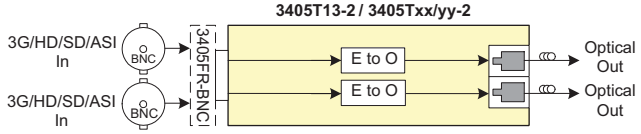
3405FR-BNC

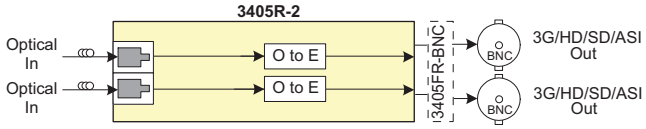
Fiber Optic SFP BNC Frame

3405FR-BNC

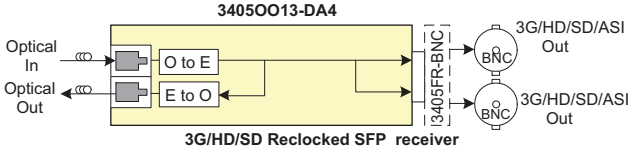
SFP Options



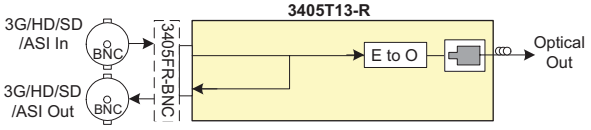
3G/HD/SD dual 1310nm/CWDM SFP transmitters, Non-reclocking



3G/HD/SD dual SFP receiver, Non-reclocking



3G/HD/SD Reclocked SFP receiver
Reclocked optical loop output & dual reclocked electrical outputs



3G/HD/SD Reclocked SFP transmitter, Reclocked electrical loop output

The Evertz® 3405FR-BNC SFP frame is the ideal solution for today's low cost, high density fiber optic distribution needs. The 3405FR-BNC provides the flexibility to handle the high-speed requirements of 3G and HDTV as well as SD-SDI, SDTi, and DVB-ASI.

All components are hot swappable through the front of the frame including SFPs, frame controllers, multiplexers, and power converters. This ensures the unit can be fully serviceable in the field without having to be de-cabled or removed from the customer's rack.

The 3405FR-BNC is a 1RU frame designed to house up to 16 Evertz® SFP modules. This provides up to 32 EO or 32 OE in a single rack unit of space. The frame can be configured for a mixture of modules. See SFP options above.

The 3405FR-BNC can be powered by external power bricks or with the 3405PS-6. The 3405PS-6 can power up to 6 x 3405FR-BNC frames with primary & secondary power.

The 3405FR-BNC is VistaLINK® -capable with support for primary and secondary frame controller.

The 3405FR-BNC frame comes with a 3405FAN fan module and 2 x 3405PT power trays. SFPs, frame controllers, power supplies and MUX/DEMUX modules must be ordered separately. Please see ordering information.

