



# EG1550TX Series Fiber Optical Transmitter

## Description

The Electroline EG1550TX series is a family of high performance 1550 nm externally modulated transmitter for FTTx, RFoG, or HFC access network applications. Analog video, QAM digital video and data can be carried in the 45 to 1003 MHz frequency band. The EG1550TX series is in a convenient 1 RU 19" format and it provides a cost effective solution with outstanding performance. It delivers up to 9 dBm with narrow optical line-width. When it is linked with one or more EDFAs, EG1550TX offers high CNR for long distance transmission. With patented RF pre-distortion circuit, EG1550TX series offers excellent CSO and CTB performance. Additional feature of adjustable SBS suppression control is available. This family of transmitters is a part of the full complement of products offered by Electroline to support and enhance the deployment of traditional HFC, passive HFC, and fiber to the home (FTTH) Networks.

## Applications

- High performance super-trunking links
- High power distribution networks
- Redundant ring architectures
- FTTx networks



## Features

- 1 RU, 19" rack-mount format
- 45 to 1003 MHz forward bandwidth
- Patented RF predistortion circuit for excellent CNR and low distortion performance.
- Adjustable SBS threshold (13, 16, 18 dBm)
- Unique simultaneous SBS/SPM suppression for point-to-point and point-to-multiple application.
- Microprocessor control and monitoring.
- Automatic/Manual gain control mode.
- Front panel LCD display.
- SNMP on Ethernet and console on RS-232 management interface.
- 1 or 2 outputs at specified level

# Specifications

| Parameters  | Units                |  | Notes            |
|---|----------------------|--|------------------|
| <b>Optical Specifications</b>   |                      |  |                  |
| Laser Type  |                      | Cooled DFB LD with isolator  |                  |
| Wavelength  | nm                   | 1550 +/- 10<br>or 100GHz ITU-T wavelengths between 1530 nm and 1565 nm                         |                  |
| Output Power per port   | dBm                  | 8.5 for 1 optical output; 7 / 9 for 2 optical outputs  |                  |
| Optical Output Port   |                      | 1 or 2   |                  |
| SBS Suppression level   | dBm                  | 13 for 1 optical output; 13, 16 or 18 for 2 optical outputs                                    |                  |
| <b>RF Specifications</b>  |                      |  |                  |
| Bandwidth   | MHz                  | 45 to 1003   |                  |
| Channel Loading   |                      | 77 NTSC analog plus 75 256 QAM   |                  |
| RF Input Level  | dBmV/ch              | 15-20 dBmV/ch with AGC control (OMI/ch = 3 ± 0.25 %)<br>or nominal 20 dBmV/ch with MGC control |                  |
| Flatness  | dB                   | +/- 0.75   |                  |
| Input Impedance   | Ω                    | 75   |                  |
| Return Loss   | dB                   | ≥ 16   |                  |
| Test point  | dB                   | -20 +/- 1  |                  |
| <b>Link Performance Specifications</b>  |                      |  |                  |
|   |                      | 2 optical outputs  | 1 optical output |
| Carrier to Noise (CNR)  | dB                   | 50   | 51               |
| Composite Second Order (CSO)  | dBc                  | ≤ -63 @ port A<br>≤ -61 @ port B   | ≤ -65            |
| Composite Triple Beat (CTB)   | dBc                  | -63  | -65              |
| XMOD  | dBc                  | -65  | -65              |
| <b>General Specifications</b>   |                      |  |                  |
| Management interface  |                      | SNMP on Ethernet and console on RS-232   |                  |
| Monitoring Protocol   |                      | SNMP   |                  |
| Operating Temperature   | °C                   | 0 to 50  |                  |
| Storage Temperature   | °C                   | - 20 to 60   |                  |
| Humidity  | %                    | 20 to 85   |                  |
| Power Supply  | VAC, 50/60 Hz<br>VDC | 90 to 260 or<br>- 48   |                  |
| Power Consumption   | Watts                | ≤ 50 for 1 optical output; ≤ 75 for 2 optical outputs  |                  |
| Dimensions  | mm                   | 447D x 485W x 45H  |                  |
| Weight  | Kg                   | ≤ 6.5  |                  |
| <b>Notes:</b>   |                      |  |                  |
| <b>General:</b> Specifications are subject to change without notice.  |                      |  |                  |
| 1) Performance measured after a minimum of 30 minutes stabilization.  |                      |  |                  |
| 2) QAM channels -6 dB relative to NTSC Analog Channels.   |                      |  |                  |
| 3) Link budget is defined by output power to 0 dBm optical input at receiver under 65km (50km) fiber link + EDFA, SBS setting = 16dBm (13 dBm) test conditions. |                      |  |                  |

## Ordering Information

| 1               | 2   | 3                      | 4  | 5  | 6   | 7                 | 8  | 9  |
|-----------------|---|------------------------|--|--|---|-------------------|--|--|
| EG1550TX series | Optical output                            | Optical connector      | Optical Wavelength   | Optical Output level   | SBS Suppression level   | Control Interface | Power Supply                                     | Power Cord Type  |
| <b>EG1550TX</b> | <b>2</b>                                  | <b>SA</b>              | <b>NN</b>  | <b>07</b>  | <b>AD</b>   | <b>SN</b>         | <b>DA</b>  | <b>A</b>   |
| EG1550TX        | 1=1 optical output<br>2=2 optical outputs | SA=SC/APC<br>FA=FC/APC | 16 to 62 = 100 GHz ITU-T channel #,<br><br>NN = 1550+/- 10nm | <u>For 1 optical output</u><br>08 = ≥ 8.5 dBm<br><br><u>For 2 optical outputs</u><br>07 = ≥ 7 dBm<br>09 = ≥ 9 dBm<br>10 = ≥ 10 dBm | <u>For 1 optical output</u><br>13 = 13 dBm<br><br><u>For 2 optical outputs</u><br>13 = 13 dBm,<br>16 = 16 dBm,<br>18 = 18 dBm,<br>AD = Adjustable<br>13, 16 or 18 dB, | SN = Ethernet     | SA = Single AC<br>DA = Dual AC<br>SD = Single DC | <u>AC option</u><br>A=America<br>C=China<br>E=Euro<br><br><u>DC option</u><br>N=None |

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