

# Installation Instructions

## Langmatz Gf-AP Gr. M+

### Optical fibre termination point EK330



## Inhalt

1	Product description	deutsch	3
2	Safety information		3
3	Delivery contents and accessories		3
4	Housing assembly		5
5	Housing installation		8
6	Housing population		11
7	Extendet housing configuration		13
8	Maintenance / interference suppression		15
9	Technical specifications (excerpt)		15
10	Disposal / recycling		15
11	Cable assignment plan		15

### Important information

Claims based on a missing committed characteristic can only be asserted, if a certain characteristic was expressly committed in writing by the delivering Langmatz company in the individual case. Apart from that, all warranty and liability claims follow the General Conditions of Sale of the delivering Langmatz company.

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## 1. Product description / intended use

The optical fibre termination point is exclusively designed for interior installations as optical fibre termination point and / or storey distribution board and meets all committed functions in these applications and with professional installation only.

## 2. Safety information



### Installation instructions

These installation instructions are addressed to technical expert personnel. Please read through these instructions completely prior to using the product. Observe any applicable Accident Prevention Regulations as well as applicable regulations regarding the handling of optical fibres. Safe and problem-free product operation assumes proper transport, storage, and installation.



### Warning! Invisible laser radiation may exist!

Never expose yourself to possible direct laser radiation. Be particularly cautious when handling fibre-optical connecting lines and plug connectors, as these components may carry invisible laser radiation. Never look into open fibre ends or plug connectors with the naked eye or using a microscope. Unused plug connectors must always be fitted with dust covers.



### Notes on handling optical fibre cables

**Optical fibre cables can become unusable due to high mechanical loads, e.g. high tensile or compression forces and / or strong bending or folding.** Strictly observe the specifications and instructions issued by the cable manufacturer.

## 3. Delivery contents and accessories

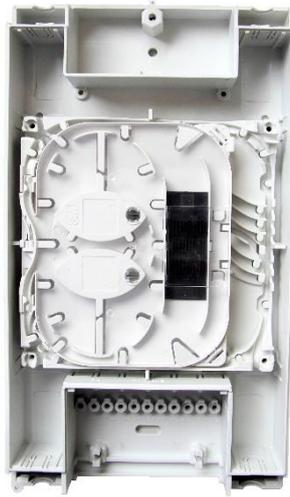
Check the delivery for completeness and all single parts for possible damage. Only install and commission undamaged parts! Please approach your contact via our hotline in the case of damage.



**Fig. 1** Gf-AP in as-delivered condition for individual population



**Fig. 1a** Gf-AP with pigtails / couplings



**Fig. 1b, 1c**  
Housing delivery contents

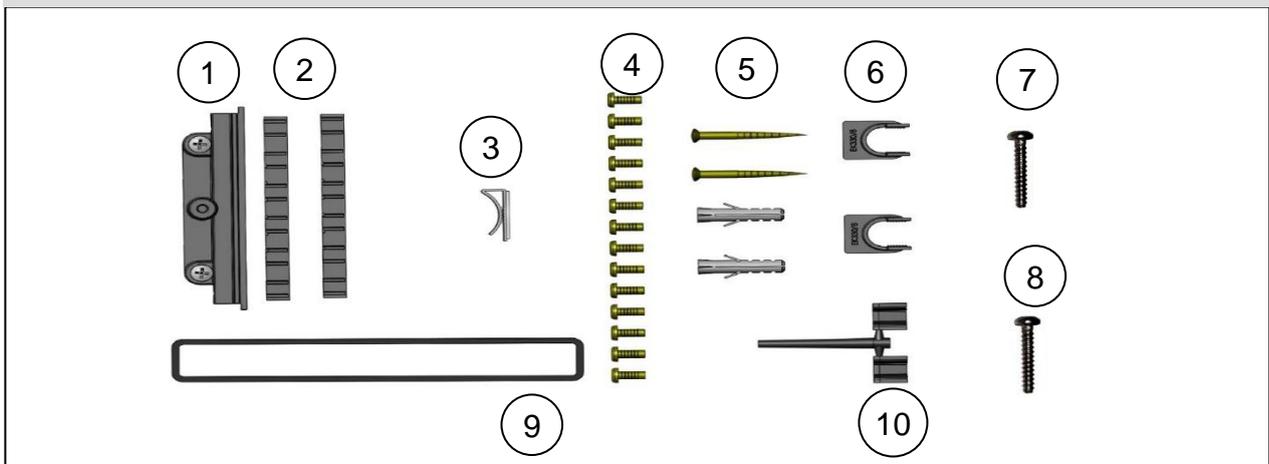
**Fig. 1d** Accessories kit

### 3.1 Delivery contents

- Housing with coupling guide
- Mounting plate with multi-cassette 10 mm (pre-mounted)
- Cover with seal and fastening screw
- Installation instructions
- Drilling template (inside of the cardboard box)

- |                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> <li>6</li> <li>7</li> <li>8</li> <li>9</li> <li>10</li> </ol> | <ul style="list-style-type: none"> <li>1 x Strain relief with screws</li> <li>2 x Sealing elements for cable outlet</li> <li>1 x Holder, self-adhesive (for cable assignment plan)</li> <li>14 x Serrated screws for aramid yarn strain relief</li> <li>Installation set for wall installation (screws, dowels)</li> <li>2 x Down-holder for optical fibre cable/micro-pipe</li> <li>1 x Cover screw Phillips head</li> <li>1 x Cover screw Torx</li> <li>1 x Seal for housing installation in series</li> <li>1 x Bracket unit</li> </ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

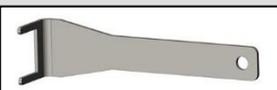
Accessories kit  
Art.-no. 063300500



### 3.2 Accessories (to be separately ordered, not included in the delivery contents)



1 pack (10 pieces)  
Locking tongue for lock with closing system 81; design 6  
Art. no. 063300503



1 pack (5 pieces)  
Coupling release  
Art. no. 063300504

## 4. Housing assembly

### 4.1 Opening the housing

After unscrewing the cover screw (**fig. 2a**), the cover can be folded open in the area of the screw. Choose cover screw as desired from accessory pack. The cover can be attached to the housing by securing the two lugs on the lower housing part using a string (**fig. 3**).



