ZETTONICS
BROCHURE

Fibre Optics
Solution Overview.

INTRODUCTION

Zettonics Fibre Optic Solution Overview for Solar and Customers

Zettonics provides a fully standardised and easy-to-deploy fibre optic infrastructure designed for Solar and its customers. This system is optimised, ensuring a plug-and-play approach to high-performance fiber connectivity.

The core components include UK-made chassis, cassettes, and trunk cables, all designed to integrate seamlessly into data centre, enterprise, and industrial environments.

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>
> **Scalable solutions for evolving data infrastructure.**

Core System Components

1. Zettonics Chassis & Management

Zettonics offers three rack-mountable chassis configurations, ensuring **flexibility and scalability** for different project sizes:

Chassis Size	Mounting	Key Features
0U	19" Profiles & Din Rail	Space-saving, ideal for 0U installations
1U	Standard 19" Rack	1U 120F (LC), Modular & Flexible
2U	Standard 19" Rack	Higher capacity, 2U 288F (LC) & Scalable

Each chassis is designed for quick deployment and easy access, reducing installation time and maintenance effort.

How the System Works Together

Zettonics' fibre solution is built for ease of use, quick installation, and future scalability. Here's how all components integrate:

1. **Choose Your Chassis:**
   - 0U for space-saving installations (compact spaces)
   - 1U (120F LC) / 2U (288F LC) for standard 19" racks (higher capacity)
2. **Insert Universal (U1) Cassettes:**
   - Snap into the chassis for plug-and-play fibre termination
3. **Connect Trunk Cables:**
   - MPO low loss to MPO low loss trunks link cassettes, simplifying fibre runs
   - Ensures consistent polarity with Universal (U1) mapping
4. **Manage with Front & Rear Access:**
   - Keeps fibre connections organised and protected

Why This Standardisation Benefits Solar & Customers

✓ **Simplified Installation** – Designed for installers with limited fibre experience
✓ **Reduced Risk of Errors** – Standardised U1 polarity eliminates confusion
✓ **Scalability** – Easily expand by adding more cassettes and trunks
✓ **High Performance** – Low-loss MPO trunks ensure reliable, high-speed connections

Deployment Example: 0U Chassis

For **compact installations,** the **0U chassis provides a space-saving, easy-to-install solution** for fibre optic connectivity.

Key Benefits:
- ✓ **Direct Rail Mounting** – Attaches securely to **mounting rails** for streamlined installation inside enclosures, or cabinets.
- ✓ **Simple Integration** – Ideal for **edge networking** where **rack space is unavailable.**
- ✓ **Plug-and-Play Setup** – Supports **pre-terminated MPO trunk cables**, reducing installation time and minimizing errors.
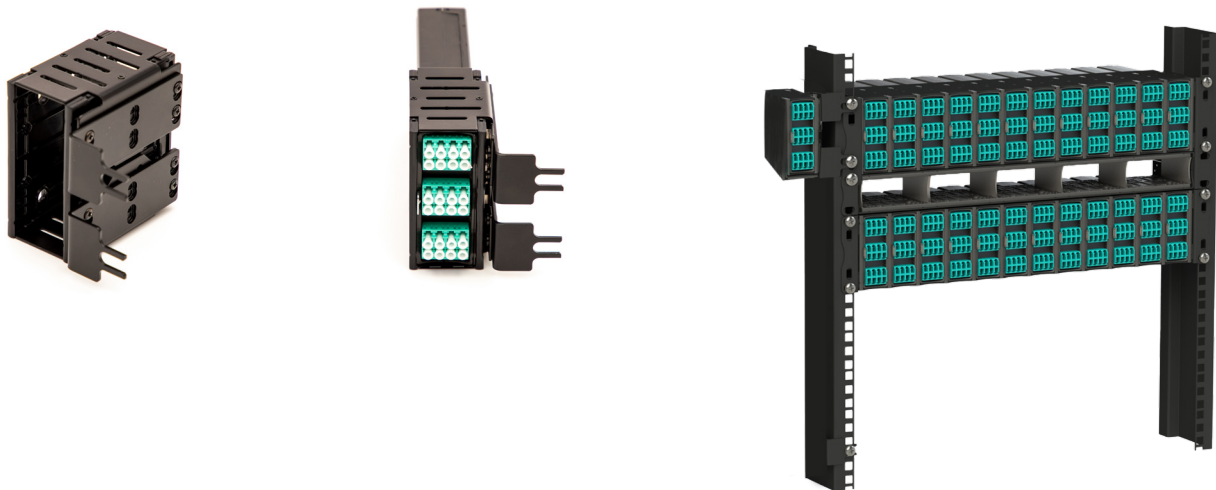
How It Works:
1. **Mount the 0U Chassis on a mounting Rail** – Quickly secures inside **enclosures, sever cabinets, or wall-mounted panels.**
2. **Insert Universal (U1) MPO Cassettes** – Enables **high-density fibre termination** without complex splicing.
3. **Connect Pre-Terminated MPO Trunks** – Ensures **fast, error-free fibre linking** between cabinets and network equipment.
4. **Patch to Active Devices** – Use **LC, SC, or other patch leads** for final device connections.

