



Optical SAT Distribution OL series



SAT over fiber – unlimited distribution through optical fiber

Our new OL series is nothing short of a revolution in both SAT reception and conventional distribution technology.

The optical transmission of satellite, terrestrial, and radio signals is especially compelling...

- in projects where the digital signals are centrally received for the distribution to an almost unlimited number of subscribers.
- in extensive structures where signal strength and quality must not be compromised.
- due to efficient and cost-oriented fitting. Optical cables can be installed faster and save more space while being more cost-efficient than a similar installation with coaxial cables.

Advantages of optical SAT

- Galvanic isolation of wings / buildings
- Low interference liability
- Future-proof - High flexibility
- Low loss over longer distances
- Efficient and clean installation
- Low-Smoke-Zero-Halogen-compliant (LSZH)
- Reception of all transponders from one satellite
- A single reception system for hundreds of subscribers
- Aesthetic appearance of buildings with only one central receiving aerial
- A single optical cable replaces several coaxial cables
- Considerable cost reduction compared to alternative solutions (channel processing)



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The WISI system.

Optical LNB
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Optical splitter
Monomode fiber cable

SAT signal distribution over optical fiber

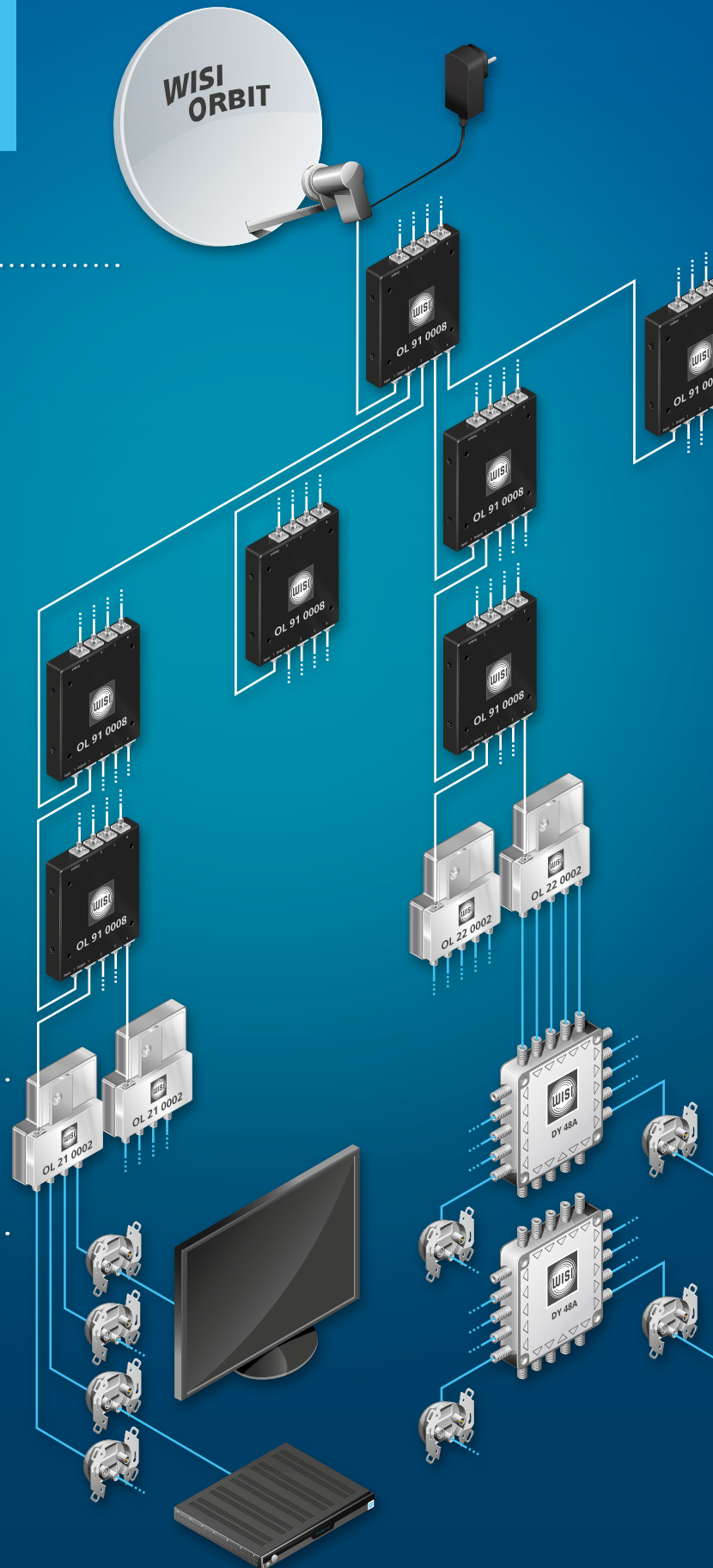
The concept

The concept of optical transmission of SAT signals is as ingenious as it is simple: A special LNB converts SAT signals into optical signals directly at the dish antenna. The optical signal is distributed to the designated termination points via monomode fiber cable assembly and suitable splitters. Connected back converters change the light impulses back into the original IF signals.