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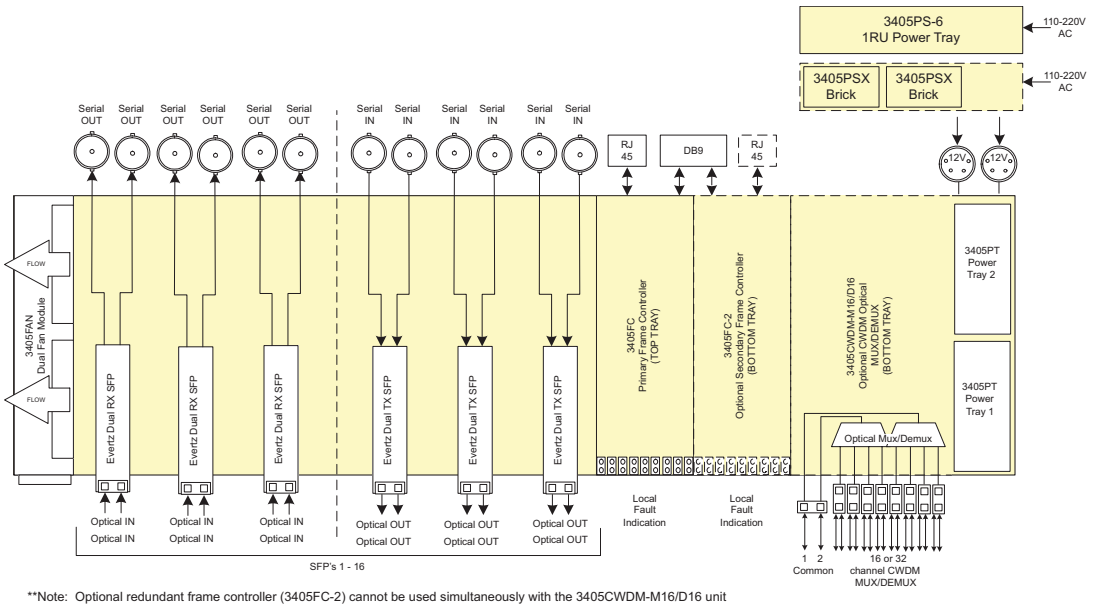
Features & Benefits

- Dual Power supplies (primary and redundant) and conversion trays (front extractable)
- Houses up to 16 front loading Evertz® SFP modules
- Each slot can be used as an input or output based on SFP type
- Dual primary & secondary 3405FC Frame Controllers for full VistaLINK® SNMP control and monitoring
- No electrical re-cabling required when hot swapping SFP modules
- Power options include external 12V power supply bricks or 1RU power supply tray which will power up to 6 x 3405FR-BNC units with redundancy
- Optional bi-directional single or dual Mux/Demux of up to 16 wavelengths in the 1270nm to 1610nm spectrum (ITU-T G.694.2 compliant)
- MTP to LC/UPC fanout cable for convenient fiber connection from Evertz SFPs to Mux/Demux modules

The Complete Solution Provider

3405FR-BNC

Fiber Optic SFP BNC Frame



**Note: Optional redundant frame controller (3405FC-2) cannot be used simultaneously with the 3405CWDM-M16/D16 unit

Specifications (NOTE: Electrical input & output specs only apply to reclocking SFP modules(3405T13-R & 3405OO13-DA4)

System:

Density:	Up to 32 EO, OE, or mixture of EO and OE in a 1RU unit
Impedance:	75Ω
Connector:	BNC per IEC 61169-8 Annex A (F-type connector optional)

Communication and Control:

Serial:	RS-232 - single Female 9-pin D connector
Ethernet:	SNMP over IEEE 802.3/U (10/100 BaseTx) RJ45 connector
Control:	VistaLINK®

Optical Output:

Number of Outputs:	Up to 2 per SFP
Connector:	LC/UPC
Rise/Fall Time:	<270ps
Optical Power:	
Standard:	-1dBm ±1dBm
CWDM:	+1dBm ±1dBm
Wavelength:	
Standard:	1310nm
CWDM:	1270nm-1610nm ITU-T G.694.2 compliant

Optical Input:

Number of Inputs:	Up to 2 per SFP
Connector:	LC/UPC
Operating Wavelength:	1270nm to 1610nm
Maximum Input Power:	
Standard:	-1dBm
Optical Sensitivity:	
Standard:	-21dBm at 2.97Gb/s pathological Level A -23dBm at 2.97Gb/s color bars

Electrical Inputs:

Reclocked Standard:	SMPTE 424M (3Gb/s), SMPTE 292M (1.5Gb/s), SMPTE 259M (270Mb/s), DVB-ASI
Connector::	BNC per IEC 61169-8 Annex A
Equalization:	Automatic to 80m @ 3Gb/s 100m@ 1.5Gb/s
	250m @ 270Mb/s (with Belden 1694A or equivalent)
Return Loss:	> 15dB up to 1.5GHz > 10dB up to 3GHz

