User Manual

Optical Headend

Ref. 4000 & 4001

CONTENTS

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1. INTRODUCTION

Product description

The 4000 Optical Compact Headend converts 2 wideband satellite inputs into 2 wavelengths (1310nm – 1330nm) and puts them on 1 optical feed. The output signal is strong enough to support huge installations, with up to 128 passive splits. The 4001 Optical Compact Headend converts 1 input to 1550nm optical wavelength.

REF 4000: OPTICAL HEADEND TRANSMITTER 2 WAVELENGTHS (1310 NM - 1330 NM)

- 2 wideband V/H inputs
- frequency range: 5 - 2400 MHz
- 1 optical output (wavelengths: 1310nm (V) - 1330nm(H))
- 9 dBm output power

REF 4001: OPTICAL HEADEND TRANSMITTER 1 WAVELENGTH (1550 NM)

- 1 wideband input
- frequency range: 5-2400 MHz
- 1 optical output (wavelength 1550nm)
- 9 dBm output power
- optical input for loopthrough (from ref. 4000)

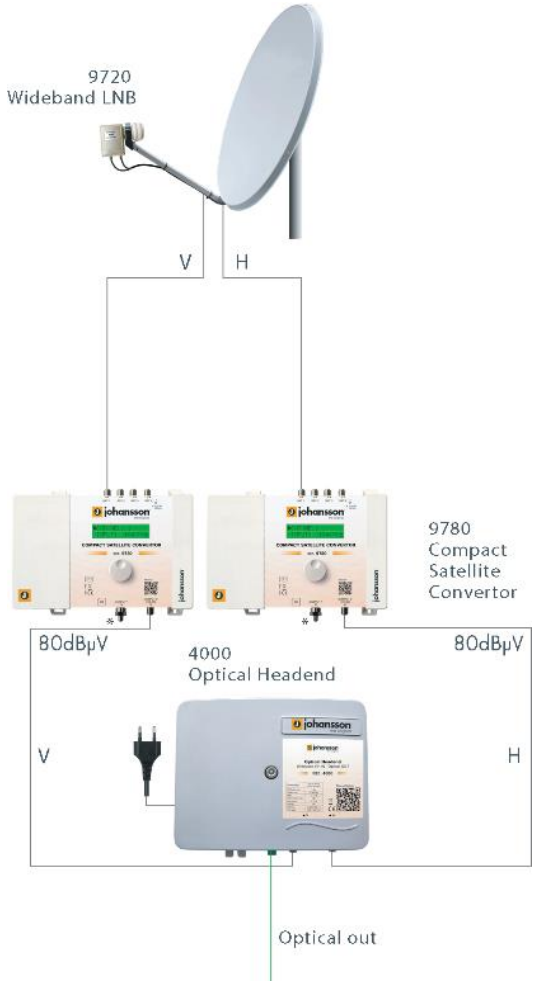
Package contents

- 1x Optical Headend (REF 4000 or REF 4001)

