

For almost a century, WISI has been one of the global pioneers in the field of reception and distribution technology. Over the course of our time as a system provider in the product areas of CATV technique, reception and distribution technology, mobile communication and high frequency connectors, we have learned not only to stay on the cutting edge of technological development, but also to always be ready to transform visions into new, high-quality products. Converging media, new multimedia content and broadband services require intelligent transportation pathways for their distribution. This is our business. As a developer and technology supplier for the key communication sectors, we are therefore committed to innovation both now and in the future.

PROSE SAT-Optik 084938

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OL series Optical SAT distribution

Unlimited distribution
via fibre-optic cables.



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Overview

Unlimited distribution via fibre-optic cables

The new OL series revolutionises SAT reception as well as conventional distribution technology. Optical transmission of satellite signals, terrestrial signals and radio signals provides particularly impressive results:

- ✓ For projects that require digital signals to be received centrally and a nearly unlimited number of subscribers to be made available
- ✓ For extensive structures in which loss of signal or quality is not acceptable
- ✓ Thanks to efficient and cost-oriented installation. Optical cables can be installed more quickly and with less space required than comparable versions with coaxial cables.

Benefits of SAT optical

- ✓ Galvanic isolation of the individual buildings/building sections
- ✓ Future-proof
- ✓ Transmission with almost no loss or disruption
- ✓ Efficient and clean installation
- ✓ Maximum flexibility
- ✓ Low-smoke zero halogen compliant (LSZH)
- ✓ Reception of all transponders from a satellite
- ✓ A single reception system for hundreds of subscribers
- ✓ Aesthetically pleasing building appearance as only a single central reception antenna is required
- ✓ A single fibre-optic cable performs the same function as multiple coaxial cables
- ✓ Significantly reduced costs in comparison to alternative solutions (channel processing solutions)

OL series

The WISI system

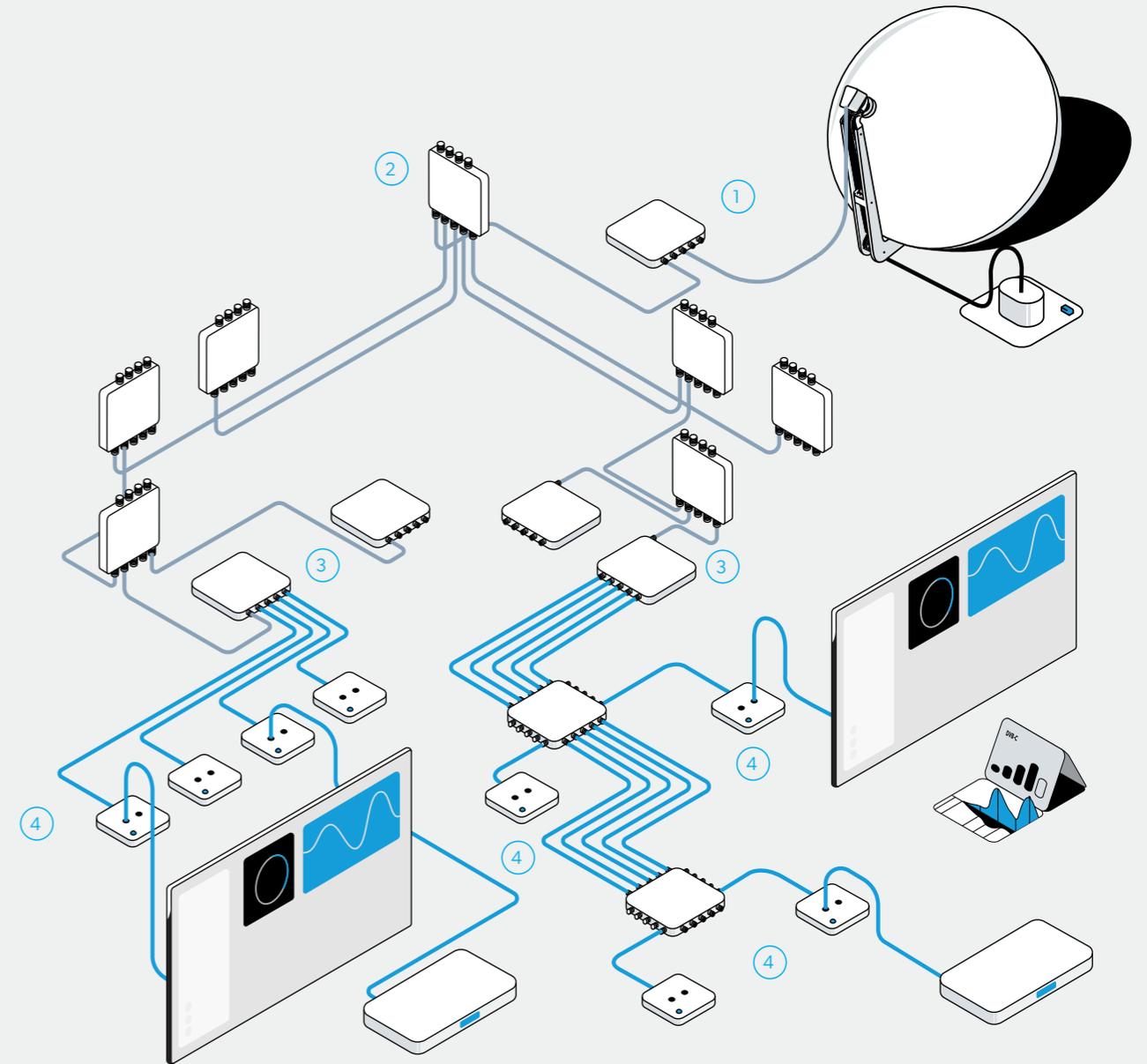
SAT signal distribution via fibre-optic cable

The principle of LWL transmission of SAT signals is as brilliant as it is simple: The SAT signals can be transformed into optical signals via a special kit fitted directly to the parabolic antenna. The optical signal is distributed to the intended end points via ready-made monomode fibre-optic cables and suitable distributors. Converters connected to the system transform the light pulses back into the original HF signals.

