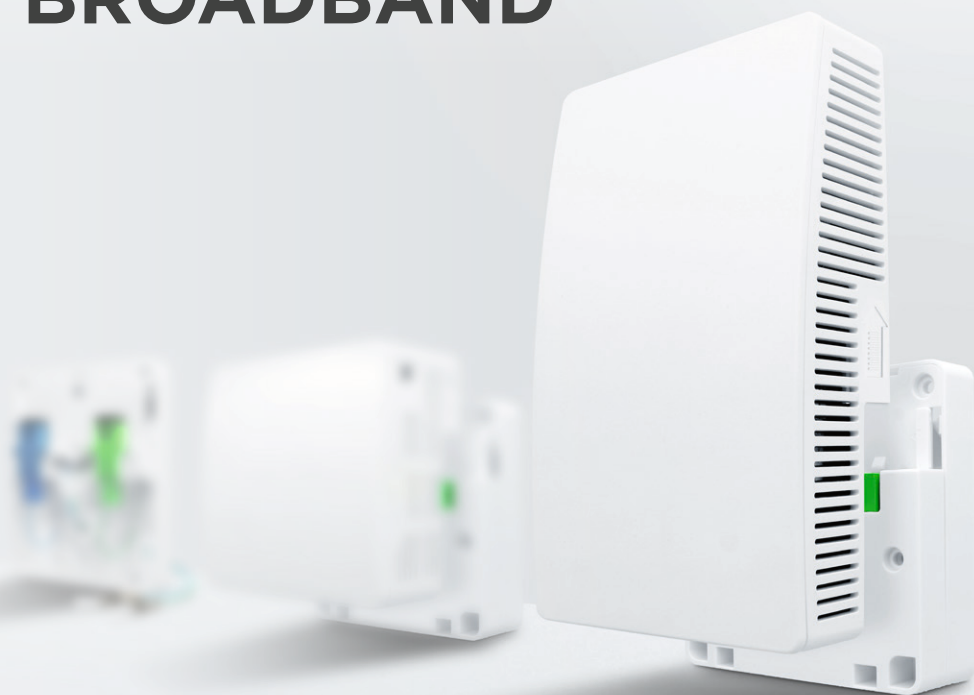


INCREASE LIVING STANDARDS WITH IMPROVED BROADBAND





SIMPLICITY IN INSTALLATION AND SERVICE ACTIVATION

We believe that the future competitive advantages lie within simplicity in installation and end-user activation.

When developing our DKT gateways, the focus is on neutral design, product durability and service flexibility for the operator.

The entire DKT product range are designed as “layer 2” devices for a 2-box structure with a separate third-party router. With this, operators gain more flexibility and scalability in their network and can reuse the same router across several network topologies.

DKT solution offers Operating Expense (OPEX) reductions through:

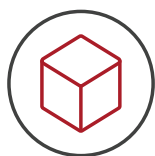
- Less technician work
- Customer Do-It-Yourself (DIY)
- Neutral design and technology-agnostic fiber termination
- Layer-2 functionality suitable for 2-box solutions



FIRST METER® INITIATIVE

The FIRST METER® initiative makes your network more user-centric and intelligent, while deskillling its installation.

FIRST METER® User Centric FTTH



PRODUCT OVERVIEW

FTU



Our Fiber Termination Unit increases lifetime and flexibility with a unique click-on interface. It supports 1 Gbps, 10 Gbps, and Active Ethernet/GPON/XGS-PON network architectures.

GATEWAY



Our interoperable and high quality 1 Gbps and 10 Gbps (XGS-PON) Gateways provide superior service, resilience, and stability.

FTTH BATTERY 2



Our FTTH Battery 2 is designed to power up to 3 devices e.g. gateways, routers, analog telephone adapters, and Wi-Fi in case of a power outage.

Unique warning functions:

Informs via LEDs when the 1-hour backup can no longer be guaranteed in case of a power outage.



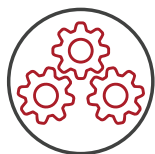
RF/TV PASSIVE

A comprehensive line of optical passives for data, telecom and CATV applications. DKT offers huge flexibility in style, outline and density.



RF/TV ACTIVE

DKT RF/TV active products support optical transmission of CATV signals, embedded with GPON/XGS-PON.



OUR PHILOSOPHY: **INTEROPERABILITY!**

FTTH click-on interface solution



FTU



1 Gbps Gateway



10 Gbps Gateway

Interoperable FTTH solution with out-of-the-box functionality.