Why Choose a 0U Solution?
- ✅ **Compact & Space-Saving** – No need for a full rack!
- ✅ **Quick, Tool-Free Installation** – easy installation with **minimal fibre experience.**
- ✅ **Standardised Connectivity** – Fully compatible with **MPO trunks and cassettes.**

This setup **simplifies fibre deployment,** ensuring **fast, organised, and reliable** network connectivity.

Deployment Example: 1U 19" Patch Panel with 5 Cassettes (Max 120 Fibre)

For high-density, rack-mounted fibre installations, the 1U 19" patch panel provides an organised, scalable, and efficient solution for structured cabling. This panel accommodates up to 5 cassettes, supporting a maximum of 120 fibres LC in a compact 1U form factor.

Key Benefits:
- ✓ **High-Density Connectivity** – Supports up to 120 fibres in just 1U of rack space.
  Modular & Scalable Design – Holds up to 5 cassettes, allowing easy expansion as network demands grow.
- ✓ **Fast & Simple Installation** – Pre-loaded cassettes and pre-terminated MPO trunk cables reduce setup time and minimize errors.
- ✓ F**ront & Rear Cable Management** – Keeps fibre organised, secure, and easily accessible for maintenance.
- ✓ **Standard 19" Rack Compatibility** – Fits seamlessly into server rooms, data centres, and enterprise IT rooms.
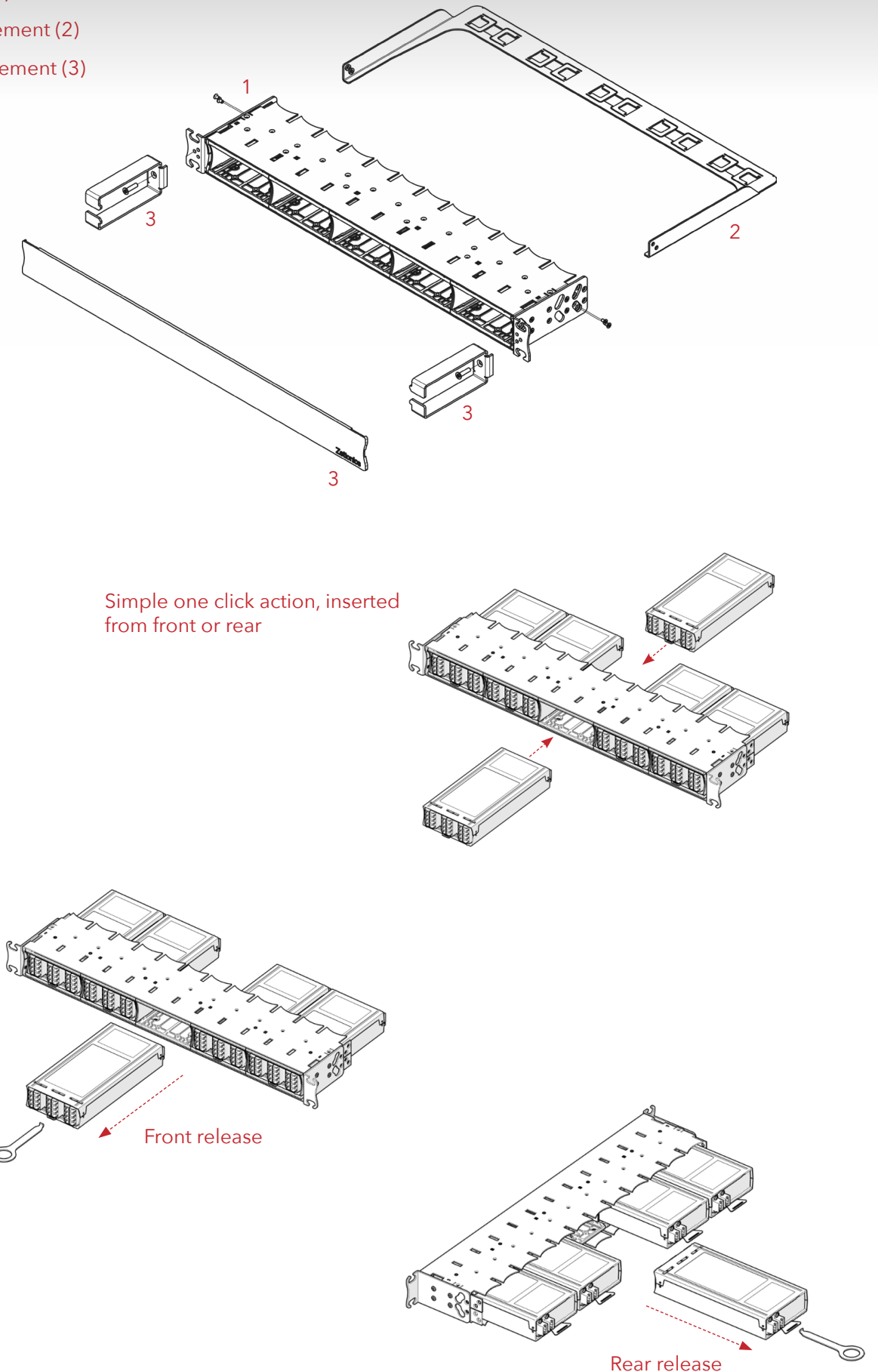
How It Works:
1. **Mount the 1U Patch Panel in a Standard 19" Rack** – Secure the panel in place using rackmount screws.
2. **Insert Up to 5 Cassettes** – Each cassette terminates MPO trunks to LC, SC, or other patch connections.
3. **Connect Pre-Terminated MPO Trunk Cables** – Fast, error-free connections to the backbone fibre network.
4. **Patch to Active Equipment** – Use LC SC patch leads to connect switches, servers, or distribution panels.