The use of quad back converters allows you to connect up to four end devices. The quattro version is used for an advanced multiswitch system.

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Optical converter

.....
Subscribers SAT reception

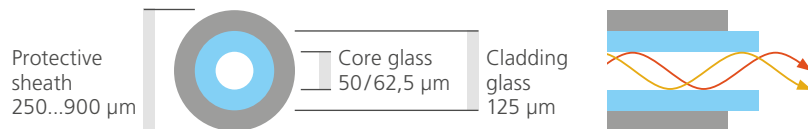


The structure of optical cables

Optical cables are used in the telecommunication sector to transmit a high amount of information over great distances.

The WISI OL system uses monomode fiber cable exclusively. The advantages of this technology are extremely low attenuation values (~ 0.3 dB/km), negligible runtime delays, and a minimal bending radius.

Multimode optical fiber

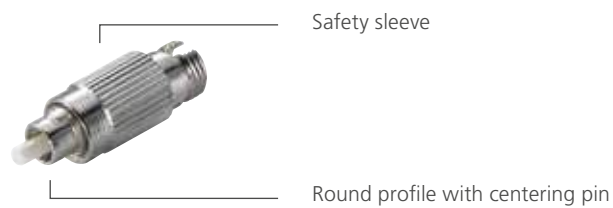


Monomode optical fiber



FC/PC connector

The WISI OL 95 optical fibers are fitted with FC/PC connectors. The centering pin of the connector prevents overbolting.



Advantages of optical fibers:

- Very high range due to low attenuation
- Galvanic isolation
- No interferences by electro-magnetic fields
- Low-Smoke-Zero-Halogen-compliant (LSZH)
- Cable assembly up to a length of 200m (additional lengths available on request)
- Special cables with PE outer sheath suitable for direct buried installation

LNB with optical output

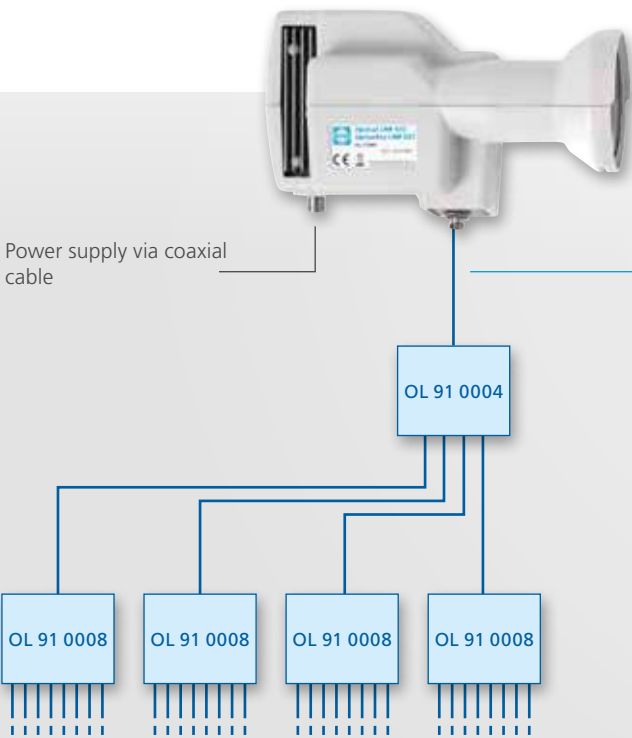
OL 12 0000 for up to 64 optical termination points

At a glance:

- Conversion of four SAT polarizations in one optical output signal
- Distribution over singlemode fiber optic cable
- Feed diameter 40 mm
- Powered by delivery included power supply
- FC/PC-Connector
- OL 12 000 for twice the number of optical termination points

