

HDO272 DIGITAL OPTICAL RECEIVER

HDO272 is a dual digital optical receiver for fibre optic return path link in CATV networks. It is installed into HDX installation frame. HDO272 has two independent optical receivers. One optical wavelength carries two RF return paths and the module has four RF return path outputs.

Features

- Two digital optical return path receivers
- Four return path RF segments and outputs
- Wide input power and output level range
- Small form factor family, 2 RU height
- Fibre connectors can be located at the rear or at the front panel
- Low power consumption

Management features

- Optical input power measurement and monitoring
- Bit error rate monitoring
- Link information: transmitter wavelength and ID
- Signal LEDs for both receiver statuses, module LED for internal status
- Internal temperature measurement and monitoring
- Optional 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 DVX021 cable
- Remote IP connection through HDC100 controller module
- SNMP monitoring and configuration through HDC100 controller module



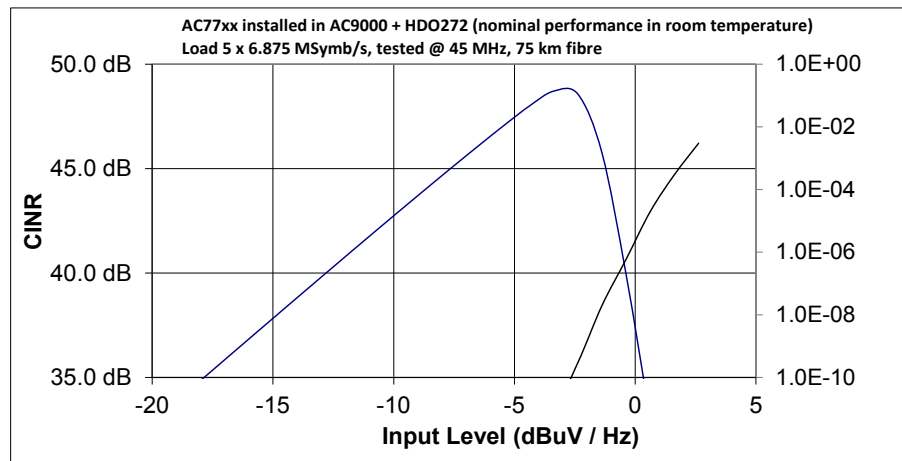
Technical specifications

Parameter	Specification	Note
Optical parameters		
Light wavelength	1260...1620 nm	
Input power	-24...-5 dBm	
Transmission distance	75 km	1)
Number of optical inputs	2	
Digital parameters		
Data rate	5 Gbps in one optical link	
Digital to analog conversion	12 bits	
RF parameters		
Frequency range	5...85 MHz	
Maximum output level	(AC node input level + 36) dB μ V	2)
RF impedance	75 Ω	
Output return loss	18 dB	
Level control range	30 dB	
RF test point	20 dB	3)
Number of RF outputs	4	
System parameters		
System consists of AC node with AC7700, HDO272 and 75 km fibre.		
Link gain	37 dB	4)
Flatness	\pm 0.75 dB	5)
CINR peak	49 dB	6)
CINR dynamic range	12 dB within 40 dB CINR window	6)
Isolation	49 dB	7)
General		
Power consumption	9.5 W	
Supply voltages	25 V / 310 mA 6.3 V / 290 mA	
Optical connectors	SC/APC or E-2000/APC	8)
RF Connectors	F female	9)
Cooling	Field replaceable fan	10)
Dimensions	2U x 7HP x 380 mm Occupies 1/12 of HDX002	h x w x d
Weight	1.5 kg	
EMC compliance	EN 50083-2	
Enclosure classification	IP20	
Operating temperature range	0...+45 °C	
Storage temperature range	-20...+60 °C	
Operating relative humidity	0...85 %	

