

3405 Optical SFP Series

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

The Evertz 3405 series SFPs are used in the 3405 and 3505 series of mounting frames, and 7708SFP series of card-based SFP carriers. Depending on the model, these SFPs support optical transmit, receive or regenerator functions. Reclocked versions support standard SMPTE rates for 3G/HD/SD/ASI signals, while non-reclocked versions support other rates such as MADI.

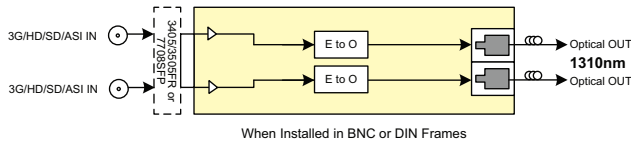
For appropriate mounting frames, please also see the 3405FR and 3505FR series frames, which are available in standalone and rackmount solutions to accommodate 2–64x SFP modules.



Optical Transmitter SFPs

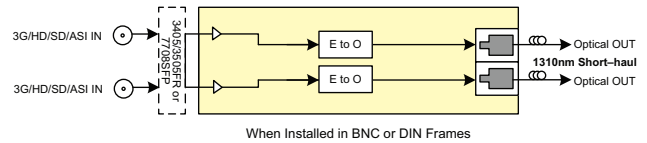
3405T13-2

Dual-channel SFP optical transmitter with standard 1310nm lasers. Non-reclocked, with support for 3G, HD, SD and ASI plus other rates such as MADI.



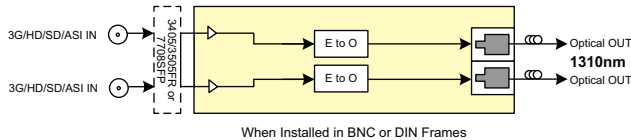
3405T13-2-S

Dual-channel SFP optical transmitter with short-haul 1310nm lasers. Non-reclocked, with support for 3G, HD, SD and ASI plus other rates such as MADI. For use in intra-facility and multimode fiber applications.



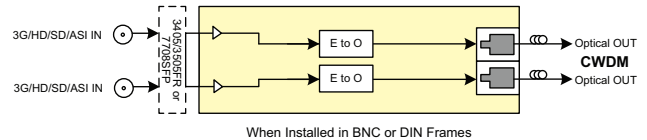
3405T13-2-12G

Dual-channel SFP optical transmitter with standard 1310nm lasers. Non-reclocked, with support for 12G, 3G, HD, SD and ASI plus other rates such as MADI.



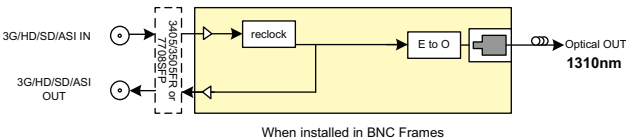
3405TXX/YY-2

Dual-channel SFP optical transmitter with short-haul 1310nm lasers. Non-reclocked, with support for 3G, HD, SD and ASI plus other rates such as MADI. For use in intra-facility and multimode fiber applications.



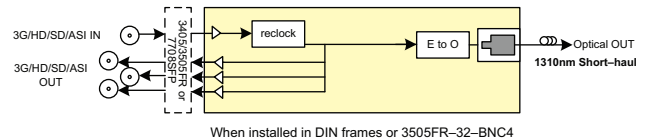
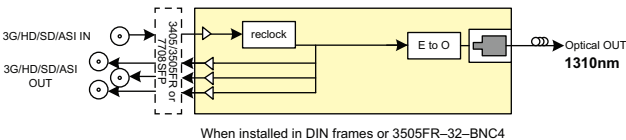
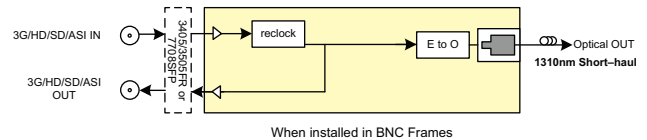
3405T13-R

Single-channel SFP optical transmitter with standard 1310nm laser. Reclocked with support for 3G, HD, SD and ASI. Single electrical loop-out when installed in a BNC frame, triple electrical loop-out when installed in a frame with DIN 1.0/2.3 connectors.