**Fig. 2 a** Closing with captive screw



**Fig. 2 b** Opening the cover

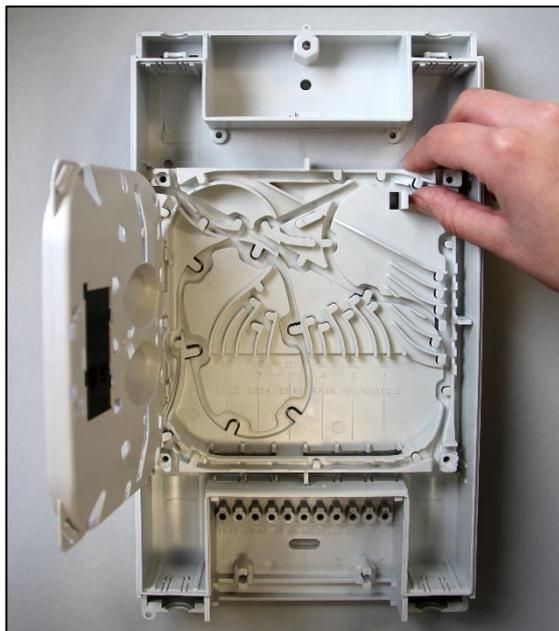


**Fig. 3** Lugs on the lower housing part

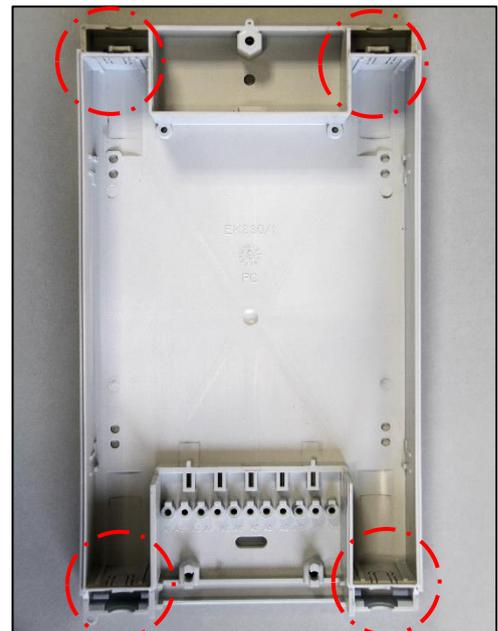
### 4.2 Preparation of cable / pipe inlets

Take the assembled mounting plate with cassette out from the lower housing part (**fig. 4a**).

The housing supports cable and/or pipe inlets and outlets with diameters of 5 / 7 / 10 / 12 mm. Inlets and outlets can be established on the right and the left housing side, respectively from the top or bottom of the housing (**fig. 4b**).



**Fig. 4 a** Housing with mounting plate



**Fig. 4 b** Housing

The openings in cover and housing for inlets and outlets are to be realized via set break points.



**CAUTION!**

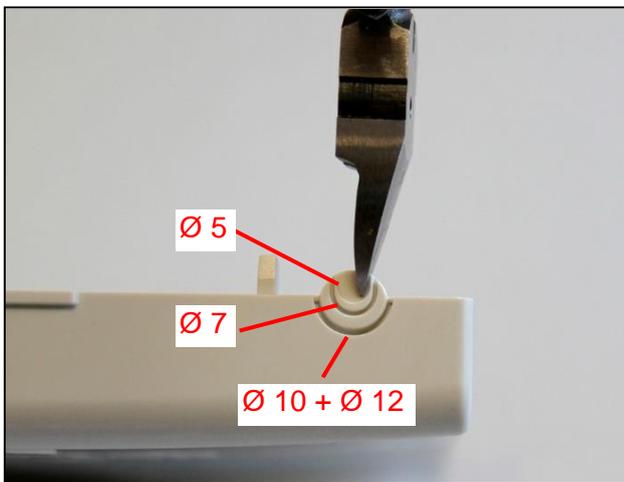
Protective class IP54 is only ensured if the predefined openings are opened according to the required diameter. Use a cutter **WITHOUT** chamfer for pre-cutting.

Pre-cut the required openings in the required dimensions (5, 7, 10 or 12 mm) (**fig. 5**). Use pliers to break out the predefined opening and deburr the edges (**fig. 6**). Predefined opening in the lower part (**fig. 7a, 7b**).

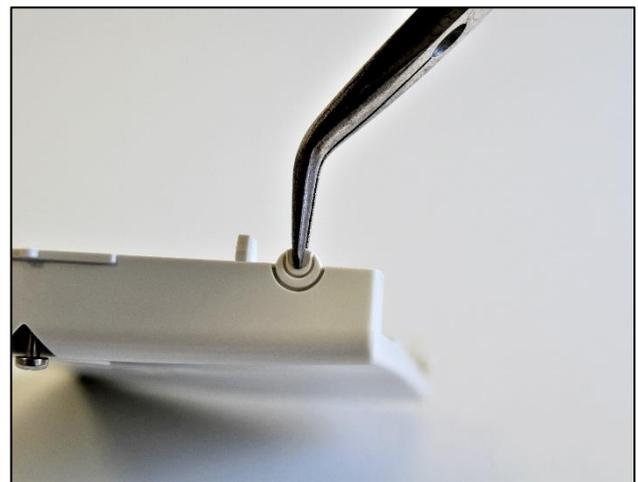


**CAUTION!**

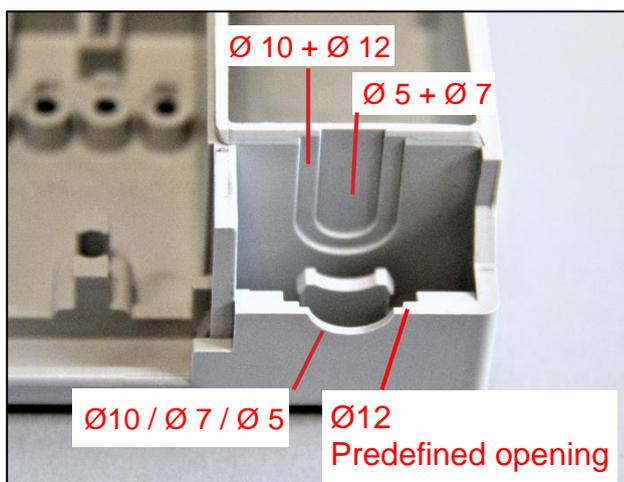
The introduced openings must be free from burrs to prevent cable damage.