Notes

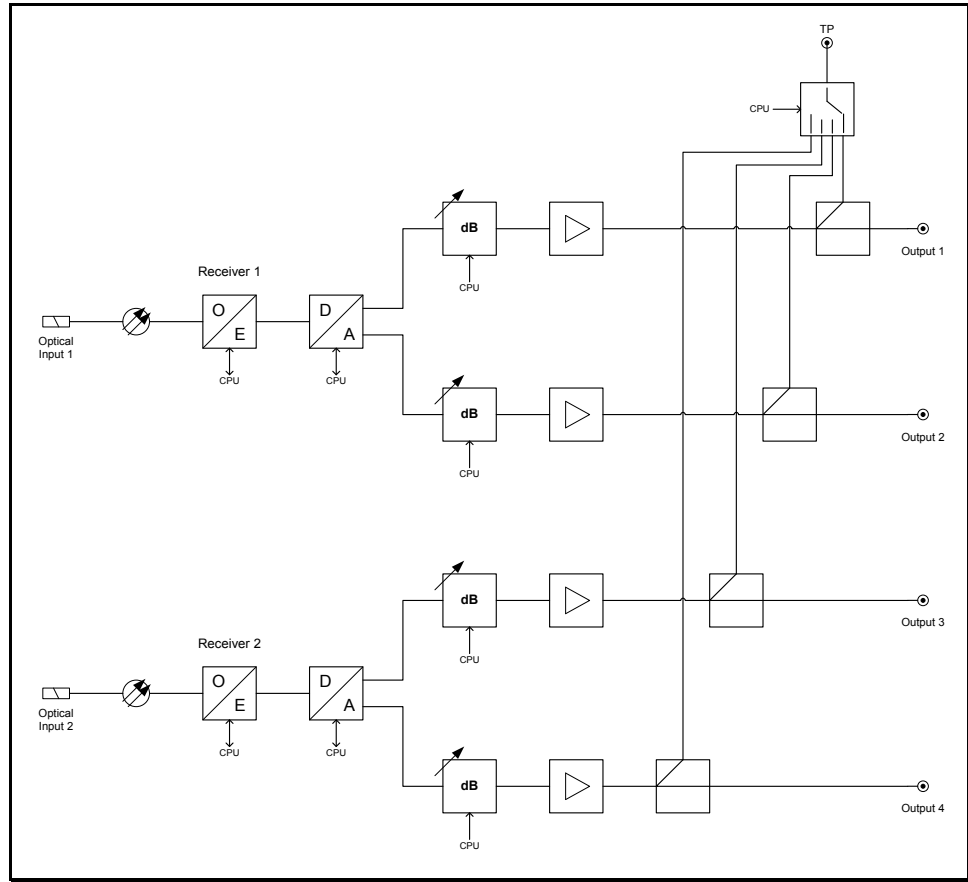
- 1) Over the whole specified temperature range the maximum link distance is limited on the longest wavelengths as follows:
 AC7761 1610 nm, max. 50 km
 AC7759 1590 nm, max. 60 km
 AC7757 1570 nm, max. 70 km
 Other wavelengths 75 km

 Other wavelengths can make 75 km unless the fibre attenuation is so high that the optical input power is too low at HDO272 receiver i.e. the fibre attenuation can reduce the distance at the short wavelengths (1270, 1290, 1310, ..., 1370 nm) where the fibre attenuation is highest.
- 2) Gain limited output level when the attenuators in AC node return path and in HDO272 are set to 0 dB.
- 3) Compared to output. Typical accuracy is ± 0.5 dB. Maximum value is ± 0.75 dB. The output connected to the test point connector is selected via user interface.
- 4) Total system gain when the attenuators in AC node return path and in HDO272 are set to 0 dB.
- 5) Typical value. Maximum value is ± 1.0 dB.
- 6) CINR and BER.



- 7) This is a crosstalk attenuation between different signal paths.
- 8) Fibre connectors can be located at the rear or at the front panel. E-2000 only at the front.
- 9) Fixed connections are located at the rear panel. Test points are located at the front panel.
- 10) The fan can be replaced by the user without signal interruption.

Block diagram



Ordering information

HDO272 configuration map

HDO272

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

DOC0019896, Rev.0C