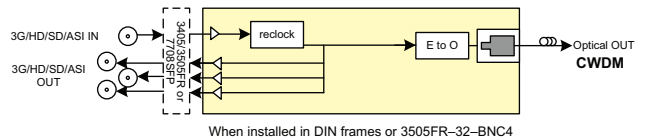
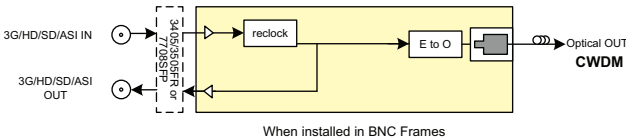
3405T13-R-S

Single-channel SFP optical transmitter with short-haul 1310nm laser. Reclocked with support for 3G, HD, SD and ASI. Single electrical loop-out when installed in a BNC frame, triple electrical loop-out when installed in a frame with DIN 1.0/2.3 connectors. For use in intra-facility and multimode fiber applications.



3405TXX-R

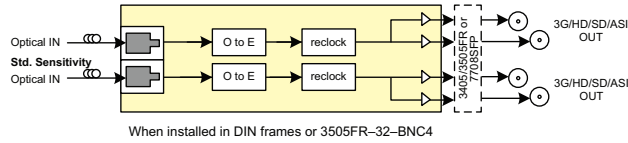
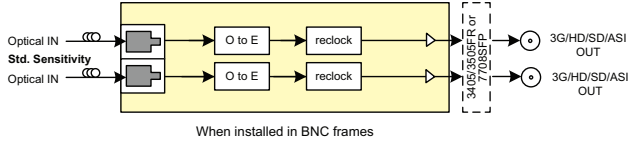
Single-channel SFP optical transmitter with CWDM laser, available in 16x G.694.2-compliant wavelengths from 1270–1610nm. Reclocked with support for 3G, HD, SD and ASI. Single electrical loop-out when installed in a BNC frame, triple electrical loop-out when installed in a frame with DIN 1.0/2.3 connectors.



Optical Receiver SFPs

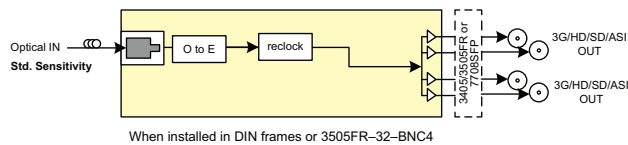
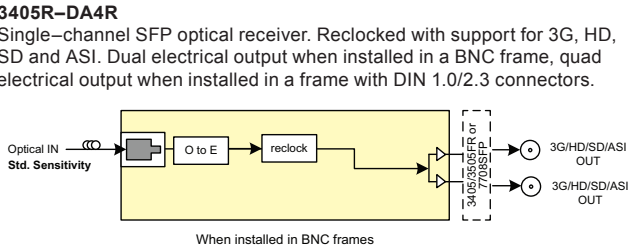
3405R-2R

Dual-channel SFP optical receiver. Reclocked with support for 3G, HD, SD and ASI. Single electrical output per optical input when installed in a BNC frame, dual electrical output per optical input when installed in a frame with DIN 1.0/2.3 connectors.



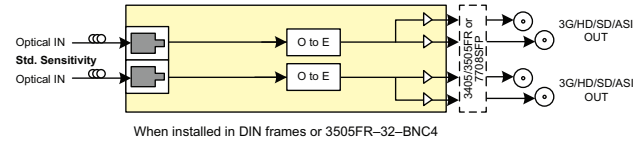
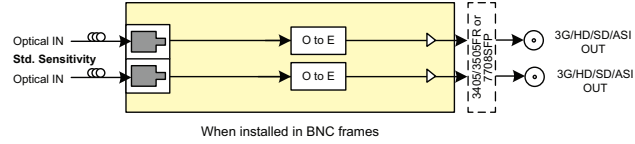
3405R-2-12G

Dual-channel SFP optical receiver. Non-reclocked, with support for 12G, 3G, HD, SD and ASI plus other rates such as MAD1. Single electrical output per optical input when installed in a BNC frame, dual electrical output per optical input when installed in a frame with HD-BNC connectors.