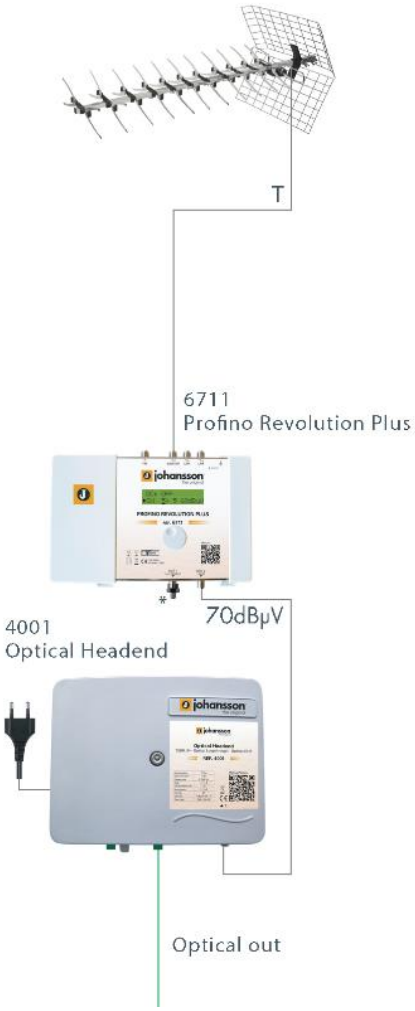
2. INSTALLATION OF THE HARDWARE

General set-up

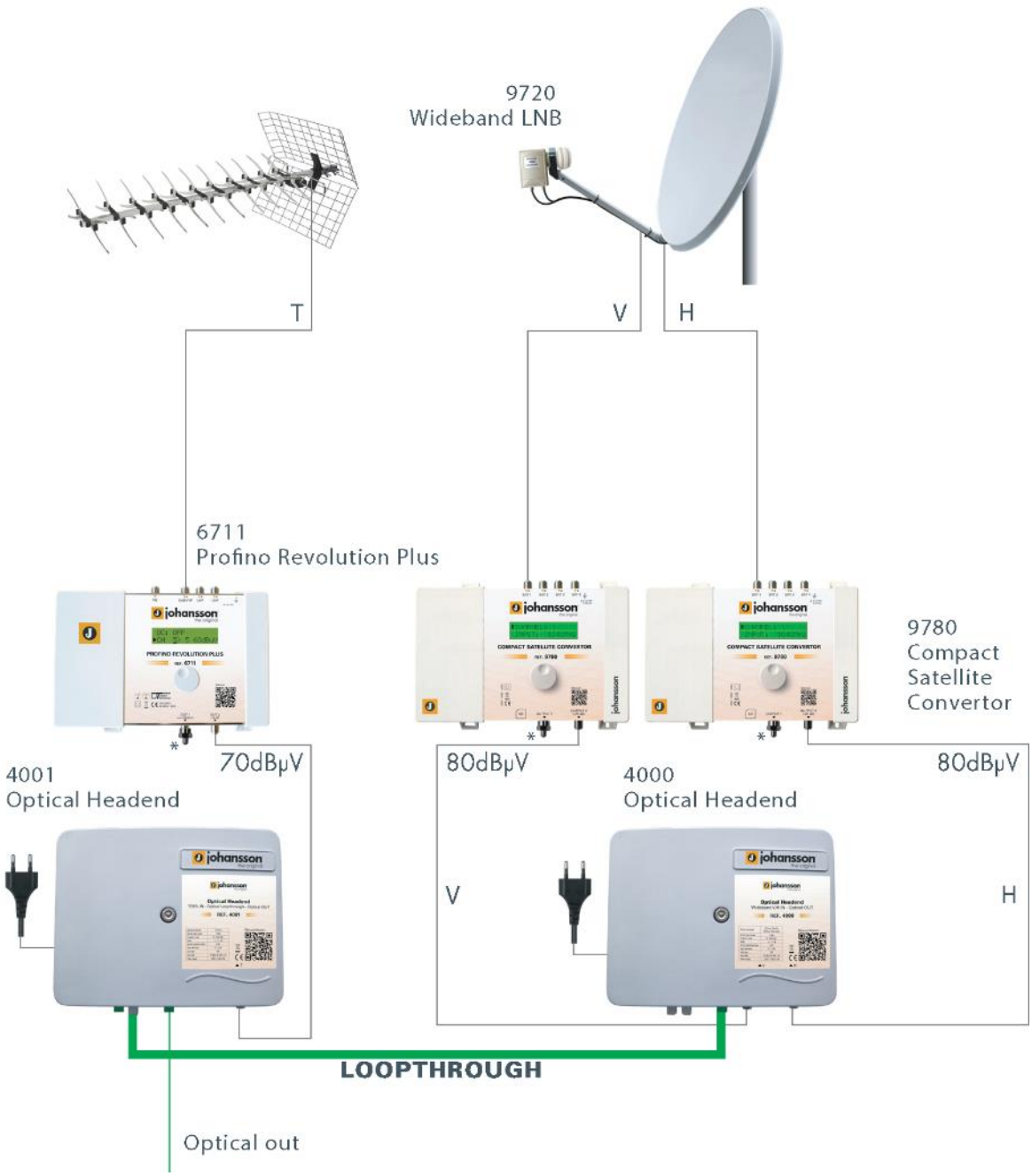
REF 4000



