

Prefab PoPs

The Building Blocks for Excellent End-to-End Networks



From local exchange points to the front door. And from the smallest fibers and tubes to prefab PoPs. Netceed delivers fiber networks from start to finish, by combining our six modular building blocks.

Our networks connect people. And when it comes to bringing people together, nothing but the best will do. It's why we believe in delivering the highest possible quality in all our work. From using the best components and materials to top-notch network design and engineering. It's how we realise highly reliable networks that require little maintenance. The evidence: our 25-year system warranty.

The heart of fiber optic cabling

The Point of Presence (PoP) forms a crucial point in the fiber network. It is the interface between the wide area backbone and access networks for consumers and businesses. Netceed delivers highly reliable PoPs engineered for minimal maintenance and low operating costs. The key is our standardized, plug-and-play system, which allows for high customization, yet offers all the benefits of a proven production process.

Based on your requirements, our in-house engineering team designs the ideal PoP to meet your needs. We can deliver almost any size up to 12x4 meters, including solutions with two or three separate rooms as well as generators. Your PoP is then prebuilt in our factory. By building in predictable factory conditions outside of the influence of the weather, we can ensure optimal quality in every unit we deliver. After the PoP leaves our factory, our team installs it on site with lightning speed.

Three core elements

Our prefab Point of Presences are monoblock structures manufactured from reinforced concrete. They consist of three elements, produced with the latest technologies and materials to guarantee a long life and optimal fire resistance.



The **tube** enclosing the foundation and walls is manufactured as a single piece. This ensures that the tube retains its shape and is 100% watertight. The housing also contains numerous ducts for entry and exit of cables and pipes.

The **floor** separates the basement compartment from the functional space. It comes equipped with a lockable manhole. Additional cut-outs can be provided in the floor to allow for efficient installation of equipment.

The **roof** is made of reinforced concrete and features a double drainage system. It is treated with an impregnation product and features a top coat to ensure a watertight shield. A drip rail prevents water ingress regardless of weather conditions.

To achieve a stable construction, concrete nets are used. Each element also contains a connection point to the ground to make sure the concrete housing is fully earthed.



Characteristics



Safety and protection



100% waterproof

To ensure impermeability to water, a T6 coating (DIN 18195 Part 6) is applied immediately after the concrete has cured. To prevent groundwater from entering, the floor slab is also coated straight after the formwork is removed.



Thermal insulation system

A thermal insulation system on the outside of the PoPs concrete body allows for lower operating costs, and minimises power consumption by the air conditioning. By default, we coat our units with crepi, though we also offer cork coating.



Cable basement and raised floor

90% of FttX networks consist of underground duct systems, which often converge at PoPs. This makes the basement of the PoP building the ideal place to connect the ducts and microducts networks. It makes it easier to distribute the pipes inside the PoP and more convenient to store cable reserves. The pipes are laid, bundled and secured in the cable basement, while only the fiber optic cables are directed up into the PoP. Depending on your needs, we can deliver your PoP with a concrete or raised-access computer floor for optimal flexibility.



Compact cooling

Air conditioning or ventilation are critical to the safe and trouble-free operation of your Point of Presence. To keep operation and maintenance costs low, the ventilation and cooling system should be energy efficient and require as little maintenance as possible.

Our cooling systems work according to the downflow principle. They blow cold air into the cable basement, which then moves upwards towards the active racks. The cooling capacity arrives where it is needed thanks to ventilated tiles. The fans of our air conditioning and ventilation systems run at 48V and are powered by the UPS system to ensure the cooling process remains active even during power outages.

Naturally, the performance package includes an SNMP interface, filter and airflow alarm, intrusion detection, power alarm, and a humidity sensor.



Noise level

Our PoPs meet all requirements regarding noise standards. These best-in-class performers are suitable for installation in the most urban areas. We can ensure a sound level of under 30 dB(A).



Resistance Class DIN EN 1627	Time (min.)	Explanation
RC1 N	3	Components in this class have basic protection against theft attempts with physical force
RC2	3	The opportunist also uses simple tools to break in
RC3	5	The perpetrator also tries to break open the locked and bolted components
RC4	10	The experienced offender additionally uses a heavy hammer, axe, portable drill, ...
RC5	15	The experienced offender additionally uses electric tools
RC6	20	The experienced offender also uses powerful electric tools

Security is critical for the reliability of any network. The right safety measures make a PoP an unappealing target for break-ins and vandalism. Netceed offers several levels of security, depending on your needs.