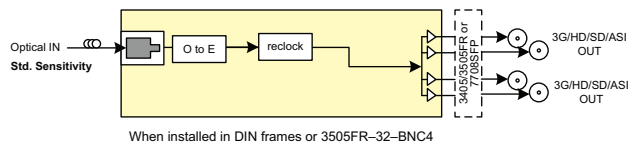
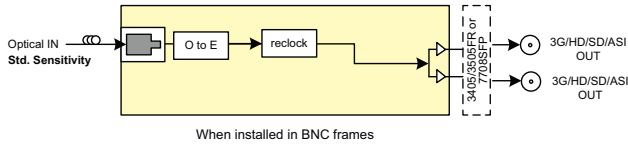
3405R-2

Dual-channel SFP optical receiver. Non-reclocked, with support for 3G, HD, SD and ASI plus other rates such as MAD1. Single electrical output per optical input when installed in a BNC frame, dual electrical output per optical input when installed in a frame with DIN 1.0/2.3 connectors.



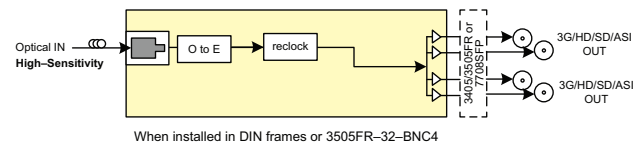
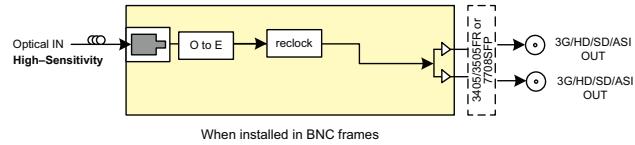
3405R-DA4R

Single-channel SFP optical receiver. Reclocked with support for 3G, HD, SD and ASI. Dual electrical output when installed in a BNC frame, quad electrical output when installed in a frame with DIN 1.0/2.3 connectors.



3405R-DA4R-H

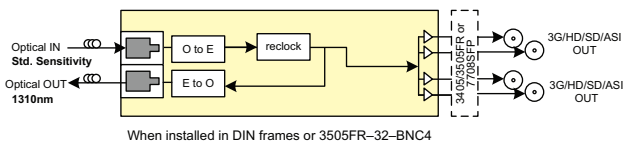
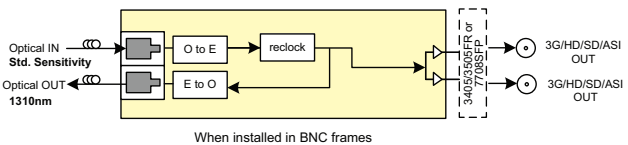
Single-channel SFP optical high-sensitivity receiver. Reclocked with support for 3G, HD, SD and ASI. Dual electrical output when installed in a BNC frame, quad electrical output when installed in a frame with DIN 1.0/2.3 connectors.



Optical Regenerator/Wavelength Shifter SFPs

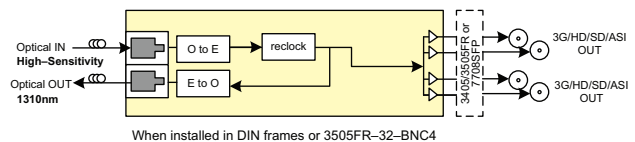
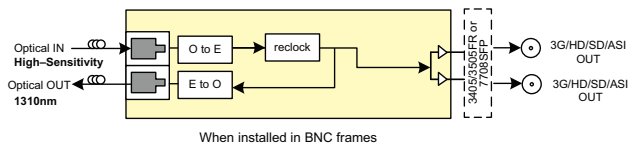
34050013-DA4

Single-channel SFP optical regenerator with standard 1310nm laser. Reclocked optical and electrical outputs with support for 3G, HD, SD and ASI. Dual electrical output when installed in a BNC frame, quad electrical output when installed in a frame with DIN 1.0/2.3 connectors.



34050013-DA4-H

Single-channel SFP optical regenerator with standard 1310nm laser and high-sensitivity receiver. Reclocked optical and electrical outputs with support for 3G, HD, SD and ASI. Dual electrical output when installed in a BNC frame, quad electrical output when installed in a frame with DIN 1.0/2.3 connectors.