REF 4001

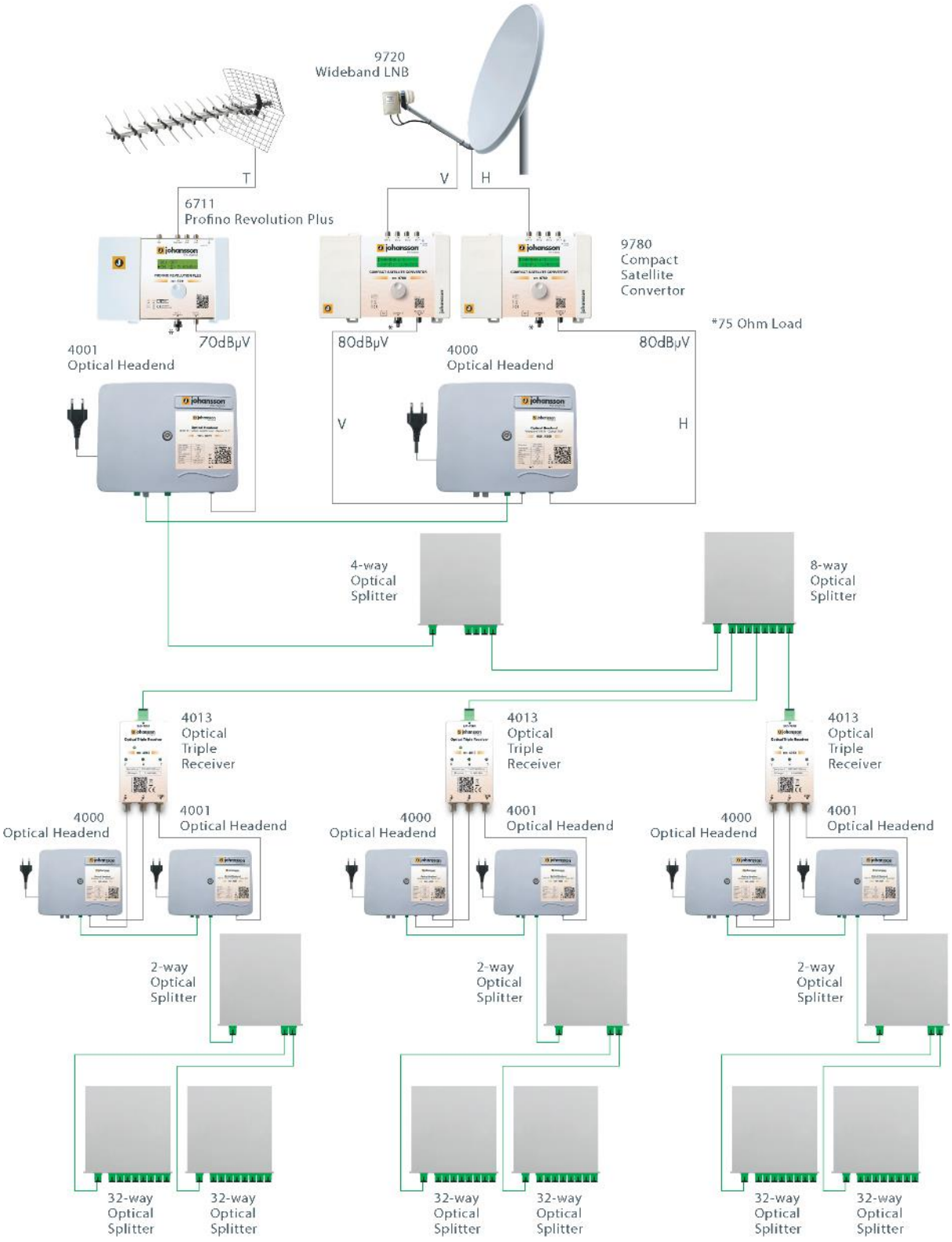


Combining the REF 4000 and the REF 4001 with the LOOPTHROUGH



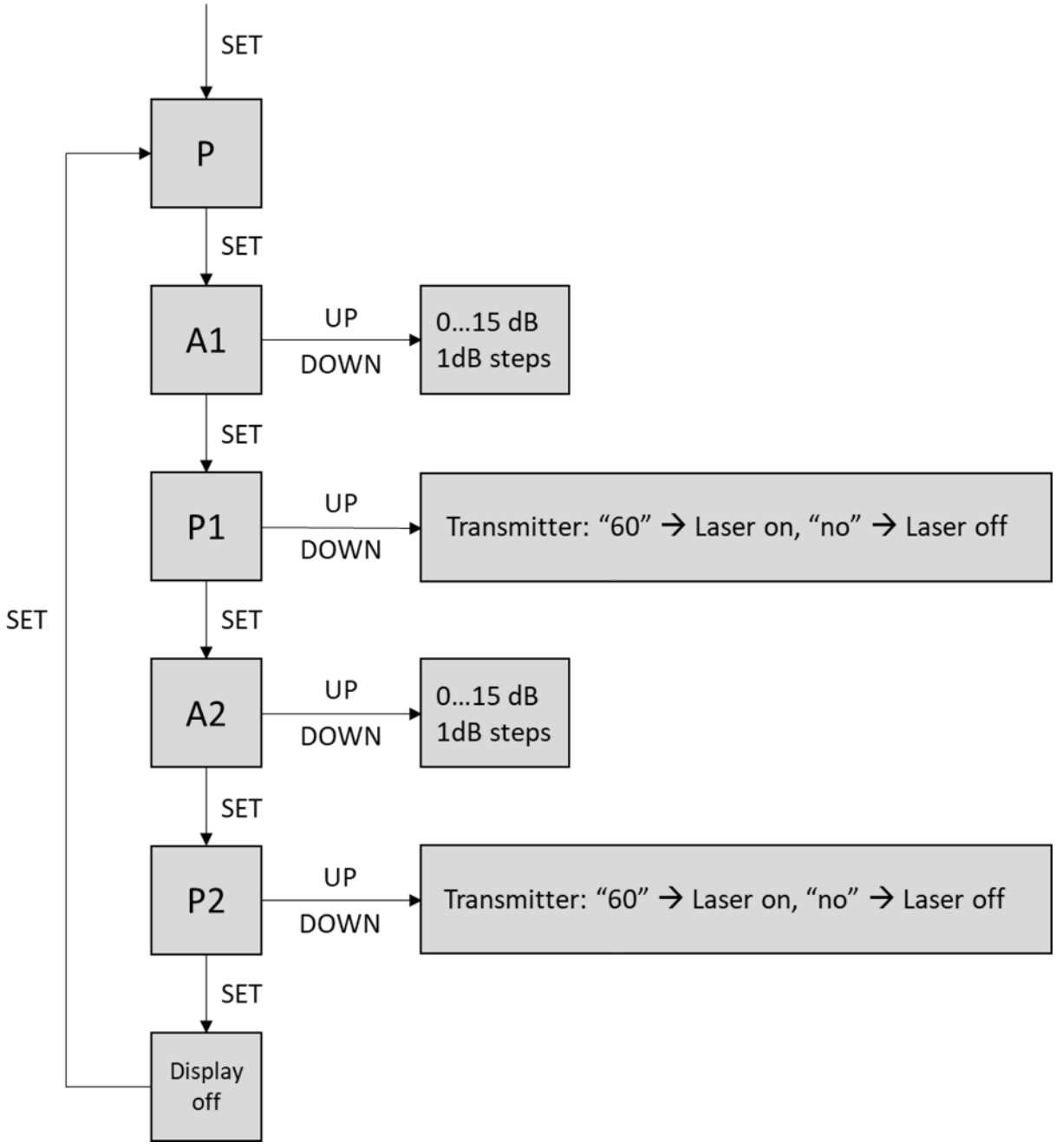
Cascading the Headends

The optical output signal can be split passively up to 128 times, or even more when you cascade the headends.