The use of Quad converters enables up to four end devices to be connected directly. For a broader multi-switch system, the Quattro version is used.

At a glance

- ① Optical transmitter kit
- ② Optical splitter for fibre-optic cables
- ③ Optical converter
- ④ SAT reception for the subscribers



Overview

Structure of fiber-optic cables

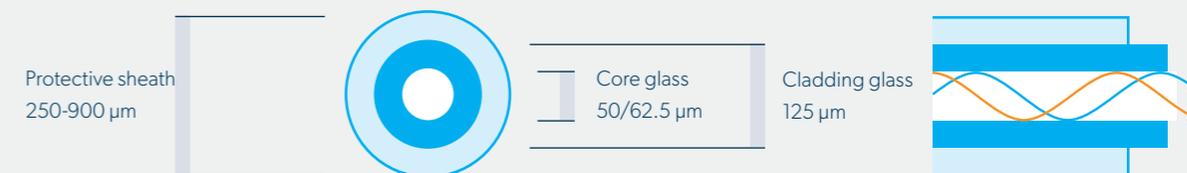
Fiber-optic cables are used in the telecommunications sector for applications that require large quantities of information to be transmitted over long distances.

The WISI OL system exclusively uses monomode fiber-optic cables. The benefits of this technology include its extremely low attenuation values (approx. 0.3 dB/km), minimal delay skew and a low bending radius that enables installation with negligible attenuation, even in extremely tight spaces.

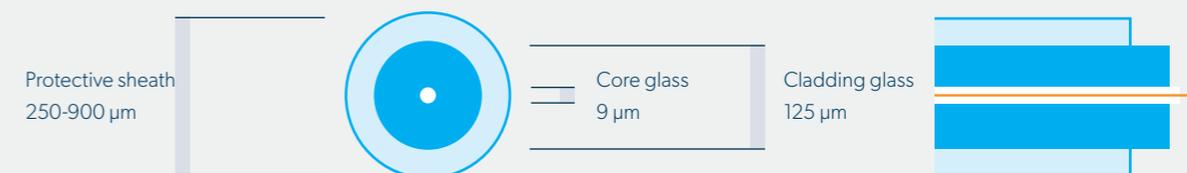
Benefits of fibre-optic cables

- ✓ Extremely high range due to low attenuation
- ✓ Galvanic isolation
- ✓ Not affected by electromagnetic fields
- ✓ Low-smoke zero halogen compliant (LSZH)
- ✓ Ready-made cables with lengths up to 200 m (other lengths available on request)
- ✓ Special PE-sheathed cables for underground installation

Multi-mode fibre-optic cable



Mono-mode fibre-optic cable



FC/PC plug

WISI OL 95 fibre-optic cables are fitted with FC/PC plugs with a centring pin that prevents them from being overtightened.



Overview

LNB with optical output

For up to 64 optical end points



OL 16 1310

Optical transmitter kit

Features

- Kit incl. wideband LNB and electrical/optical converter
- Transmission of satellite and terrestrial signals via a fibre-optic cable
- Feed-in of DVB-T/T2, DAB and FM at the terrestrial input
- Optical wavelength 1310 nm
- + 8 dbm optical output power



OL 17 1310*

Optical converter

Features

- Wavelength 1310 nm (± 20 nm)
- Optical power +8 dBm
- Current draw max. 350 mA
- FC/PC connection



OC 07 E*

Wideband LNB

Features

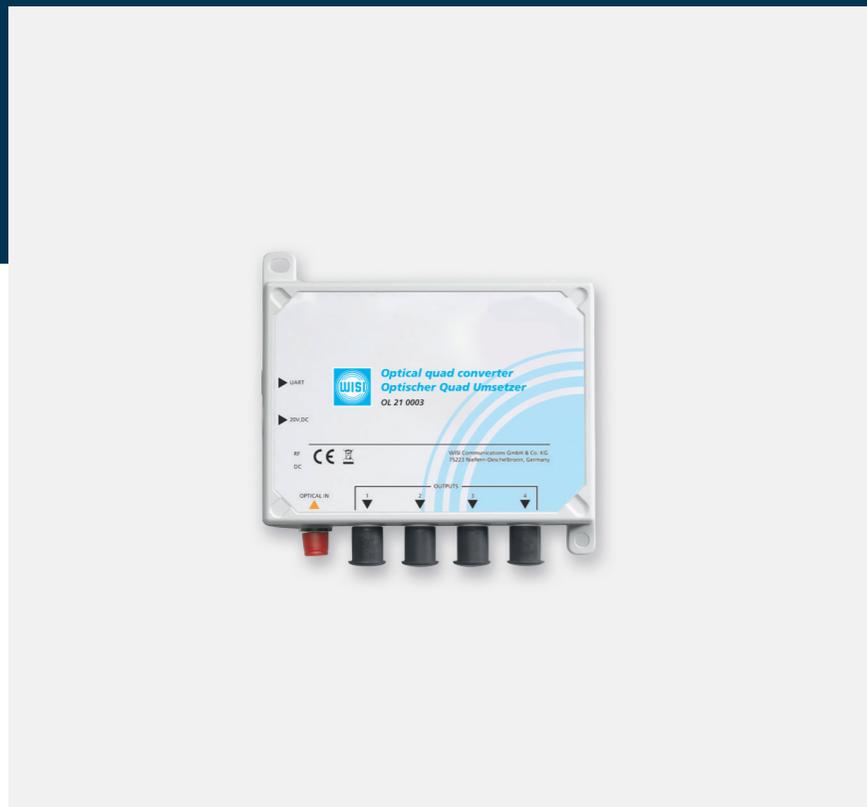
- Operating temperature -30 to +60 °C
- Power consumption max. 125 mA
- HF output 2x F - female

