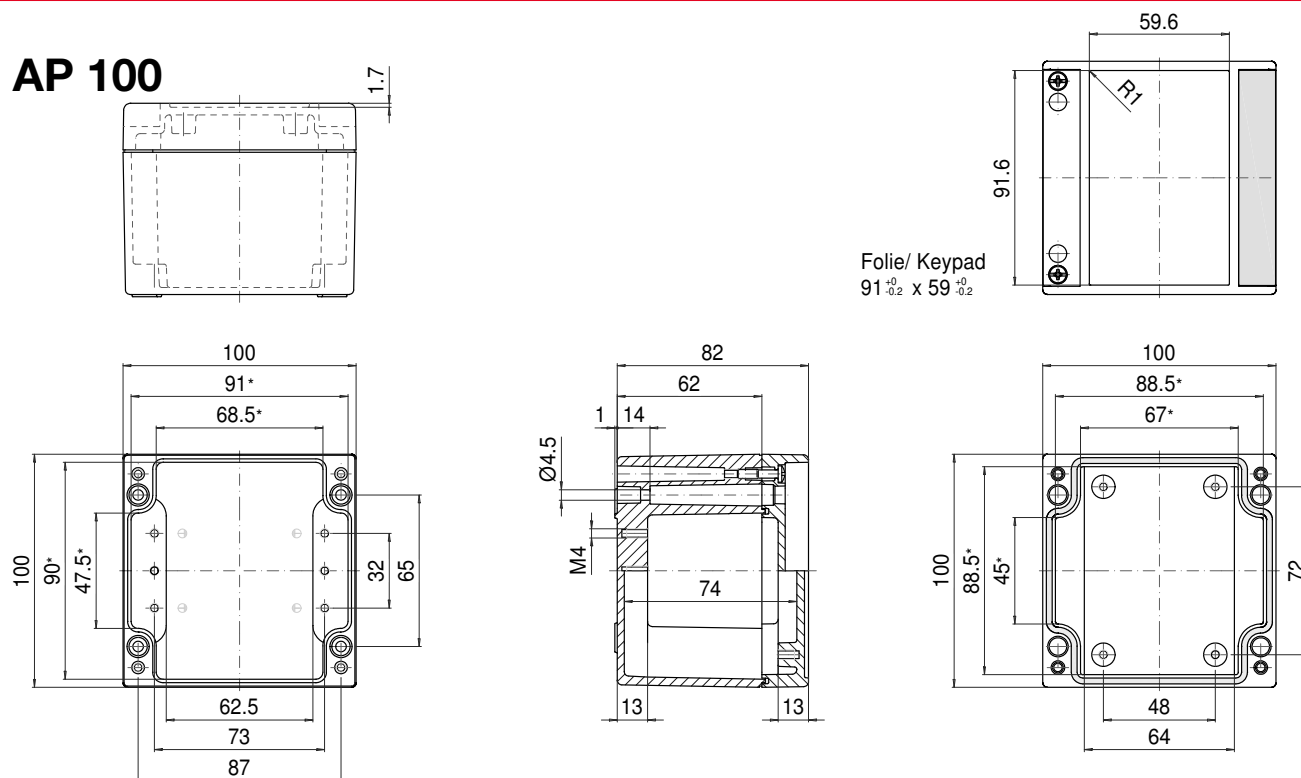
## AP 082



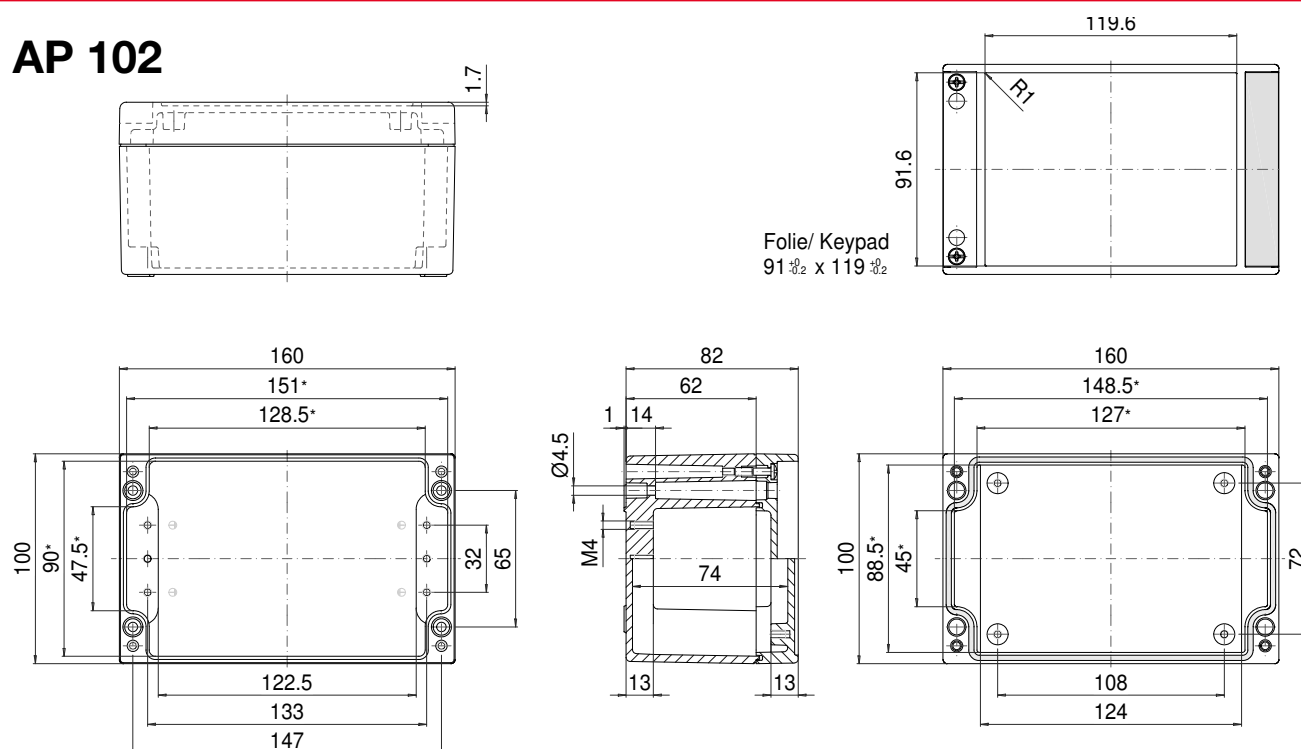
## AP 083



## AP 100



## AP 102



# aluPLUS

# AP 120

Technical drawing of the AP 120 keypad, showing front, side, and top views with dimensions.

**Front View Dimensions:**

- Overall width: 122
- Overall height: 120
- Inner width: 113\*
- Inner height: 110\*
- Mounting hole spacing (horizontal): 86.5\*
- Mounting hole spacing (vertical): 63.5\*
- Mounting hole diameter: Ø6
- Mounting hole depth: 1
- Mounting hole pitch: M5
- Mounting hole offset (horizontal): 52
- Mounting hole offset (vertical): 82
- Mounting hole diameter (inner): 83.5
- Mounting hole diameter (outer): 95
- Mounting hole diameter (total): 106

**Side View Dimensions:**

- Overall width: 82
- Overall height: 74
- Mounting hole offset (horizontal): 14
- Mounting hole offset (vertical): 13

**Top View Dimensions:**

- Overall width: 81.6
- Overall height: 111.6
- Mounting hole spacing (horizontal): 81<sup>+0.2</sup> x 111<sup>+0.2</sup>
- Mounting hole spacing (vertical): 85\*
- Mounting hole spacing (horizontal): 66
- Mounting hole spacing (vertical): 61\*
- Mounting hole diameter: Ø6
- Mounting hole depth: 1
- Mounting hole pitch: M5
- Mounting hole offset (horizontal): 52
- Mounting hole offset (vertical): 82
- Mounting hole diameter (inner): 83.5
- Mounting hole diameter (outer): 95
- Mounting hole diameter (total): 106

**Notes:**

- Folie/ Keypad
- 81<sup>+0.2</sup> x 111<sup>+0.2</sup>

# AP 122

Technical drawing of the AP 122 keypad, showing dimensions in millimeters (mm).