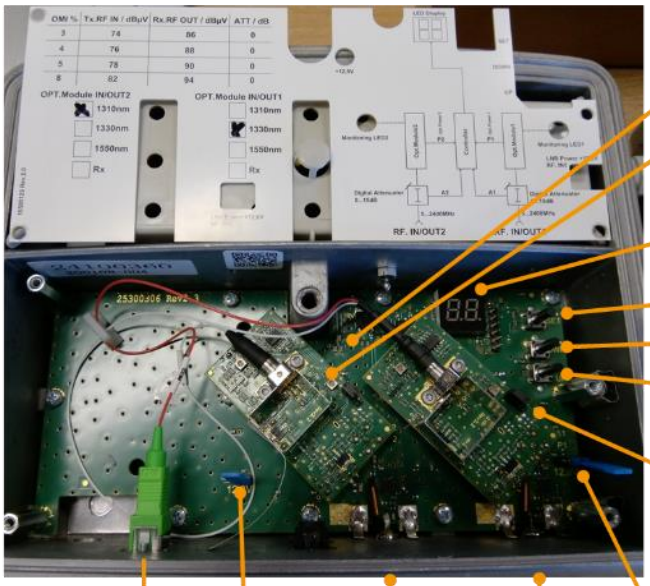


3. CONFIGURATION OF THE MODULE

- To configure the headend, remove the central bolt and lift the top lid
- The settings will appear on the LED display.
- Use the buttons (SET-DOWN-UP) in the top right corner of the device.
- Follow the steps below to configure the headend.



REF 4000 internal product overview



Power LED

Input 2 (V) active LED

Menu display
2x 7 segment display

RF input attenuation selection

Down

Up

Input – Menu: Selection
Input 1 A1: 0 – 15 dB
P1: N/A
Input 2 A2: 0 – 15 dB
P1: N/A

Input 1 (H) active LED

Optical output
λ1: 1310 nm (V)
λ2: 1330 nm (H)

Wideband
RF in - V

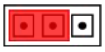
Wideband
RF in - H

DC @ input 2 (V) (use jumper to configure)

12,8VDC @ input

0VDC @ input

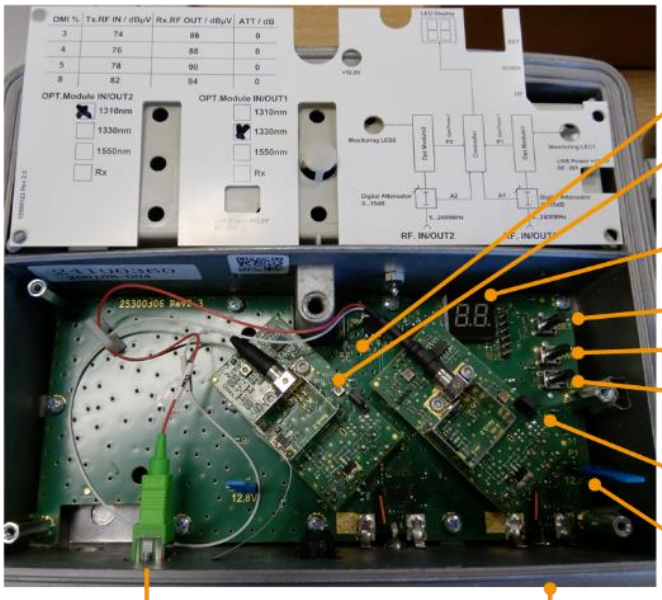
DC @ input 1 (H) (use jumper to configure)