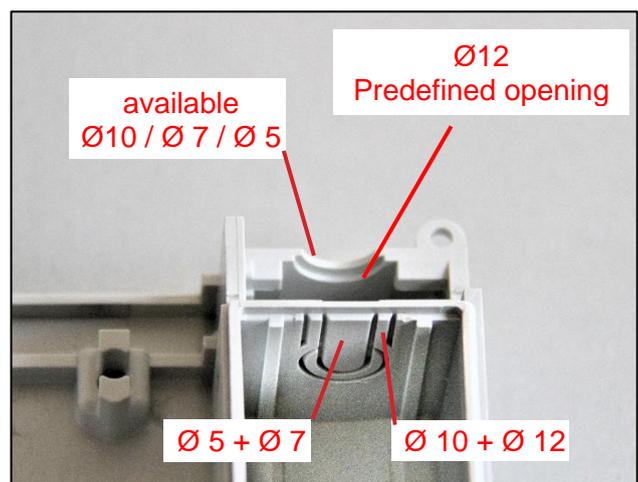
**Fig. 5** Cutting the required opening dimension (cover)



**Fig. 6** Breaking the opening out using pliers (cover)



**Fig. 7 a**  
View of the predefined openings from the outside (lower part)



**Fig. 7 b**  
View of the predefined openings from the inside (lower part)

### 4.3 Housing installation on the wall



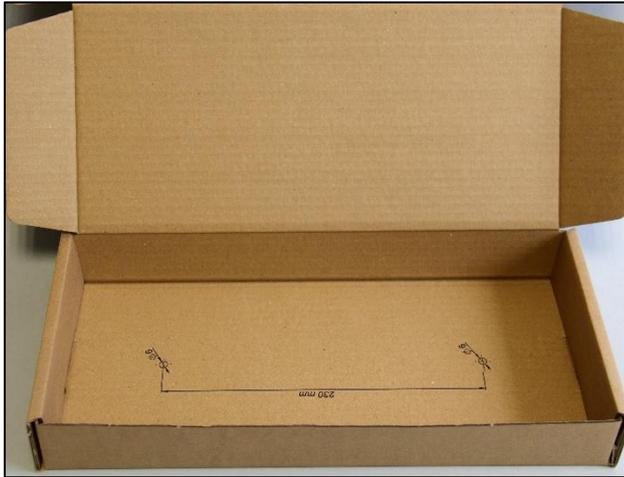
#### CAUTION!

Make sure that no lines (gas, water, electricity) or other important structures are located in the drilling area.

Next, drill the holes for mounting the housing.

There are two drill holes for wall installation in the bottom of the housing.

Use the drill holes  $\varnothing 6$  mm printed on the bottom of the packaging box as drilling template for positioning the housing (**fig. 8a, 8b**). Align the drilling template using a level. The cardboard box can be used for dirt collection (**fig. 8c, 8d**). Make sure that the wall is flat! If the wall is very uneven, the housing may warp and become leaky.



**Fig. 8a** Packaging box with drilling template



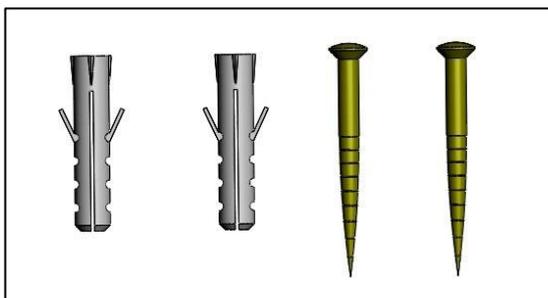
**Fig. 8b** Drilling template



**Fig. 8c** Packaging box with drilling template



**Fig. 8d** Packaging box with drilling template



Use the enclosed screws ( $\varnothing 4 \times 40$  mm DIN 96) and dowels (6 mm) for mounting.

## 5. Housing installation



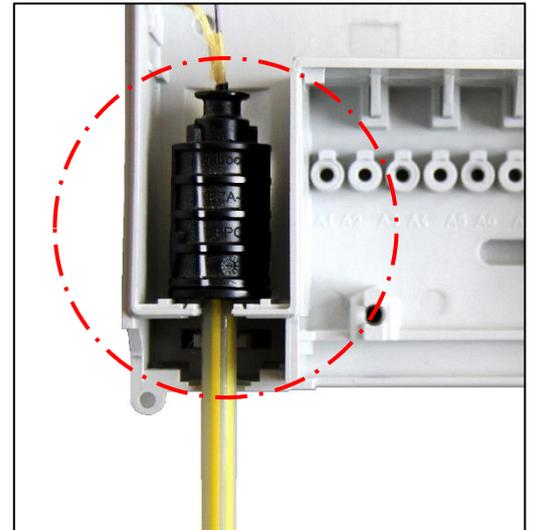
### CAUTION!

The installation steps assume essential expertise in the area of optical fibre installations and the respective working steps!  
All splice and cable work must be performed according to the acknowledged rules of technology. Exclusively use tools provided for this purpose to prevent damage to cables and optical fibres!

### 5.1 Inserting the strain relief

If the optical fibre cable is fed via micro-pipe, a commercially available strain relief can be used (**fig. 9**).

Please observe that the different strain relief designs result in different end lengths of the micro-pipes in the housing of the termination point.