The door and ventilation grilles are the only viable entry points, making additional security measures important here.

Netceed offers **doors** with resistance classes RC2 or RC3 (in accordance with DIN EN 1627:2011) featuring internal door hinges. Combined with a mechanical or electronic multipoint lock that has an emergency exit function in accordance with DIN EN 179, these doors are the perfect solution for a high-quality technical building.

Access can be managed centrally thanks to motorized locks in the doors, which can be opened using cards, RFID or NFC.

Burglar-resistant **ventilation grilles** are available in resistance classes RC2 to RC5 for door or wall installation. Thanks to innovative designs and optional sound insulation measures, these grilles are also suitable for facades exposed to heavy rain and areas where soundproofing regulations apply.



Uninterruptible Power Supply

The consequences of a power failure can be severe. It disrupts business processes and can cause significant (financial) damage. It's the reason why a secure and reliable power supply is essential. Especially when it comes to data management and data communication.

Netceed offers a wide range of Uninterruptible Power Supply (UPS) systems and solutions. Products and systems that guarantee your business continuity and prevent damage to sensitive equipment.

Our team is happy to propose a custom, in-house engineered solution to fit your exact needs, in terms of load scenario, required support and battery charging time. The UPS system can be delivered in a separate cabinet together with the battery packs.

Four extra precautions against power failures:

1 Bypass for external power supply

Even systems for uninterruptible power supply (UPS) need to be serviced or replaced periodically. To perform these tasks without service interruptions, the PoP can be put into a bypass operating state, in which it is connected directly to the network of the energy supplier.

Additionally, the PoP is connected to an external generator, to ensure it remains online even during a power outage. The power supply network is then disconnected at all poles and the external supply is switched on via a changeover switch at the feed point. The generator can be placed right next to the PoP and is connected via a 400V CEE socket. This socket is located inside of the PoP to protect it from vandalism and has the required IP protection class. No changes are required for the E-cabling to switch to bypass mode.



2 Remote Monitoring

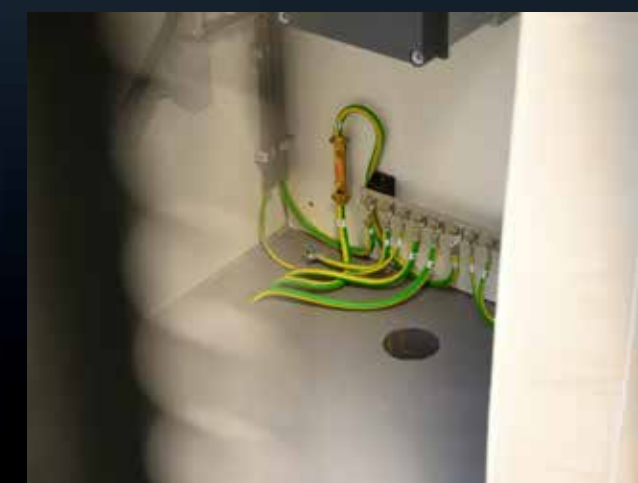
It is critical to monitor the vital parameters of unmanned technical buildings to ensure high availability. Through the remote management systems that we offer, you can monitor variables such as air temperature, air humidity, door position, status of the air conditioning system, and status of the UPS. With its unrivalled combination of quality and affordability, our management system allows you to carefully keep track of all relevant data and environment parameters.

3 Maintenance

In order to guarantee both high availability and safe operation of the PoP, the air conditioning, ventilation and UPS must be monitored and maintained. We offer our own services 24/7/365 to ensure fast response times and minimal downtime of the systems.

4 Internal and external protection against lightning

While the PoP functions like a Faraday cage due to its steel reinforcement in both the ceiling and the walls, an external lightning interceptor might still be advisable in certain situations. Moreover, it can be prudent to take measures against internal lightning to protect the active components.



ODF-technology

Racks for active equipment

With our wide range of data cabinets, selected for quality and reliability, we can offer a fitting solution to any request.

By default, our racks are equipped with:

- A glass, steel, blind steel, or perforated door (40% - 72% - 80%)
- A pedestal (100 mm)
- Ground rails
- Two sets of 19" profiles
- A ventilation roof
- Two sets of lockable side panels

Racks for passive technology

In terms of passive fiber optic technology, the ODF distributors form the core of the PoP. These passive racks are commonly 900 mm wide and 300 mm deep. With a height of 2200 mm, we offer a free installation space of 42 U. Moreover, our ODF can be equipped with backmount technology, making it possible to screw splice/patch modules onto the back of the cabinet. This type of assembly allows for maximum flexibility in the installation of fiber optic in the PoP.