Why Choose a 1U 19" Patch Panel?
- ✅ **Maximum Density in Minimal Space** – 120 fibres in just 1U!
- ✅ **Plug-and-Play Installation** – Pre-loaded MPO cassettes eliminate complex splicing.
- ✅ **Easy Expansion** – Start with a few cassettes and scale up to full capacity (5 cassettes, 120 fibres).
- ✅ **Structured Cable Management** – Keeps fiber organised, accessible, and protected.

This modular, high-density solution ensures fast deployment, reliable connectivity, and future scalability for enterprise, data centre, and telecom networks.

1U Chassis (1)
Rear Management (2)
Front Management (3)

1

3

2

3

3

Simple one click action, inserted from front or rear

Front release

Rear release

Deployment Example: 2U 19" Patch Panel with 12 Cassettes (Max 288 Fibres)

The **2U 19" patch panel** is a **high-capacity fibre management solution** designed for **quick installation, organized cabling, and easy scalability.** With space for **up to 12 cassettes,** it supports a **total of 288 fibres LC,** making it ideal for larger network installations that require **efficient, high-density fibre connectivity.**
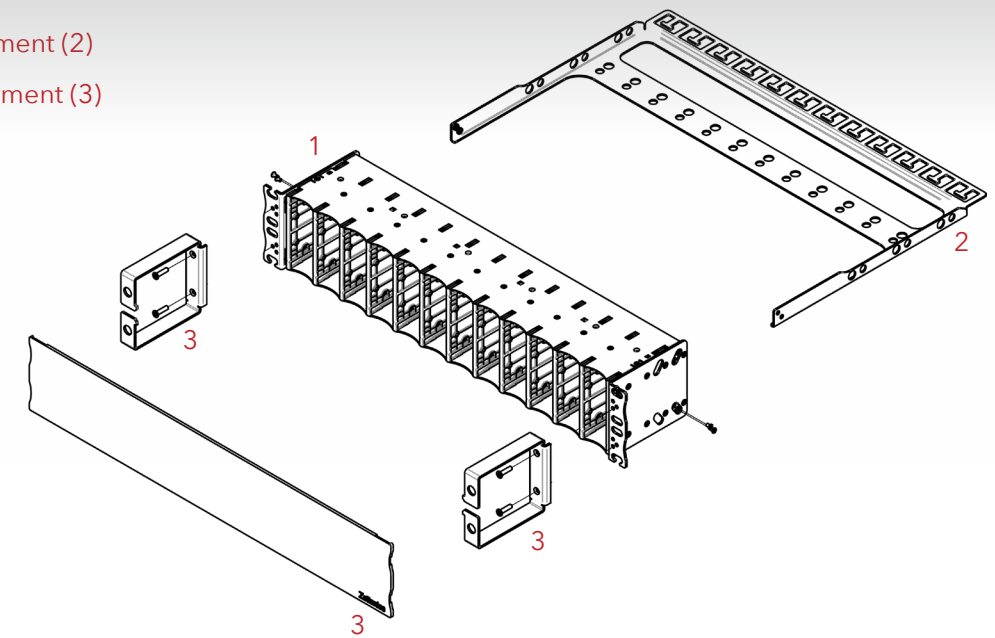
How It Works:

1. **Mount the 2U Patch Panel in a Standard 19" Rack** – Easily installs in **server cabinets, telecom racks, or wall-mounted enclosures**
2. **Insert Up to 12 Cassettes** – Pre-terminated for **quick, hassle-free setup** with no need for fibre splicing.
3. **Connect Pre-Terminated MPO Trunk Cables** – Simplifies fibre linking between racks, buildings, or network zones.
4. **Patch to Active Equipment** – Use **LC or SC patch leads** to connect to switches, routers, or other devices.
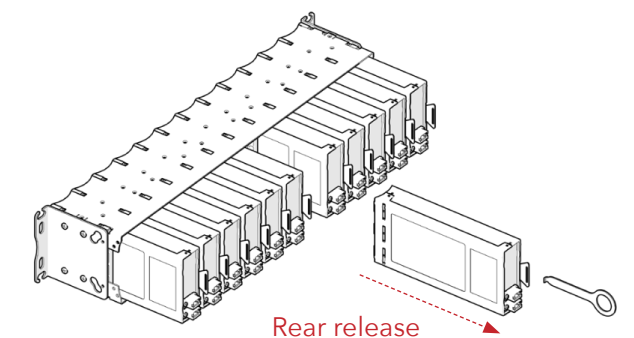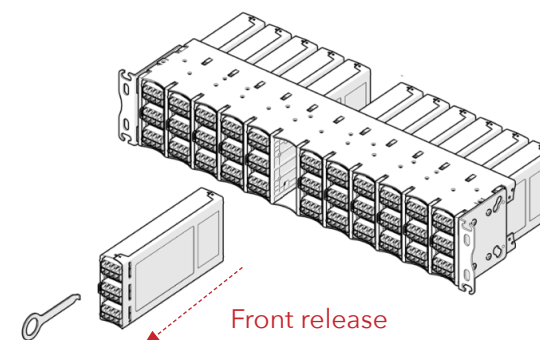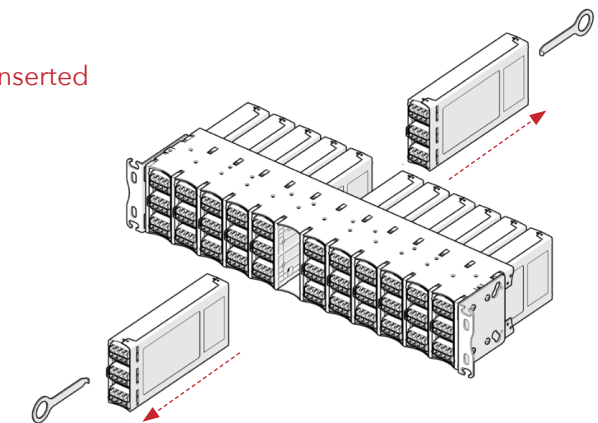
Why Choose This 2U Patch Panel?

- ✅ **High-Capacity in Minimal Space – 288 fibres in just 2U,** keeping racks organized and efficient.
- ✅ **Fast & Simple Installation – No fibre splicing required,** making it ideal for limited fibre experience.
- ✅ **Scalable for Future Growth** – Start with a few cassettes and expand to **full capacity (12 cassettes, 288 fibers LC)** as needed.
- ✅ **Neat & Accessible Cable Management** – Keeps fibre organised, protected, and easy to maintain.