*included in the kit

Overview

Optical re-converter

Quad converter, Quattro converter



OL 21 0003

Quad converter

Features

- Reconversion of the optical signal
Four independent subscriber outputs
- Power supply via the connected downstream devices or optional 20 V DC power supply unit (OLPS 0230)
- FC/PC connection
- OL 2x 0003 in a small, easy-to-install housing



OL 22 0003

Quattro converter

Features

- Reconversion of the optical signal into the original frequency position
- Power supply via the connected downstream devices or optional 20 V DC power supply unit (OLPS 0230)
- FC/PC connection
- OL 2x 0003 in a small, easy-to-install housing



OLPS 0230

Optional power supply

Features

- Operating voltage 230 V AC, 50/60 Hz
- Output voltage 20 V DC
- Output current 1.2 A, short-circuit proof

Overview

Technical specifications



OL 17 1310

Input	
Impedance	75 Ω
Return loss	20 dB (optical)
SAT / DVB-T frequency range	290 to 2340 MHz / 470 to 694 MHz
FM / DAB frequency range	88 to 108 MHz / 174 to 240 MHz
Level range	70 to 85 dBμV (satellite); 70 dBμV (terr.)
Ripple	1 dB 28 MHz
Full-band amplification	FM <1 dB; DAB <1 dB; terr. (DVB-T) <3 to 5 dB; SAT ≤3 dB; Rejection at LTE frequencies >30 dB
TERR / SAT connection	1x F socket / 2x F socket
Output	
Wavelength	1310 nm (±20 nm)
Optical power	+8 dBm
Connection	FC/PC
General data	
Input voltage	20 V DC
Power consumption	max. 350 mA (without devices connected)
Max. upstream current	500 mA
Vert. / hor. output voltage	12 V / 18 V
Operating ambient temperature	-20 to +60 °C
Weight	0.445 kg
Dimensions W x H x D	160 x 25 x 162 mm



OC 07 E

Electrical data	
Input / local oscillator frequency	10.70 to 12.75 GHz / 10.41 GHz
Output frequency	290 to 2340 MHz
Amplification / full-band amplification	50 to 62 dB / 7 dB (p-p)
Noise factor	typically 0.5 dB
Polarisation decoupling	typically -30 dB
Image frequency suppression	40 dB
In-band interference signal	-60 dBm
LO phase noise at 10 kHz	-75 dBc/Hz
LO temperature fluctuation at 25°C	±0.8 MHz
Output impedance	75 Ω
Connections	
HF output	2x F - female
General data	
Subscribers	Depending on multiswitch
Integrated multiswitch	No
Terrestrial feed-in	No
Input voltage	821 V DC
Power consumption	max. 125 mA
Operating temperature	-30 to +60 °C
Weight	0.445 kg
Dimensions	60 x 60 x 100.2 mm



OL 21 0003

OL 21 0003		OL 22 0003	
SAT input frequency	0.95 to 5.45 GHz (stacked)	0.95 to 5.45 GHz (stacked)	
TERR input frequency	88 to 108/174 to 240/ 470 to 790 MHz	88 to 108/174 to 240/ 470 to 790 MHz	
Input power	-15 to 0 dBm	-15 to 0 dBm	
Input connections	FC/PC	FC/PC	
Output	Four subscribers	Multiswitch	
Output frequency	4 x SAT + TERR.	1 x HH, 1 x VH, 1 x HL, 1 x VL, 1 x TERR.	
Output level	75 dBμV	80 dBμV	
Power supply	Receiver/ext. power supply unit, 10 to 20 V DC (optional)	Multiswitch/ext. power supply unit, 10 to 20 V DC (optional)	
Power consumption	235 mA at 10 V 1/2 and 3/4 output	490 mA at 10 V	
Dimensions	129 x 117 x 27 mm	121 x 80 x 26.5 mm	
Weight	0.325 kg	0.175 kg	



Application examples

Distribution network with up to 64 optical end points (expandable)