**Top View Dimensions:**

- Overall width: 220
- Inner width: 211\*
- Outer width: 184.5\*
- Overall height: 120
- Inner height: 110\*
- Outer height: 63.5\*
- Bottom flange width: 52
- Bottom flange height: 82
- Bottom flange thickness: 1.7

**Side View Dimensions:**

- Overall width: 82
- Inner width: 62
- Mounting hole diameter: Ø6
- Mounting hole offset: 1
- Mounting hole diameter: M5
- Mounting hole offset: 14
- Mounting hole diameter: 74
- Mounting hole offset: 13

**Front View Dimensions:**

- Overall width: 220
- Inner width: 208.5\*
- Outer width: 183\*
- Overall height: 120
- Inner height: 108.5\*
- Outer height: 61\*
- Bottom flange width: 92
- Bottom flange height: 164

**Bottom View Dimensions:**

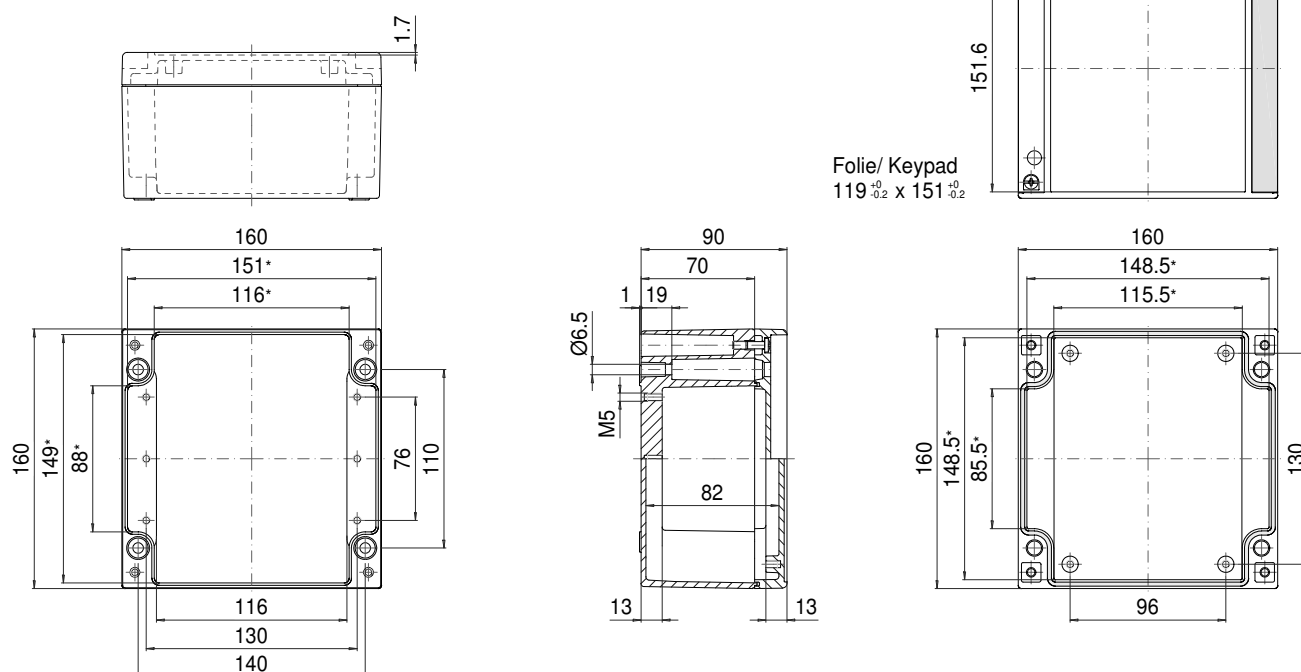
- Overall width: 179.6
- Overall height: 111.6
- Radius: R7