This **modular, easy-to-install 2U patch panel** simplifies fibre deployment, ensuring quick **setup, efficient cable management, and a scalable, future-proofed network.**

1U Chassis (1)
Rear Management (2)
Front Management (3)

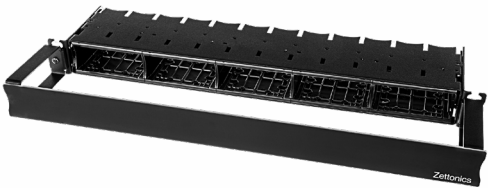Simple one click action, inserted from front or rear

Front release

Rear release

FUTURE PROOF
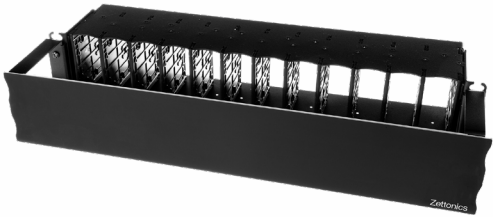## SCALABILITY

High-Density, Scalable Solutions

With seamless installation, the Zettonics modular system minimises downtime, accelerates deployment, and ensures a smooth transition or upgrade for data centre and enterprise network infrastructures.

**UNIQUE
LATCHING SYSTEM
FLEXIBLE
CONFIGURATIONS
INNOVATIVE
PUSH, PULL DEISGN**

Zettonics 1U Chassis

When fully populated, the chassis supports up to **120 LC ports** within a single rack unit, optimising space utilisation.
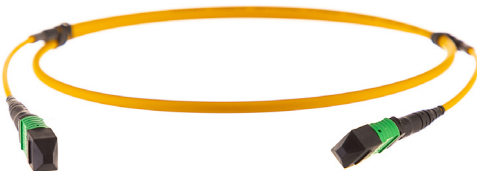

Zettonics 2U Chassis

The chassis supports up to **288 LC ports** within a 2U rack space, optimizing rack utilization and minimizing floor space.

Cable Management

With advanced cable management features, Zettonics modular systems deliver clean and organised cable routing through built-in guides, strain relief brackets, and designated pathways that prevent tangles and minimise bend radius violations.
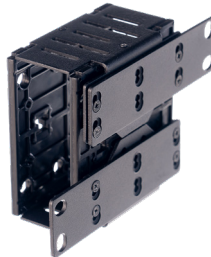

Trunk & Breakout

Trunk and breakout cables are integral to the Zettonics modular fibre management system, providing efficient and reliable connectivity for high-density networks.

Zettonics Cassettes

Zettonics modules and splice cassettes are designed for all data centres and enterprise networks, easy to handle and fast to install

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The Zettonics 0U Solution offers an innovative approach to maximising rack space by utilising the area outside the traditional U-space.

MPO
LOW LOSS

Trunk Cables & Fanouts

Zettonics low insertion loss MPO trunk cable for a 40G/100G direct connection. These trunk cables are recommended for high-density data centre applications. Our MPO trunk cables are fully tested for low insertion loss and back reflection on every connector and attenuation loss that meets or exceeds current industry standards

100%
Quality
Guaranteed

Method U1 Fibre Polarity

Advantages of Method U1

Polarity Method U1 is compatible with both singlemode and multimode systems and simplifies installation with a single SKU for cassettes and patch cords at each end of a Type B trunk.
It also ensures future-proofing by enabling straightforward migration to 40G/100G QSFP transceivers using existing trunks in line with ANSI/TIA-568.3-E standards.

More information on this and other polarity methods are available upon request.

Connectivity Method	Trunk Cable	Adapter	Fibre Transition	Duplex Patchcord
U1	Type - B	Type - A	Type - U1	A-to-B

Cassette Rear   Cassette Front Labelling

MPO 2 MPO 1   MPO 1   MPO 2

**CONNECTIVITY METHOD
U1 FOR DUPLEX SIGNALS**

Type - U1
MPO-to-LC
Module

MPO 1   MPO 2

Type - U1
MPO-to-LC
Module

MPO 1   MPO 2

A-to-B
Duplex Patchcords

Type-B-Male
Trunk Cable

A-to-B
Duplex Patchcords

**TYPE A ADAPTER
CONFIGURATION**

Male
W/ Pins

POS. 1

POS. 12

POS. 12

POS. 1

Key-up to
Key Down

Female
W/O Pins

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