**Fig. 9** Strain relief

### 5.2 Cable and pipe guiding

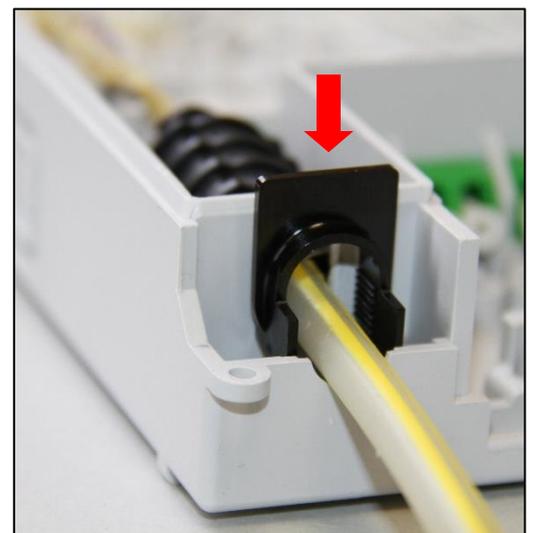
The fed optical fibre cables / micropipes are secured using the enclosed down-holders (**fig. 9a**).

For this purpose, the cable and / or pipe is inserted into the opening prepared as described in point 4.2 and secured using a down-holder.

Observe the insertion direction of the down-holder according to **fig. 9b** for this purpose.



**Fig. 9a**



**Fig. 9b**

### 5.3 Variable mounting plate

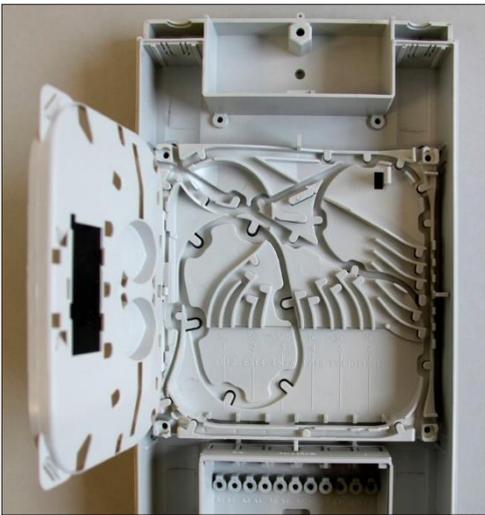
The optical fibre termination point supports different connections of an application-specific device (ASG).

Connection variants are:

- Connection of the ASG using the in-house cable with plug connector.
- Connection of the ASG using the fusion splice of the in-house cable.

Furthermore, further fibre routing to a building distributor or further housings are supported in the optical fibre termination point.

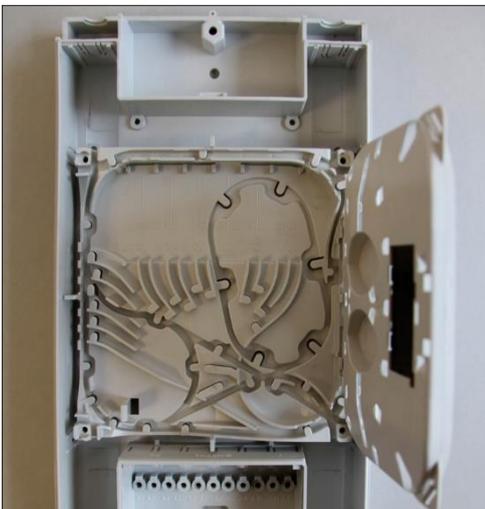
The variably usable mounting plate supports the different requirements of in-house cabling. Depending on the individual case (final distributor and / or storey distribution board), the mounting plate is inserted into the bottom of the housing as described below (fig. 10 a-d).



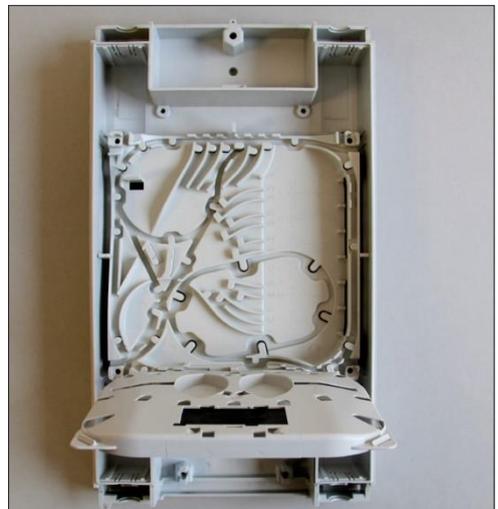
**Fig. 10a**  
ASG connection using plug connector and storey distribution board. Installation in series possible to the right with cable (see point 7.2).



**Fig. 10b**  
ASG connection using fusion splice and storey distribution board. Installation in series possible to the left with coupling (see point 7.2).



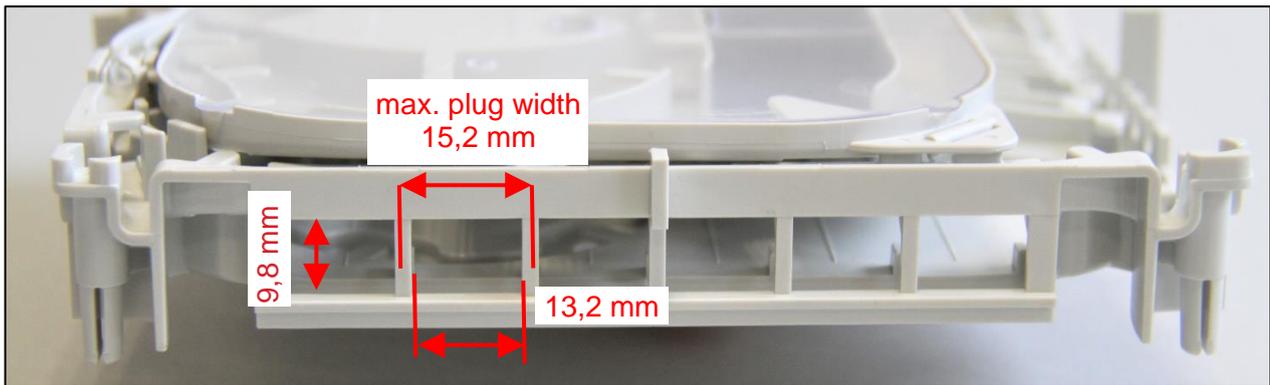
**Fig. 10c**  
Storey distribution board Installation in series possible to the left with cable (see point 7.2).