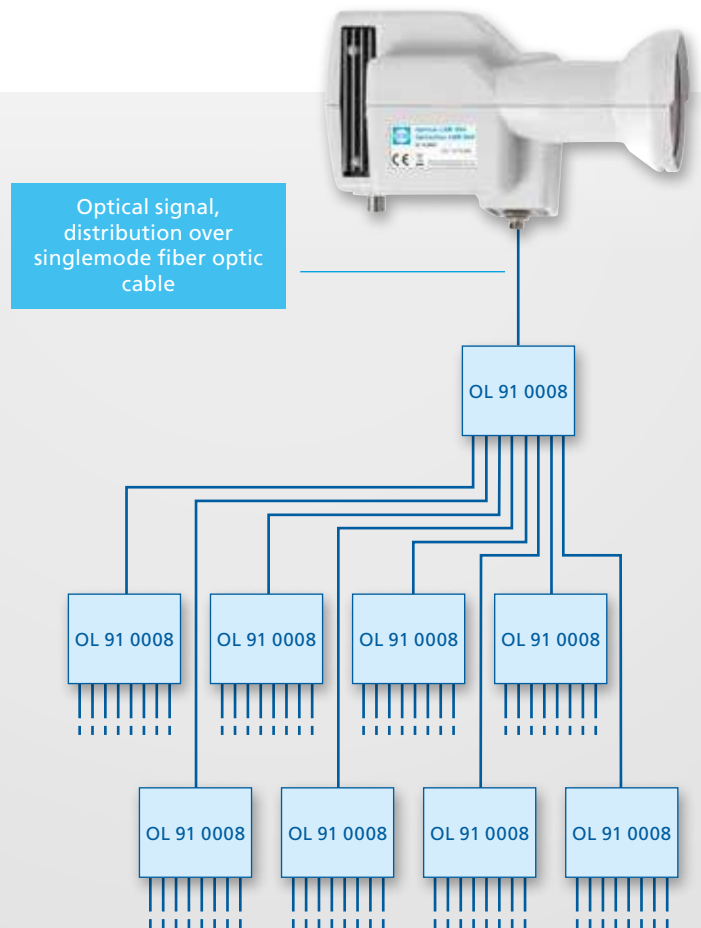
OL 11 0000

for up to 32 optical back converters



OL 12 0000

for up to 64 optical back converters



Type	OL 11 0000
Input frequency	10,7 ... 12,75 GHz
Frequency range output	vertical: 0,95 ... 3,0 GHz (stacked) horizontal: 3,4 ... 5,45 GHz (stacked)
Optical Output	
Wave length	1310 nm
Output power	+7 dBm
Noise figure	typ. 0,5 dB
Supply voltage	12 V DC, F-connector <450 mA

Type	OL 12 0000
Input frequency	10,7 ... 12,75 GHz
Frequency range Output	vertical: 0,95 ... 3,0 GHz (stacked) horizontal: 3,4 ... 5,45 GHz (stacked)
Optical Output	
Wave length	1310 nm
Output power	+7 dBm
Noise figure	typ. 0,5 dB
Supply voltage	12 V DC, F-connector <450 mA

Optical converter

Quad converter, quattro converter

At a glance:

- Back conversion of the optical signal into original frequency position
- Power supply by the subsequently connected devices or optional 20 V DC power supply (OLPS 0230)
- FC/PC-Connector
- OL 2x 0003 in a small and installation friendly housing
- OL 2x 0002 with low power consumption for power supply-free multiswitch installations

Optional power supply

OLPS 0230

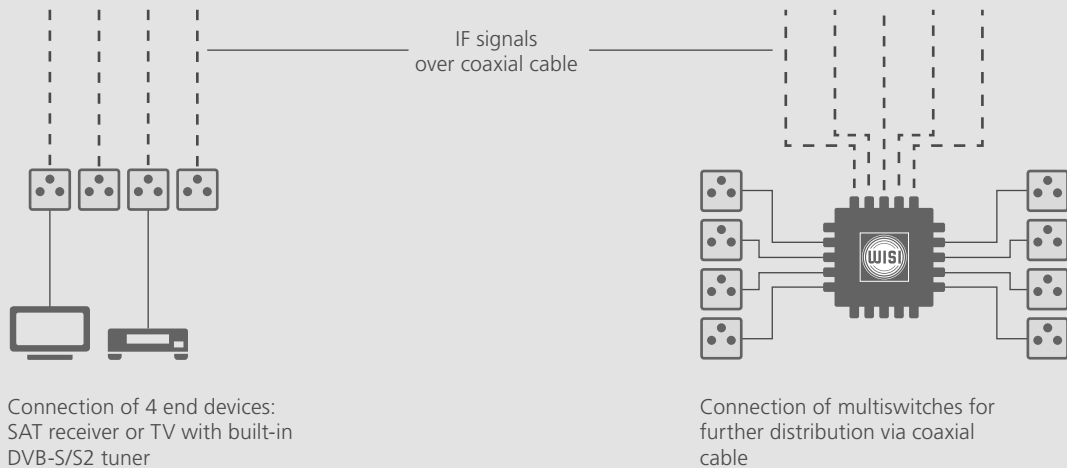
- Operating voltage 230 V AC, 50/60 Hz
- Output voltage 20 V DC
- Output current 1,2 A short-circuit proof