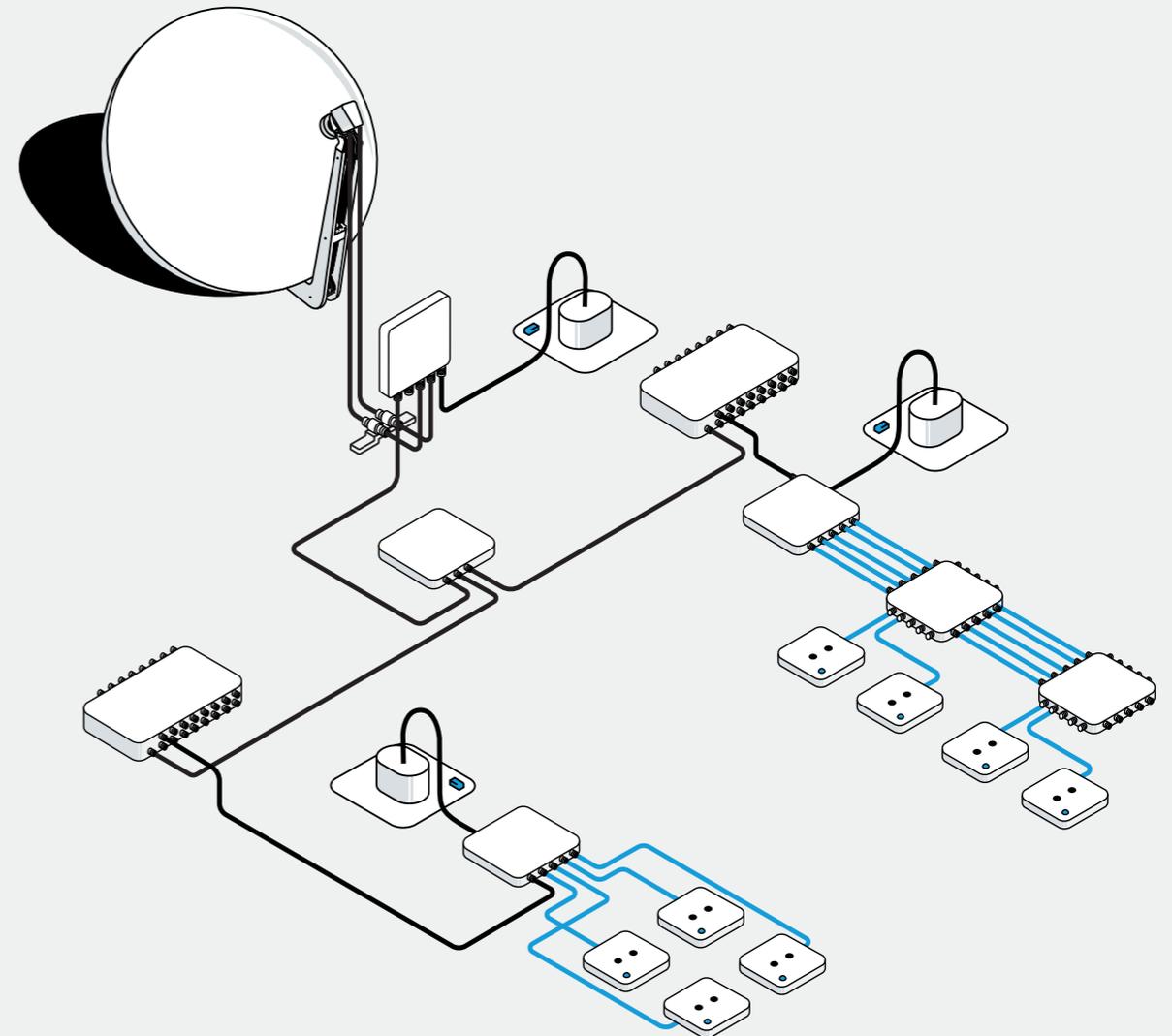
Products used

OA 85 x	SAT dish
MK 99 S	Coaxial cable
NB 02 F	Equipotential bonding block
OL 16 1310	Optical transmitter kit
OL 91 0002	Optical splitter
OL 95 1xxx	Optical cable
OL 95 2xxx	Optical cable, twin
OL 91 0032	Optical splitter
OL 21 0003	Optical converter
OL 22 0002	Optical converter
OLPS 0230	Power supply
NB 05	Grounding plate
DY 05xx	Multiswitch
DB xx	Wall outlet

Application features

- ✓ Distribution to multiple houses or floors
- ✓ Reception from a satellite
- ✓ Signal distribution via an OL 95 1xxx optical single-core cable
- ✓ For a subsequent 5-way multi-switch system, the OL 22 0002 Quattro converter with 5 outputs is used
- ✓ OL 21 0002 Quad converter for direct connection of four subscribers