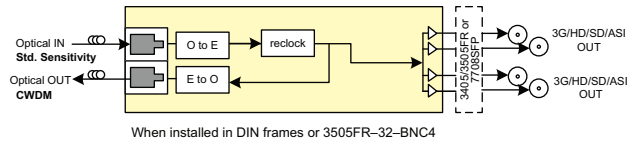
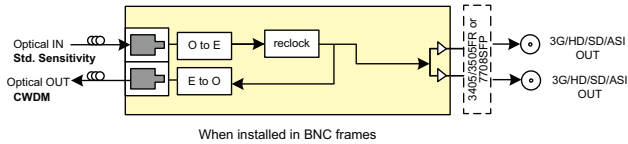


3405 Optical SFP Series

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

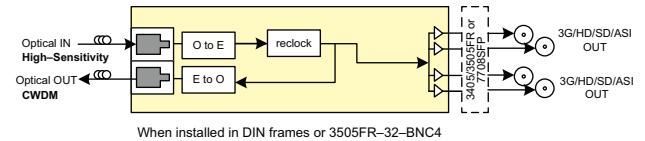
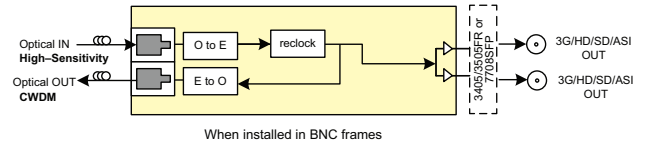
340500XX-DA4

Single-channel SFP optical regenerator with standard 1310nm laser and high-sensitivity receiver. Reclocked optical and electrical outputs with support for 3G, HD, SD and ASI. Dual electrical output when installed in a BNC frame, quad electrical output when installed in a frame with DIN 1.0/2.3 connectors.



340500XX-DA4-H

Single-channel SFP optical regenerator with high-sensitivity receiver and CWDM laser, available in 16x G.694.2-compliant wavelengths from 1270-1610nm. Reclocked optical and electrical outputs with support for 3G, HD, SD and ASI. Dual electrical output when installed in a BNC frame, quad electrical output when installed in a frame with DIN 1.0/2.3 connectors.



Specifications

Optical Output: Number of Outputs: Up to 2x per SFP Connector: LC/UPC Fiber: Compatible with Singlemode or 50/62.5um Multimode Optical Power: <i>Standard 1310nm:</i> -2dBm ± 1dBm <i>-S (Short haul 1310nm):</i> -7dBm ± 1dBm <i>CWDM:</i> +4dBm ± 1.5dBm Wavelength: <i>Standard & -S:</i> 1310nm <i>CWDM:</i> 1270-1610nm, ITU-T G.694.2 compliant	Optical Sensitivity: <i>Standard:</i> -21dBm at 2.97Gb/s pathological Level A, -23dBm at 2.97Gb/s color bars <i>High-Sensitivity:</i> -28dBm at 2.97Gb/s pathological Level A, -30dBm at 2.97Gb/s color bars	Electrical Outputs: Connector: BNC or DIN 1.0/2.3, depending on model of 3405/3505 frame Impedance: 75Ω (nominal) Signal Level: 800mV (nominal) DC Offset: 0V ± 0.5V Rise and Fall Time (reclocked SFPs only): <i>HD/3G:</i> < 135ps <i>SD:</i> < 900ps Overshoot (reclocked SFPs only): < 10% of amplitude Return Loss: > 15dB to 1.5GHz, > 10dB to 3GHz Alignment Jitter (reclocked SFPs only): < 0.2UI to 1.485Gb/s, < 0.3UI to 2.97Gb/s
Optical Input: Number of Inputs: Up to 2x per SFP Connector: LC/UPC Fiber: Compatible with Singlemode or 50/62.5um Multimode Operating Wavelength: 1270-1610nm Maximum Input Power: <i>Standard:</i> -1dBm <i>High-Sensitivity:</i> -7dBm	Electrical Inputs: Reclocked Standards: SMPTE ST 424M (3 Gb/s), SMPTE ST 292M (1.5Gb/s), SMPTE ST 259M (270Mb/s), DVB-ASI Connector: BNC or DIN 1.0/2.3, depending on model of 3405/3505 frame Impedance: 75Ω (nominal) Equalization: Automatic to 80m @ 3 Gb/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	Physical: SFP form-factor 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

