



Genexis FiberTwist

R2000-Series Datasheet

Self-installation fiber node/receiver





Product features and specifications

Genesis FiberTwist R2000-Series

General specifications

Dimensions (HxWxD)	110mm x 110mm x 46mm
Input power	11 V ... 18 V, typ. 12 V
Power supply voltage	12 Vdc ± 5%
Power cord type	F-male
Power port	2x internal splitter
Power consumption	4.5 W typical
Internal supply voltage	9 V
DC current output @ 9V laser on/off	420 mA
Dim switching of diodes 4 levels	
Operating temperature	0 - 40 °C
Storage temperature	0 - 70 °C
Output impedance	75 Ω
Safety requirements	EN 60728-11:2010
EMC (EN 50083-2: 2012)	< 20 dBpW @ 30-1000 MHz
Immunity	> 125 dBμV/m
Ingress Protection	IP 20
Overvoltage protection	2 kV (EN60728-3: 2010)
Protection	Class II
MTBF (Telcordia SR-322)	~ 200 000 h
Conformity	CE
Optical port	1x SC / APC connector
DC power port	1x P/N TK 18-001 2.0

Downstream receiver

Optical wavelength	1545-1560 nm
Integrated WDM filter R2040-D	No
Integrated WDM filter R2040-UD	Yes
Input noise current density (NCD)	5pA/√Hz
Responsivity R of photo diode	0.95 A/W
Optical input power range	-8 ... 2 dBm
Optical input return loss	45 dB
Optical RX diode	PIN
Optical level control (OLC)	-7 to 1 dBm

Frequency range (fixed diplexer OFT D 1261)

R2040-D (MHz)	105-1218/204-1218
R2040-UD (MHz)	47 - 1218
Ripple (max.)	+/- 1 dB
Gain tolerance over temp (max.)	+/- 1.5 dB

Max. operating level, flat 76-77 dBμV
 Umax (N) (BER 10-9) EN60728-3-1 N=119 with splitter at 2 RF connectors

Return loss RF output ≥ 18 dB - 1.5/Oct.
 Reference 85 - 1218 MHz

Group delay for RLK585-1 Diplexer (ns/4.43 MHz)
 50 ns @ 105-120.75 MHz
 10 ns @ 120.75-1218 MHz

Group delay for RLK5200 Diplexer (ns/4.43 MHz)
 50 ns @ 258-296.7 MHz
 10 ns @ 296.7-1218 MHz

Upstream transmitter

Laser wavelength (nm) 1610, 1470, 1450, 1410

Optical power 3 dBm

Laser type Isolated DFB

Relative Intensity Noise (RIN) <-160 dB/Hz

Laser turn-on time IEC 60728-14 450 nsec

Laser rise time IEC 60728-14 300 nsec

Laser turn-off delay time IEC 60728-14 600 nsec

Frequency range 5-85MHz/204 MHz
 (depending on fixed diplexer)

Ripple max. +/- 0.75 dB

Optical output return loss 45 dB

Laser turn on RF level 90 dBμV

Return loss RF input 10 - 85 / 204 MHz ≥18 dB

Group delay for RLK585-1 Diplexer (ns/2 MHz)
 50 ns @ 5-10 MHz
 10 ns @ 10-61.75 MHz
 20 ns @ 61.75-65 MHz

Group delay for RLK5200 Diplexer (ns/2 MHz)
 50 ns @ 5-10 MHz
 10 ns @ 10-80.75 MHz
 20 ns @ 80.75-85 MHz

OMI per channel (input level per ch 95 dBμV)
 8 x 256 QAM / 8 MHz 8%
 24 x 256 QAM / 8 MHz 6%

Uplink signal indications

Diode on the right: Icon “^” (US)

Blink: burst mode (green LED),

Red LED: Ingress, Laser diode defect

Genesis FiberTwist R2000-Series (RFoG) product models

Model	Type	DOCSIS 3.1 Interface
FiberTwist-R2040-UD	Fiber node/receiver	Downstream / Upstream
FiberTwist-R2040-D	Fiber node/receiver	Downstream only

Note: Not every listed feature may be included in the shipping product. We reserve the right to make changes of technical specifications, housing or design without prior notice.