

teletronik®

30 years in cable communication...

OPTICAL ACTIVE & PASSIVE EQUIPMENT



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FIG8 OPTICAL CABLE

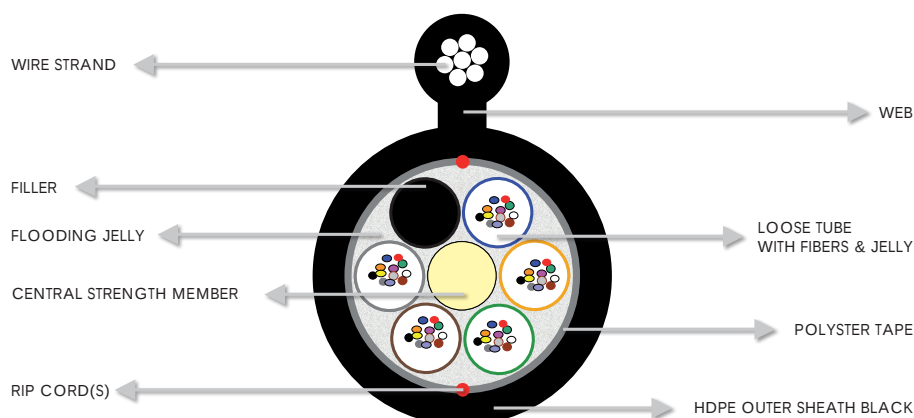
AVAILABLE MODELS

Number of fibers: 4 - 6 - 8 - 12 - 16 - 24 - 36 - 48 - 64 - 72 - 96 - 144

ELEMENTS	MATERIAL	NOMINAL VALUE
Single Mode Optical Fibre	ITU-T G652D (made by Sumitomo)	
Filling Jelly	Thixotropic jelly	
Central Strength Member	FRP	
Core wrap	Polyester tape	
Filler	Polyethylene	Black / Natural
Rip cord	Twisted yarns (Under Sheath)	
Sheating	High Density Polyethylene	Min 1.5mm (Radial thickness)
Stand wire	Steel (7 strands wire)	0.9mm diameter
Web Dimension	High Density Polyethylene	2.0 x 2.0 ± 1.0
Suspension	High Density Polyethylene	Min 1.2 mm (Nominal thickness)

Environmental performance

- Temperature Performance
 - Installation -30°C to +70°C
 - Service -30°C to +70°C
 - Storage -30°C to +70°C



ADSS OPTICAL CABLE

AVAILABLE MODELS

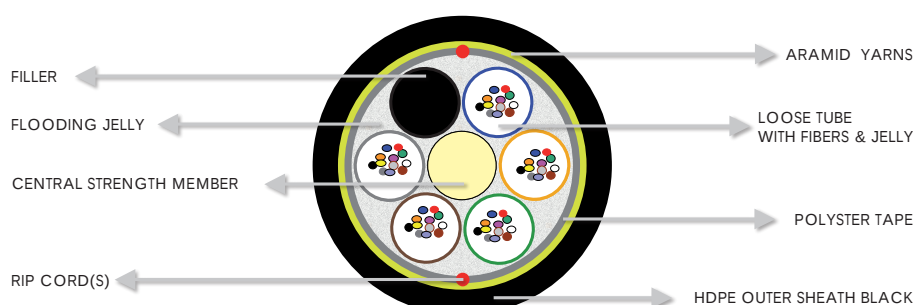
Number of fibers: 4 - 8 - 12 - 24 - 36 - 48 - 64 - 72 - 96 - 144

Tensile strength: 1.5kN - 2.0kN - 3.0kN - 4.0 kN - 5.0kN - 6.0kN

ELEMENTS	MATERIAL	NOMINAL VALUE
Single Mode Optical Fibre	ITU-T G652D (made by Sumitomo / Furukawa)	
Filling Jelly	Thixotropic jelly	
Central Strength Member	FRP	
Core wrap	Polyester tape	
Filler	Polyethylene	Black / Natural
Rip cord	Twisted yarns (Under Sheath)	
Sheating	High Density Polyethylene	Min 1.5mm (Radial thickness)