Patch cable routing

The ports of the active components and the passive main distribution frame (ODF) are usually connected using jumpers (single fiber patch cables), duplex patch cables, or high-fiber trunk cables. In order to establish and protect the connections, our PoPs use a fiber patch cable routing system located above the ODFs and the racks for the active components.

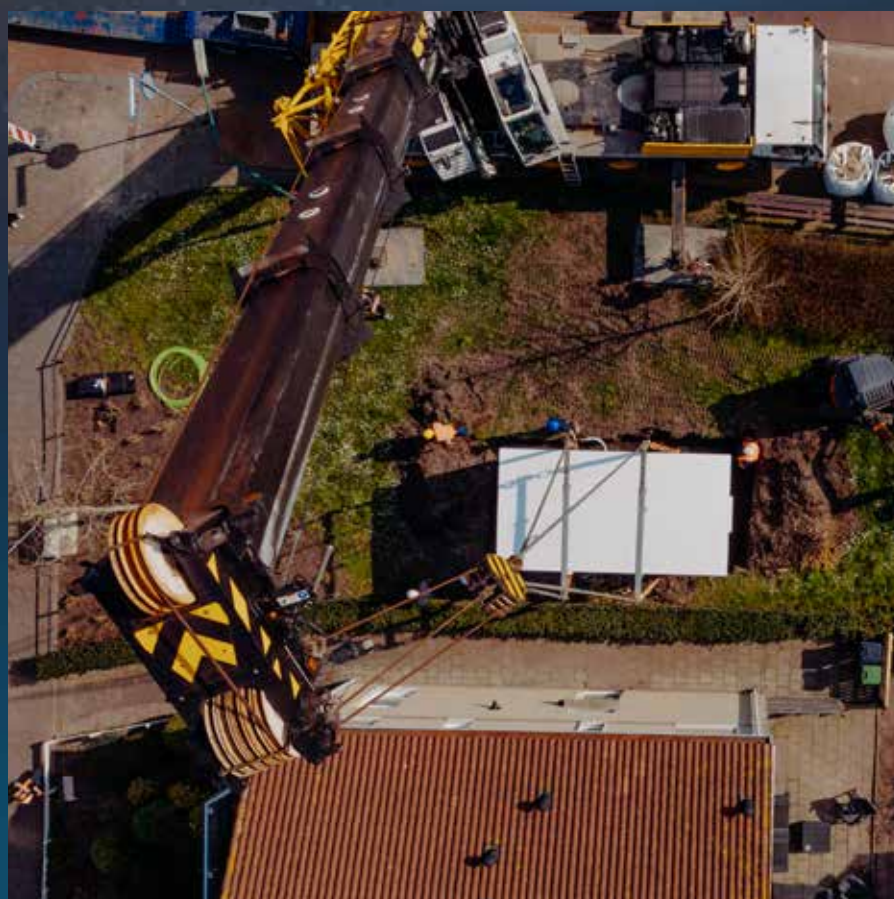


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Installation

Netceed will arrange the complete installation of your PoP. From civil engineering to transport, and from crane service to the official grounding power connection verification. By letting us handling the entire process, you will know the full cost of your new fiber optic center in advance.

To ensure a smooth delivery, our installation supervisors will inspect the access roads and determine the location of the heavy-duty transporter and the crane. All necessary obligations are addressed and put in writing. The installation supervisor also determines whether any other measures are required, such as temporary road closures, police orders, and escorts.



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Outdoor cabinets

For lighter applications, Netceed also offers a wide selection of outdoor cabinets. Available in any size, in double-walled aluminum setups, and suitable for both active and passive components.

We build custom housings with the highest degree of flexibility. We always deliver top-quality, highly reliable, tailor-made solutions. It's how we ensure that your business process is always fully under control.

All our outdoor cabinets can be equipped with:

- Various types of cooling (free air, compressor, and hybrid solutions).
- Standard and electronic locks.
- Fiberglass prefab.
- Heating elements.
- Monitoring systems.

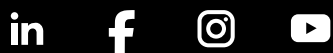


microfocus 

beyond fiber

Get in touch

Our team of experts looks forward to helping you find the right solution for your project. Feel free to get in touch to discuss your project's requirements.



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