**Material/Type:** Folie/ Keypad

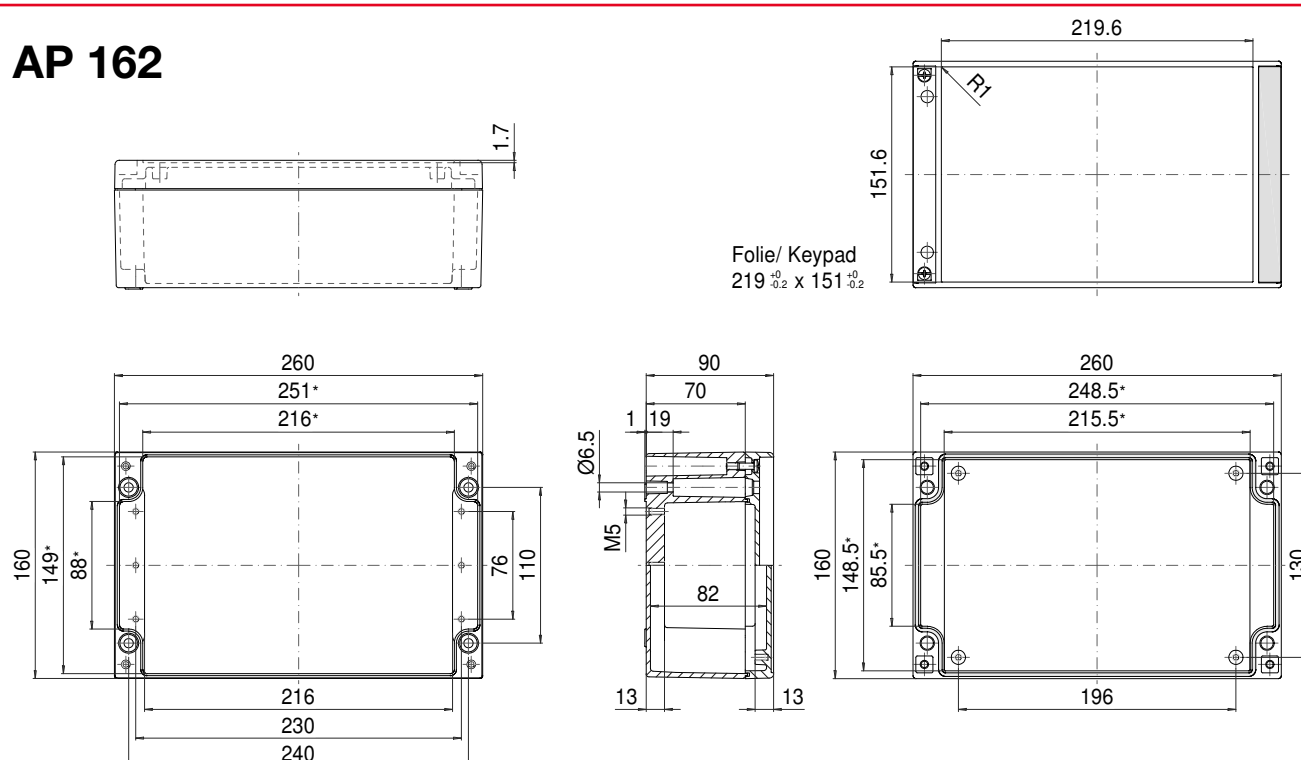
**Dimensions:** 179<sup>+0</sup><sub>-0.2</sub> x 111<sup>+0</sup><sub>-0.2</sub>



## AP 161



## AP 162



**ROLEC.**

„Ready-to-install by the manufacturer“



**Tailored for installation**



**Processing example**

**Electronics and terminal enclosures are supplied ready for installation.**

The user need only install the electrical and electronic components and attach to the machine - ROLEC takes care of everything else.

Enclosures are painted in standard colours or in accordance with our customers' wishes. On request we supply enclosures ready-to-install with membrane keypads, terminals and cable glands.

**Drilling. Milling. Engraving... in accordance with your specifications.**

Here you can see an example of enclosure processing. Drilling and milling specifications are incorporated into the enclosure structure and engraved into the surface depending on the function. The principle is simple: We design our enclosure in accordance with your specifications, ready for immediate integration into your work flow.



**Drilling - Milling**



**Engraving - Serigraphy**



**Powder coating - Painting**



**Inserting/Assembly**



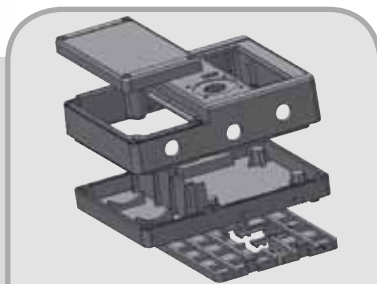
**Front plates**



**Membrane keypads**

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## Development on customer order



**Development**



**Economical modification  
by tool inserts**



**Customized design**

**ROLEC**.  
Finished means finished.



Our *passion* is enclosures.

Just-in-time. Ready for installation.

- Drilled.
- Milled.
- Engraved.
- Printed.
- Powder coated.
- Wet painted.
- Equipped.
- Assembled.
- Delivered.

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