FTTx SOLUTIONS

TELESTE

FTTx passives
Portfolio overview

Brochure Rev. 3.0/11.2023

WELCOME
INTRODUCING OUR FTTx SOLUTIONS

With our **vast experience in FTTx solutions** we help customers to **"convert homes passed into homes connected"**. Our approach is to work in **long-term and close co-operation** with customers. We **design a deliver solutions**, which help customers to build **their networks efficiently and easily**. We have **customised and standard solutions** to cover all application areas of FTTx network build and customer connections as shown beneath.

We have over 20 years of fibre technology and engineering experience, designing and delivering FTTx solutions to customers in Europe.

What would your day be like without Teleste?
And what is it like with Teleste? Take a look!
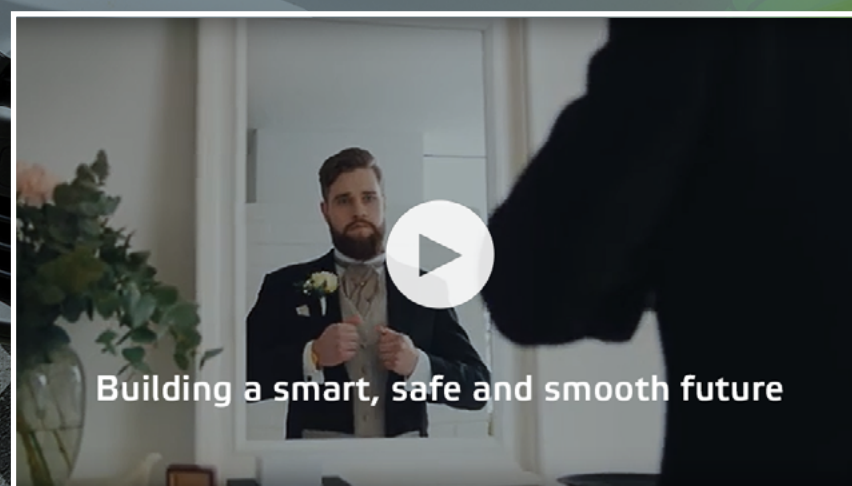
Building a smart, safe and smooth future

Teleste designs
the best solutions
based on quality
and innovation

IN-HOME NETWORKS

Facilitating seamless connections within your home, linking incoming fibre to your CPE device has never been easier with our diverse range of products.
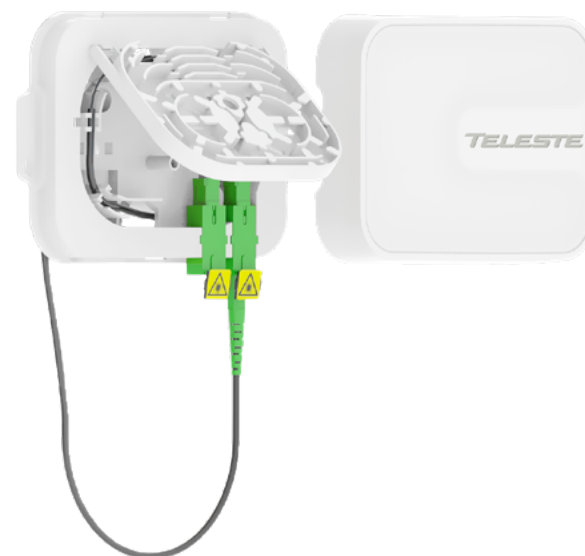
Wall Outlets

Modern compact Wall Outlets designed for ease of install in the home. The Outlets accommodate the termination of installation cables to pigtails and provides an interface between the network and the customer device. These outlets provide superior performance in compact and stylish housings.

Highlights

- Swift and easy wall-mount
- Compact two-parts design (body and cover)
- Hosts SC Simplex and LC Duplex Adapters
- Suitable in both (MDU) and (SFU) units
- Available as outlets only or with adapters & pigtails fitted as needed
- Several models available with splice trays