Environmental performance

- Temperature Performance
 - Installation -30°C to +70°C
 - Service -30°C to +70°C
 - Storage -30°C to +70°C



UNDERGROUND OPTICAL CABLE (NON-ARMOURED)

AVAILABLE MODELS

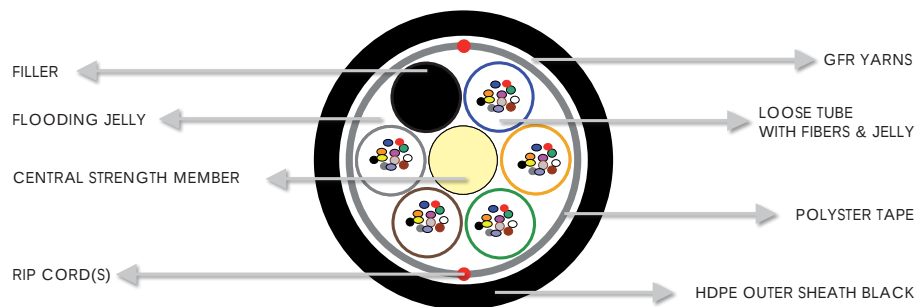
Number of fibers: 4 - 8 - 12 - 24 - 36 - 48 - 64 - 72 - 96 - 144

Tensile strength: 1.5kN - 2.0kN - 3.0kN - 4.0 kN - 5.0kN - 6.0kN

ELEMENTS	MATERIAL	NOMINAL VALUE
Single Mode Optical Fibre	ITU-T G652D (made by Sumitomo)	1310nm : 0.36 & 1550nm : 0.23
Filling Jelly	Thixotropic jelly	
Tube	PBTP	
Central Strength Member	FRP	
Filler	Polyethylene	Black / Natural
FRP upcoat	Polyethylene	
Water blocking elements	Cable Flooding Jelly	
Core wrap	Polyester tape	
Rip cord	Twisted yarns (Under Sheath)	2
Peripheral Strength Member	GFR Yarns	
Outer Sheath	High Density Polyethylene	Min 1.5mm (Radial thickness)

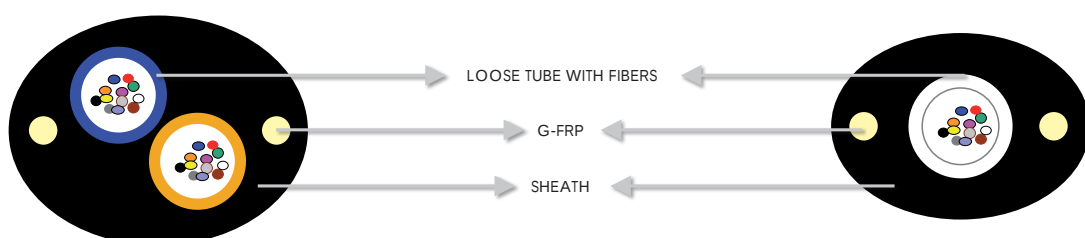
Environmental performance

- Temperature Performance
- Installation -30°C to +70°C
- Service -30°C to +70°C
- Storage -30°C to +70°C



MINI FLAT FTTX TRUNK CABLE

ITEMS	DESCRIPTION	
Fiber type	G652D or G657A	
Fiber count	2-12F	24F
The Color Code of The fibers	Blue, Orange, Green, Brown, Gray, White/Natural, Red, Black, Yellow, Violet, Pink, Turquoise	
Loose Tube	OD(mm):	2.2±0.1
	Material:	PBT
Core unit	1	2
Strength Number (G-FRP)	1.0mm x 2	
Sheath Material:	LSZH	
OD of cable (mm)	4.2 x 6.2	5.8 x 7.6
Net weight (kg/km)	36	61



FTTH CABLE

Description

Center positioned optical fiber unit
Two parallel Fiber Reinforced Plastics (FRP)
Black or color LSZH sheath