OL 21 0003
Quad converter

OL 21 0002
Quad converter

OL 22 0003
Quattro converter

OL 22 0002
Quattro converter



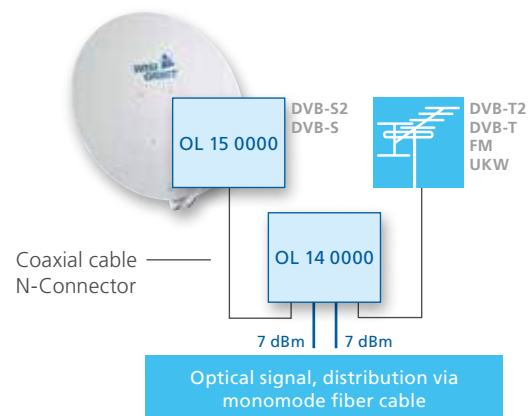
Type	OL 21 0003	OL 21 0002	OL 22 0003	OL 22 0002
Input frequency SAT	0,95 ... 5,45 GHz (stacked)	0,95 ... 5,45 GHz (stacked)	0,95 ... 5,45 GHz (stacked)	0,95 ... 5,45 GHz (stacked)
Input frequency TERR	88 ... 108/174 ... 240/ 470 ... 790 MHz	88 ... 108/174 ... 240/ 470 ... 862 MHz	88 ... 108/174 ... 240/ 470 ... 790 MHz	88 ... 108/174 ... 240/ 470 ... 862 MHz
Input power	-15 ... 0 dBm	-15 ... 0 dBm	-15 ... 0 dBm	-15 ... 0 dBm
Connectors input	FC/PC	FC/PC	FC/PC	FC/PC
Output	4 subscriber	4 subscriber	multiswitch	multiswitch
Output frequency	4 x SAT + TERR.	4 x SAT + TERR.	1 x HH, 1 x VH, 1 x HL, 1 x VL, 1 x TERR.	1 x HH, 1 x VH, 1 x HL, 1 x VL, 1 x TERR.
Output power	75 dBµV	70 dBµV	80 dBµV	75 dBµV
Supply voltage	receiver / ext. power supply 10 ... 20 V DC (optional)	receiver / ext. power supply 10 ... 20 V DC (optional)	multiswitch / ext. power supply 10 ... 20 V DC (opt.)	multiswitch / ext. power supply 10 ... 20 V DC (opt.)
Current consumption	235 mA @ 10 V output 1/2 235 mA @ 10 V output 3/4	220 mA @ 10 V	490 mA @ 10 V	210 mA @ 10 V

Package for terrestrial feeding

OL 13 0000 for DVB-S/S2, DVB-T/T2, DAB and FM

At a glance:

- Kit contains the wholeband LNB, interconnection cable and electrical/optical converter
- The electrical/optical converter OL 14 0000 converts the SAT signal of the feeding system OL 15 0000 into an optical signal
- Parallel distribution of DVB-T/T2, DAB and FM
- Electrical/optical converter with 2 outputs, each with +7dBm power



OL 15 0000

N type wholeband LNB



- Application with OL 14 0000
- LNB powering by OL 14 0000
- 4 SAT polarizations in one output

OL 14 0000

Electrical/optical converter



- Converts IF signals of the feeding system OL 15 0000 into optical signals
- Powering of OL 15 0000
- Additional insertion of DVB-T/T2, DAB and FM at the terrestrial input
- Two independent optical outputs
- Power supply included in delivery
- Antenna pipe installation possible (Included in delivery)

Type	OL 15 0000
Input frequency	10,7 ... 12,75 GHz
Output frequency	950 ... 5450 MHz
Noise figure	typ. 0,7 dB
Impedance	50 Ohm
Supply voltage	5,2 V DC

Type	OL 14 0000
Input	
Frequency range SAT	950 ... 5450 MHz
Frequency range DVB-T	470 ... 862 MHz
Frequency range DAB	174 ... 240 MHz
Frequency range FM	88 ... 108 MHz
Level range	67 ... 97 dBµV
Connector SAT	N
Connector DVB-T, DAB, FM	F
Output	
Wave length	1310 nm
Optical power	7 dBm/Output
Connector	FC/PC
General data	
Supply voltage	20 V DC
Current consumption	< 500 mA, incl. LNB
Operating temperature	-10 ... +50° C



