

Optical nodes Optical receiver

Optical receiver with capability to monitor and control all major functions via Ethernet.

- monitor and control all major receiver parameters via Ethernet (transmission protocol TCP/IP (supports SNMPv2c))
- supplying with free management software OD_Explorer
- input and output controllable ports for external devices
- electronic setting of all parameters
- AGC based on optical input level
- 1 or 2 RF outputs, switchable
- thermal compensation of RF output level drift
- digital indication of optical input level and other parameters
- die-cast housing
- connectors:

RF output and test - type F optical - SC/APC Ethernet - RJ45



Toonintoal specifications	ical specificati	0118
---------------------------	------------------	------

T Y P EOD120Ordering number 02850 Optical wave lenght $1100-1600 \text{ nm}$ Optical input level (AGC range) $-7 \dots 2 \text{ dBm}$ Optical return loss $> 40 \text{ dB}$ Noise current density $\leq 7.0 \text{ pA/} \sqrt{\text{Hz}}$ Frequency range $47-862 \text{ MHz}$ Impedance 75Ω Return loss $\geq 18 \text{ dB at } 40 \text{ MHz-}1.5 \text{ dB/oct}$ Frequency response $\pm 0.75 \text{ dB}$ Output level (AGC controlled, 4.9% OMI) $113 \text{ dB}\mu\text{V}$ Output level CTB ($\leq 60 \text{ dB}$, 42 ch. Cenelec)* $113 \text{ dB}\mu\text{V}$ Interstage attenuatorpr. $0-15 \text{ dB by } 1 \text{ dB step}$ Interstage equalizerpr. $0-15 \text{ dB by } 1 \text{ dB step}$ Loss in test point $-20 \text{ dB} \pm 0.7 \text{ dB}$	recumical specifications		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	TYPE	OD120	
Optical input level (AGC range) Optical return loss > 40 dB Noise current density Frequency range $47-862 \text{ MHz}$ Impedance 75Ω Return loss $\geq 18 \text{ dB at } 40 \text{ MHz-} 1.5 \text{ dB/oct}$ Frequency response $\pm 0.75 \text{ dB}$ Output level (AGC controlled, 4.9% OMI) Output level (CTB ($\leq 60 \text{ dB}, 42 \text{ ch. Cenelec}$)* Output level CSO ($\leq 60 \text{ dB}, 42 \text{ ch. Cenelec}$)* Interstage attenuator Interstage equalizer PI O-15 dB by 1 dB step	Ordering number	02850	
$ \begin{array}{llllllllllllllllllllllllllllllllllll$	Optical wave lenght	1100-1600 nm	
Noise current density $ \leq 7.0 \text{ pA/} \cdot \text{Hz} $ Frequency range $ 47-862 \text{ MHz} $ Impedance $ 75 \Omega $ Return loss $ \geq 18 \text{ dB at } 40 \text{ MHz-} 1.5 \text{ dB/oct} $ Frequency response $ \pm 0.75 \text{ dB} $ Output level (AGC controlled, 4.9% OMI) $ 113 \text{ dB}\mu\text{V} $ Output level CTB ($\leq 60 \text{ dB}, 42 \text{ ch. Cenelec}$)* $ 113 \text{ dB}\mu\text{V} $ Output level CSO ($\leq 60 \text{ dB}, 42 \text{ ch. Cenelec}$)* $ 113 \text{ dB}\mu\text{V} $ Interstage attenuator $ \text{pr.} $ $ 0-15 \text{ dB by } 1 \text{ dB step} $ Interstage equalizer $ \text{pr.} $ $ 0-15 \text{ dB by } 1 \text{ dB step} $	Optical input level (AGC range)	-72 dBm	
Frequency range $47\text{-}862 \text{ MHz}$ Impedance 75Ω Return loss ≥ 18 dB at 40 MHz-1.5 dB/oct Frequency response ± 0.75 dB Output level (AGC controlled, 4.9% OMI) 113 dBμV Output level CTB (≤ 60 dB, 42 ch. Cenelec)* 113 dBμV Output level CSO (≤ 60 dB, 42 ch. Cenelec)* 113 dBμV Interstage attenuator pr. Interstage equalizer 0-15 dB by 1 dB step	Optical return loss	> 40 dB	
Impedance 75 Ω Return loss ≥ 18 dB at 40 MHz-1.5 dB/oct Frequency response ± 0.75 dB Output level (AGC controlled, 4.9% OMI) 113 dB μ V Output level CTB (≤ 60 dB, 42 ch. Cenelec)* 113 dB μ V Output level CSO (≤ 60 dB, 42 ch. Cenelec)* 113 dB μ V Interstage attenuator pr. Interstage equalizer 0-15 dB by 1 dB step	Noise current density	≤ 7.0 pA/√Hz	
Return loss ≥ 18 dB at 40 MHz-1.5 dB/oct Frequency response ± 0.75 dB Output level (AGC controlled, 4.9% OMI) 113 dBμV Output level CTB (≤ 60 dB, 42 ch. Cenelec)* 113 dBμV Output level CSO (≤ 60 dB, 42 ch. Cenelec)* 113 dBμV Interstage attenuator pr. Interstage equalizer 0-15 dB by 1 dB step Interstage equalizer 0-15 dB by 1 dB step	Frequency range	47-862 MHz	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Impedance	75 Ω	
$\begin{array}{llll} \textbf{Output level (AGC controlled, 4.9\% \ OMI)} & 113 \ dB\mu V \\ \textbf{Output level CTB} \ (\leq 60 \ dB, 42 \ ch. \ Cenelec)^* & 113 \ dB\mu V \\ \textbf{Output level CSO} \ (\leq 60 \ dB, 42 \ ch. \ Cenelec)^* & 113 \ dB\mu V \\ \textbf{Interstage attenuator} & pr. & 0-15 \ dB \ by 1 \ dB \ step \\ \textbf{Interstage equalizer} & pr. & 0-15 \ dB \ by 1 \ dB \ step \\ \end{array}$	Return loss	≥ 18 dB at 40 MHz-1.5 dB/oct	
Output level CTB (\leq 60 dB, 42 ch. Cenelec)*113 dB μ VOutput level CSO (\leq 60 dB, 42 ch. Cenelec)*113 dB μ VInterstage attenuatorpr.0-15 dB by 1 dB stepInterstage equalizerpr.0-15 dB by 1 dB step	Frequency response	± 0.75 dB	
Output level CS0 (\leq 60 dB, 42 ch. Cenelec)*113 dB μ VInterstage attenuatorpr.0-15 dB by 1 dB stepInterstage equalizerpr.0-15 dB by 1 dB step	Output level (AGC controlled, 4.9% OMI)	113 dBμV	
Interstage attenuator pr. 0-15 dB by 1 dB step Interstage equalizer pr. 0-15 dB by 1 dB step	Output level CTB (\leq 60 dB, 42 ch. Cenelec)*	113 dB _H V	
Interstage equalizer pr. 0-15 dB by 1 dB step	Output level CSO (\leq 60 dB, 42 ch. Cenelec)*	113 dB _H V	
	Interstage attenuator pr.	0-15 dB by 1 dB step	
Loss in test point $-20 \text{ dB} \pm 0.7 \text{ dB}$	Interstage equalizer pr.	0-15 dB by 1 dB step	
	Loss in test point	$-20~\mathrm{dB}\pm0.7~\mathrm{dB}$	
Power consumption 187-250 V∼ 50/60 Hz 14 W	Power consumption	187-250 V~ 50/60 Hz 14 W	
Operating temperature range $-20^{\circ} \div + 50^{\circ} \text{C}$	Operating temperature range	-20° ÷ + 50° C	
Dimensions/Weight (packed) 213x138x76 mm (with fixing earth) /1.4 kg	Dimensions/Weight (packed)	213x138x76 mm (with fixing earth) /1.4 kg	