Electrical Outputs:

Connector:	BNC per IEC 61169-8 Annex A
Impedance:	75Ω (nominal)
Signal Level:	800mV (nominal)
DC Offset:	0V +/-0.5V
Rise and Fall Time:	< 135ps (HD/3G) < 900ps (SD)
Overshoot:	< 10% of amplitude
Return Loss:	>15dB to 1.5GHz >10dB to 3GHz
Alignment Jitter:	< 0.2UI (Reclocked) to 1.485Gb/s < 0.3UI (Reclocked) to 2.97Gb/s

3405PSX External Power Supply Brick:

AC Mains Input:	Auto ranging, 100 - 240 VAC, 50/60 Hz
Number of Outputs:	1
Output Voltage:	12VDC
Output Connector:	4 PIN XLR
Max Power Dissipation:	120 W
Status Indicators:	Green OK LED

3405PS-6:

AC Mains Input:	Auto ranging, 100 - 240 VAC, 50/60 Hz
Number of Outputs:	12 (6 primary, 6 secondary)
Output Voltage:	12VDC
Output Connector:	4 PIN XLR
Max Power:	
Dissipation	250 W (primary) 250 W (secondary)
Status Indicators:	Green OK LED Red Fault LED

Connector:

Power:	4 PIN XLR (12V DC)
Status Indicators:	PSU status LEDs (each per power supply tray)
Fuses:	5 amp, time delay- 1 per power supply tray

Physical:

Dimensions:	1.8"H x 19"W x 4.16"D
Module Capacity:	16 Evertz® SFP modules. Dual TX or Dual RX

Electrical:

Power Supply Configuration:	Dual external supplies (primary/secondary 3405PSX) 1RU Power Supply Tray (3405PS-6)
Voltage:	DC Input 12V DC (external power supplies required for 110-220V)
Max Power Consumption:	40W (fully loaded frame with all accessories) Note - power consumption dependent on SFP type

Compliance:

Safety:	CSA Listed, Complies with EU Safety Directive
EMC:	Complies with FCC part 15, Class A Complies with EU EMC Directives

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Ordering Information

3405FR-BNC	Fiber Optic SFP BNC frame (does not include power supplies, SFPs, frame controllers, Mux/Demux modules or Mux/Demux fanout cables)

Note: Order one of the power supply options from below

Power Supplies:

3405PSX	External power supply brick
3405PS-6	1RU power supply tray for 3405FR-BNC (powers up to 6 units - primary & secondary)

Accessories:

3405FC	3405 Frame controller
3405FC-2	Redundant Frame controller
3405PT	3405FR-BNC Frame power tray, 12V to 3.3V DC power converter
3405FAN	3405FR-BNC dual FAN module

Evertz SFP modules:

3405T13-2	3G/HD/SD dual 1310nm SFP transmitters. Non-reclocking
3405Txx/yy-2	3G/HD/SD dual CWDM SFP transmitters. Non-reclocking
3405R-2	3G/HD/SD dual SFP receiver. Non-reclocking
3405T13-R	3G/HD/SD Reclocked SFP transmitter. Reclocked electrical loop output
3405OO13-DA4	3G/HD/SD Reclocked SFP receiver. Reclocked optical loop output and dual reclocked electrical outputs

Note: xx/yy versions include the following, 27/29, 31/33, 35/37, 43/45 - Low Band
47/49, 51/53, 55/57, 59/61 - High Band

Fiber Optic Mux/Demux Modules(MTP to LC fanout cable not included):