Spool Reel Outlet

Discover the exceptional features of our unique fibre outlet, featuring an integrated spool reel and concealed fibre cable. This wall-mounted, compact, and uniquely designed solution offers unmatched convenience and ease of installation.
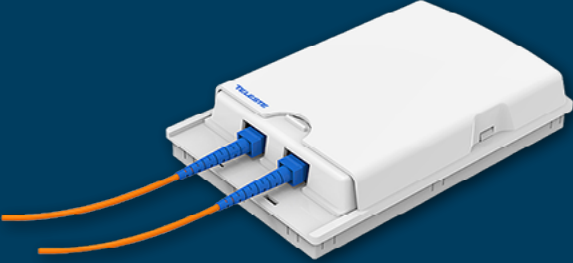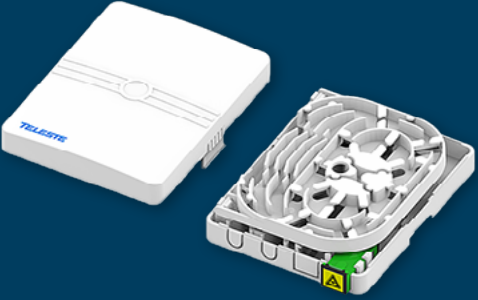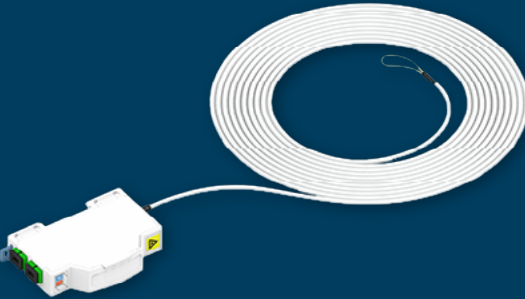
Highlights

- Simplifies home installations and effortlessly supports the relocation of optical outlets inside homes.
- Contains up to 40m of "invisible" singlemode "Bend Insensitive" cable.
- Supplied complete with cable clips.
- Supporting SC/APC & LC/APC adapters.
- Compact design. Dimensions, 93 x 83 x 43 mm.

AVAILABLE
MODELS

Model: TEN-FWO1

TEN-FWO1, 2F SC/LC
FTTH Wall Outlet

On-line Information

Model: TEN-FWO2

TEN-FWO2, 2F SC/LC
FTTH Wall Outlet

On-line Information

Model: TEN-FWO3

TEN-FWO3, 2F SC/LC
FTTH Wall Outlet

On-line Information

Model: TEN-FWO4

TEN-FWO4, 4F SC/LC
FTTH Wall Outlet

On-line Information

Model: TEN-FWO5

TEN-FWO5, 4F SC/LC
FTTH Wall Outlet

On-line Information

Model: TEN-FWO6

TEN-FWO6, 2F SC/LC
FTTH Wall Outlet

On-line Information

Model: TEN-FWO7

TEN-FWO7, 4F SC/LC
FTTH Wall Outlet

On-line Information

Model: TEN-FWO9

TEN-FWO9 - 2 x SC/APC
FTTH Wall Outlet

On-line Information

AVAILABLE
MODELS

Model: TEN-FWO10	
	TEN-FWO10, 1F FTTH Wall Outlet On-line Information

Model: TEN-FWO13	
	TEN-FWO13, with 40m connectorised invisible G657A2 cable FTTH Wall Outlet On-line Information

Model: TEN-FWO14	
	TEN-FWO14, 1 x SC/APC Customer Connection ONU Mounting Plate On-line Information

Model: TEN-FWO15	
	TEN-FWO15, 1 x SC/APC, Supports Ethernet and Power cable connection ONU Secure Mounting Box On-line Information

Model: TEN-FWO22	
	TEN-FWO22 - SC simplex/LC duplex FTTH Wall Outlet On-line Information

" We also offer designs particularly suitable for installation in service and riser cupboards of buildings

On-line information can be found here

and here

CONNECTING HOMES

For effortless property connections, whether through internal corridors within the MDU or via external cabling mounted on the outside walls, we provide a simple solution.

Wall Enclosure Series

Designed for external mounting these cable connection enclosures are rugged, versatile and flexible, providing an easy connection between feeder cables and subscriber cables. They come equipped with a splice tray and a lock for secure fixing of box lid. These boxes are ideal for outdoor applications.

Highlights

- Multifunctional trays that can accommodate mini-splitters
- Hosts SC Simplex and LC Duplex Adapters
- Lockable lid to avoid unauthorized access
- High quality plastics
- Easy to install

Point of Entry Enclosures

Teleste's range of Point of Entry enclosures are designed to allow easy connection of customer drop fibres and their entry to customer properties. Versions are available for internal distribution cabling and also for external cabling applications. The internal versions have clip on lids and the external versions have hinged lids giving IP65 protection.