Features

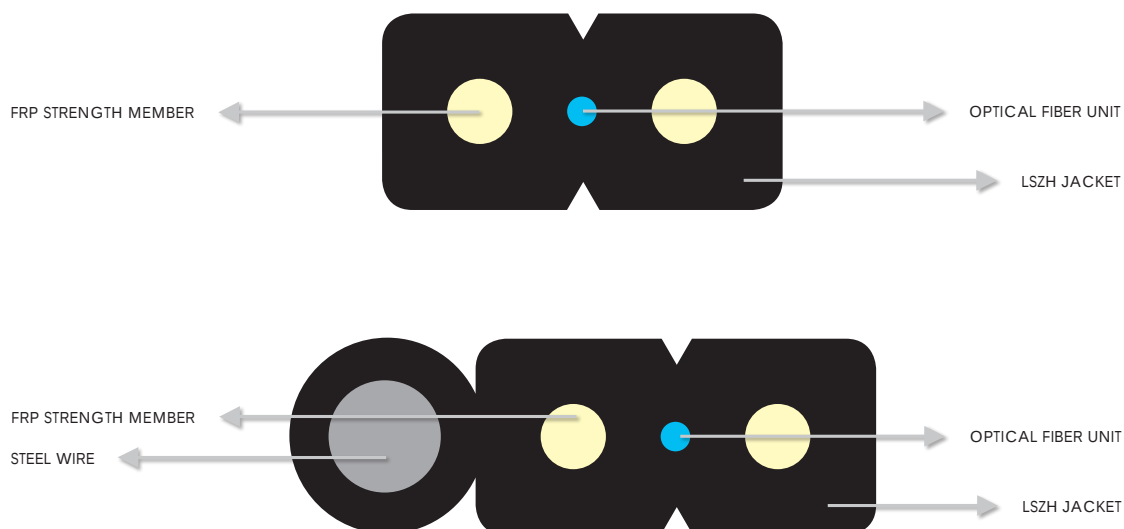
- Special low-bend-sensitivity fiber provides high bandwidth and excellent communication transmission property
- Two parallel FRP strength members ensure good performance of crush resistance to protect the fiber
- Simple structure, light weight and high practicability
- Novel flute design, easily strip and splice, simplify the installation and maintenance
- Low smoke, zero halogen and flame retardant sheath
- Single steel wire or massagers as the additional strength member ensures good performance of tensile strength

Application

- CATV Fiber Optic Sensor
- Fiber to Home
- Telecommunication Networks
- Local Area Networks (LANs)

		G.652	G.655	50/125μm	62.5/125μm
Attenuation (+20°C)	@850nm			≤3.5 dB/km	≤3.5 dB/km
	@1300nm			≤1.5 dB/km	≤1.5 dB/km
	@1310nm	≤0.45 dB/km	≤0.50 dB/km		
	@1550nm	≤0.30 dB/km	≤0.50dB/km		
Bandwidth (ClassA)	@850nm			≥500 MHz·km	≥200 MHz x km
	@1300nm			≥1000 MHz·km	≥600 MHz x km
Numerical Aperture				0.200±0.015NA	0.275±0.015NA
Cable Cut-off Wavelength λ _{cc}		≤1260nm	≤1480nm		

Fiber Count	Cable Diameter mm	Cable Weight kg/km	Tensile Strength Long/Short Term N	Crush Resistance Long/Short Term N/100mm	Bending Radius Static/Dynamic mm
1	(2.0±0.2)×(3.0±0.2)	8	30/60	300/1000	15/30
2	(2.0±0.2)×(3.4±0.2)	8.5	30/60	300/1000	15/30
1	(2.0±0.2)×(3.8±0.2)	9	30/60	300/1000	15/30
4	(2.0±0.2)×(4.0±0.2)	10	30/60	300/1000	15/30