OL 82 0002

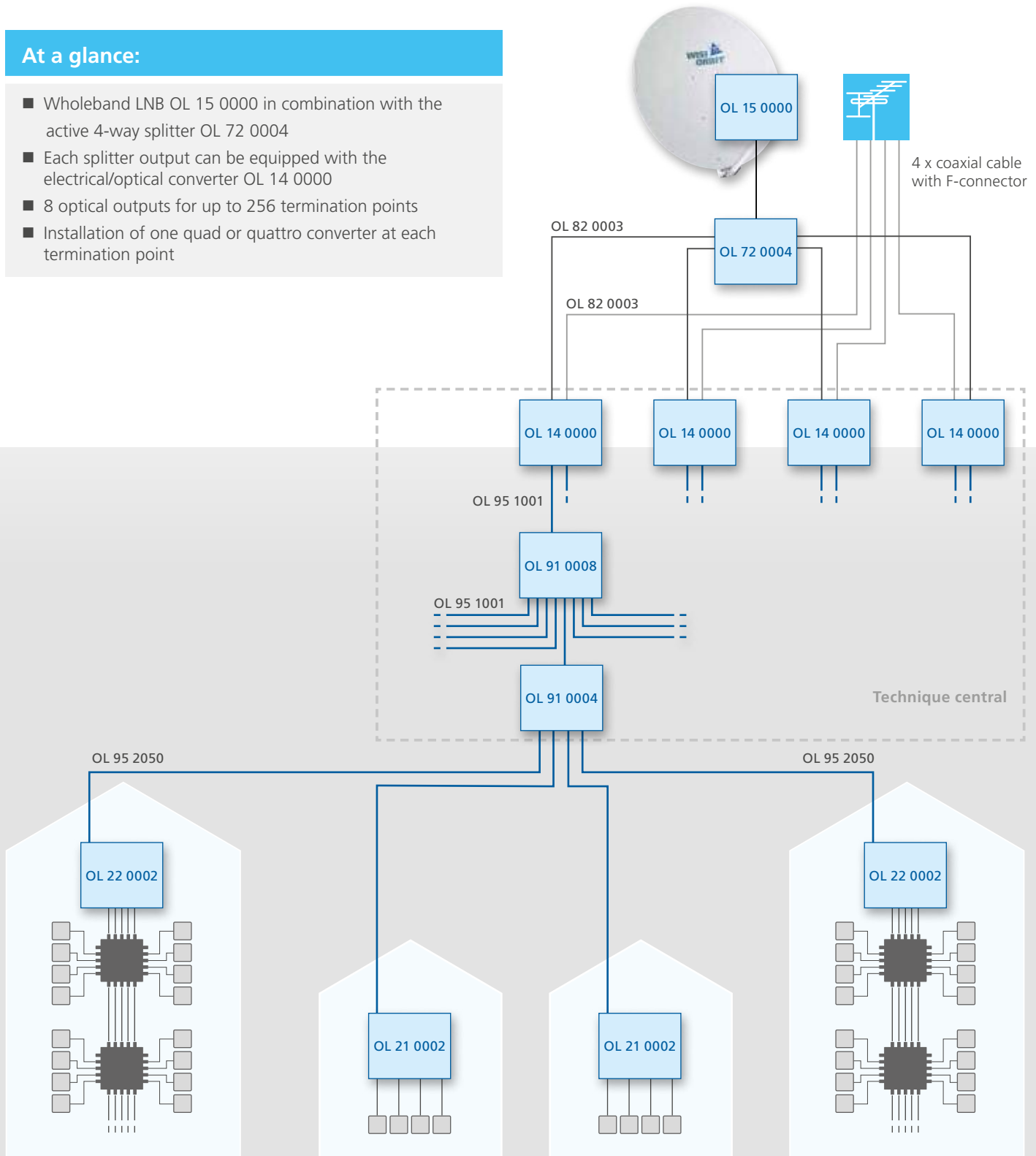
- N-interconnection cable to connect the wholeband LNB and the electrical-optical converter
- Length 2 m (for additional lengths see page 15)

Installation example

Distribution network for up to 256 optical termination points

At a glance:

- Wholeband LNB OL 15 0000 in combination with the active 4-way splitter OL 72 0004
- Each splitter output can be equipped with the electrical/optical converter OL 14 0000
- 8 optical outputs for up to 256 termination points
- Installation of one quad or quattro converter at each termination point