Highlights

- Suitable for Indoors and Outdoors mounting applications
- External versions IP65 rated
- Supports both SC Simplex and LC Duplex adapters
- Delivered empty or with adapter and/or with pigtail(s) in a suitable box
- Available in white or black versions

Model: TEN-FWB1

TEN-FWB1, 2F Outdoor
Distribution Box

On-line Information

Model: TEN-FWO8

TEN-FW08 - Protection box
Point of Entry enclosure

On-line Information

Model: TEN-FWO8E

TEN-FWO8E, Outdoor protection box
FTTH Wall Outlet

On-line Information

Model: TEN-FWO12

TEN-FWO12, 2F SC/LC
FTTH Wall Outlet

On-line Information

Model: TEN-FWO12E

TEN-FWO12E, 2F SC/LC - Outdoor
FTTH Wall Outlet

On-line Information

" Our enclosures are thoughtfully designed to make fibre extraction from a loop-through cable a remarkably easy process, ensuring seamless service to customer apartments

" Our products are easy to install and maintain, saving time and costs

MDU ACCESS

Simplify your connection to the incoming distribution network cabling and efficiently distribute within the MDU building with our wide selection of enclosures.

Wall mounted enclosures

We offer a full range of wall-mounted enclosures equipped with lockable covers, gradual cable glands located at the bottom, and designed for both indoor and challenging outdoor conditions. Prioritizing quick and simple installation, as well as ensuring seamless customer connections, our enclosure designs feature intuitive cable routing paths, swing-frame designs, integrated bend radius protection, and allocated space for minisplitters.

Highlights

- Multifunctional trays accommodating mini-splitters

- Lockable lids to avoid unauthorized access

- Supplied with adapters and pigtails as required

- Constructed in high-quality, durable plastics for lasting reliability

Next Generation enclosures

Explore our latest MDU access enclosures, meticulously engineered for exceptional outdoor durability. They are designed to be waterproof, dust-proof, and made from durable, anti-aging materials. Introducing the TEN-FWB9, a robust IP65 MDU access solution where internal splice and splitter trays, along with adapters, are shielded by a secure cover, providing comprehensive protection.

Highlights

- Designed for quick & easy drop-install for up to 48 connections

- Suitable for pole and wall mounting

- IP65 rated, manufactured in anti-ageing material

AVAILABLE
MODELS
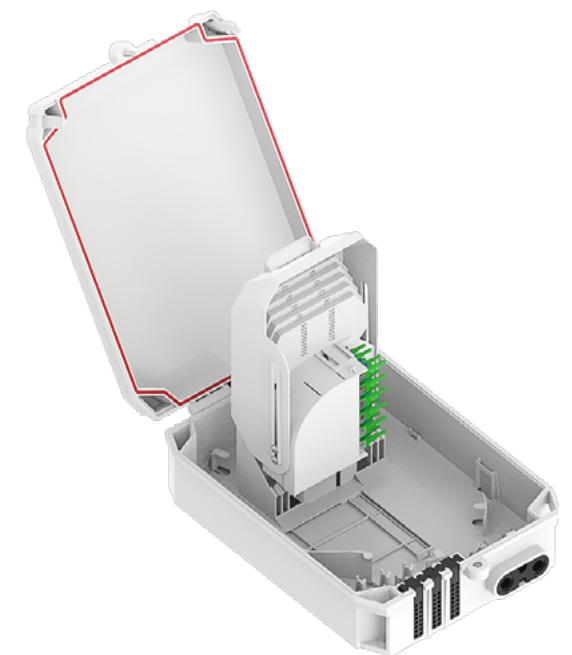
Model: TEN-FWB2

TEN-FWB2, 4F Outdoor
Distribution Enclosure

On-line Information

Model: TEN-FWB3

TEN-FWB3, 8F Outdoor
Distribution Enclosure

On-line Information

Model: TEN-FWB4

TEN-FWB4, 16F Outdoor
Distribution Enclosure

On-line Information

Model: TEN-FWB5

TEN-FWB5, 24F Outdoor
Distribution Enclosure

On-line Information

Model: TEN-FWB6

TEN-FWB6, 12F Outdoor
Distribution Enclosure

On-line Information

Model: TEN-FWB7

TEN-FWB7, 8F Outdoor/Indoor
FTTH Interface Enclosure

On-line Information

Model: TEN-FWB9

TEN-FWB9, 48F - Outdoor
Waterproof, dust-proof, anti-aging material,
2 inlets and 48 outlet drop ports.
Next generation MDU Access Enclosure

On-line Information

> Individual chambers provide unique IP68 sealing for each customer drop

CUSTOMER DROP SOLUTIONS

We offer enclosures designed to meet the needs of customer connections fed through both aerial and underground distribution networks. Some of our models are capable of both underground and aerial mounting in the same enclosure.

Aerial Enclosures

Designed with easy customer drop installs in mind, our aerial boxes are flexible and available with pre-installed cables and adapters, ready for harsh outdoor conditions as they come specified for use in a temperature range of -40 - +80 ºC and are built in high quality materials that guarantees long term performance.