**Fig. 10d**  
Storey distribution board Installation in series possible to the right with coupling (see point 7.2).

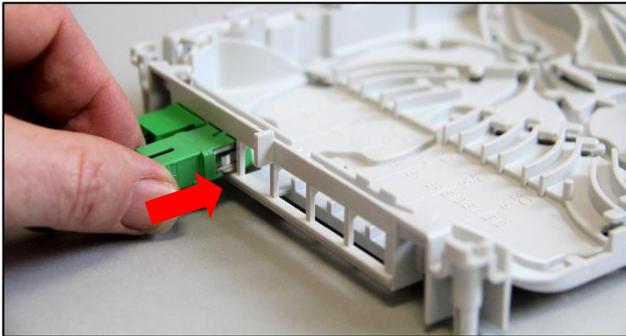
## 5.4 Coupling supports

6 supports for couplings (SC simplex/LC duplex / E2000) without flange are available in the mounting plate and the housing.

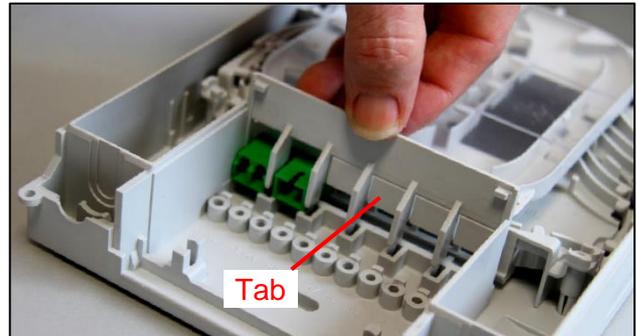


**Fig. 11a** Mounting plate for coupling support

The couplings are entered into the mounting plate from the outside (**fig. 11b**). Remove the coupling guide from the housing. Next, insert the mounting plate into the housing. On the coupling guide, break out the tab in the populated area, and insert into the housing.



**Fig. 11b** Inserting the coupling



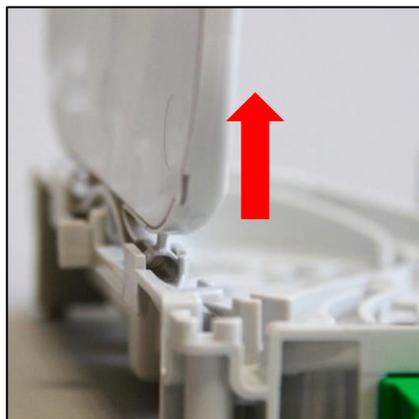
**Fig. 11c** Inserting the coupling guide

## 5.5 Insertion and population off he cassette

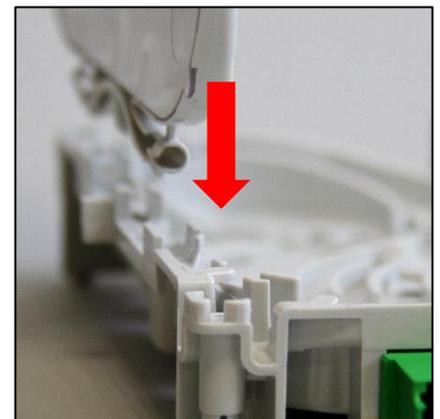
The multi-fibre cassette is already inserted in the mounting plate in the as-delivered condition. The cassette can be removed from the mounting plate for splicing. Slightly pull back the snap-in hook to open the cassette (**fig. 12**). The cassette is removed at an opening angle of 90 degree (**fig. 13**). The cassette is inserted according to (**fig. 14**). After population, the splice cassette must snap into the mounting plate. The transparent side faces upward (**fig. 12**).



**Fig. 12**  
Pull back the snap-in hook to open the cassette



**Fig. 13** (Prior to population)  
Remove cassette upward

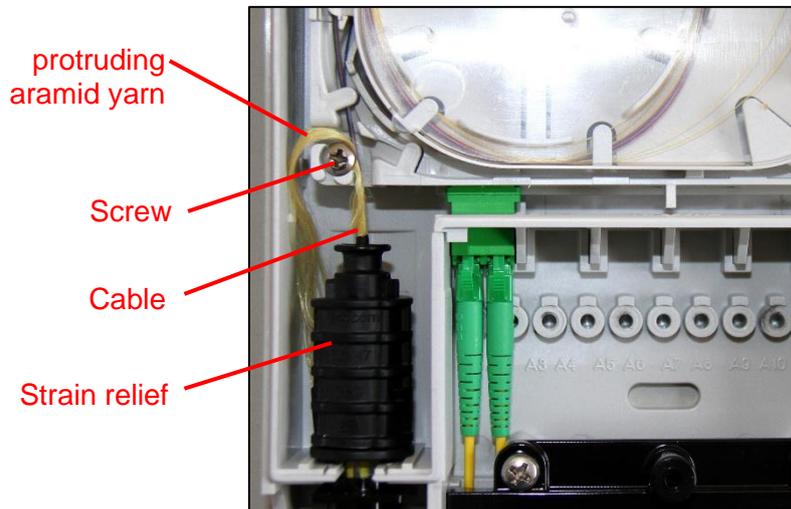


**Fig. 14** (After population)  
Insert cassette downward

## 6. Housing population

### 6.1 Strain relief for inlets / outlets

Strain relief must be installed for the fed cable. The aramid yarn contained in the cable is used for this purpose. Strip the cable and shorten the exposed aramid yarn to approx. 100 mm. Fasten on the mounting plate using the enclosed screw, while wrapping the aramid yarn under the bolt head. Carefully cut off any protruding aramid yarn (**fig. 15**).



