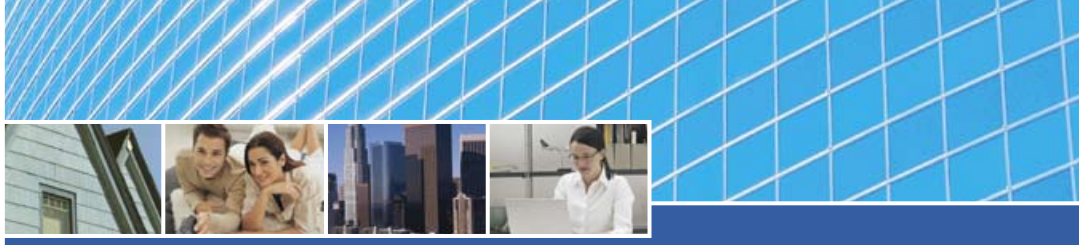
Harmonic

PWRBlazer™
HLN 3812



Compact Optical Node

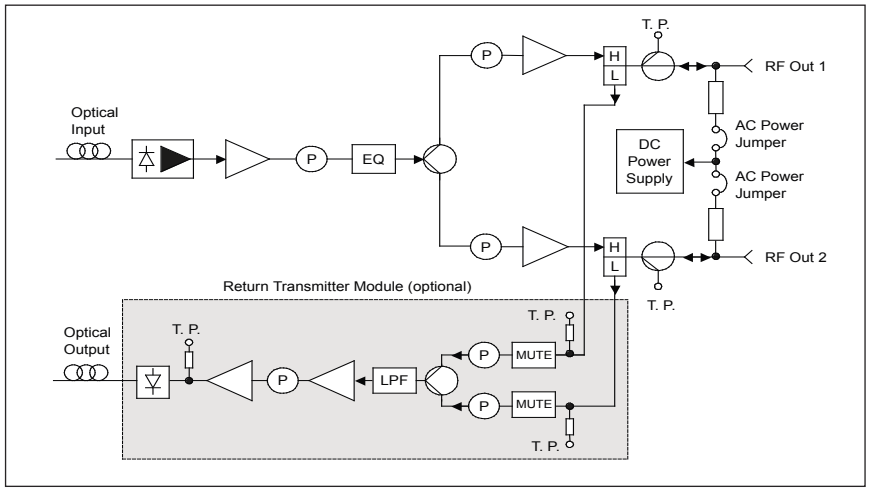
HIGHLIGHTS

- **Compact, rugged, die-cast aluminum housing allows outdoor strand, wall or pedestal mounting**
- **Up to two high-level outputs offer cost-effective network design**
- **Ideal for applications including fiber-deep and distribution architectures**

The Harmonic PWRBlazer™ HLN 3812 addresses the need for a compact, cost-effective optical node. This node includes an ergonomic, rugged, die-cast aluminum housing. The housing supports an easy-to-use fiber management system and replaceable power supply. The RF module supports two outputs.

The HLN 3812 comes standard with one optical receiver module. A range of transmitters, using various laser technologies, is available.

Standard Configuration



Models

	Operating Band (MHz)			
Model	Return	Forward	Laser	Power
HLN 3812-30-AS	5-30	47-860	none	60 VAC
HLN 3812-42-AS	5-42	52-860	none	60 VAC
HLN 3812-65-AS	5-65	85-860	none	60 VAC
HLN 3812-4-30-AS	5-30	47-860	FP	60 VAC
HLN 3812-4-42-AS	5-42	52-860	FP	60 VAC
HLN 3812-4-65-AS	5-65	85-860	FP	60 VAC
HLN 3812-5-30-AS	5-30	47-860	DFB	60 VAC
HLN 3812-5-42-AS	5-42	52-860	DFB	60 VAC
HLN 3812-5-65-AS	5-65	85-860	DFB	60 VAC
HLN 3812-30-AC-AS	5-30	47-860	none	220 VAC
HLN 3812-42-AC-AS	5-42	52-860	none	220 VAC
HLN 3812-65-AC-AS	5-65	85-860	none	220 VAC
HLN 3812-4-30-AC-AS	5-30	47-860	FP	220 VAC
HLN 3812-4-42-AC-AS	5-42	52-860	FP	220 VAC
HLN 3812-4-65-AC-AS	5-65	85-860	FP	220 VAC
HLN 3812-5-30-AC-AS	5-30	47-860	DFB	220 VAC
HLN 3812-5-42-AC-AS	5-42	52-860	DFB	220 VAC
HLN 3812-5-65-AC-AS	5-65	85-860	DFB	220 VAC