OPTICAL CLOSURES



KDJ120 2-4 DOME TYPE 2+4 CABLE INLETS

- Self-impacted sealing
- Universal design (could be used for different sizes of cables; both single core and ribbon fibers; pole-mounting, aerial, and direct buried applications)
- Adequate space for storage of fibers
- Designed for installing SC adapters & splitters
- For installing various cables see optional sealing adapters

Fibers/Tray	Max capacity (F)	Ports	Suitable Dia of cable (mm)	SC adapters	Sealing structure	Size & weight
24	120	2 + 4	Ø3 - Ø13.2 (depending on sealing)	Max. 36	In-line mechanical sealing	480 × Ø250 / 5.8kg

KDJ144 1-4 DOME TYPE 1+4 CABLE INLETS

- Self-impacted sealing
- Universal design (could be used for different sizes of cables; both single core and ribbon fibers; pole-mounting, aerial, and direct buried applications)
- Adequate space for storage of fibers
- For installing various cables see optional sealing adapters

Fibers/Tray	Max capacity (F)	Ports	Suitable Dia of cable (mm)	SC adapters	Sealing structure	Size & weight
24	144	1 + 4	Ø3 - Ø24 (depending on sealing)	Max. 36	In-line mechanical sealing	450 × Ø230 / 4.2kg

KDJ408 2-4 DOME TYPE 2+4 CABLE INLETS

- Self-impacted sealing
- Universal design (could be used for different sizes of cables; both single core and ribbon fibers; pole-mounting, aerial, and direct buried applications)
- Adequate space for storage of fibers
- For installing various cables see optional sealing adapters

Fibers/Tray	Max capacity (F)	Ports	Suitable Dia of cable (mm)	Sealing structure	Size & weight
12	408	2 + 4	Ø8 - Ø17.5 (depending on sealing)	In-line mechanical sealing	480 × Ø250 / 6.5kg

OPTIONAL SEALING ADAPTERS

KDS 01	KDS 02	KDS 03	KDS 04	KDS 05
8pcs of Ø3mm soft cable	8pcs of FIG8 soft cable	6pcs of self support soft cable	4pcs of Ø5 - Ø7mm cable	16pcs of Ø5 - Ø7mm cable

OPTICAL CLOSURES



KD60 6 SMALL SIZE FTTH CLOSURE

- Small size with numeral cable ports and functions
- 5 regular cable ports, 1 testing port, 4 pigtail outlets
- Unique sealing method (could be reused many times)
- Aerial, pole-mounting, direct buried, wall-mounting applications
- Designed for installing SC adapters & splitters
- Optional sealing adapter for 24pcs of FIG8 soft cable

Fibers/Tray	Max capacity (F)	Ports	Suitable Dia of cable (mm)	Sealing structure	Size & weight
12	60	5 + 4	Ø2 - Ø15 (depending on sealing)	In-line mechanical sealing	300×220×100 / 2.7kg

KD96 4 INLINE CLOSURE

- 4 regular cable ports
- Unique sealing method (could be reused many times)
- Aerial, pole-mounting, direct buried and pipe-lined applications

Fibers/Tray	Max capacity (F)	Ports	Suitable Dia of cable (mm)	Sealing structure	Size & weight
24	96	4	Ø10 - Ø22	In-line mechanical sealing	533×209×104 / 2.7kg

KD144 1-4 DOME TYPE 1+4 CABLE INLETS

- Self-impacted sealing
- Universal design (could be used for different sizes of cables; both single core and ribbon fibers; pole-mounting, aerial, and direct buried applications)
- Adequate space for storage of fibers
- Designed for installing SC adapters & splitters

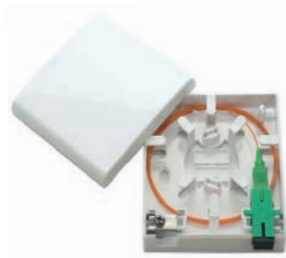
Fibers/Tray	Max capacity (F)	Ports	Suitable Dia of cable (mm)	SC adapters	Sealing structure	Size & weight
24	144	1 + 4	Ø8 - Ø17.5	Max. 18	Heat shrink sealing	450 × Ø230 / 4.2kg