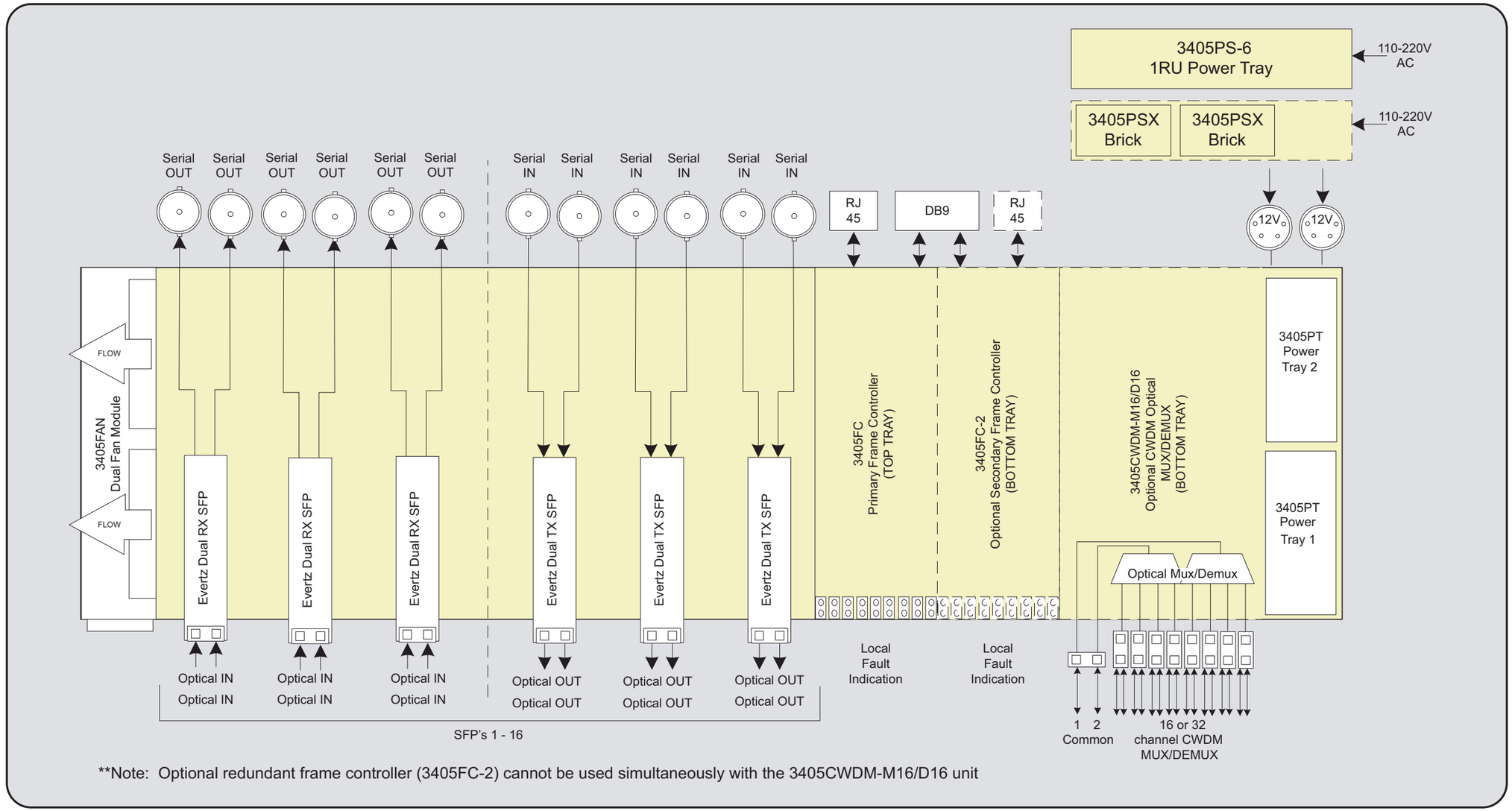
3405CWDM-2-M16	Dual 16 Channel Mux, 1270nm to 1610nm
3405CWDM-2-D16	Dual 16 Channel Demux, 1270nm to 1610nm
3405CWDM-M16	16 Channel Mux, 1270nm to 1610nm
3405CWDM-D16	16 Channel Demux, 1270nm to 1610nm