SAT reflector

- OA 85

IF splitter

- OL 72 0004

Electical/optical converter

- OL 14 0000

Optical cable

- OL 95 1001
- OL 95 2050

Feed system / LNB

- OL 15 0000

N-patch cable

- OL 82 0003

Optical splitter

- OL 91 0004
- OL 91 0008

Optical converter

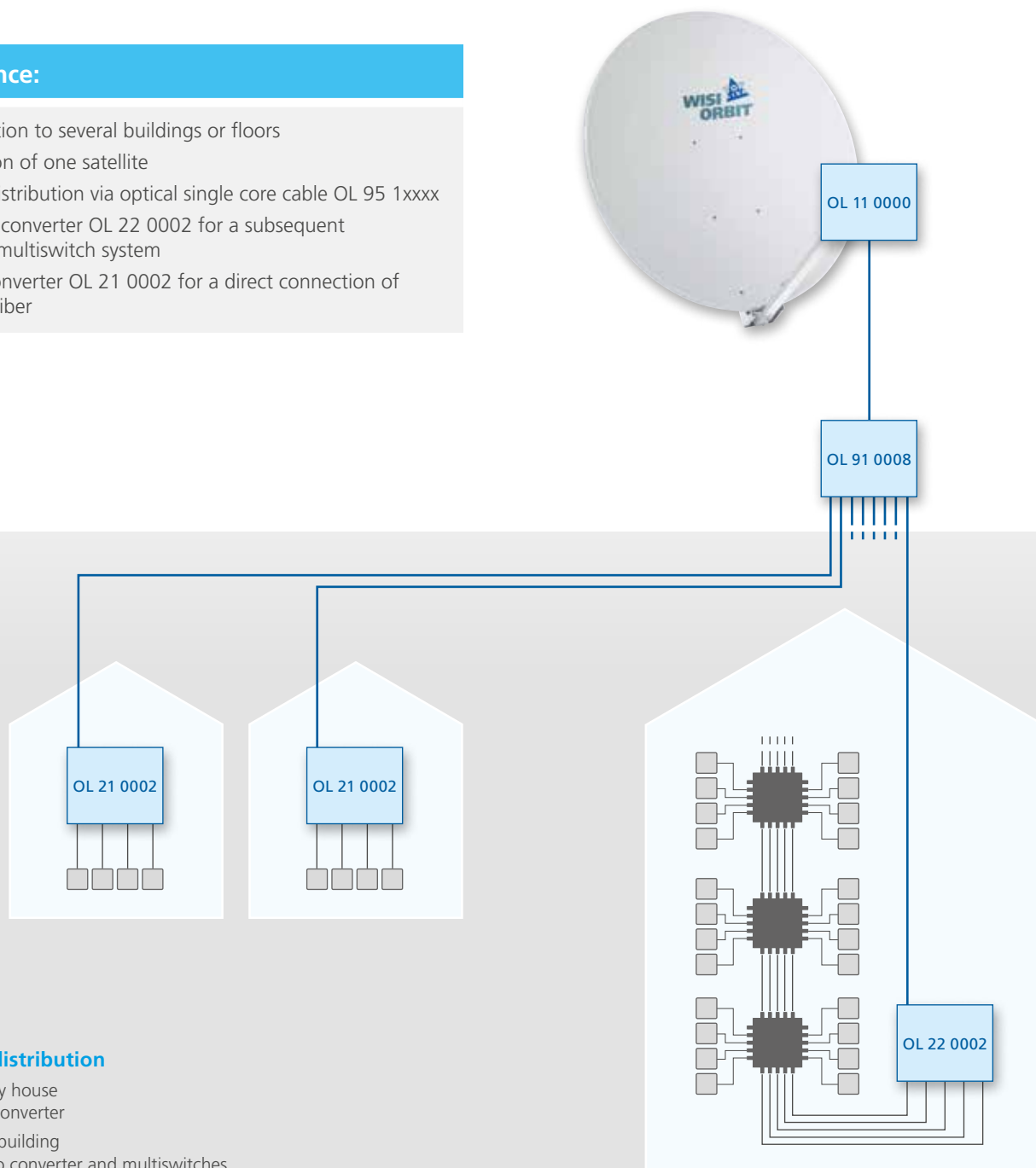
- OL 21 0002
- OL 22 0002

Installation example

DVB-S/S2 distribution, 1 satellite

At a glance:

- Distribution to several buildings or floors
- Reception of one satellite
- Signal distribution via optical single core cable OL 95 1xxxx
- Quattro converter OL 22 0002 for a subsequent 5 input multiswitch system
- Quad converter OL 21 0002 for a direct connection of 4 subscriber



Horizontal distribution

- Single family house with quad converter
- Apartment building with quattro converter and multiswitches