12,8VDC @ input

0VDC @ input

REF 4001 internal product overview



Power LED

Input 2 (V) active LED

Menu display
2x 7 segment display

RF input attenuation selection

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Input – Menu: Selection
Input 1 A1: 0 – 15 dB
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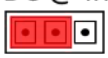
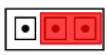
Input 1 (H) active LED

DC @ input (use jumper to configure)



12,8VDC @ input

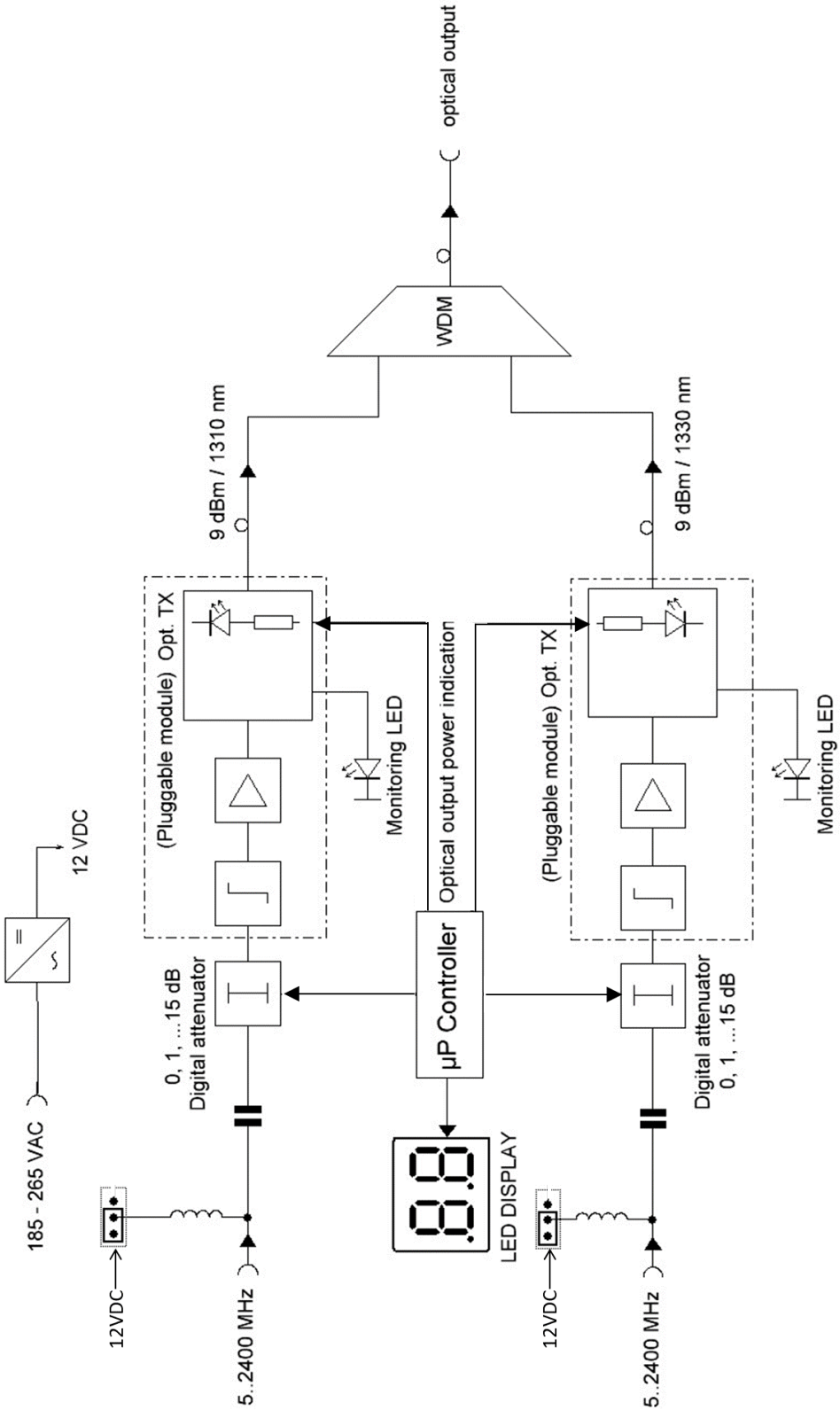


0VDC @ input

Optical output
λ: 1550 nm

Wideband
RF in

4. BLOCK DIAGRAM



5. TECHNICAL SPECIFICATIONS

		REF 4000	REF 4001
Inputs	-	2 RF	1 RF + 1 optical (loopthrough from ref. 4000)
Outputs	-	1 Optical	
Optical wavelength	nm	1310 - 1330	1550
Frequency range	MHz	5 - 2400	
Optical output power	dBm	+9 (per wavelength)	
Ripple	dB	+/- 2.5	
Optimal input level	dBµV	SAT: 80 per Transponder TERR: 70 per MUX	
Input attenuator	dB	0 - 15	
Laser type	-	DFB	
Laser LED control	-	Green LED on	
LNB power supply	-	12.8V / max. 240 mA	
Optical connectors	-	SC/APC	
RF connectors	-	F-female	
Power consumption	W	9	6
Power supply	VAC	200 - 240	
Operating temperature range	°C	-20 to +55	
Protection class	-	IP 50	
Dimensions	mm	225 x 190 x 86	
Weight	kg	1.8	

6. SAFETY INSTRUCTIONS

Read these instructions carefully before connecting the unit

To prevent fire, short circuit or shock hazard:

- Do not expose the unit to rain or moisture.
- Install the unit in a dry location without infiltration or condensation of water.
- Do not expose it to dripping or splashing.
- Do not place objects filled with liquids, such as vases, on the apparatus.
- If any liquid should accidentally fall into the cabinet, disconnect the power plug.

To avoid any risk of overheating:

- Install the unit in a well aery location and keep a minimum distance of 15 cm around the apparatus for sufficient ventilation
- Do not place any items such as newspapers, table-cloths, curtains, on the unit that might cover the ventilation holes.
- Do not place any naked flame sources, such as lighted candles, on the apparatus