* output level (CTB, CSO) is measured with 6 dB interstage equalizer



Remotely monitored parameters:

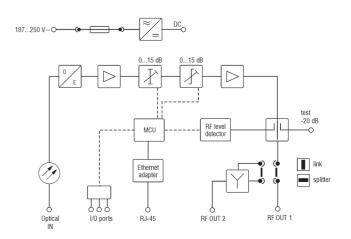
- temperature
- optical input power
- RF output level
- internal DC supply voltage

Remotely controlled parameters:

- value of first attenuator
- value of second attenuator
- value of equalizer

Remotely controllable ports:

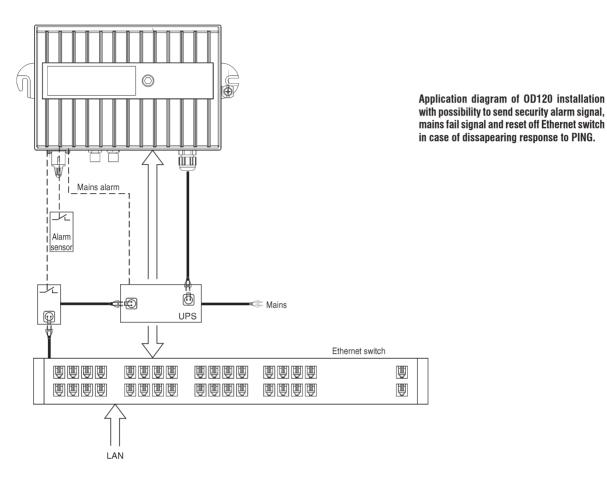
- alarm circuit input
- relay output
- UPS status port





Optical nodes

Application diagram



Control and monitoring software

OD Explorer - software for remote management of OD120 optical receivers:

- control and diagnostic by SNMP protocol
- automatic discovery of receivers OD120 in the LAN
- user-friendly graphical presentation
- embedded Telnet client

Free software program **OD Explorer** could be downloaded from **www.terraelectronics.com**, section **downloads**.

	Manage Telnet Settings		
	SNMP objects sysName Node #2 sysLocation Test bench pos. #2	Device Status Opt. signal Moins pwr. ALC Base link Dev. tempr. Opt. degrade	
OD Explorer Vers.1 .0 .1 beta Help Select device By IP address By System Name	sysUpTime 5 hours 2 min.	RF degrade RF signal 12V Ext. circuit	
	Off Opt. alarm		
login: guest password: ***** Welcome guest Press ? for help D210>	Device info Device type DD120 Firmware vers. 1.05 SN DD12900009969120 LAN interface TERRA UD210-01 SNMP station vers. 1.10 Ping T mS state late		