Highlights

- Designated space to accommodate a mini-splitter
- Hosts SC Simplex and LC Duplex Adapters
- Lockable lid to avoid unauthorized access
- IP65 Protection Class
- Designed for easy installation on a pole

TEN-FME2-Dx - a unique drop enclosure product family

Teleste's unique drop enclosures are designed to be installed in both Underground and Overhead applications. Each unique IP68 customer connection chamber can house up to 4 individual fibre customer drop connections. This ensures that each customer connection chamber is isolated from the others should water enter the chamber through incorrect installation of the customer drop cables.

Highlights

- Uses existing drop cables and connectors – no special versions needed
- IP68 protection to each individual customer chamber – protects other customers on the enclosure
- Unique and robust catch mechanisms and tool-less ease of use

On-line information and configuration data

Model: TEN-FAB1

TEN-FAB1, 24F
Outdoor, Aerial

On-line Information

Model: TEN-FAB2

TEN-FAB2, 24F
Outdoor, Aerial

On-line Information

Model: TEN-FAB3

TEN-FAB3, 24F
Outdoor, Aerial

On-line Information

Model: TEN-FME2-Dx

TEN-FME2-Dx, 4 - 16 drops
IP68 Customer Drop enclosure

On-line Information

Enhanced Efficiency - Key Insights into Simplified and Safe Workflows

" Our Aerial Enclosures are designed to have two distinct working compartments. The first is a dedicated area that houses the splices and splitters to connect the incoming distribution network fibres. This compartment has a lid that is sealed to prevent unauthorised access once the network splices are completed. The splitter outputs are presented on adapters in the installation compartment.
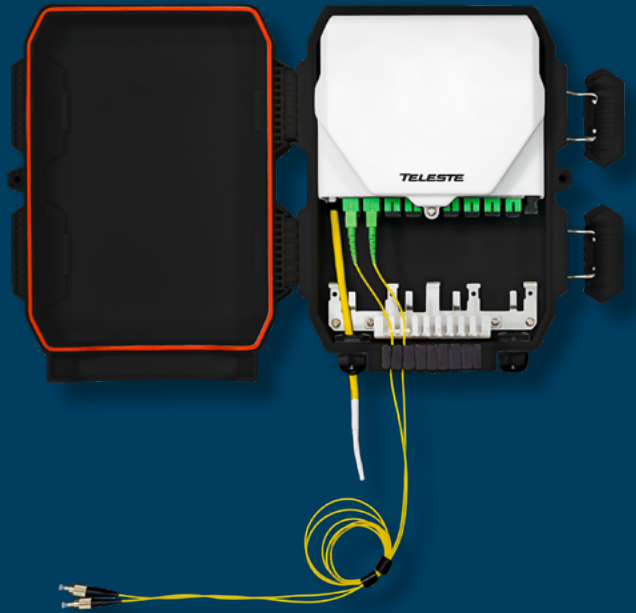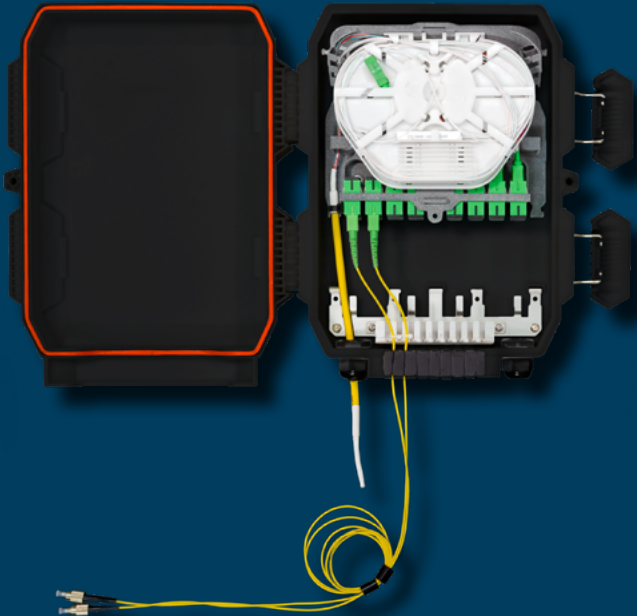
" To perform a customer installation, the drop cable is simply inserted into the enclosure via the unique cable entry gland and the connectorised fibre is plugged into the adapter array. This function can be performed with a single hand, thus making the installation process easier and safer for the installer. With the splice and splitting compartment sealed there is no danger of damage to any of these elements in the box.