Note: 3405CWDM-2-M16/D16 requires 2 x CB-MTP40CM-LCPC-HB &
2 x CB-MTP40CM-LCPC-LB for full 32ch connectivity
3405CWDM-M16/D16 requires 1 x CB-MTP40CM-LCPC-HB &
1 x CB-MTP40CM-LCPC-LB for full 16ch connectivity

Fanout Cables:

CB-MTP40CM-LCPC-HB	MTP to LC/UPC fanout cable for HIGH band CWDM wavelengths, 1470nm to 1610nm
CB-MTP40CM-LCPC-LB	MTP to LC/UPC fanout cable for LOW band CWDM wavelengths, 1270nm to 1450nm

3405FR-BNC Block Diagram



**Note: Optional redundant frame controller (3405FC-2) cannot be used simultaneously with the 3405CWDM-M16/D16 unit

Products Fiber Optics **3405FR-BNC**

3405FR-BNC

VistaLINK

Fiber Optic SFP BNC Frame

The Evertz® 3405FR-BNC SFP frame is the ideal solution for today's low cost, high density fiber optic distribution needs. The 3405FR-BNC provides the flexibility to handle the high-speed requirements of 3G and HDTV as well as SD-SDI, SDTi, and DVB-ASI.

All components are hot swappable through the front of the frame including SFPs, frame controllers, multiplexers, and power converters. This ensures the unit can be fully serviceable in the field without having to be de-cabled or removed from the customer's rack.

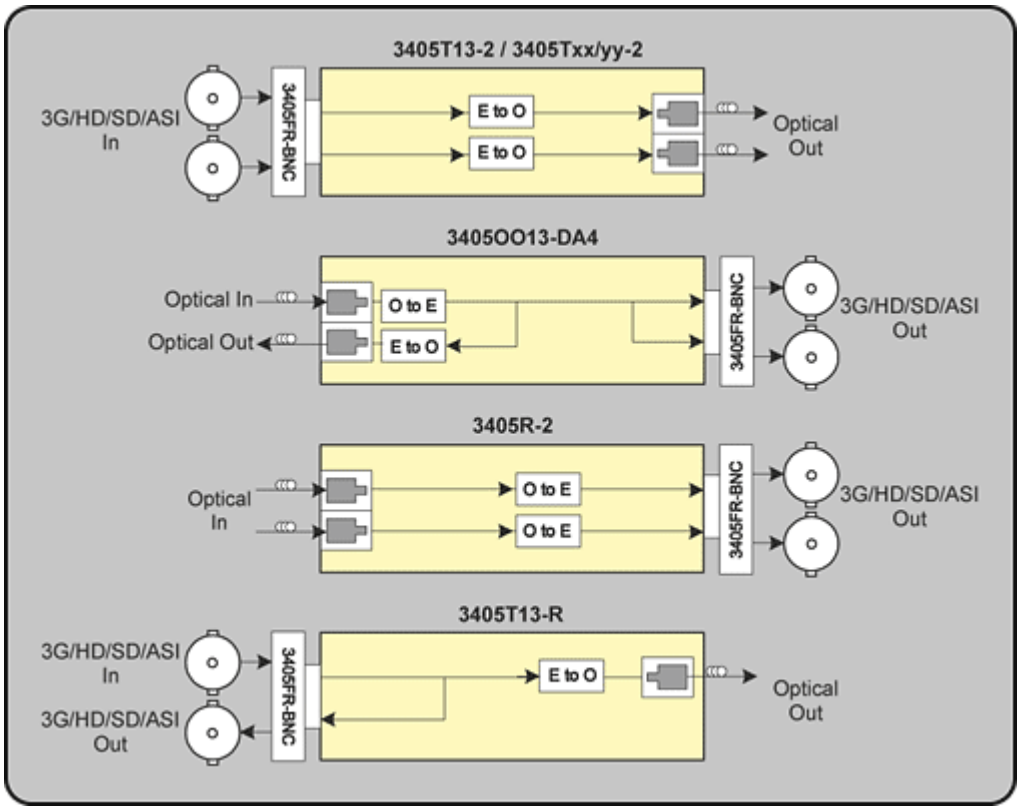
The 3405FR-BNC is a 1RU frame designed to house up to 16 Evertz® SFP modules. This provides up to 32 EO or 32 OE in a single rack unit of space. The frame can be configured for a mixture of modules. See SFP options above.

