

## HDO205 CATV FIBRE RECEIVER

HDO205 is a dual receiver module for fibre optic return path (upstream) links in CATV networks. It is installed into HDX installation frame. The excellent receiver sensitivity enables a very low optical input power like used in cable PON (RFoG) applications.

### Features

- Two independent return path receivers
- Excellent noise current density
- Wide input power/ output level range
- Three output level control modes:
  - Manual
  - Automatic based on OMI, target output level and optical input level
  - Automatic based on optical input level
- Small form factor family, 2 RU height
- Fibre connectors can be located at the rear or at the front panel



### Management features

- RFoG/ HFC network type selection for optimisation of settings
- Optical input power measurement and monitoring
- Automatic output level control with monitoring
- 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

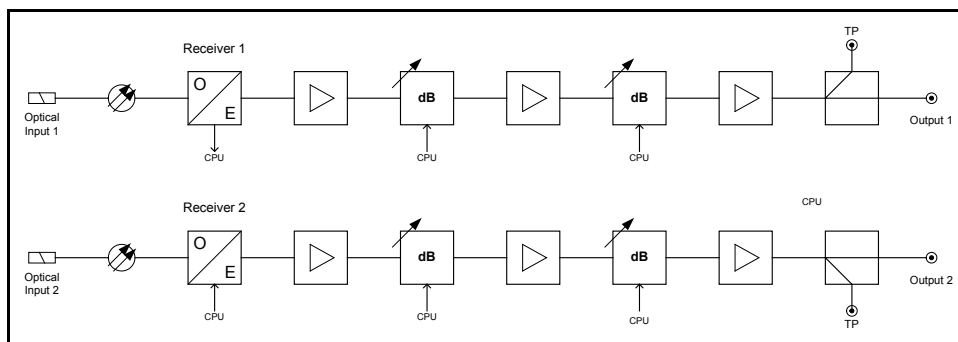
**Technical specifications**

Parameter	Specification	Note
<b>Optical parameters</b>		
Light wavelength	1000...1620 nm	
Input power	-30...-5 dBm	1)
<b>RF parameters</b>		
Frequency range	5...85 MHz	
Output level	$2 * P_{opt} + 134 \text{ dB}\mu\text{V}$	2)
Flatness	$\pm 0.75 \text{ dB}$	3)
Slope variation	$\pm 0.75 \text{ dB}$	
RF impedance	75 $\Omega$	
Output return loss	18 dB	
Level control range	60 dB	
RF test points	20 dB	4)
Isolation	60 dB	5)
<b>Linearity and noise parameters</b>		
Noise current density	1.5 pA/ $\sqrt{\text{Hz}}$	
3 <sup>rd</sup> order distortion	-60 dB	6)
2 <sup>nd</sup> order distortion	-60 dB	7)
<b>General</b>		
Power consumption	4.7 W	
Supply voltages	25 V / 130 mA 6.3 V / 220 mA	8)
Optical connectors	SC/APC	9)
RF Connectors	F female	10)
Cooling	Free air flow	11)
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**

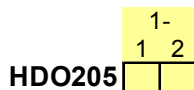
- 1) Too high optical input power together with a high OMI may distort the signal because of the high RF gain. The photodiode damage power is higher than 0 dBm.
- 2) Gain limited maximum output level when OMI is 10%.
- 3) Typical value. Maximum value is  $\pm 1.0$  dB.
- 4) Compared to output. Typical accuracy is  $\pm 0.5$  dB. Maximum value is  $\pm 0.75$  dB.
- 5) This is a crosstalk attenuation between signal paths 1 and 2 up to 85 MHz. The value is 50 dB below 10 MHz.
- 6) Typical distortion distance for two carriers between 5 and 65 MHz when output level is 90 dB $\mu$ V.
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- 8) 420 mA if an optional fan is installed to the unit front panel. This increases the total power consumption by 1.3 W.
- 9) Fibre connectors can be located at the rear or at the front panel.
- 10) Fixed connections are located at the rear panel. Test points are located at the front panel.
- 11) Optional cooling fan can be installed or replaced by the user without signal interruption.

**Block diagram**



**Ordering information**

**HDO205 configuration map**



<b>1-1 Fibre location</b>	
F	Front panel
R	Rear panel
<b>1-2 Fibre connector type</b>	
A	SC/APC, 9 deg.
C	E-2000
D	SC/APC, 8 deg.
H	SC/APC with shutter, 8 deg.