Example figure



Application examples

DVB-S/S2 distribution, 1 satellite

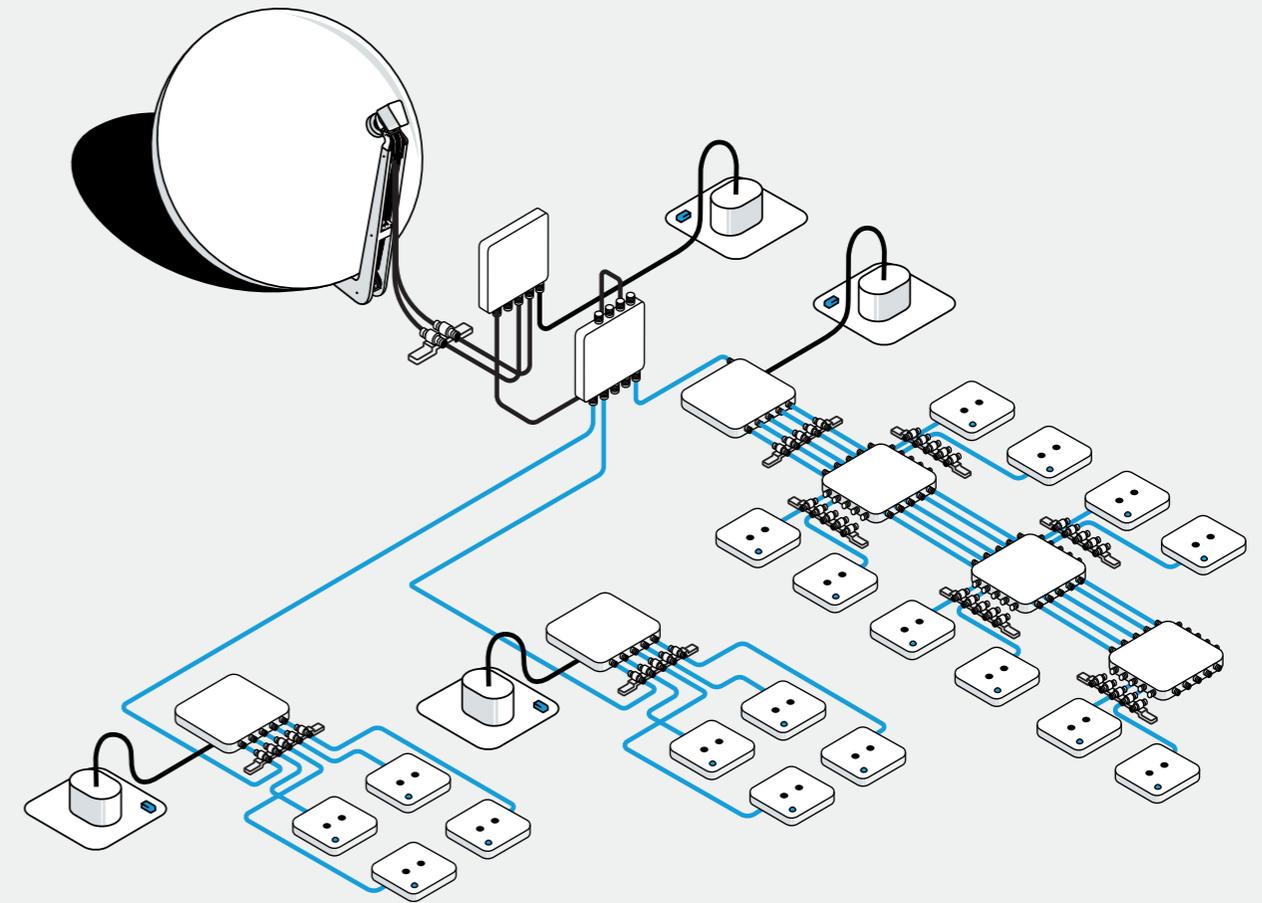
Products used

OA 85 x	SAT dish
MK 99 S	Coaxial cable
NB 02 F	Equipotential bonding block
OL 16 1310	Optical transmitter kit
OL 91 0003	Optical splitter
OL 95 1xxx	Optical cable
OL 94 0010	Optical attenuator
OL 21 0003	Optical converter
OL 22 0002	Optical converter
OLPS 0230	Power supply
NB 05	Grounding plate
DY/DRC xxxx	Multiswitch
DB xx	Wall outlet

Application features

- ✓ Distribution to multiple houses or floors
- ✓ Reception from a satellite
- ✓ Signal distribution via an OL 95 1xxx optical single-core cable
- ✓ For a subsequent 5-way multi-switch system, the OL 22 0002 Quattro converter with 5 outputs is used
- ✓ OL 21 0002 Quad converter for direct connection of four subscribers

Example figure



Application examples

DVB-S/S2 distribution, 2 satellites with Fiber Switch

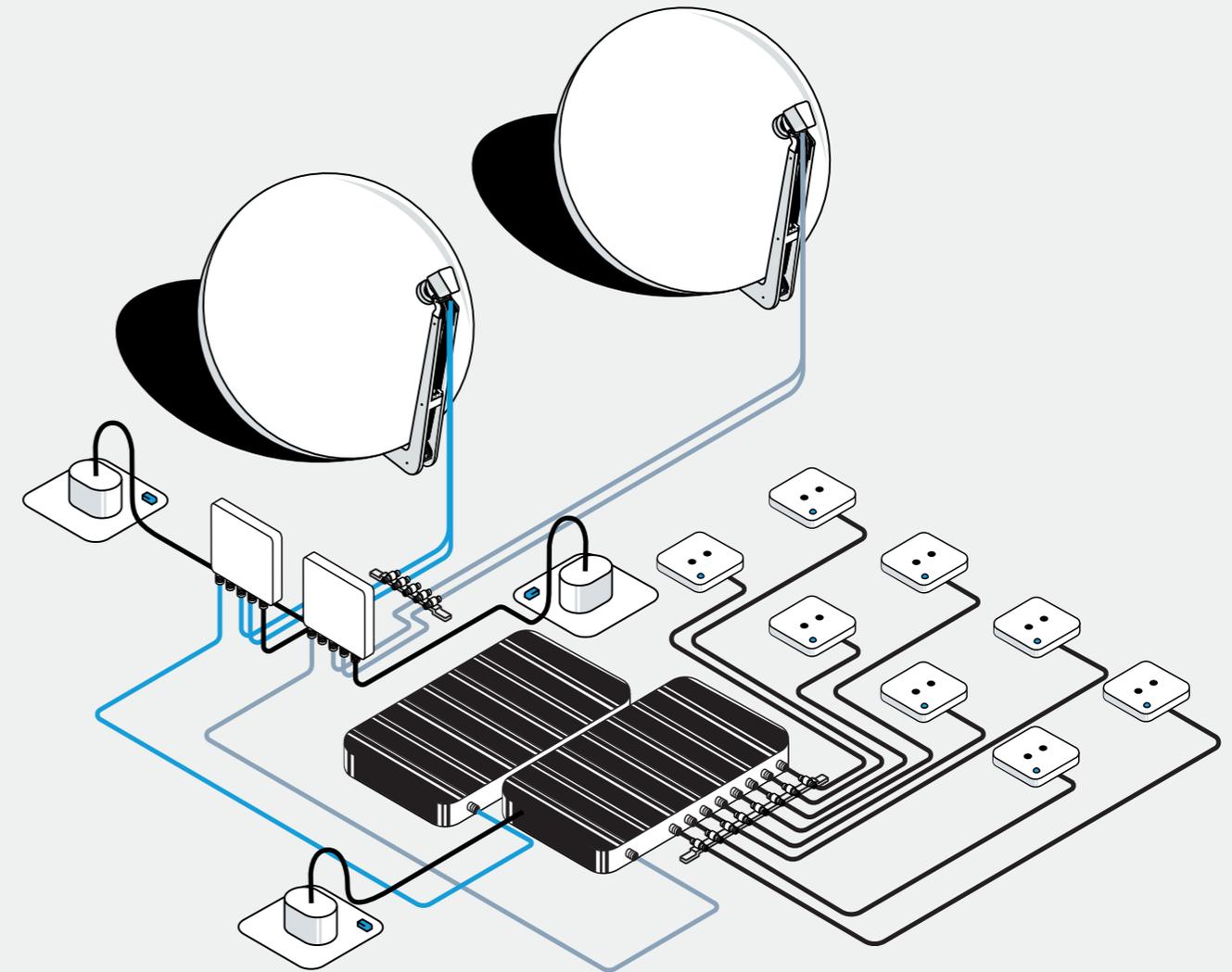
Products used

OA 85 x	SAT dish
MK 99 S	Coaxial cable
NB 05	Equipotential bonding block
OL 16 1310	Optical transmitter kit
OL 94 0010	Optical attenuator
OL 95 1xxx	Optical cable
OL 41 0008	Converter/multiswitch (Fiber Switch)
OL 42 0008	Converter/multiswitch (Fiber Switch)
NB 09	Equipotential bonding block
DB xx	Wall outlet