The 3405FR-BNC can be powered by external power bricks or with the 3405PS-6. The 3405PS-6 can power up to 6 x 3405FR-BNC frames with primary & secondary power.

The 3405FR-BNC is VistaLINK® -capable with support for primary and secondary frame controller.

The 3405FR-BNC frame comes with a 3405FAN fan module and 2 x 3405PT power trays. SFPs, frame controllers, power supplies and MUX/DEMUX modules must be ordered separately. Please see ordering information.

SFP Options



Features

- Dual Power supplies (primary and redundant) and conversion trays (front extractable)
- Houses up to 16 front loading Evertz® SFP modules
- Each slot can be used as an input or output based on SFP type
- Dual primary & secondary 3405FC Frame Controllers for full VistaLINK® SNMP control and monitoring
- No electrical re-cabling required when hot swapping SFP modules
- Power options include external 12V power supply bricks or 1RU power supply tray which will power up to 6 x 3405FR-BNC units with redundancy
- Optional bi-directional single or dual Mux/Demux of up to 16 wavelengths in the 1270nm to 1610nm spectrum (ITU-T G.694.2 compliant)
- MTP to LC/UPC fanout cable for convenient fiber connection from Evertz SFPs to Mux/Demux modules

Specifications

System

Density	Up to 32 EO, OE, or mixture of EO and OE in a 1RU unit
Impedance	75Ω
Connector	BNC per IEC 61169-8 Annex A (F-type connector optional)

Communication and Control

Serial	RS-232 - single Female 9-pin D connector
Ethernet	SNMP over IEEE 802.3/U (10/100 BaseTx) RJ45 connector
Control	VistaLINK®

Optical Output

Number of Outputs	Up to 2 per SFP
Connector	LC/UPC
Rise/Fall Time	< 270ps
Optical Power	
Standard	-1dBm ±1dBm
CWDM	+1dBm ±1dBm
Wavelength	

Standard	1310nm
CWDM	1270nm-1610nm ITU-T G.694.2 compliant

Optical Input

Number of Inputs	Up to 2 per SFP
Connector	LC/UPC
Operating Wavelength	1270nm to 1610nm
Maximum Input Power	
Standard	-1dBm
Optical Sensitivity	
Standard	-21dBm at 2.97Gb/s pathological Level A -23dBm at 2.97Gb/s color bars

Electrical Inputs

Note	*Electrical Input & Output specifications only apply to reclocking SFP modules (3405T13-R & 3405OO13-DA4)*
Reclocked Standard	SMPTE 424M (3Gb/s), SMPTE 292M (1.5Gb/s), SMPTE 259M (270Mb/s),DVB-ASI
Connector	BNC per IEC 61169-8 Annex A
Equalization	Automatic to 80m @ 3Gb/s 100m @ 1.5Gb/s 250m @ 270Mb/s (with Belden 1694A or equivalent)
Return Loss	> 15dB up to 1.5GHz > 10dB up to 3GHz

Electrical Outputs

Note	*Electrical Input & Output specifications only apply to reclocking SFP modules (3405T13-R & 3405OO13-DA4)*
Connector	BNC per IEC 61169-8 Annex A
Impedance	75Ω (nominal)
Signal Level	800mV (nominal)
DC Offset	0V ±0.5V
Rise and Fall Time	< 135ps (HD/3G) < 900ps (SD)
Overshoot	< 10% of amplitude
Return Loss	> 15dB to 1.5GHz > 10dB to 3GHz
Alignment Jitter	< 0.2UI (Reclocked) to 1.485Gb/s < 0.3UI (Reclocked) to 2.97Gb/s