We have made it our business to develop solutions that make installation as easy as possible. At the same time, we have set our focus specifically on interoperability, resilience, and reliability.

With interoperability, we particularly refer to the advantage of our click-on interface solution, consisting of Fiber Termination Units (FTUs) and Gateways, to be compatible with all standard third-party OLTs and independent from third-party routers. We value this “vendor agnostic” philosophy as an essential basis for every operator’s future network expansion!

Our DKT Gateways are known for their interoperability, independence and variety of variants combined with advanced performance. Additionally, their click-on interface solution is designed to enable the end user to activate the connection, which lowers the operator's costs, increases flexibility and customer satisfaction. To give you the maximum interoperability and flexibility for current and future network operations, we are happy to adapt and customize our product's technical specifications to your requirements.

Benefits of our interoperable FTTH click-on interface solution.

Save in OPEX

- No license fee
- No maintenance fee
- No support fee

Flexibility

- Interoperable with different OLT providers
- Independent from third-party routers
- Ability to adapt and customize technical specifications to network requirements



INTEROPERABLE 10G ENVIRONMENT

10G Gateways with click-on interface and Active Ethernet/XGS-PON/EPON.

The DKT 79xxx series is built to fit the well-proven DKT FTU. The newly developed active part is based upon a sophisticated wirespeed Layer 2 switching-based “System-on-Chip” (SoC) solution.

1G and 10G high-performance DKT Gateways can be flexibly combined with third-party OLTs.



This solution implies that fiber termination and service activation occur as part of the operator’s “demarcation point” at the end customer in an FTTH 10Gbps environment.

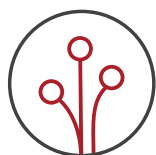
PRODUCT OVERVIEW

“7975x and 7976x series”

			XGS-PON		XGS-PON with CATV		10G Epon with DPoE	
Parameter	FTTH-10G-1F-3P	FTTH-10G-2F-3P-CATV	FTTH-XGS-1F-3P	FTTH-XGS-1F-2P	FTTH-XGS-1F-3P-CATV	FTTH-XGS-1F-2P-CATV	FTTH-10G EPON-1F-3P	FTTH-10G EPON-1F-2P
10Gbps EPON WAN	-	-	-	-	-	-	✓	✓
10 Gbps WAN	✓	✓	-	-	-	-	-	-
XGS-PON WAN	-	-	✓	✓	✓	✓	-	-
1 Gbps LAN	2	2	2	1	2	1	2	1
10 Gbps LAN	1	1	1	1	1	1	1	1
CATV	-	✓	-	-	✓	✓	✓	✓
Switch engine ²⁾	✓	✓	✓	✓	✓	✓	✓	✓
WDM filter	-	¹⁾	-	-	✓	✓	-	-
Fiber Connector	SC/UPC	SC/UPC + SC/APC	SC/APC	SC/APC	SC/APC	SC/APC	SC/APC (SC/UPC on request)	SC/APC (SC/UPC on request)
SFP WAN	✓	✓	✓	-	✓	-	✓	-
BOSA WAN	-	-	-	✓	-	✓	-	✓
Compatible with DKT clickable FTUs ³⁾	✓	✓	✓	✓	✓	✓	✓	✓
TR-069	✓	✓	-	-	-	-	-	-
Item No.	79751	79752	79757	79857	79759	79859	79761	79861

¹⁾ Optional

²⁾ Support for VLANs, Q-in-Q, QoS, IGMP, Jumbo Frames, and traffic shaping and manipulation



GREAT FLEXIBILITY IN A SMALL FORM

1G Gateways with click-on interface and Active Ethernet/GPON.

The small form factor, combined with ease of installation due to its click-on interface, makes our DKT Gateways an extremely flexible solution, with optimized handling and efficiency.



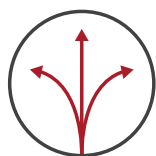
The solution is built to allow the customer to perform the activation. The combined solution for FTU and Gateway service is formed in an extremely compact form factor, 88 x 88 x 65 mm, making it viewed by the customer as just another outlet.

