HDO750 OPTICAL AMPLIFIER FAMILY

HDO750 optical amplifiers are high performance single wavelength amplifiers for fibre optic CATV and FTTx networks. HDO750 amplifiers are available on different optical output power and output port configurations. The optical output power is adjustable that enables the optimisation of the optical receiver conditions. HDO757 is a multi-wavelength amplifier for DWDM applications. HDO750 amplifiers are installed into HDX installation frame.

Features

- Low power consumption
- Low noise figure
- Automatic power control providing constant output power
- Gain flat DWDM model
- Optical output power adjustment
- Fibre connectors can be located at the rear or at the front panel
- Small form factor family, 2 RU height
- Local and remote software control of all adjustments
- Forced cooling through the unit

Management features

- Optical input power monitoring
- Optical output power adjustment and monitoring
- Output mode setting: CG/ CP (DWDM model)
- Gain adjustment (DWDM model)
- Laser ON/ OFF setting
- Laser current monitoring
- TEC (Thermo-Electric Cooler) current monitoring
- Laser temperature monitoring
- Amplifier module monitoring
- LED indicators for signal and module statuses
- Internal temperature measurement and monitoring
- Intelligent fan speed control with monitoring
- Non-volatile logging of 32 latest events, including alarms, alarming values, settings changes and application starts.
- Uptime and total uptime counters
- All adjustments and alarm limits fully user configurable
- Local PC connection through backplane HDO bus with HDX021 cable
- Remote IP connection through HDC100 controller module
- SNMP monitoring and configuration through HDC100 controller module

Technical specifications

Parameter	Specification	Note
Wavelength range		1)
HDO751	1529…1563 nm	
HDO752	1529…1563 nm	
HDO754	1529…1563 nm	
HDO758	1529…1563 nm	
HDO759	1543…1563 nm	
HDO757 DWDM amplifier	1529…1562 nm	
Saturation output power		
HDO751	1 x +20 dBm	
HDO752	2 x +20 dBm	
HDO754	4 x +19 dBm	
HDO758	8 x +16 dBm	
HDO759 (booster amplifier)	8 x +20 dBm	2)
HDO757 DWDM amplifier	1 x +21 dBm	3)
Optical input power range		
HDO751	-5…+10 dBm	
HDO752	-5…+10 dBm	
HDO754	-5…+10 dBm	
HDO758	-5…+10 dBm	
HDO759	0...+17 dBm	2)
HDO757 DWDM amplifier	+1...+17 dBm	3)
Shutdown input power		4)
HDO751	-10 dBm	
HDO752	-10 dBm	
HDO754	-10 dBm	
HDO758	-10 dBm	
HDO759	-3 dBm	
HDO757	-2 dBm	
Gain flatness, HDO757 DWDM amplifier	±1 dB	
Output power adjustment range	0…-6 dB	5)
Gain adjustment range	7...13 dB	6)
Noise figure		
HDO751, HDO752	4.5 dB	
HDO754, HDO758	4.0 dB	
HDO759	5.0 dB	
HDO757	5.0 dB	
Number of optical ports		8)
HDO751	1 + 1 (input/ outputs)	
HDO752	1 + 2	
HDO754	1 + 4	
HDO757	1 + 1	
HDO758	1 + 8	
HDO759	1 + 8	

General

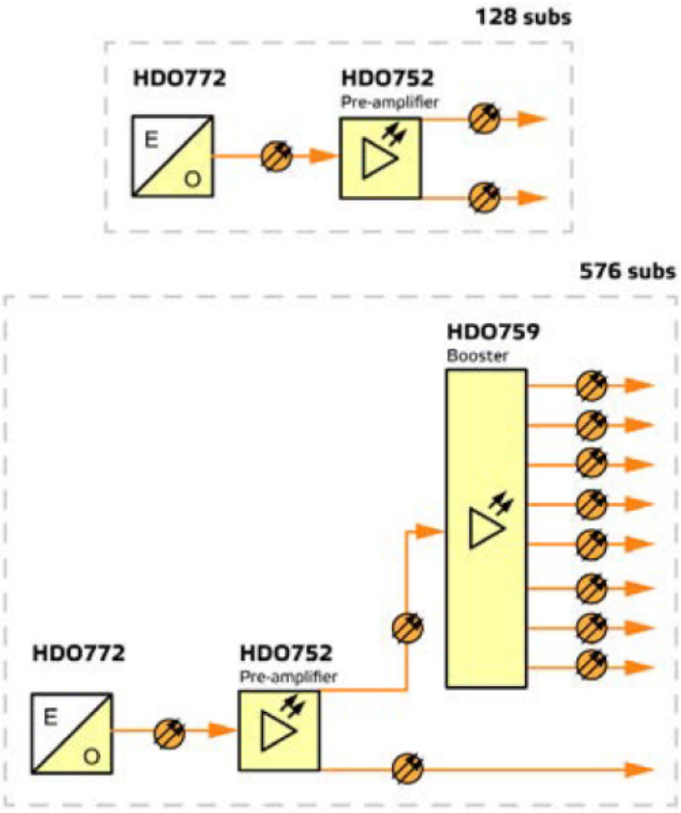
Power consumption		7)
HDO751	11 W	
HDO752	14 W	
HDO754	16 W	
HDO758	16 W	
HDO759	26 W	
HDO757	14 W	
Supply voltages		7)
HDO751	25 V / 350 mA and 6.3 V / 400 mA	
HDO752	25 V / 450 mA and 6.3 V / 400 mA	
HDO754	25 V / 550 mA and 6.3 V / 400 mA	
HDO758	25 V / 550 mA and 6.3 V / 400 mA	
HDO759	25 V / 950 mA and 6.3 V / 400 mA	
HDO757	25 V / 450 mA and 6.3 V / 400 mA	
Optical connector	SC/APC or E-2000	8)
Cooling	Field replaceable fan	9)
Dimensions	2U x 7HP x 380 mm Occupies 1/12 of HDX installation frame	h x w x d
Weight	1.5 kg	
EMC compliance	EN 50083-2	10)
Enclosure classification	IP20	
Operating temperature range	0...+45 °C	
Storage temperature range	-20...+60 °C	
Operating relative humidity	0…85 %	