- Do not install the product in a dusty place
- Use the apparatus only in moderate climates (not in tropical climates)
- Respect the minimum and maximum temperature specifications

To avoid any risk of electrical shocks:

- Connect apparatus only to socket with protective earth connection.
- The mains plug shall remain readily operable
- Pull out power plug to make the different connections of cables
- To avoid electrical shock, do not open the housing of adapter.

Maintenance

Only use a dry soft cloth to clean the cabinet.
Do not use solvent
For repairing and servicing refer to qualified personnel.

Dispose according your local authority's recycling processes

7. CONDITIONS OF WARRANTY

Unitron N.V. warrants the product as being free from defects in material and workmanship for a period of 24 months starting from the date of production indicated on it. See note below.

If during this period of warranty the product proves defective, under normal use, due to defective materials or workmanship, Unitron N.V, at its sole option, will repair or replace the product. Return the product to your local dealer for reparation.

THE WARRANTY IS APPLIED ONLY FOR DEFECTS IN MATERIAL AND WORKMANSHIP AND DOES NOT COVER DAMAGE RESULTING FROM:

- Misuse or use of the product out of its specifications,
- Installation or use in a manner inconsistent with the technical or safety standards in force in the country where the product is used,
- Use of non-suitable accessories (power supply, adapters...),
- Installation in a defect system,
- External cause beyond the control of Unitron N.V. such as drop, accidents, lightning, water, fire, improper ventilation…

THE WARRANTY IS NOT APPLIED IF

- Production date or serial number on the product is illegible, altered, deleted or removed.
- The product has been opened or repaired by a non-authorized person.

NOTE

Date of production can be found in the product's serial number code. The format will either be "YEAR W WEEK" (e.g., 2017W32 = year 2017 week 32) or "YYWW" (e.g., 1732 = year 2017 week 32).

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