

WISI LR 45 x xxxx

Optical Node 1x2x3

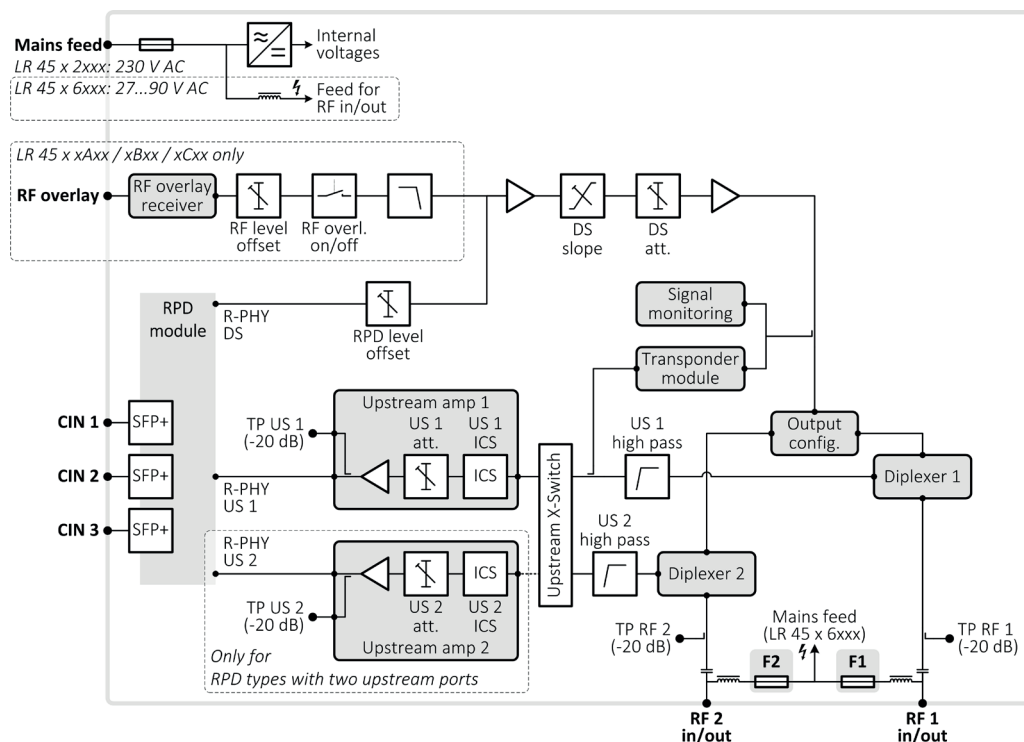
ELPAS


At a glance:

- High-speed 10-GbE throughput
- Single DS port, up to two US ports
- Superior RF performance
- Fully standard compliant with DOCSIS 3.0 and 3.1
- Precision IEEE 1588 PTP synchronization
- Deep fiber deployments with high-speed data and video
- Increase network capacity for offering future bandwidth-hungry services
- Optional RF Overlay

Description

The LR 45 Remote-PHY node is a perfect symbiosis of innovation and proven technology. Connected to high speed Ethernet backbones with up to 10 Gbps, the outstanding RF performance connects existing HFC networks to the digital core network. A frequency band of 1.2 GHz in downstream direction and up to 204 MHz in upstream direction provides the most flexible way of DOCSIS 3.1 migration scenarios. In conjunction with an automated configuration, which simplifies the mass deployment and the management of the node, it is the first choice for innovative forerunners as well as consistent operators. Additionally, the RF Overlay ensure the support for existing broadcast services.