KD240 1-6 DOME TYPE 1+6 CABLE INLETS

- Self-impacted sealing
- Universal design
- Splice trays for both splice and storage of fibers
- Long lifetime

Fibers/Tray	Max capacity (F)	Ports	Suitable Dia of cable (mm)	Sealing structure	Size & weight
24	240	1+6	Ø8 - Ø17.5	Heat shrink sealing	480 × Ø250 / 5.8kg

INDOOR OPTICAL CLOSURES



FTTH WALL OUTLET



KDI 12



KDI 96



KDI 4



KDI 24-S

KDI 96 INDOOR SPLICE CLOSURE

- Indoor design
- Prepared for adapter installation
- Prepared for splitter installation
- High capacity
- Universal cable port for numerous drop cables

Fibers/Tray	Max capacity (F)	Suitable Dia of cable (mm)	Dimensions (W x L x H)	Adapter type
24	96	Ø3 - Ø18	180 x 378 x 74mm	SC, LC, FC

KDI 12 INDOOR-OUTDOOR TERMINAL BOX 3 PORTS

- Outdoor design protection grade IP65
- Prepared for adapter installation (SC 8 pieces)
- Prepared for splitter installation
- Optional universal cable ports

Fibers/Tray	Max capacity (F)	Suitable Dia of cable (mm)	Dimensions (W x L x H)	Adapter type
12	12	Ø3 - Ø13	220 x 180 x 50mm	SC

KDI 4 INDOOR TERMINAL BOX

- Small size
- Low price
- Prepared for adapter installation (SC 4 pieces)

Fibers/Tray	Max capacity (F)	Suitable Dia of cable (mm)	Dimensions (W x L x H)	Adapter type
4	4	Ø1 - Ø5	150 x 110 x 30mm	SC

FTTH JUNCTION BOX

- Small size
- Low price
- Prepared for adapter installation

Fibers/Tray	Max capacity (F)	Suitable Dia of cable (mm)	Dimensions (W x L x H)	Adapter type
2	2	Ø1 - Ø5	86 x 86 x 45mm	SC

KDI 24-S FIBER OPTIC DISTRIBUTION BOX

- Indoor / outdoor
- Prepared for adapter installation
- Prepared for splitter installation
- High capacity
- Cable parts for uncut cables
- 16 ports for drop cables

Fibers/Tray	Max capacity (F)	Suitable Dia of cable (mm)	Dimensions (W x L x H)	Adapter type
24	24	Ø2 - Ø18	292 x 248 x 100mm	SC, LC

PATCH CORDS

Features

- Variety of connectors available
- Simplex or duplex
- SM or MM
- Various cable lengths
- Fan-out option
- ITU-G6520 or G657A optional

POLISHING

	PC	APC	PC
Mode	SM	SM	MM
Insertion Loss (dB)	≤ 0.2	≤ 0.2	≤ 0.3
Return Loss (dB)	≥ 45	≥ 60	≥ 35
Repeatability (dB)		≤ 0.1	
Changeability (dB)		≤ 0.2	
Storage Temp (°C)		-40 ~ +85	
Operating Temp (°C)		-10 ~ +75	

AVAILABLE CONNECTORS

(SM, 9/125)	(MM, 50/125 or 62,5/125)
SC/PC	SC
SC/APC	FC
FC/PC	LC
FC/APC	ST
ST/PC	
LC/PC	
LC/APC	



ORDERING CHOICES

Simplex/Duplex patch cord

Pigtails

Various boot cable sizes 0.9mm 2mm 3mm

NODE WATERPROOF PIGTAIL

Features

- Customized configurations
- Installed hard-line entry connector
- Hinder water-migration
- Individualized serial numbering
- Two to Eight fibers available
- Durable and easy to handle