PRODUCT OVERVIEW

“7973x, 7974x and 7975x series”

Parameter	JUMA-1F-WAN-OAM	FTTH-1F-CATV	FTTH-1F-4P-S	FTTH-2F-4P-S-C	FTTH-GPON-1F-1	FTTH-GPON-1F-1/C	FTTH-GPON-1F-4P	FTTH-GPON-1F-4P/C
1 Gbps WAN	✓	¹⁾	✓	✓	-	-	-	-
GPON WAN	-	-	-	-	✓	✓	✓	✓
1 Gbps LAN	1	-	4	4	1	1	4	4
CATV	-	✓	-	✓	²⁾	²⁾	²⁾	²⁾
Switch engine ³⁾	✓	-	✓	✓	✓	✓	✓	✓
SFP WAN	Fixed	-	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
Fiber Connector	SC/UPC	SC/APC	SC/UPC	SC/UPC + SC/APC	SC/APC	SC/APC	SC/APC	SC/APC
WDM filter	-	-	²⁾	²⁾	-	-	-	-
WBF blocker	-	-	-	-	-	✓	-	✓
GPON Optics	-	-	-	-	CLASS B+	CLASS C+	CLASS B+	CLASS C+
Compatible with DKT clickable FTUs	✓	✓	✓	✓	✓	✓	✓	✓
TR-069	✓	-	✓	✓	-	-	-	-
Item No.	79734	79740	79741	79742	79753	79754	79755	79756

- ¹⁾ Data port loop through, adapter SC/APC
- ²⁾ Optional
- ³⁾ Support for VLANs, Q-in-Q, QoS, IGMP, Jumbo Frames, and traffic shaping and manipulation



THE MOST FLEXIBLE FTU IN THE INDUSTRY

Extremely compact form factor to optimize your services.

The DKT philosophy of separating the basic FTU media converter functionality from the Service Box creates a neutral demarcation point between the in-home network and the operator's network.

DKT FTUs consist of a neutral base/FTU in which fiber can be mounted, connected and terminated. The active Gateway is designed as a click-on interface with the possibility for end-user activation.

Our FTU/gateway click-on interface solution is also ideal as a 2-box solution with third-party routers.



**NEUTRAL
DESIGN,**



DURABILITY



AND SIMPLICITY

Do-It-Yourself-kit FTTH

The Do-It-Yourself-kit FTTH offers a practical self-install possibility for the end user or an enormous saving of time for the technician.

We provide individual lengths of the pre-assembled fiber cable, removing the splicing within the customer premises.

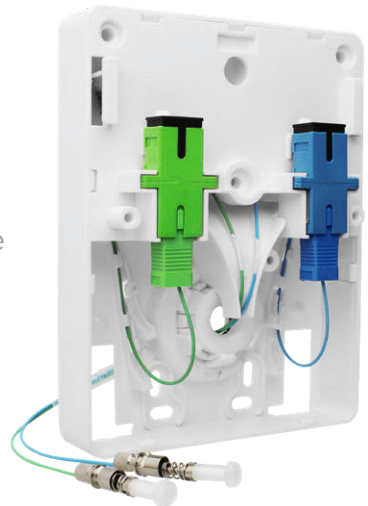


Pre-assembled FTU for Extallation

For our Extallation concept, the DKT FTU is delivered pre-assembled with fibers which deskills the FTTH installation to face the lack of skilled workers. The Extallation concept is part of our FIRST METER® initiative to enhance the end customer's satisfaction.

Please go to page 7 for more information on Extallation or visit:

DKTCOMEGA.COM/EXTALLATION





WHY CALL IT THE LAST MILE?

In our industry, the customer connection is often called the “Last Mile”.

Why FIRST METER®?

The purpose of our FIRST METER® initiative is to enhance the end customers’ satisfaction by providing reliable, fast broadband and rapid troubleshooting, while, at the same time, deskilling the network’s installation to face the increased shortage of skilled workers and reducing OPEX.

FIRST METER® combines the use of selected FTTH components and concepts, such as Extallation, Centralized PON testing, and the DKT FTTH click-on interface solution, consisting of FTUs and Gateways. Across the whole initiative, we put a high value on interoperability, resilience and reliability. This supports the increase in customer satisfaction dramatically and reduces OPEX for the operator due to the simplified installation and troubleshooting.

The FIRST METER® initiative makes your network more user-centric and intelligent, while de-skilling its installation.



VALUE CUSTOMER SATISFACTION

We believe the “last mile” should be called the **FIRST METER®** because customer satisfaction should be the operator’s priority.