Our customisation and pre-assembly skills provide operators with cost effective faster network roll-outs

ACCESS NETWORKS

Access networks require solutions to connect fibres to distribution networks as well as give cross-connection and test access capabilities both in underground and above ground scenarios. Our solutions are purpose-built to seamlessly fulfill these critical requirements.

Point-of-Connection Platform

Teleste tailor-make PoC solutions for operators different network architectural needs. Our solutions are supplied within their own purpose designed enclosures or alternatively we fit into existing cabinets as required. Internal RF and/or optical equipment are supplied to support various node sizes.

Designed for the following network architectures

- Electrical Input to Electrical Output
- Optical Input to Electrical Output
- Electrical Input to Optical Output
- Optical Input to Optical Output

UPoC Underground Platform

Teleste tailor made solution for underground placement of Point of Connection Platforms. Designed to fit into existing underground chambers where normal cabinet solutions are not possible or allowed.

Highlights

- Supports up to 48 customer connection points
- Hosts up to 6 – 1 x 8 Splitters
- Hosts up to 2 Network side and 6 Customer side splice trays
- 48 individual Subscriber micro-ducts management

On-line information and configuration data

On-line information and configuration data

Model: PoC

Point-of-Connection Platform
Pre-assembled network solutions

On-line Information

Model: UPoC

UPoC Underground Platform
Pre-assembled network solutions

On-line Information

Model: TEN-FME1-B

TEN-FME1-B
Multipurpose Branch Enclosure

On-line Information

" The UPoC accommodates our entire range of PoC components and other customized fibre distribution products. It can be supplied with underground chambers, specifically ring sections. Our stainless steel frame offers flexibility with different size options to seamlessly fit various chamber sizes.
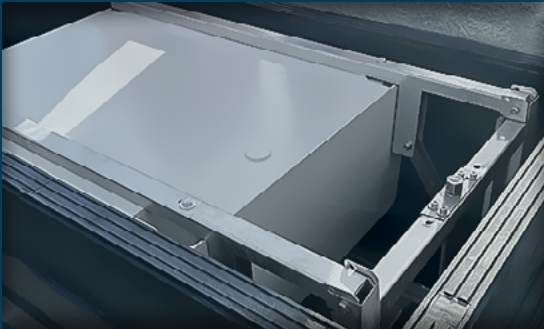
Key Insights into our World of Multipurpose Branch Enclosures

Fibre Efficiency - Unique Branch Enclosures

Teleste introduces an innovative range of Branch Enclosures featuring dual stacks of splice and splitter trays within a robust top-hinged enclosure sealed securely with strong catch mechanisms. The IP68-rated design, with cable entry at the base sealed by a unique gel sealing, caters to both Underground and Overhead applications. The series prioritizes user-friendly tool-less handling, coupled with integrated splice & splitter trays for efficient fibre management.

Highlights

- IP68 classification
- 4 x Main Cables
- 12 x Branch Cables
- 192 splices
- Top hinged mechanism
- Integrated spare fibre management
- Underground (manhole handhole). Aerial (pole, façade)

View the introduction video on-line

CONNECTIVITY SOLUTIONS

We provide a diverse range of products that facilitate smooth connectivity among various fibres in FTTx solutions. These products offer essential connectivity features such as splicing/splitting, connection, and filtering capabilities. Additionally, certain solutions are available as customized and pre-assembled configurations.

Distribution Frames

We offer compact high quality distribution frames available as sliding or pivoting drawer versions. Providing simplified installation and effective designs for interconnect and cross-connect applications as required.

● Pivoting and sliding options to support 12-96F

● Optimal access to splices for repair and maintenance

High Density Solutions

Modular solutions designed specifically for headends and data centres where capacity is an issue and material and component quality are paramount.

● Fibre capacity 12-288F

● High density solution with 12 module ports

● Cable management drawer incorporated

Optical Wavelength Management

Designed to be versatile, cost effective and easy to install solution for headends. Available for WDM, CWDM and DWDM supporting ITU channel spacing.