3405PSX External Power Supply Brick

AC Mains Input	Auto ranging, 100 -240 VAC, 50/60Hz
Number of Outputs	1
Output Voltage	12VDC
Output Connector	4 PIN XLR
Max Power Dissipation	120 Watts
Status Indicators	Green OK LED

3405PS-6

AC Mains Input	Auto ranging, 100 -240 VAC, 50/60Hz
Number of Outputs	12 (6 primary, 6 secondary)
Output Voltage	12VDC
Output Connector	4 PIN XLR
Max Power Dissipation	250 Watts (primary) 250W (secondary)
Status Indicators	Green OK LED Red Fault LED

Power

Connector	4 PIN XLR (12V DC)
Status Indicators	PSU status LEDs (each per power supply tray)
Fuses	5 amp, time delay -1 per power supply tray

Physical

Dimensions	1.8"H x 19"W x 4.16"D
Module Capacity	16 Evertz® SFP modules. Dual TX or Dual RX

Electrical

Power Supply Configuration	Dual external supplies (primary/secondary 3405PSX) 1RU Power Supply Tray (3405PS-6)
Voltage	DC Input 12V DC (external power supplies required for 110-220V)
Max Power Consumption	40 Watts (fully loaded frame with all accessories) Note - power consumption dependent on SFP type

Compliance

Safety	CSA Listed, Complies with EU Safety Directive
EMC	Complies with FCC part 15, Class A Complies with EU EMC Directives

Ordering Information

3405FR-BNC	Fiber Optic SFP BNC frame (does not include power supplies, SFPs, frame controllers, Mux/Demux modules or Mux/Demux fanout cables)
Note	*Order one of the power supply options from below*

Power Supplies

3405PSX	External power supply brick
3405PS-6	1RU power supply tray for 3405FR-BNC (powers up to 6 units - primary & secondary)

Accessories

3405FC	3405 Frame controller
3405FC-2	Redundant Frame controller
3405PT	3405FR-BNC Frame power tray, 12V to 3.3V DC power converter
3405FAN	3405FR-BNC dual FAN module

Evertz SFP modules

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3405Txx/yy-2	3G/HD/SD dual CWDM SFP transmitters. Non-reclocking
3405R-2	3G/HD/SD dual SFP receiver. Non-reclocking
3405T13-R	3G/HD/SD Reclocked SFP transmitter. Reclocked electrical loop output
3405OO13-DA4	3G/HD/SD Reclocked SFP receiver. Reclocked optical loop output and dual reclocked electrical outputs
Note	• *xx/yy versions include the following:* *- 27/29, 31/33, 35/37, 43/45 - Low Band* *- 47/49, 51/53, 55/57, 59/61 - High Band*

Fiber Optic Mux/Demux Modules

MTP to LC fanout cable not included

3405CWDM-2-M16	Dual 16 Channel Mux, 1270nm to 1610nm
3405CWDM-2-D16	Dual 16 Channel Demux, 1270nm to 1610nm
3405CWDM-M16	16 Channel Mux, 1270nm to 1610nm
3405CWDM-D16	16 Channel Demux, 1270nm to 1610nm

Note

- *For full 32ch connectivity 3405CWDM-2-M16/D16 requires:*
  - *2 x CB-MTP40CM-LCPC-HB*
  - *2 x CB-MTP40CM-LCPC-LB*
- *For full 16ch connectivity 3405CWDM-M16/D16 requires:*
  - *1 x CB-MTP40CM-LCPC-HB*
  - *1 x CB-MTP40CM-LCPC-LB*

Fanout Cables

CB-MTP40CM-LCPC-HB	MTP to LC/UPC fanout cable for HIGH band CWDM wavelengths, 1470nm to 1610nm
CB-MTP40CM-LCPC-LB	MTP to LC/UPC fanout cable for LOW band CWDM wavelengths, 1270nm to 1450nm