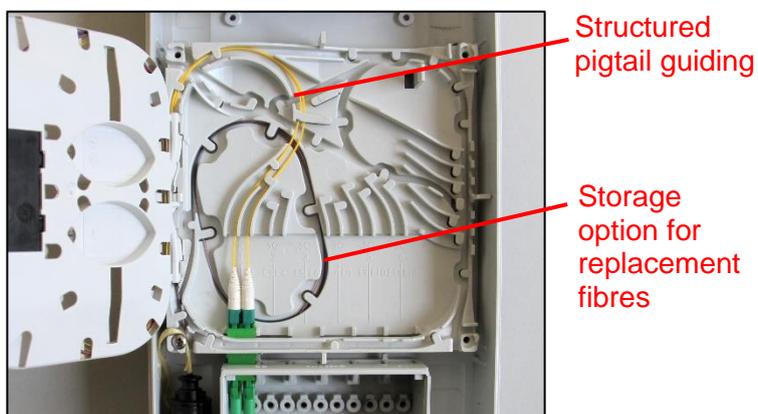
**Fig. 15** Strain relief for inlets / outlets

### 6.2 Cabling

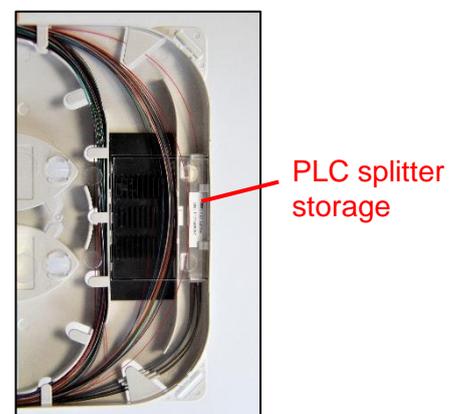
The Gf-AP offers cable management to organise the connection of an ASG and / or storey distribution board. A multi-fibre splice cassette is provided on the mounting plate in the housing for the fusion splices of the fibres. The cassette can accommodate 12 crimp splice protections and one PLC splitter.

The mounting plate (**fig. 17**) enables structured guiding of fibres, pigtails or optical fibre cables. It also offers an option to store unused incoming fibres in an orderly manner. It must be observed that the fibres must be located in the provided guides under the down-holders. This ensures compliance with the bend radius.

When inserting pigtail fibres into the multi-fibre cassette, observe that the 900 µm coating ends in front of the cassette inlet. This ensures storage of 12 incoming and outgoing fibres in the cassette.



**Fig. 16** Fibre guiding



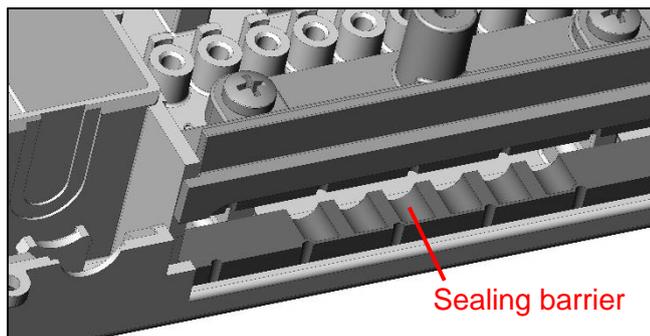
**Fig. 17** Cassette with PLC splitter



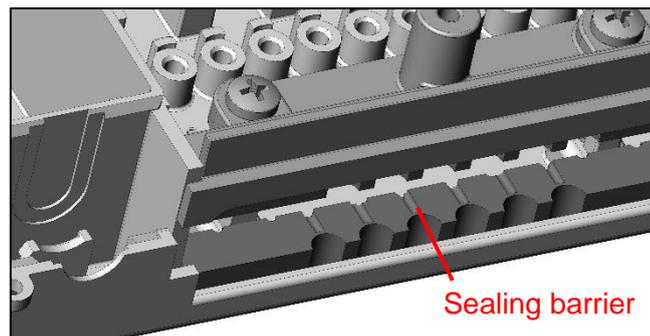
**Information:** A cable assignment plan can be found at the end of the installation instructions, where the established connections can be documented. The cable assignment plan is stored in the housing cover. The respective holder for mounting to the inside of the cover can be found in the accessories kit.

### 6.3 Sealing element installation for cable outlet

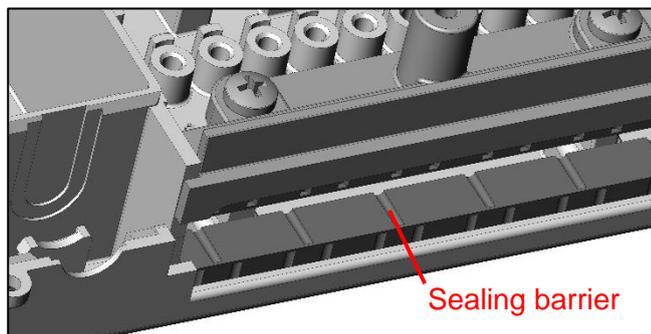
The sealing element is used as strain relief for outgoing cables and protects the inside of the housing against dust and splash water. The two sealing inserts are inserted into the housing and the strain relief support as shown in **fig. 18a - d** (sealing barrier points outward). **Fig. 18a - d** show different application possibilities of sealing inserts for the different cable diameters.