● Excellent isolation

● Low insertion loss over the whole temperature range

● Additional 1310 nm extension port

Optical Power Management

Designed to meet the requirements of any fibre optic communication system that demands branching and distribution of the optical signal to multiple endpoints.
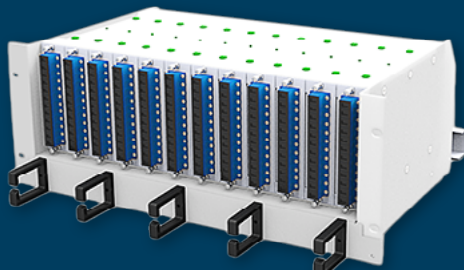
● Support PLC and FBT technology

● Low insertion loss over the whole temperature range

● Balanced and unbalanced models

AVAILABLE MODELS

Model: TEN-ODF1

TEN-ODF1- 24/SC 48/LC
1U ODF - Hinged Drawer

On-line Information

Model: TEN-ODF2

TEN-ODF2 - 24/SC - 96/LC
1U/2U ODF - Slidable Drawer

On-line Information

Model: TEN-ODF3

TEN-ODF3 - 24/SC 48/LC 1U
1U ODF - Slidable Drawer

On-line Information

Model: TEN-ODF4

TEN-ODF4
1U ODF - Slidable Drawer

On-line Information

Model: TEN-ODF5

TEN-ODF5 - 3U Chassis + 1U Drawer
4U ODF - Slidable Drawer

On-line Information

Model: LGX Series

Space saving installations Chassis/Frames, WDM, CWDM, DWDM, Splitter LGX modules

On-line Information

" Our unique 4U system is specifically targeted for headends and data centres
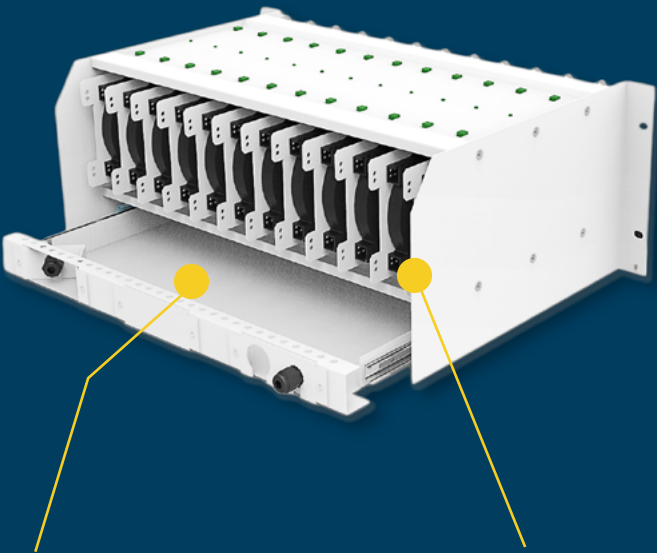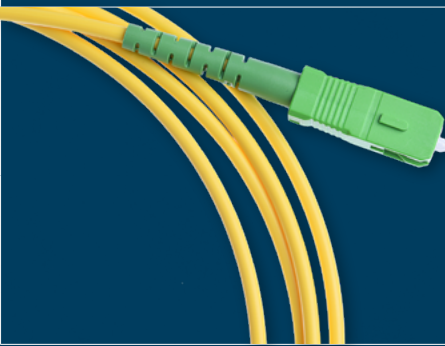

Space for Over-Length Cabling

The system is designed with a 1U drawer that conveniently stores/organises over-length cabling
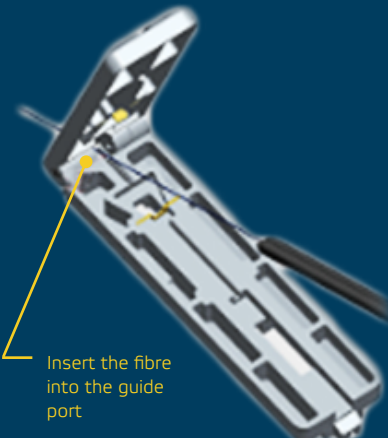
High Density

High density system equipped with 12 module slots

CONFIGURATION CHART
OPTICAL CONNECTIVITY

Model: Fibre FICS Connector	
	FICS Connector Series - SC/APC SC/UPC Field Installable On-line Information
Model: FTTH Subscriber Cable	
	FTTH Subscriber Cable - White Singlemode - G.657A2/B2 On-line Information
Model: Distribution Cable	
	FTTH Subscriber Distribution Cable Singlemode (SM) - 2-4 Fibres On-line Information
Model: Pigtails / Patchcords	
	Standard and premium grade pigtails and patchcords On-line Information
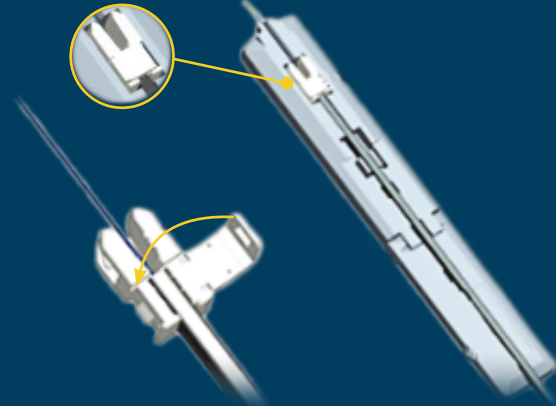
The FICS Connector features a quick 4 step assembly design that is carried out in less than a minute