FIRST METER® initiative



INTEROPERABILITY

With all standard OLTs (page 2)



CLICK ON GATEWAYS

Simplifying upgrade processes (page 4)



RESILIENCE | FTTH BATTERY 2

Reliance on battery back up (page 12)



CENTRALIZED TESTING

Simplifying troubleshooting (page 16)



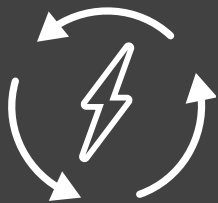
EXTALLATION

De-skilling the customer connection (page 17)

FTTH BATTERY 2



POWER OUTAGE



FTTH BACKUP



1 HOUR

MORE 



FTTH BATTERY 2 **BACKUP FOR YOUR** **FTTH NETWORK**

1 hour FTTH backup during power outage!



BACKUP FOR 3 DEVICES

Power supply for 3 devices in any combination of 5V, 9V or 12V.



WARNING FUNCTION - OVERLOAD

Warns when 1 hour backup can no longer be guaranteed.



IDENTIFICATION SYSTEM

Adapts to the output voltages of the end devices.

PRODUCT OVERVIEW

Parameter		DKT FTTH-BATTERY-2
Outputs		
Power supply protocols supported		Qualcomm quick charge 4.0 and USB Power Delivery 3.0
Max individual port load at 5V / 9V / 12V		3 A
Backup duration at 30W combined load		1 hour
Input		
Voltage		24 V
Current		2 A
Connector outer Ø		5.5 mm
Connector inside Ø		2.5 mm
Batteries		
Included battery type		5 PCS 2500 mAh Button type 18650 Li-Ion
Reverse polarity protection		Mechanical prevention of completing electrical circuit in case of wrong battery orientation.
Electrical safety circuit		Individual cell voltage and temperature monitoring
User interface		
Ready LED (Green)	Steady on	Battery is fully charged.
	Flashing	Battery is charging.
Backup LED (Amber)	Steady on	Input off, battery discharging.
	Flashing	Input off, battery nearly discharged.
Replace batteries LED (Red)	Off	Batteries are healthy.
	Flashing	Batteries need replacing.
Overload LED (Red)	Steady On	Combined load >30W, backup duration <1h
	Flashing	Combined load too high: Disconnect USB
Package		
Mains adapter		UKCA marked Type G (UK) 110-240V~; 24V 2A DC
Color		White with dark grey logo plate
Material		PC + ABS (PC-540)
Dimensions [mm] (H x W x D)		138 x 135 x 26.50
Item No.		79831



CENTRALISED PON TESTING

If your customer notices a fault, you are already in the process of fixing it!

Whilst FTTH uses the latest technologies for broadband networks, some network operators report an error rate of up to 30%!

What is Centralized PON Testing?

“Centralized PON Testing” is a method to test the signal from the Central Office to the Fiber Termination Unit (FTU) through the splitter. This ensures more rapid and accurate problem diagnoses, with shorter repair times, using fewer face-to-face customer visits. **Centralized PON Testing operate completely from the Central Office to the FTU and uses a reflector within the fiber pathway.**

WHY CENTRALISED PON TESTING?

Having a network fault fixed faster provides a greater broadband reliability and ultimately improved customer satisfaction!



**Whole-life
condition monitoring**



**Rapid fault
diagnosis & repair**



**Simplify build &
customer identification**

EXTALLATION

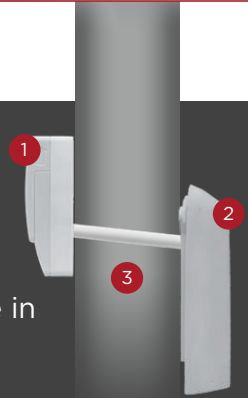
Deskill the customer FTTH connection!

1 **FTU**

2 **WALLBOX**

3 **TUBE**

The tube is pushed through a pre-drilled hole in the wall to connect the FTU and the Wallbox.



EXTALLATION PROCESS

The DKT FTU is delivered pre-assembled.

The connecting tube is mounted on the FTU and pre-connectorized fibers fed through to the supplied spearhead, and inserted into the pre-drilled hole at the customer's wall.

Outside the installer connects the tube and fibres to the wallbox.

De-skilling the installation saves time for both user and installer, reduces the time spent inside the customer's premises, and allows the installation to be carried out with lesser skilled workers!



EXTALLATION **DESKILLED** **FTTH INSTALLATION**

Extallation de-skills the FTTH installation and addresses the shortage of skilled workers.