3405T13-2	Dual-channel SFP optical transmitter with standard 1310nm lasers, non-reclocked
3405T13-2-A	Dual-channel SFP optical transmitter with standard 1310nm lasers, non-reclocked, with loop out
3405T13-2-S	Dual-channel SFP optical transmitter with short-haul 1310nm lasers, non-reclocked
3405TXX/YY-2	Dual-channel SFP optical transmitter with CWDM lasers (1270-1610nm), non-reclocked
3405T13-R	Single-channel SFP optical transmitter with standard 1310nm laser, reclocked
3405T13-R-S	Single-channel SFP optical transmitter with short-haul 1310nm laser, reclocked
3405TXX-R	Single-channel SFP optical transmitter with CWDM laser (1270-1610nm), reclocked
3405R-2R	Dual-channel SFP optical receiver, reclocked
3405R-2	Dual-channel SFP optical receiver, non-reclocked
3405R-DA4R	Single-channel SFP optical receiver, reclocked
3405R-DA4R-H	Single-channel SFP optical high-sensitivity receiver, reclocked
34050013-DA4	Single-channel SFP optical regenerator with standard 1310nm laser, reclocked
34050013-DA4-H	Single-channel SFP optical regenerator with standard 1310nm laser and high-sensitivity receiver, reclocked
340500XX-DA4	Single-channel SFP optical regenerator with CWDM laser (1270-1610nm), reclocked
340500XX-DA4-H	Single-channel SFP optical regenerator with high-sensitivity receiver and CWDM laser (1270-1610nm), reclocked

* Multimode applications require a 5dB optical attenuator at the output of all transmitting ports, except when -S short haul version transmitter SFPs are used. XX versions include the following: 27/29, 31, 33, 35, 37, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61; XX/YY versions include the following: 27/29, 31/33, 35/37, 43/45, 47/49, 51/53, 55/57, 59/61. See CWDM wavelength ordering information.

Enclosures: 3405FRM-BNC 3405FRM-DIN 3405FRS-BNC 3405FR-BNC 3405FR-DIN 3405FR-XLINK 3505FR-32-BNC4 3505FR-64-BNC2 3505FR-DIN 3505FR-XLINK 7708SFP 7708SFP-2 7708SFP-2-DIN 7708SFP-4-DIN-A	See the appropriate catalogue pages enclosure options. Miniature SFP frame, single SFP capacity, BNC connectors Miniature SFP frame, single SFP capacity, DIN 1.0/2.3 connectors Standalone SFP frame, with SNMP monitoring and control, 4x SFP capacity, BNC connectors 1RU SFP frame, optional SNMP monitoring and control, 16x SFP capacity, BNC connectors 1RU SFP frame, optional SNMP monitoring and control, 16x SFP capacity, DIN 1.0/2.3 connectors 1RU SFP frame, optional SNMP monitoring and control, 16x SFP capacity, X-LINK connector 2RU SFP frame, optional SNMP monitoring and control, 32x SFP capacity, BNC connectors 2RU SFP frame, optional SNMP monitoring and control, 64x SFP capacity, BNC connectors 2RU SFP frame, optional SNMP monitoring and control, 64x SFP capacity, DIN 1.0/2.3 connectors 2RU SFP frame, optional SNMP monitoring and control, 64x SFP capacity, X-LINK connectors Card-based SFP carrier for 7700/7800FR series frames, single SFP capacity, BNC connectors Card-based SFP carrier for 7700/7800FR series frames, 2x SFP capacity, BNC connectors Card-based SFP carrier for 7700/7800FR series frames, 2x SFP capacity, DIN 1.0/2.3 connectors Card-based SFP carrier for 7700/7800FR series frames, 4x SFP capacity, DIN 1.0/2.3 connectors
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Accessories:
J/LC/LC/ATTEN-5dB 5dB optical attenuator, required for multimode applications when standard 1310nm SFPs are used