Application features

- ✓ Distribution to multiple houses or floors
- ✓ Reception from two satellites or two satellites and terrestrial
- ✓ Terrestrial feed-in via OL 16 1310 distribution package
- ✓ Signal distribution via an OL 95 2xxx optical twin-core cable
- ✓ Fiber Switch for small projects with up to 16 subscribers
- ✓ Can be easily upgraded for additional satellites

Example figure



Application examples

DVB-S/S2 distribution, 2 satellites

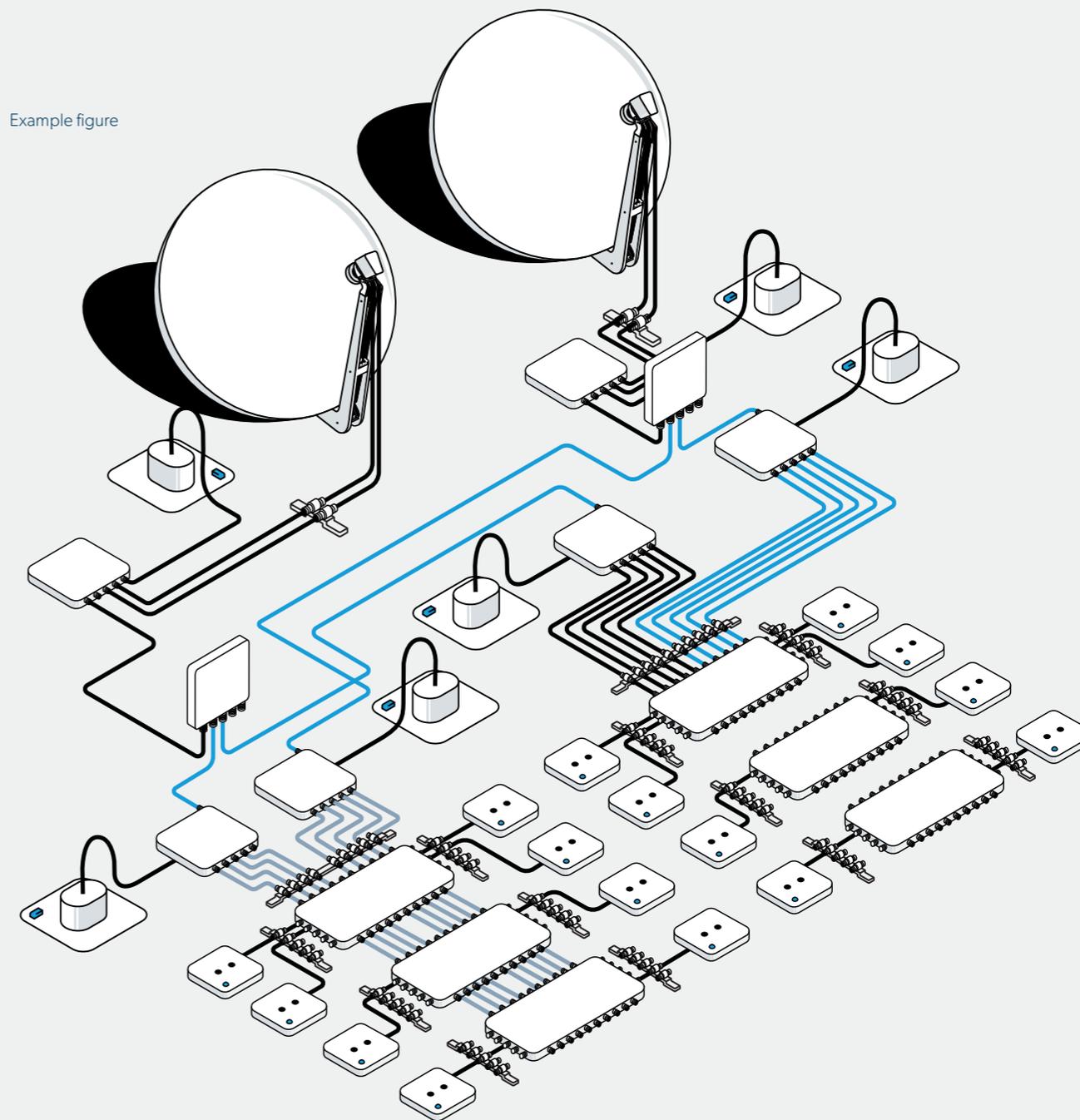
Products used

OA 85 x	SAT dish
MK 99 S	Coaxial cable
NB 02 F	Equipotential bonding block
OL 16 1310	Optical transmitter kit
OL 91 0002	Optical splitter
OL 95 2xxx	Optical cable, twin
OL 94 0005	Optical attenuator
OL 95 1xxx	Optical cable
OL 22 0003	Converter
OLPS 0230	Power supply
NB 09	Equipotential bonding block
DY 09 xxxx	Multiswitch
NB 05	Equipotential bonding block
DB xx	Wall outlet