SPEC CHARACTERISTICS	CONDITION	VALUES
Insertion Loss		≤0.3dB
Return Loss		≥ 40dB(SPC) ≥ 55dB(UPC) ≥ 60dB(APC)
Vibration	10 ~ 55Hz(2Hr)	< 0.3dB
Impact	1.5m drop, 8cycle	< 0.02dB
Straight Pull Test	4.5Kg load	< 0.2dB
Temperature cycling	- 40 °C ~ + 75 °C	< 0.3dB



CONNECTOR TYPE / END SHAPE	PIGTAIL CORD LENGTH/ SUB- CORD DIA	CABLE LENGTH	FIBER COUNT
SC, FC, ST, LC, MU	1 – 2 m / 0.9 – 2 mm	01m ~ 99m	2 to 8 fibers

PLC SPLITTERS

Features

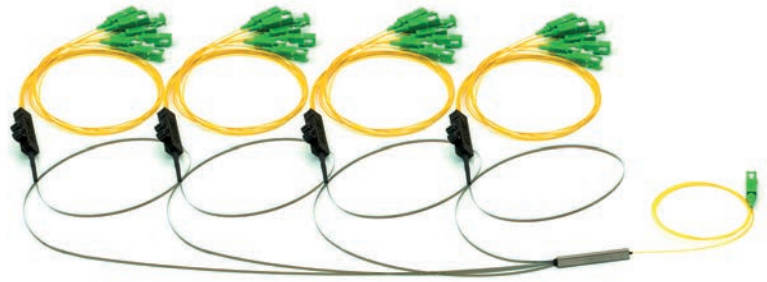
- Low Insertion Loss
- Low PDL
- Compact Design
- Wide Operating Wavelength
- Wide Operating Temperature
- High Reliability and Stability
- Telecordia GR-1221/1209 Compliance
- Available types: filter, module, LGX, 19"

ORDERING CHOICES

Available Output Channel Counts from 2, 4, 8, 16, 32 to 64

Customized Module available

Connectors: SM, SC, FC, LC, PC, APC

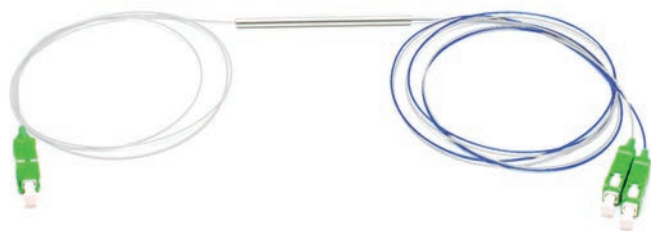


PARAMETER	UNIT	1x2	1x4	1x8	1x16	1x32	1x64	2x2	2x4	2x8	2x16	2x32
Insertion Loss (at 23 °C)	Max. dB	3,7	7,0	10,4	13,5	17,0	20,0	4,2	7,5	11,0	14,3	17,5
Channel Uniformity	Max. dB	0,6	0,6	1.0	1,1	1,5	1,8	1,2	1,3	1,6	1,8	2,3
Polarization Dependent Loss	Max. dB	0,15	0,15	0,2	0,2	0,2	0,3	0,3	0,3	0,3	0,4	0,4
Operating Wavelength	nm	1260 ~ 1650										
Return Loss	Min. dB	55										
Directivity	Min. dB	55										
Operating Temperature	°C	-40 ~ 85										
Storage Temperature	°C	-40 ~ 85										
Fiber Type		Complied to G.652 D & G.657 A										
Fiber Length		Customized										
Package Dimensions (T x W x L)	mm	4x4x40			4x5x45 (4x4x40)	4x7x55 (4x7x60)	4x12x60	4x5x45			4x7x55 (4x7x60)	4x7x55 (4x7x60)
Note:	1. All measurement were done at room temperature without connectors.											
2. The above spec. is under no connector. If including connector, IL, UL and PDL would increase 0.5dB, 0.2dB and 0.05dB respectively.												