Insert the fibre into the guide port
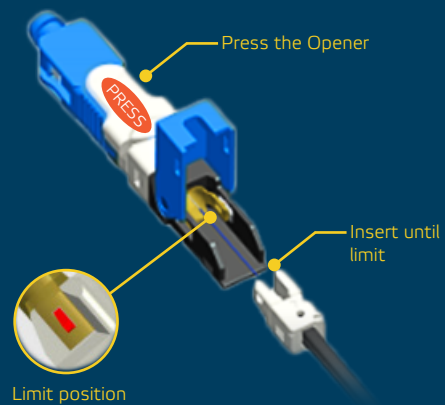
- Strip the cable using a standard Cable Stripper
- Inspect and clean the fibre
- Place and align the cable into the Cutting Jig

FIBRE PREPARATION

- Fix the cable in the FICS Connector Cable Holder
- Place the Cutting Jig in a standard Fibre Cleaver
- Cut the bare fibre

FIX THE FIBRE CABLE

Press the Opener

PRESS

Insert until limit

Limit position

- Press open the FICS Connector Opener
- Insert the fibre into the FICS Connector tail until the limit

INSERT THE FIBRE

Remove the Opener

Push

- Push down the FICS Connector cover
- Remove the FICS Connector opener
- Complete the assembly

ASSEMBLE THE CONNECTOR

* Additional information in the product data sheet

Key Insights into our World of Connectivity

Patchcords and Pigtails

High-quality at the most competitive overall cost is of utmost importance to us, for that reason we maintain firm test and screening procedures to helps us eliminate unsatisfactory items likely to exhib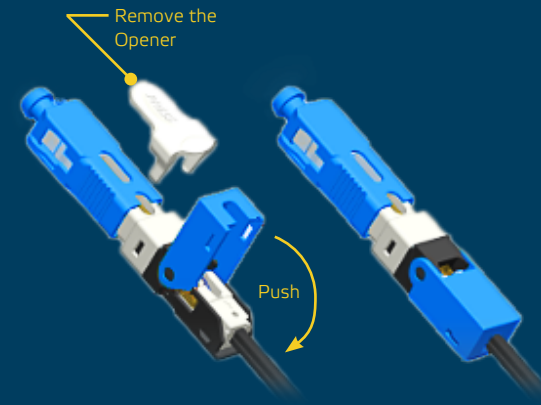it early failures. Furthermore we provide our clients optimum business efficiency whereby offering our patchcords and pigtails in two different Grades; Standard and Premium. The Premium Grade features high optical characteristics and prime selection of components that offers excellent performance for the most demanding applications. We provide these items in various connector configurations and in various fibre types, ranging from G.652.D to G.657.B3.

On-line information

Adapters

Our line of Adapters consist of factory- and field-installable items, supporting a variety of connector types, end-face configurations and structures, e.g. SC simplex/duplex and LC simplex/duplex as well as Quad. They can be ordered having Black or Transparent Dust Caps - the last one makes it easier to locate the red light emitted by a Visual Fault Locator (VFL) without having to remove all the protection dust caps in a panel - we also offer adapters having hinged shutters.

On-line information
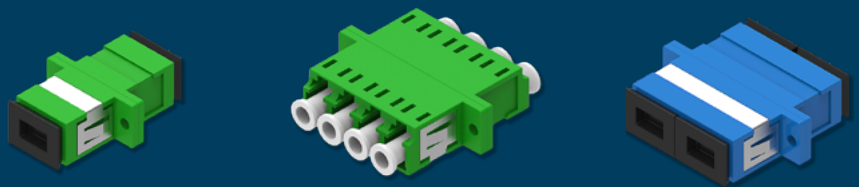
Splitters

We supply our customers with field proven Splitters - both Fused Biconical Taper (FBT) and Planar Light-wave Circuit (PLC) - our range accomplish both cost effectiveness and high reliability for customers seeking to maximise the functionality of their optical network circuits. Both variants can be installed in headends or in distribution points (indoor/outdoor), although the PLC line carries outstanding environmental and mechanical reliability having very low polarization dependent loss and excellent channel-to-channel uniformity. Both lines can be ordered with a range of housings styles, including; ABS Box, ABS Mini, Stainless Tube and Steel Box Nano - the latter being the most compact option.