Application features

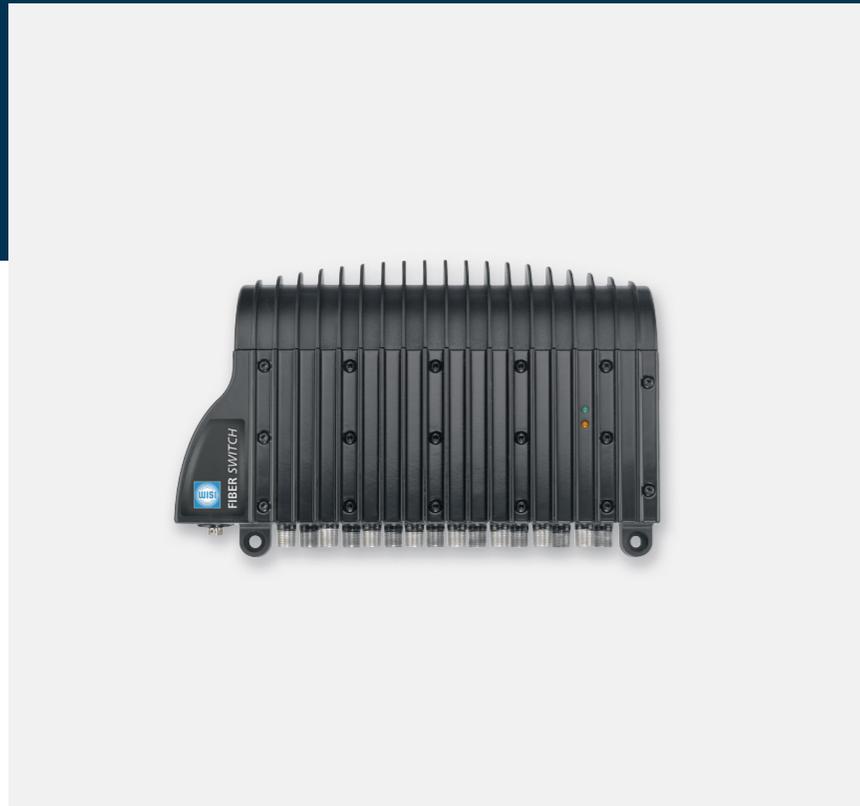
- ✓ Distribution to multiple houses or floors
- ✓ Reception from two satellites or two satellites and terrestrial
- ✓ Terrestrial feed-in via OL 16 1310 distribution package
- ✓ Signal distribution via an OL 95 2xxx optical twin-core cable
- ✓ For a subsequent 9-way multi-switch system, two OL 22 0003 Quattro converters are used
- ✓ Can be easily upgraded for additional satellites

Example figure



Overview Fiber Switch

Multiswitch with direct optical input



OL 41 0008

Basic multiswitch

Features

Multiswitch with optical input
8 or 16 subscriber outputs
Can be easily expanded to up to four satellites
The number of satellites is cascaded, not the number of subscribers
Power supply via integrated power supply unit
Conversion of SAT, DVB-T/T2, DAB and FM



OL 41 0016

Basic multiswitch

Features

Multiswitch with optical input
8 or 16 subscriber outputs
Can be easily expanded to up to four satellites
The number of satellites is cascaded, not the number of subscribers
Power supply via integrated power supply unit
Conversion of SAT, DVB-T/T2, DAB and FM



OL 42 0008

Expansion multiswitch

Features

Multiswitch with optical input
8 or 16 subscriber outputs
Can be easily expanded to up to four satellites
The number of satellites is cascaded, not the number of subscribers
Power supply via the basic unit
Conversion of SAT, DVB-T/T2, DAB and FM



OL 42 0016

Expansion multiswitch

Features

Multiswitch with optical input
8 or 16 subscriber outputs
Can be easily expanded to up to four satellites
The number of satellites is cascaded, not the number of subscribers
Power supply via the basic unit
Conversion of SAT, DVB-T/T2, DAB and FM

Overview

Technical specifications



OL 41 0008

OL 41 0016

Input wavelengths	1100 to 1650 nm	1100 to 1650 nm
Input power	-14 to -3 dBm	-14 to -3 dBm
Optical connection	FC/PC	FC/PC
SAT input frequency	0.95 to 5.45 GHz	0.95 to 5.45 GHz
TERR input frequency	88 to 108/174 to 240/470 to 790 MHz	88 to 108/174 to 240/470 to 790 MHz
Output power	SAT: 80 dB μ V/TERR: 70 dB μ V	SAT: 80 dB μ V/TERR: 70 dB μ V
Power supply	11 to 20 V DC, 1.2 A with four satellites	11 to 20 V DC, 1.2 A with four satellites

OL 42 0008

OL 42 0016

Input wavelengths	1100 to 1650 nm	1100 to 1650 nm
Input power	-14 to -3 dBm	-14 to -3 dBm
Optical connection	FC/PC	FC/PC
SAT input frequency	0.95 to 5.45 GHz	0.95 to 5.45 GHz
TERR input frequency	88 to 108/174 to 240/470 to 790 MHz	88 to 108/174 to 240/470 to 790 MHz
Output power	SAT: 80 dB μ V/TERR: 70 dB μ V	SAT: 80 dB μ V/TERR: 70 dB μ V
Power supply	11 to 20 V DC, 1.2 A with four satellites	11 to 20 V DC, 1.2 A with four satellites

Overview

Optical distributor, symmetrical



OL 91 0002

Optical 2-way splitter

Features

3.6 dB attenuation

FC/PC connections



OL 91 0003

Optical 3-way splitter

Features

5.8 dB attenuation

FC/PC connections



OL 91 0004

Optical 4-way splitter

Features

7 dB attenuation

FC/PC connections



OL 91 0008

Optical 8-way splitter

Features

10.2 dB attenuation

FC/PC connections

OL 91 0016, optical 16-way splitter

13.6 dB attenuation

FC/PC connections

OL 91 0032, optical 32-way splitter

16.8 dB attenuation

FC/PC connections

Overview

Optical distributor, asymmetrical



OL 92 0010

Optical 2-way splitter

Features

Coupling factor 90/10

0.9/10.6 dB attenuation

FC/PC connections



OL 92 0020

Optical 80/20 splitter

Features

Coupling factor 80/20

1.5/7.6 dB attenuation

FC/PC connections



OL 92 0030

Optical 70/30 splitter

Features

Coupling factor 70/30

2.1/5.8 dB attenuation

FC/PC connections



OL 92 0040

Optical 60/40 splitter

Features

Coupling factor 60/40

2.6/4.4 dB attenuation

FC/PC connections

Overview

Optical cable for indoor use



OL 95 1xxx

Mono-mode fibre-optic cable, one fibre

Features

FC/PC connections

LSZH compliant

Cable type G657A

Bending radius >30 mm

Available lengths

Type	Length
OL 95 1001	1 m
OL 95 1003	3 m
OL 95 1005	5 m
OL 95 1010	10 m
OL 95 1015	15 m
OL 95 1020	20 m
OL 95 1030	30 m
OL 95 1040	40 m
OL 95 1050	50 m