FBT SPLITTERS

Features

- Low excess loss
- Low PDL
- Three operating windows for FTTH PON networks
- High stability and reliability
- Asymmetric coupling ratio available
- Available types: filter, module, LGX, 19"



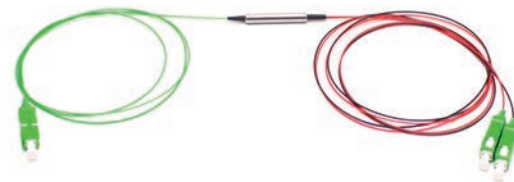
PARAMETER	N×2 N=1, 2	N×4 N=1, 2, 4	N×8 N=1, 2	N×16 N=1, 2	N×32 N=1, 2
Operating wavelength (nm)	1310, 1490 and 1550 three windows				
Operating bandwidth (nm)	1310 ±40, 1490 ±10 & 1550 ±40				
Grade	P	P	P	P	P
Insertion loss (dB)	≤3,6	≤7,2	≤10,8	≤14,4	≤18,0
Typical excess loss (dB)	0,07	0,3	0,45	0,6	0,75
PDL (dB)	≤0,15	≤0,3	≤0,4	≤0,5	≤0,6
Directivity (dB)	≥55				
Operating temperature (°C)	-40 ~ +85				
Fiber lead length	1 meter, others on request				
Fiber type	900µm, 2mm, 3mm loose tube				

WDM FILTERS

Features

- Low insertion loss
- Low excess loss
- Low PDL
- Environmentally stable and reliable
- Bellcore Compliant
- Available types: filter, module, LGX, 19"

STANDARD MODUL	1310/1550	1480/1550	850/1310
Operating wavelength (nm)	1310 and 1550	1480 and 1550	850 and 1310
Operating bandwidth (nm)	±40	±20	±50
Transmission insertion loss (dB)	≤0.6	≤0.6	≤0.7
Reflection insertion loss (dB)	≤0.4	≤0.4	≤0.6
Transmission channel isolation (dB)	≥35	≥30	≥30
Reflection channel isolation (dB)	≥15	≥15	≥15
Channel flatness (dB)	≤0.4	≤0.2	≤0.4
Directivity (dB)	≥55		≥38
Return loss (dB)	≥50		≥30
PDL (dB)	≤0.1		
Wavelength thermal stability (nm/ °C)	≤0.003		
Insertion loss thermal stability (dB/ °C)	≤0.005		
Power handling (mW)	≤500		
Operating temperature (°C)	-15 ~ +70 °C		
Storage temperature (°C)	-40 ~ +85 °C		
Dimensions (mm)	Φ5.5× L34		
Fiber Type	Corning SMF-28		50/125 or 62.5/125 MM Fiber



HIGH ISOLATION MODUL	1310/1550
Transmission Wavelength Range	1460~1620nm
Reflection Wavelength Range	1260~1360nm
Transmission insertion loss (dB)	0.90 (0.45typ.)
Reflection insertion loss (dB)	0.90 (0.45typ.)
Transmission channel isolation (dB)	45
Reflection channel isolation (dB)	45
Channel flatness (dB)	≤0.4
Directivity (dB)	≥50
Return loss (dB)	≥50
PDL (dB)	≤0.15
Insertion loss thermal stability (dB/ °C)	Pass port: 0.18dB Reflect port: 0.25dB
Power handling (mW)	≤500
Operating temperature (°C)	-15 ~ +70 °C
Storage temperature (°C)	-40 ~ +85 °C
Dimensions (mm)	Φ5.5× L34
Fiber Type	Corning SMF-28

CWDM FILTERS

Features

- Telcordia GR-1221 and GR-1209 Compliance
- High Channel Isolation
- Low Insertion Loss
- Epoxy-Free Optical Path
- Customized Specifications Available
- Available types: filter, module, LGX, 19"