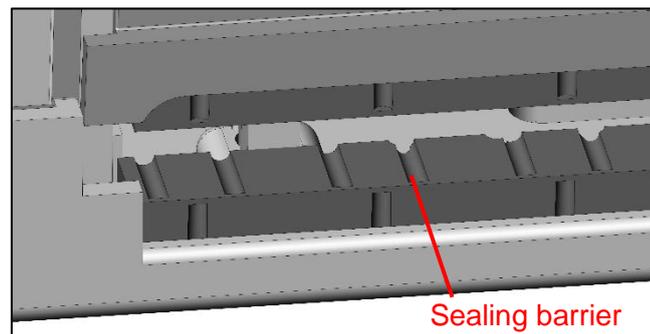
**Fig. 18a**  
Sealing insert for 6x cable, Ø approx. 7 mm



**Fig. 18b**  
Sealing insert for 6x cable, Ø approx. 2 mm

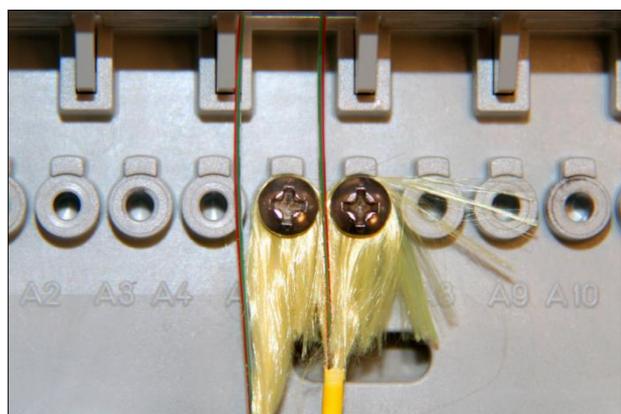


**Fig. 18c**  
Sealing insert for 6x SC plug, Ø 2 mm



**Fig. 18d**  
Sealing insert for 12x LC plug, Ø 2 mm

### 6.4 Strain relief using aramid yarn for cable outlet



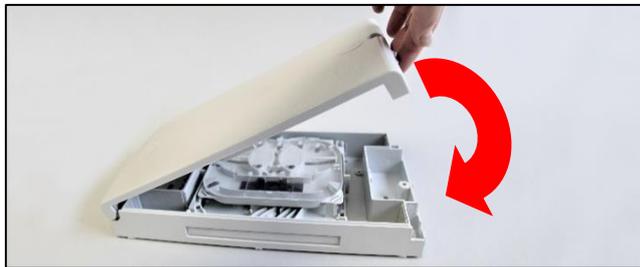
**Fig. 19** Attaching the aramid yarn

In the case of direct ASG connection using the in-house cable, the strain relief of the optical fibre cable is realized using aramid yarn in the outlet area of the optical fibre cable as follows (**fig. 19**):

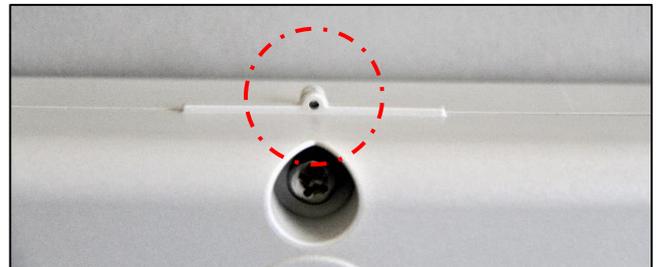
Remove the cable sheath first, then shorten the aramid yarn to approx. 100 mm, and screw the yarn to the desired position on the lower housing part using the enclosed screws. Carefully cut off any protruding aramid yarn.

## 6.5 Closing the housing

After cabling is completed, the cover is closed and protected against unauthorised access according to the used closing mechanism (screw or lock). It must be ensured that the fibres are under the down-holders to prevent damage to them. For closing, the cover is inserted at an angle of approx. 20° and folded (**fig. 20**). The Gf-AP can be sealed in the area of the closing mechanism for more security (**fig. 21**).



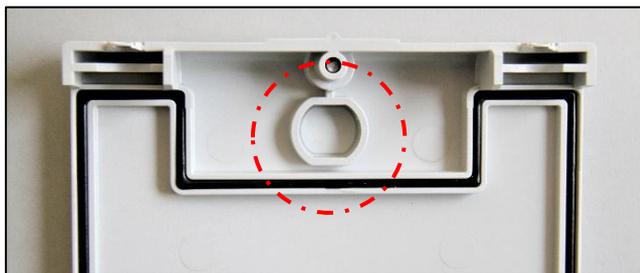
**Fig. 20** Closing the cover



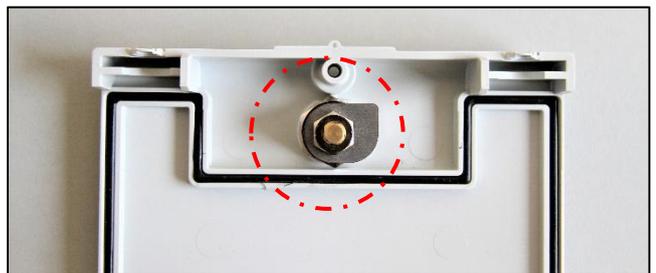
**Fig. 21** Sealing eyelet

## 6.6 Lock assembly (closing system 81; design 6)

In order to use a lock in the housing cover, score the opening provided in the cover on the inside with a knife on the groove, break out and deburr (**fig. 22**). Mount the available closing system 81, design 6, from the outside into the cover. Next, screw on the locking tongue available as accessory part (**fig. 23**).