Type	Length
OL 95 1075	75 m
OL 95 1100	100 m
OL 95 1150	150 m
OL 95 1200	200 m

Overview

Optical cable for outdoor use



OL 95 2xxx

Mono-mode fiber-optic cable,
two fibers

Features

FC/PC connections
Suitable for underground installation
PE sheath
5.9 mm cable diameter

Available lengths

Type	Length
OL 95 2030	30 m
OL 95 2040	40 m
OL 95 2050	50 m
OL 95 2075	75 m
OL 95 2100	100 m
OL 95 2150	150 m
OL 95 2200	200 m

*on request

Type	Length
OL 95 3300*	300 m
	Mono-mode fiber-optic cable with four fibres

Overview

Optical test transmitter



OL 51 0000

Signal source for test measurements

Features

Automatic shut-down function

LCD lighting for work in poorly lit spaces

Easy to handle thanks to the compact dimensions of the device

Easy to operate with three buttons

Overview

Optical test receiver



OL 55 0000

Attenuation measurement for an optical distribution section

Features

Automatic shut-down function

LCD lighting for work in poorly lit spaces

Easy to handle thanks to the compact dimensions of the device

Zero calibration possible for reference measurements

Overview

Technical specifications



OL 51 0000

Output	
Wavelengths	1310 nm, 1550 nm
Output power	typically -7 dBm
Optical connection	FC/PC, SC/PC
Power supply	3 x AA 1.5 V batteries; power supply unit
Battery life	45 h
Operating temperature	-10 to +60 °C
Storage temperature	-25 to +70 °C
Dimensions (L x W x H)	190 x 100 x 50 mm
Weight	0.37 kg



OL 55 0000

Input	
Wavelengths	850, 1300, 1310, 1490, 1550, 1625 nm
Measuring range	-50 to +30 dBm
Resolution	0.01 dB
Optical connection	FC/PC, SC/PC
Power supply	3 x AA 1.5 V batteries; power supply unit
Battery life	140 h
Operating temperature	-10 to +60 °C
Storage temperature	-25 to +70 °C
Dimensions (L x W x H)	190 x 100 x 50 mm
Weight	0.37 kg

Accessories

Optical attenuators



OL 94 0005

5 dB optical attenuator

Features

FC/PC connectors

OL 94 0010

10 dB optical attenuator

Features

FC/PC connectors

OL 94 0015

15 dB optical attenuator

Features

FC/PC connectors

Accessories

Adapters



OL 93 0001

FC/PC > FC/PC adapters

Features

-
-
-
-
-



OL 93 0002

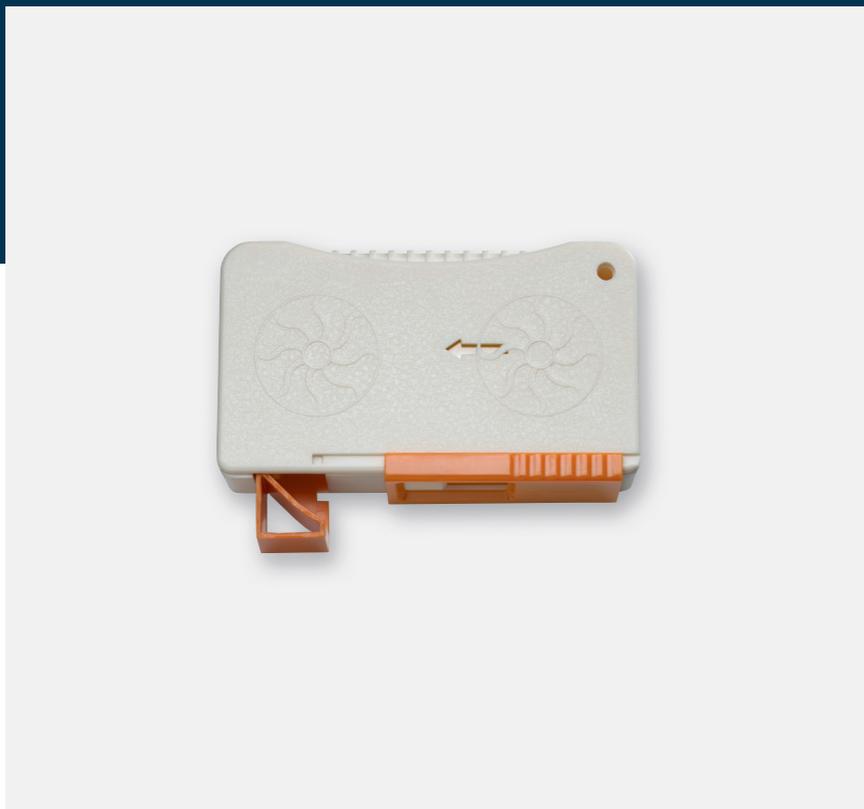
FC/PC > FC/PC adapters

Features

-
-
-
-
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Accessories

Cleaning products



OL 57 0002

Cleaning cassette

Features

Perfect for cleaning the front surfaces of plugs

500 cleaning procedures

Lockable work surfaces



OL 57 0003

Replacement roller

Features

Replacement roller suitable for the OL 57 0002 cleaning cassette

500 cleaning procedures



OL 57 0001

Cleaning pen

Features

2.5 mm diameter

Can be used to clean plugs and sockets

800 cleaning procedures