Notes

1) HDO757 is a multi-wavelength amplifier for DWDM applications. The other models are single wavelength amplifiers.

2) HDO759 is a booster amplifier that is used when a larger amount (>8) of high power outputs are needed. HDO759 requires a higher optical input power and in these cases HDO759 is fed from an output of pre-amplifier HDO752, HDO754 or HDO758 i.e. the possible output configurations are 16 x 20 dBm, 32 x 20 dBm or 64 x 20 dBm.

   Examples:



3) Composite optical power of all wavelengths.

4) Recovery powers are:
   HDO751, HDO752, HDO754m HDO758, recovery at -7 dBm
   HDO759, recovery at 0 dBm
   HDO757, recovery at +1 dBm

5) Valid for single wavelength amplifiers.

6) Valid for HDO757 DWDM amplifier.

7) Typical power consumption at 25°C.

8) Fibre connectors can be located at the rear or at the front panel. In HDO758 and HDO759 the input port is a fixed adapter and the output ports are always fibre pigtails. In other models all ports are fixed adapters. However HDO754, HDO758 and HDO759 are also available with front pigtails (also input port is a pigtail).

9) The fan can be replaced by the user without signal interruption.

10) Radiation limit is 20 dBpW.

Ordering information, configuration maps

	1-1			2-1	
HDO751			-		

1-1 Fibre location and connector type
FA Front, SC/APC, 9 deg.
FC Front, E-200(
FD Front ,SC/APC, 8 deg.
FH Front, SC/APC with shutter, 8 deg.
RA Rear, SC/APC, 9 deg.
RC Rear, E-2000
RD Rear, SC/APC, 8 deg.
RH Rear, SC/APC with shutter, 8 deg.

2-1 Output power
20 1 x +20 dBm

	1-1			2-1	
HDO752			-		

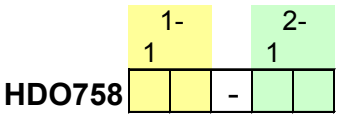
1-1 Fibre location and connector type
FA Front, SC/APC, 9 deg.
FC Front, E-200(
FD Front ,SC/APC, 8 deg.
FH Front, SC/APC with shutter, 8 deg.
RA Rear, SC/APC, 9 deg.
RC Rear, E-2000
RD Rear, SC/APC, 8 deg.
RH Rear, SC/APC with shutter, 8 deg.

2-1 Output power
20 2 x +20 dBm

	1-1			2-1	
HDO754			-		

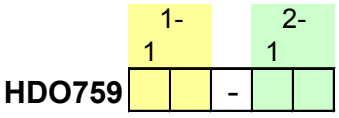
1-1 Fibre location and connector type
FA Front, SC/APC, 9 deg.
FC Front, E-200(
FD Front ,SC/APC, 8 deg.
FH Front, SC/APC with shutter, 8 deg.
PC Front, E-2000 pigtails
PD Front ,SC/APC pigtails, 8 deg
RA Rear, SC/APC, 9 deg.
RC Rear, E-2000
RD Rear, SC/APC, 8 deg.
RH Rear, SC/APC with shutter, 8 deg.

2-1 Output power
19 4 x +19 dBm



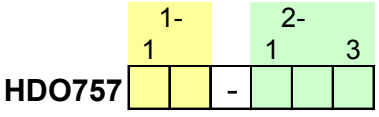
1-1 Fibre location and connector type
PC Front, E-2000 pigtails
PD Front ,SC/APC pigtails, 8 deg
RA Rear, SC/APC, 9 deg.
RC Rear, E-2000
RD Rear, SC/APC, 8 deg.
RH Rear, SC/APC with shutter, 8 deg.

2-1 Output power
16 8 x +16 dBm



1-1 Fibre location and connector type
PC Front, E-2000 pigtails
PD Front ,SC/APC pigtails, 8 deg
RA Rear, SC/APC, 9 deg.
RC Rear, E-2000
RD Rear, SC/APC, 8 deg.
RH Rear, SC/APC with shutter, 8 deg.

2-1 Output power
20 8 x +20 dBm



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RC Rear, E-2000
RD Rear, SC/APC, 8 deg.
RH Rear, SC/APC with shutter, 8 deg.

2-1 Optical gain
10 10 dB, Max output +23 dBm
2-3 Gain flattened filter
F GFF included