Optical Input

Optical Input Range	-6 to +1 dBm
Wavelength Range	1310 ± 30 nm 1550 ± 30 nm
Optical Return Loss	> 45 dB
Detector Noise	< 7 pA/√Hz
Detector Responsivity	0.85 A/W @ 1310 nm 0.95 A/W @ 1550 nm

RF Output

Number of RF Ports	2
Output Level	46 dBmV/ch[1]
C/CSO	>60 dBc[2]
C/CTB	>60 dBc[2]
Output Port Impedance	75 Ω
Return Loss	>14 dB over operating band
Frequency Response	± 0.75 dB over the operating band
Group Delay <10 ns/MHz	54-860 MHz (for 42/52 split) 87-860 MHz (for 65/85 split)[3]
Output Stability	± 1.5 dB over the operating temperature range

Return Path

Frequency Response	± 0.75 dB
Isolation Between the Forward RF Output and Return Transmitter Input (5 - 200 MHz)	>50 dB 52-200 MHz (for 42/52 split) >55 dB 85-200 MHz (for 65/85 split)
Return Input Port Impedance	75 Ω
Group Delay <20 ns/MHz	5-40 MHz (for 42/52 split) 5-63 MHz (for 65/85 split)

Power

	60 VAC	220 VAC
Consumption	≤ 60W	≤ 60W
15A Pass Current on All Ports		
Operating Input Voltage Range	40-95 VAC, 50, 60Hz Sine Wave	90-265 VAC, 50, 60Hz Sine Wave
Start-up Input Voltage	32 VAC	75 VAC
Turn-off Input Voltage (Low End)	28 VAC	72 VAC
Input Frequency Range	50, 60 Hz	50, 60 Hz

Transmitter Specifications

Optical Output	
Uncooled DFB	3.0 dBm
Fabry-Perot	≥ 0 dBm
Wavelength	1310 ± 20 nm
RF Input	
Nominal Input (at full gain)	
Fabry Perot	-60 dBmV/Hz
Uncooled DFB	-61 dBmV/Hz
Operating Band	5 to 200 MHz
Link Performance	
Dynamic Range[3]	
Fabry Perot	12 dB
Uncooled DFB	13 dB
C/N+1	
Fabry Perot	35 dB minimum
Uncooled DFB	40 dB minimum

User Interface

Red LED indicates < -3.5 dBm optical input power
Green LED indicates power ON
Test point indicates received optical power as 1 V/mW at 1310 nm
RF test points as indicated on block diagram. All RF tests points are -20 ± 1.5 dB direc-

tionally-coupled; GSK connectors. Forward test point for each port is accessible from outside the housing.

Physical

Dimensions (L x W x H)	12.5" x 8.0" x 5.3" 31.75 cm x 20.32 cm x 13.46 cm
Weight	6.8 lbs/3.1 kgEnvironmental
Operating Temperature Range	-40˚ to +60˚ C -40˚ to +140˚ F
Relative Humidity	Maximum 95% non-condensing

Environmental

Operating Temperature	-40˚ to +60˚ C
Range	-40˚ to +140˚ C
Relative Humidity	Maximum 95% non-condensing

Accessories

Plug-in Slope Equalizers

Linear Frequency Response

Model	Attenuation (dB) at 860 MHz
NLE 3002	2 dB
NLE 3004	4 dB
NLE 3006	6 dB
NLE 3008	8 dB
NLE 3010	10 dB

Plug-in Pads

Model	Insertion Loss, dB
NPD 3000	0
NPD 3001	1
NPD 3002	2
NPD 3003	3
NPD 3004	4
NPD 3005	5
NPD 3006	6
NPD 3007	7
NPD 3008	8
NPD 3009	9
NPD 3010	10
NPD 3011	11
NPD 3012	12
NPD 3013	13
NPD 3014	14
NPD 3015	15
NPD 3016	16
NPD 3017	17
NPD 3018	18
NPD 3019	19
NPD 3020	20

Notes:

1. *At node output; 860 MHz, 59 PAL channels, ATO=2 dB, AT1+AT2=4 dB, no filter, 10 dB slope, 3.7% OMI, -1 dBm optical input.*
2. *Typical for 59 PAL CW carrier, standard transmitter, 10km optical fiber with attenuator, -1 dBm optical input power, 114dBuV output level at 860 MHz with 0dB slope, 3.7% OMI.*
3. *Nominal link loss= 7 dB, 5-42 MHz gaussian noise; atop nominal input.*

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