

# 3406 Optical SFP Series

12G/3G/HD/SD/ASI EO/OE/OO SFPs



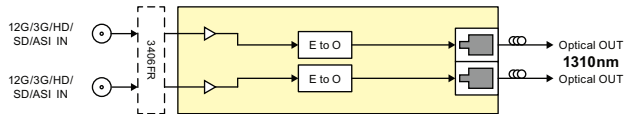
The 3406 series SFPs are used in 3406FR–HDBNC mounting frames, supporting optical transmit, receive or regenerator functions. Reclocked versions support standard SMPTE rates for 12G/3G/HD/SD/ASI signals.



## Optical Transmitter SFPs

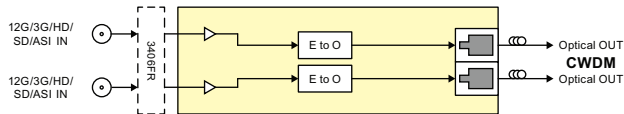
### 3406T13–2–12G

Dual-channel SFP optical transmitter with standard 1319nm lasers.



### 3406Txx/yy–2–12G

Dual-channel SFP optical transmitter with CWDM lasers.



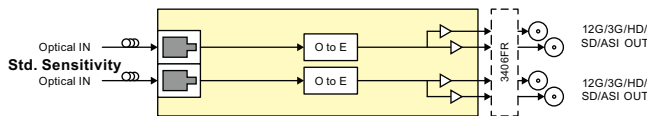
## Features & Benefits

- Reclocked with support for 12G, 3G, HD, SD and ASI
- Supports standard SMPTE rates for 12G/3G/HD/SD/ASI signals
- XX versions include the following wavelength channels: 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61
- XX/YY versions include the following wavelength channels: 27/29, 31/33, 35/37, 39/41, 43/45, 47/49, 51/53, 55/57, 59/61

## Optical Receiver SFPs

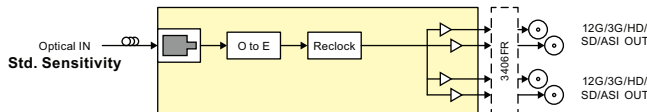
### 3406R–2–12G

Dual-channel SFP optical receiver, dual electrical outputs per optical input.



### 3406R–DA4R–12G

Single-channel SFP optical receiver, single optical input with 4x electrical outputs.



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## Specifications

### Optical Output:

Number: Up to 2x per SFP  
Connector: LC/UPC  
Fiber: Compatible with single mode

Optical Power:  
*Standard 1310nm:* -2dBm  $\pm$  1dBm  
*CWDM:* -1dBm  $\pm$  1dBm  
Wavelength:  
*Standard:* 1310nm  
*CWDM:* 1270–1610nm,  
ITU–T G.694.2 compliant

### Optical Input:

Number: Up to 2x per SFP  
Connector: LC/UPC  
Fiber: Compatible with single mode

Operating Wavelength:  
1270–1610nm  
Max. Input Power: -1dBm  
Optical Sensitivity: -12dBm at 11.88Gb/s

### Electrical Inputs:

Reclocked Standards:  
SMPTE ST 2082 (12Gb/s),  
ST 424M (3Gb/s),  
ST 292M (1.5Gb/s),  
ST 259M (270Mb/s),  
DVB–ASI  
Connector: HD–BNC  
Impedance: 75 $\Omega$  (nominal)  
Equalization: Automatic to  
20m @ 12Gb/s,  
80m @ 3Gb/s,  
100m @ 1.5Gb/s,  
250m @ 270Mb/s  
(with Belden 1694A  
or equivalent cable)  
Return Loss: > 15dB up to 1.5GHz,  
> 10dB up to 3GHz

### Electrical Outputs:

Connector: HD–BNC  
Impedance: 75 $\Omega$  (nominal)  
Signal Level: 800mV (nominal)  
DC Offset: 0V  $\pm$  0.5V  
Rise and Fall Time:  
*12G:* < 50ps  
*3G/HD:* < 135ps  
*SD:* < 900ps  
Overshoot: < 10% of amplitude  
Return Loss: > 15dB up to 1.5GHz,  
> 10dB up to 3GHz  
Alignment Jitter: < 0.2UI to 1.485Gb/s,  
< 0.3UI to 2.97Gb/s,  
< 0.3UI to 11.88Gb/s

### Physical:

Form Factor: SFP

### Compliance:

Laser Safety: Class 1 laser product,  
complies with 24 CFR  
1040.10 and 1040.11,  
IEC 60825–1  
EMI/RFI: Complies with FCC  
part 15, Class A; complies  
with EU EMC directives

## Ordering Information

<b>3406T13–2–12G</b>	Dual Channel 12G–SDI SFP Optical Transmitter with standard 1310nm lasers
<b>3406Txx/yy–2–12G</b>	Dual Channel 12G–SDI Optical Transmitter SFP with CWDM lasers for 3406FR–HDBNC
<b>3406R–2–12G</b>	Dual channel 12G–SDI SFP Optical Receiver
<b>3406R–DA4R–12G</b>	Single channel 12G–SDI SFP Optical Receiver with 4 Reclocked Outputs for 3406FR–HDBNC

### Enclosures:

**3406FR–HDBNC** Fiber optic SFP frame with HD–BNC type connectors plus 4 SFP slots for additional conversion

*Note: XX versions include the following wavelength channels: 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61;*

*XX/YY versions include the following wavelength channels: 27/29, 31/33, 35/37, 39/41, 43/45, 47/49, 51/53, 55/57, 59/61.*

*See CWDM wavelength ordering information.*