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Technical data

Downstream

Remote PHY

Number of DOCSIS 3.0 channels 120 (Annex A), 158 (Annex B)

Number of DOCSIS 3.1 channels 6 (24...192 MHz per channel)

Number of video channels 70 (Annex A), 90 (Annex B)

RF parameters

Frequency range 85...1218 MHz (depending on diplexer)

Attenuator downstream 0...20 dB (0,5 dB steps)

Equalizer downstream 0...20 dB (0,5 dB steps)

Outputlevel 10 dB slope (121 x QAM256), (EN60728-3-1) 112 dBμV (BER <1 exp-9), (@ 2,5% OMI)

Outputlevel flat (121 x QAM256), (EN60728-3-1) 109 dBμV (BER <1 exp-9), (@ 2,5% OMI)

Flatness ±0,75 dB

Test point -20 dB

RF return loss > 18 dB (-1 dB/oct., min. 14 dB)

RF Overlay Modul

Optical input power -6...+2 dBm

Wavelength 1270...1610 nm

Noise current density <4,5 pA/√Hz

Optical return loss >40 dB

Upstream

Remote PHY

Number of DOCSIS 3.0 channels 12
(12x ATDMA, 8x ATDMA + 4x SCDMA)

Number of DOCSIS 3.1 channels 2 (6,4...92 MHz per channel)

Upstream Cluster up to 2 (see order code)

RF parameters

Frequency range 5(15)...204 MHz
(depending on diplexer)

Amplitude response ±0,5 dB

Nominal RF input level 65...90 dBμV

Attenuator upstream 0...30 dB

Test point -10 dB

Ingress Control Switch (ICS) 0/-6/-45 dB

RF return loss >18 dB (-1 dB/oct., min. 14 dB)

Interfaces

Optical connectors SC/APC, E2000, LC/APC
(see ordercode)

CIN Interface 3x SFP+ (daisy chaining possible), 10GBASE-LR, 10Gbase-ER, 10GBASE-ZR, 10G xPON

RF Interfaces 2x PG11 (75 Ohm)

Bluetooth antenna LB 01 1x PG11

User interfaces

Status LED downstream Optical input power
(only with RF overlay modules)

Management ports RJ11 1 pcs. (for handset OH 41)

Management ports RJ45 1 pcs. (LMT)

Bluetooth version 4.0 / LE

Bluetooth profiles GATT

Bluetooth transmit power ≤ 0 dBm

Technical data

Bluetooth frequency 2.4 GHz

Bluetooth app compatibility Android 4.3 or higher

General data

Supply voltage LR 4x x 2xxx: 180...264 V AC,
LR 4x x 6xxx: 27...65 V AC

Power consumption <55 W (including US TX)

Remote supply current per port <8 A

Output impedance 75 Ω

Dimensions 288 x 125 x 302 mm
(width x height x depth)

Electro Magnetic Compatibility (EMC) EN 50083-2

Protection class IP 66

Ambient temperature -10...+55 °C

LR 45 X XXXX

Options:

- 0 – default
- C – 294 MHz TP RF Overlay

Diplexer:

- 0 – default - without
- 1 – XE50B0650 – 65/85 MHz
- 2 – XE50B0850 – 85/105 MHz
- 3 – XE50B1170 – 117/149 MHz
- 4 – XE50B2040 – 204/258 MHz

Downstream/Upstream/Outputs/Hybrid:

- 1 – R-PHY DS, 1xUS, 1 output
- 2 – R-PHY DS, 1xUS, 2 outputs (passive split)
- 3 – R-PHY DS, 2xUS, 2 outputs (passive split)
- 4 – R-PHY DS, 2xUS, 2 outputs

A – R-PHY DS, 1xUS, 1 output (incl. RF Overlay)

B – R-PHY DS, 1xUS, 2 outputs (passive split) (incl. RF Overlay)

C – R-PHY DS, 2xUS, 2 outputs (passive split) (incl. RF Overlay)

D – R-PHY DS, 2xUS, 2 outputs (incl. RF Overlay)

Powering:

- 2 – local powered (230 VAC, EU plug)
- 6 – remote powered (65 VAC, coax)

Connector type:

- L – LC/APC
- S – SC/APC
- E – E2000