**Simplified & deskilled
FTTH connection**



**Ensure
customer satisfaction**



**Faster installation
& more reliable**

“WE ARE MAKING THE CUSTOMER INSTALLATION TRIVIAL”

PRODUCT OVERVIEW

Parameter FTU AND SPEARHEAD	EXTA-2F-APC/UPC-IN75	EXTA-2F-APC-IN75
Fiber Type	Corning ClearCurve ABL Optical Fibre G6573B	
Connectors/Ferrules	1 x SC/APC & 1 x SC/UPC	2 x SC/APC
User disposable fibre length [cm]	139	
Dimensions [mm] (H x W x D)	88.1 x 115.4 x 38.5	
Operational and storage temperature [°C]	-40 – +80	
Color	White	
Spearhead		
Total length [mm] (Ø10 mm section)	115	
Item No.	79810	79811

Parameter TUBE	EXTA-TUBE-750/Ø10mm	
Length [mm]	750	
Diameter [mm] (Outside, Inside)	10, 8	
Item No.	79820	

Parameter	EXTA-2F-APC/UPC-OUT	EXTA-2F-APC-OUT
Adapter	SC/UPC + SC/APC	2x SC/APC
Dimensions [mm] (H x W x D)	110 x 191 x 38	
Color	Gray / RAL 7035	
Operational and storage temperature [°C]	-10 to 80	
System environment, Max operating humidity	85 % RH (non-condensing)	
System environment, Storage temperature [°C]	-40 to 70	
System environment, Max storage humidity	95 % RH (non-condensing)	
Feed and outlet options [mm]	In 2 x Ø 5, 6, 8, 10, 14 & OUT 1 x Ø up to 10	
Tamper Lock	Wire feed-through in bottom , both sides	
Item No.	79830	79840



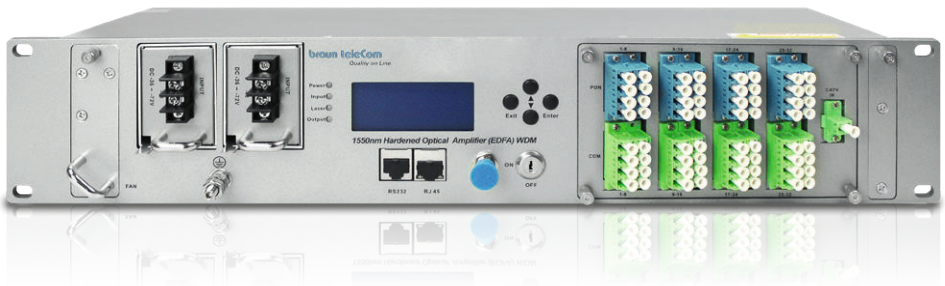
HARDENED EDFAS BY braun teleCom

**Optical amplifiers for outdoor cabinets.
Designed for most demanding environments!**

With an enhanced operating temperature range of -30°C to $+65^{\circ}\text{C}$ and an installation depth of only 24 cm, these optical amplifiers are perfectly suitable for usage within narrow street cabinets.

Features:

- Space saving and compact design
- Extremely high optical output power per port
- Output power is adjustable from -3 to 0 dB
- Intelligent temperature control system





WAVEPACE® **PASSIVE OPTICAL** **INNOVATIONS**



**INNOVATIVE, COST-OPTIMIZED, AND HIGHLY-CUSTOMISABLE
FTTH PRODUCTS, INCLUDING:**

- P2MP Cabinets
- ODF Systems
- MDU & SDU Wall Boxes
- FTTH Wall Outlets
- Patch Cords



PRE-ASSEMBLED



HIGHLY CUSTOMIZABLE



SPACE-SAVING





WHAT IS OUR “SECRET”?

A technology, “agnostic” design and possible service activation by the end user.

CLAIM:

A separation in Layer 1, 2, and 3 improves your business case and freedom to optimize your services, such as WiFi and router selection.

WHY:

- Interoperability, flexibility, and scalability in roll-out and upgrades
- Better lifetime/depreciation
- Decreased OPEX
- Improved customer satisfaction/churn
- Reduced call center cost and truck roll

The solution will work with third-party products, resulting in optimized interoperability and flexibility, better WiFi coverage, and better sourcing opportunities.

OUR VISION

SMALL DIFFERENCES. BIG IMPACT.

Strategic product categories



FTTH NETWORKS

Simplicity in installation and service activation!



FIRST METER® initiative.



COAXIAL NETWORKS

Proven higher performance
and more cost-efficient networks!



HOME NETWORKS

Smooth end user
activation and support!



CERTIFIED QUALITY MANAGEMENT SYSTEM



SMALL DIFFERENCES. BIG IMPACT.

Should you require any further information on DKT solutions,
PLEASE DO NOT HESITATE TO CONTACT US.

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