SAT reflector	Converter
■ OA 85	■ OL 21 0002
	■ OL 22 0002

Feed system / LNB	Optical cable
■ OL 11 0000	■ OL 95 1050

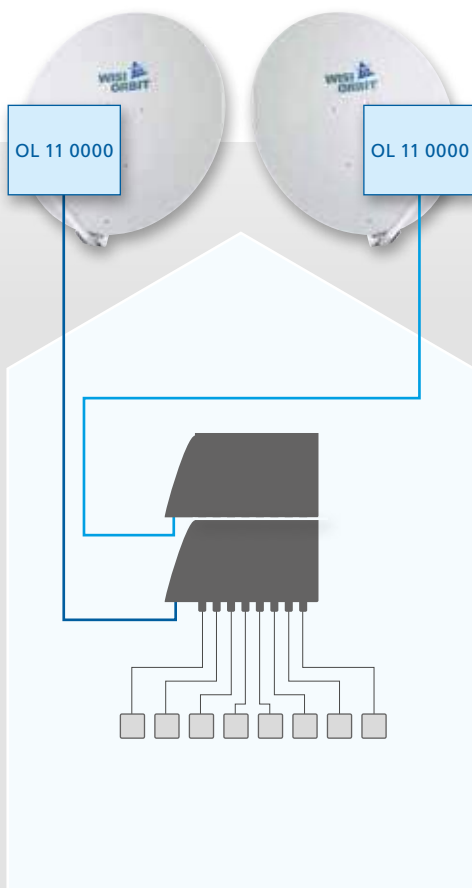
Optical splitter
■ OL 91 0008

Installation example

DVB-S/S2 distribution, 2 satellites

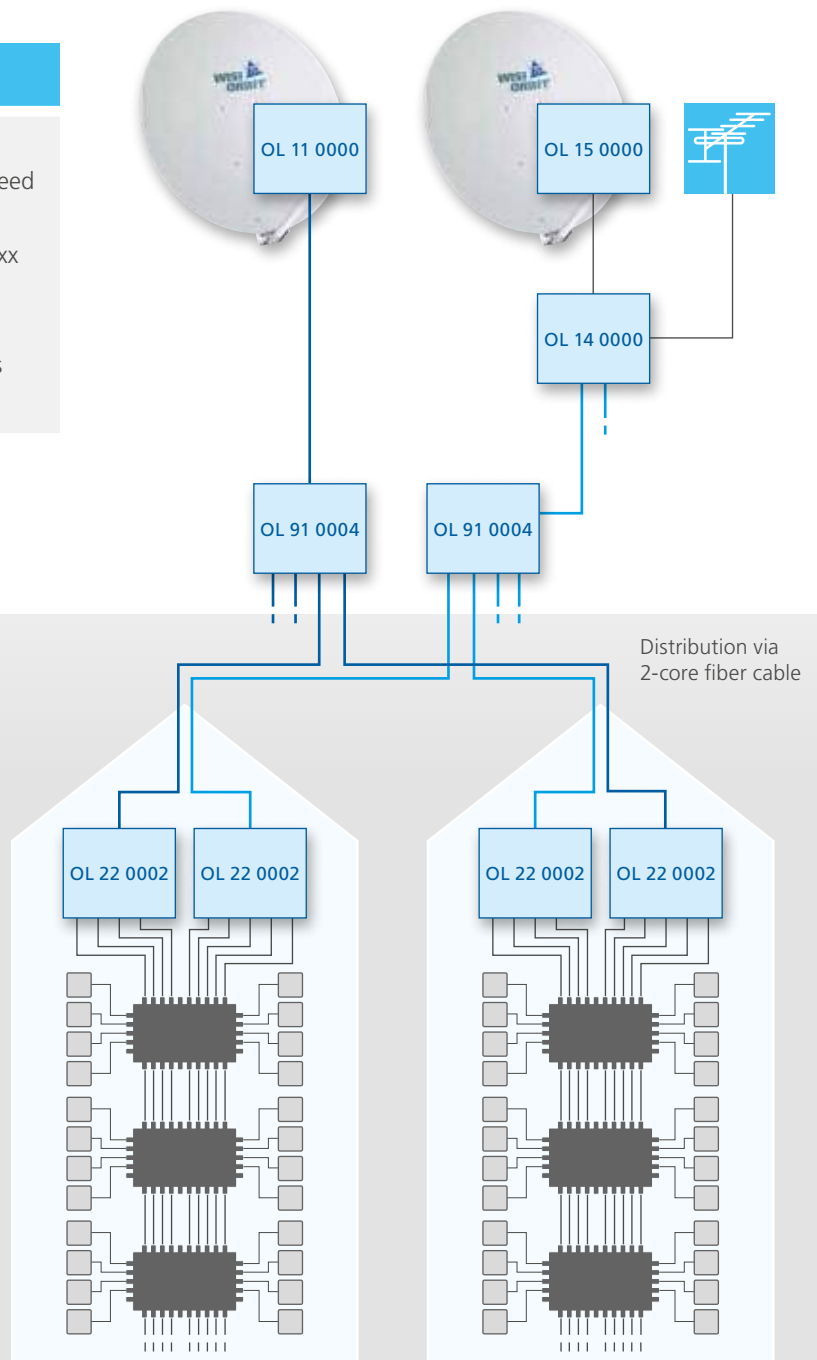
At a glance:

- Distribution to several buildings or floors
- Reception of 2 satellites or 2 satellites and a terrestrial feed
- Terrestrial feed via distribution kit OL 13 0000
- Signal distribution via optical twin core cable OL 95 2xxxx
- 2 quattro converters OL 22 0002 are used for a subsequent 9 input multiswitch system
- Fiber Switch for small projects with up to 16 subscribers
- Easy extension with further satellites



Reception of two satellites, e.g. for apartment buildings

- Fiber Switch: Multiswitches with a direct optical input for 8 or 16 subscribers
- Up to 4 satellites cascadable



Reception of two satellites and terrestrial feed e.g. apartment buildings

- Continuing multiswitch cascade after the external down converters

SAT reflector	Optical cable
■ OA 85	■ OL 95 1030

Feed system/LNB
■ OL 11 0000

Converter/multiswitch
■ OL 41 0016 ■ OL 42 0016

SAT reflector	Optical cable
■ OA 85	■ OL 95 2050

Feed system/LNB
■ OL 11 0000 ■ OL 13 0000

Converter	Optical splitter
■ OL 22 0002	■ OL 91 0004

Product overview

FIBER SWITCH

Multiswitch with direct optical input

At a glance:

- Multiswitch with optical input
- 8 or 16 subscriber outputs
- Easy extension for up to 4 satellites possible
- Number of satellites will be cascaded, not number of subscribers
- Power supply via connected basic unit
- Conversion of DVB-S/S2, DVB-T/T2, DAB and FM

FIBER SWITCH

Input wave length	1100 ... 1650 nm
Input power	-14 ... -3 dBm
Optical connector	FC/PC
Input frequency SAT	0,95 ... 5,45 GHz
Input frequency TERR.	88 ... 108/174 ... 240/470 ... 790 MHz
Output power	SAT: 80 dBµV/TERR: 70 dBµV
Supply voltage	11 ... 20 V DC, 1,2 A at 4 satellite

OL 41 0008 / OL 41 0016

Basic multiswitch



- Subscriber outputs: 8/16
- Power supply included in delivery

OL 42 0008 / OL 42 0016

Extension multiswitch



- Subscriber outputs: 8/16
- Power supply via the connected basic unit

OPTICAL SPLITTER symmetric

OL 91 0002

2-way



- 3,6 dB insertion loss
- FC/PC connectors

OL 91 0003

3-way



- 5,8 dB insertion loss
- FC/PC connectors

OL 91 0004

4-way



- 7 dB insertion loss
- FC/PC connectors

OL 91 0008

8-way



- 10,2 dB insertion loss
- FC/PC connectors

Also available:

OL 91 0016, 16-way

- 13,6 dB insertion loss
- FC/PC connectors

OL 91 0032, 32-way

- 16,8 dB insertion loss
- FC/PC connectors

OPTICAL SPLITTER asymmetrical



OL 92 0010

- Coupling ratio 90/10
- 0,9/10,6 dB insertion loss
- FC/PC connectors

OL 92 0020

- Coupling ratio 80/20
- 1,5/7,6 dB insertion loss
- FC/PC connectors

OL 92 0030

- Coupling ratio 70/30
- 2,1/5,8 dB insertion loss
- FC/PC connectors

OL 92 0040

- Coupling ratio 60/40
- 2,6/4,4 dB insertion loss
- FC/PC connectors

OPTICAL CABLE for indoor installation

OL 95 1001 to OL 95 1200

Monomode fiber cable, 1 fiber



- FC/PC connectors
- LSZH compliant
- Cable type G657A
- Bending radius > 30 mm

Available lengths

- 1 m, OL 95 1001
- 3 m, OL 95 1003
- 5 m, OL 95 1005
- 10 m, OL 95 1010

- 15 m, OL 95 1015
- 20 m, OL 95 1020
- 30 m, OL 95 1030
- 40 m, OL 95 1040
- 50 m, OL 95 1050

- 75 m, OL 95 1075
- 100 m, OL 95 1100
- 150 m, OL 95 1150
- 200 m, OL 95 1200

OPTICAL CABLE for outdoor use

OL 95 2030 to OL 95 2200

Monomode fiber cable, 2 fibers



- FC/PC connectors
- Suitable for direct burial
- PE-sheath
- 5,9 mm cable diameter

Available lengths

- 30 m, OL 95 2030
- 40 m, OL 95 2040
- 50 m, OL 95 2050

- 75 m, OL 95 2075
- 100 m, OL 95 2100
- 150 m, OL 95 2150
- 200 m, OL 95 2200

On demand:

300 m, OL 95 3300
Monomode fiber cable with 4 fibers

Product overview

OPTICAL TEST TRANSMITTER

At a glance:

- Automatic switch-off functionality
- Illuminated LCD for handling in dark environments
- Convenient use thanks to the compact design
- Easy to use with only three buttons
- Power supply and carry bag included in delivery

OPTICAL MEASUREMENT DEVICE

At a glance:

- Automatic switch-off functionality
- Illuminated LCD for handling in dark environments
- Convenient use thanks to the compact design
- Null-offset calibration for reference measurements
- Power supply and carry bag included in delivery

OL 51 0000

Signal source for test measurements



OL 55 0000

Attenuation measurement of an optical network



Type	OL 51 0000
Output	
Wave length	1310 nm, 1550 nm
Output power	typ. -7 dBm
Optical connector	FC/PC, SC/PC
Supply voltage	3 x AA 1,5 V battery; power supply
Battery life time	45 h
Operating temperature	-10...+60° C
Storage temperature	-25...+70° C
Dimensions (L x B x H)	190 x 100 x 50 mm
Weight	0,37 kg

Type	OL 55 0000
Input	
Wave length	850, 1300, 1310, 1490, 1550, 1625 nm
Measuring range	-50...+30 dBm
Resolution	0,01 dB
Optical connector	FC/PC, SC/PC
Supply voltage	3 x AA 1,5 V battery; power supply
Battery life time	140 h
Operating temperature	-10...+60° C
Storage temperature	-25...+70° C
Dimensions (L x B x H)	190 x 100 x 50 mm
Weight	0,37 kg

ACTIVE SPLITTER

OL 72 0004

Active 4-way splitter

- For distribution of the IF signal from the feeding system
OL 15 0000 to up to 4 electrical-optical converters OL 14 0000.

Type	OL 72 0004
Input frequency	950...5450 MHz
Insertion loss	0 dB
Impedance	50 Ohm
Connector	N
Supply voltage	6,2 V DC
Current consumption	< 230 mA
Operating temperature	-30... +65°C



N-PATCHCABLE

OL 82 Interconnection cable

Coaxial cable



- For connecting the feeding system OL 15 0000 with the active splitter OL 72 00004 and the electrical-optical converter OL 14 0000.

Available lengths:

- 2 m, OL 82 0002
- 3 m, OL 82 0003
- 5 m, OL 82 0005
- 10 m, OL 82 0010

OPTICAL ATTENUATORS

OL 94 0005

5 dB

OL 94 0010

10 dB

OL 94 0015

15 dB



- FC/PC connectors

ADAPTER

OL 93 0001

FC/PC>FC/PC-Adapter

OL 93 0002

FC/PC>SC/PC-Adapter



CLEANING UTILITIES

OL 57 0002

Cleaning cassette



- Cleaning connector surface of optical cables
- 500 cleaning cycles
- Cleaning section relockable

OL 57 0003

Replacement tape



- Cleaning reel - refill pack for OL 57 002
- 500 cleaning cycles

OL 57 0001

Cleaning pen



- 2,5 mm diameter
- Suitable for FC and SC connectors
- Cleaning connector surface of optical cables and sockets
- 800 cleaning cycles

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