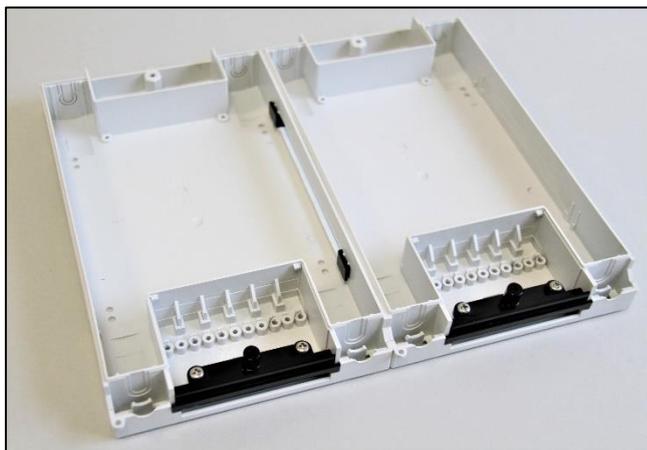
**Fig. 22** Opening for lock



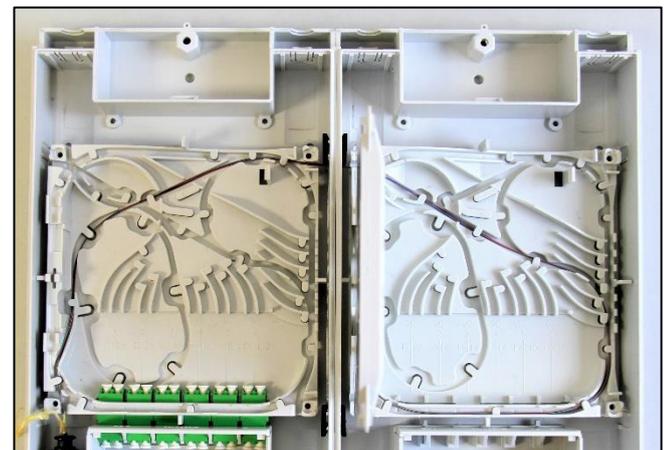
**Fig. 23** Locking tongue installed

## 7. Extendet housing configuration

The Gf-AP can be installed in series (on the left or right side) in order to increase capacity or store excess cable lengths (**fig. 24**). The outgoing optical fibre cables are guided to the housing installed in series (on the left or right side) via fibre guides in the mounting plate (**fig. 25**).



**Fig. 24** Installation of a second housing in series



**Fig. 25** Fibre guiding for installation in series

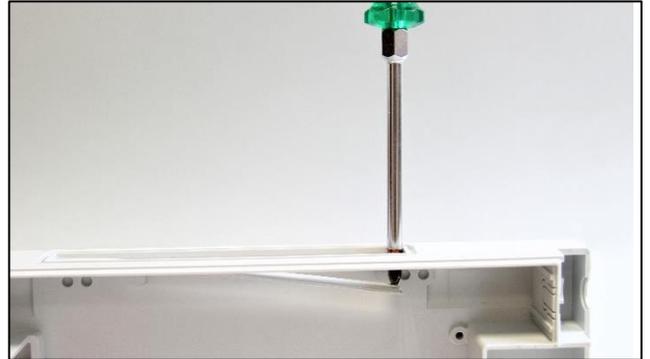
## 7.1 Preparation for housing installation in series

Remove the mounting plate from the housing.

Break out the predefined openings of both housings for housing installation in series. Score, break out, and deburr the groove on the outside of the housing (**fig. 26a and 26b**).



**Fig. 26 a** Scoring the groove



**Fig. 26 b** Breaking out

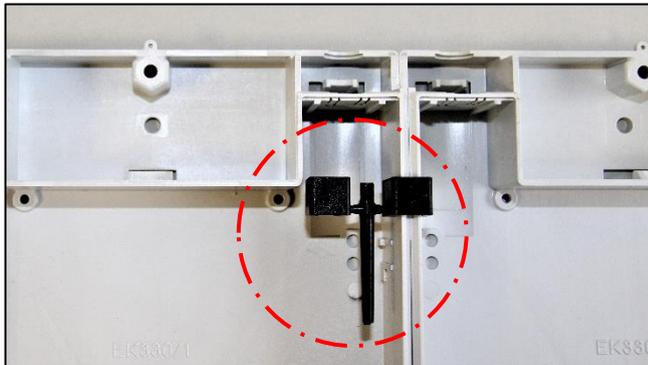
## 7.2 Housing installation in series

Place both housings flush against one another. Using the brackets enclosed in the accessories kit, the housing is secured to the upper part of the mounted housing (**fig. 27**).

The mounting holes in the bottom of the housing are used to mark the required drill holes (**fig. 28**). Remove the bracket and the housing for drilling purposes.

Insert dowels into the drill holes. Insert the seal enclosed in the accessories kit to install it between the two housings (**fig. 29**).

Permanently secure the two housings in the area of the breakthrough using the brackets (**fig. 30**). Mount the housing to the wall using the enclosed fastening screws.



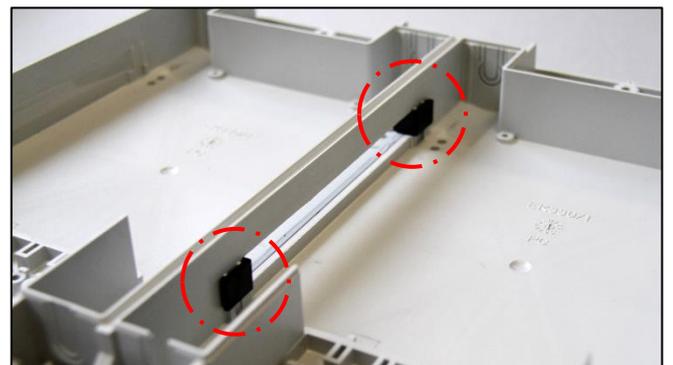
**Fig. 27** Securing the housing



**Fig. 28** Mounting holes



**Fig. 29** Inserting the seal



**Fig. 30** Permanent securing using brackets

## 8. Maintenance / interference suppression

The Gf-AP is maintenance-free and interference-free. If one of the couplings must be replaced for measuring-related reasons, follow the instructions below:

- Remove the coupling guide from the housing.
- Remove plug from the defective coupling.
- Unlock the coupling springs using a screwdriver or the coupling release (available as accessory part, not included in the delivery contents, article no. 700752270).
- Remove coupling downward (**fig. 31**).
- Insert new coupling.



**Fig. 31** Coupling releas (not included in the delivery contents).

## 9. Technical specifications (excerpt)

- Housing material: Polycarbonate
- Dimensions (H x W x D): 290 x 160 x 46 mm.
- Weight: ~ 0,6 kg

## 10. Disposal / recycling

At the end of the service life, the distributors must be recycled and / or disposed according to the then applicable statutory regulations.

## 11. Cable assignment plan

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Further information about our optical fibre competencies can be found via the QR code. Simply scan the code using the QR code reader on your smartphone.



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