On-line information

Attenuators

Our broad line of high-precision fixed in-line attenuators are available in rugged and compact housings comprising some key competitive advantages; the line exhibits low return loss, is wavelength insensitive whilst maintaining attenuation accuracy, ensures repeatable performance and is offered in doped fibre operating principle.

On-line information
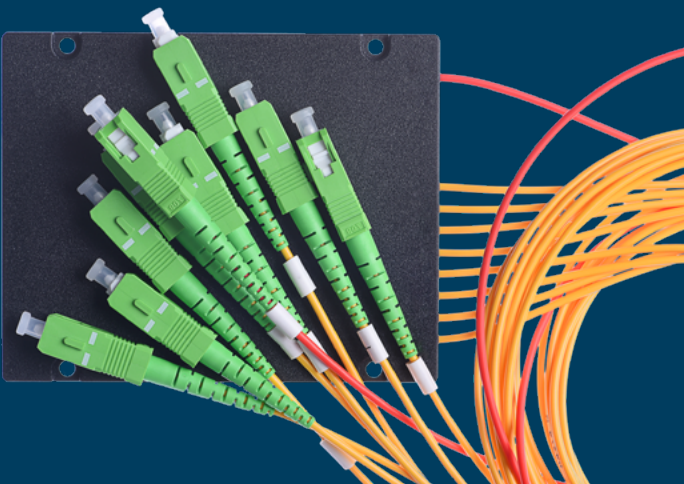
CORPORATE RESPONSIBILITY
ENVIRONMENTALLY FRIENDLY PRODUCTS

Environmental friendliness is reflected in the energy consumption, durability and serviceability of products.

Design

Product development plays a key role in our consideration of the product life cycle environmental impact. Decisions made at the design stage have great significance for the entire product life cycle, as they cover the entire supply chain from the procurement of raw materials to the removal of the product from the market. Environmentally conscious product design aims to reduce material volumes, cut energy consumption, extend the life cycle of the network infrastructure as a whole and improve product quality. Modularity is an important aspect in product design, and nearly all of the HFC access network products are modular.

Sourcing

Teleste's international supplier network consists of suppliers from more than 20 countries. In direct purchases, 20 per cent of suppliers account for 80 per cent of all sourcing. Co-operation with suppliers is based on annual contracts and a long-term approach. The co-operation is steered and monitored through the Code of Conduct, guidelines concerning functions such as logistics and order processing,

supplier evaluations, supplier self-evaluations, meetings and audits. Sourcing is divided into two main categories. Direct sourcing concerns the various components, products and services needed in the assembly of Teleste's own products. Indirect sourcing concerns goods and services that we use for our own business operations. Teleste always strives to ensure that materials come from ethically and environmentally responsible sources. The company uses a third-party service to maintain the necessary information pertaining to the legitimate trade of natural resources and supply chains in line with sustainable development. The third-party service monitors the origin of the raw materials used in standard components (conflict minerals, 3TG).

Production

The most significant sources of environmental impacts in Teleste's manufacturing are energy consumption and the waste generated by the company's operations. Teleste's production operations consist of the manufacture, assembly and testing of electronics.

All of these processes are environmentally safe. Production efficiency is maintained by using the lean approach. One aspect of quality development in production is the use of continuous improvement boards (JAPA boards). In 2018, JAPA activities were extended to cover employee processes, and the first office robotics applications have been implemented for the update of forecast and control parameters. In addition, Teleste applies the 5S method in its production. This method focuses on improving productivity by eliminating non-value-adding activities, improving quality and safety and creating a visually attractive, efficient workplace. The Recycling and reuse section includes more details about the sorting of waste.

Logistics

Our logistics management takes into account environmental questions and cost-efficiency alike, which are typically mutually supportive goals. Cost-efficient logistics often also results in the smallest carbon footprint. The carbon footprint arising from transport results mainly from the transport of materials and finished products. It is reduced by prioritising rail and sea transport in intercontinental

logistics over air cargo and by consolidating shipments when possible. In 2019, we were able to reduce the CO_2 emissions arising from air transport by as much as 29% compared to 2018.

Usage

Teleste's products are safe throughout their production process and service life. The design of products takes into account the full product life cycle, including availability, service life and serviceability. The upgradeability of products with long life spans is part of the environmental perspective. Customer satisfaction is guaranteed by long-lasting and serviceable products with energy consumption matching the set targets. Teleste continuously develops its access network products to allow its customers (operators) to reduce their network electricity consumption relative to the amount of data transmitted.

Recycling and reuse

The sorting of waste at source is essential for efficient recycling and reuse. At Teleste, all waste generated is appropriately sorted for recycling.

TELESTE