8/4 CH STANDARD MODUL	4-CHANNEL		8-CHANNEL	
	MUX	DEMUX	MUX	DEMUX
Operating Wavelength (*Note)	1470 (or 1471)~1610 (or 1611) nm			
Channel Spacing	± 20nm			
Channel Passband	CW ±6.5nm			
Maximum Insertion Loss (with connector)	1.8 dB		3.0 dB	
Minimum Adjacent Channel Isolation	30 dB		30 dB	
Minimum Non-adjacent Channel Isolation	40 dB		40 dB	
Minimum Directivity	60 dB		60 dB	
Minimum Return Loss	45 dB			
Maximum Thermal Dependent Loss	± 0.20 dB		± 0.25 dB	
Maximum Polarization Dependent Loss	0.10 dB			
Maximum Polarization Mode Dispersion	0.10 ps			
Maximum Channel Uniformity	1.0 dB			
Maximum Passband Ripple	0.5 dB			
Maximum Tensile Load	5 N			
Maximum Power Handling	300 mW			
Operating Temperature	-5 to +70 °C			
Storage Temperature	-40 to +85 °C			
Pigtail Type	900 um, 2 mm, 3 mm			
Connector Type	FC, SC, MU, LC			
Package Dimension (L x W x H)	120 x 80 x 8 mm (standard)			
*Note: Operating wavelength from 1270 (or 1271) to 1450 (1451) nm is also available.				



8/4 CH HIGH ISOLATION MODUL	4-CHANNEL	8-CHANNEL
Operating Wavelength (*Note)	1470 (or 1471)~1610 (or 1611) nm	
Channel Spacing	± 20nm	
Channel Passband	CW ±6.5nm	
Maximum Insertion Loss (with connector)	1.9 dB	3.1 dB
Minimum Adjacent Channel Isolation	55 dB	55 dB
Minimum Non-adjacent Channel Isolation	55 dB	55 dB
Minimum Directivity	55 dB	55 dB
Minimum Return Loss	45 dB	
Maximum Thermal Dependent Loss	± 0.20 dB	± 0.25 dB
Maximum Polarization Dependent Loss	0.10 dB	
Maximum Polarization Mode Dispersion	0.10 ps	
Maximum Channel Uniformity	1.0 dB	
Maximum Passband Ripple	0.5 dB	
Maximum Tensile Load	5 N	
Maximum Power Handling	300 mW	
Operating Temperature	-5 to +70 °C	
Storage Temperature	-40 to +85 °C	
Pigtail Type	900 um, 2 mm, 3 mm	
Connector Type	FC, SC, MU, LC	
Package Dimension (L x W x H)	120 x 80 x 8 mm (standard)	
*Note: Operating wavelength from 1270 (or 1271) to 1450 (1451) nm is also available.		

DWDM FILTERS

Features

- Telcordia GR-1221 and GR-1209 Compliance
- High Channel Isolation
- Low Insertion Loss
- Epoxy-Free Optical Path
- Customized Specifications Available
- Available types: filter, module, LGX, 19"



8 CH MODULES	MUX	DEMUX	MUX	DEMUX
Operating Wavelength	C & L Bands			
Channel Spacing	100 GHz		200 GHz	
Channel Passband	ITU ±0.11 nm		ITU ±0.25 nm	
Maximum Insertion Loss (with connectors)	3.1 dB	3.4 dB	2.8 dB	3.1 dB
Minimum Adjacent Channel Isolation	12 dB	25 dB	12 dB	30 dB
Minimum Non-adjacent Channel Isolation	12 dB	40 dB	12 dB	40 dB
Minimum Directivity	50 dB	60 dB	50 dB	60 dB
Minimum Return Loss	45 dB			
Maximum Thermal Dependent Loss	± 0.25 dB			
Maximum Polarization Dependent Loss	0.15 dB		0.10 dB	
Maximum Polarization Mode Dispersion	0.20 ps		0.10 ps	
Maximum Channel Uniformity	1.0 dB			
Maximum Passband Ripple	0.5 dB			
Maximum Tensile Load	5 N			
Maximum Power Handling	300 mW			
Operating Temperature	-15 ~ 70 °C			
Storage Temperature	-40 ~ 85 °C			
Pigtail Type	900 um, 2 mm, 3 mm			
Connector Type	FC, SC, MU, LC			
Package Dimension (L x W x H)	120 x 80 x 8 mm (standard)			

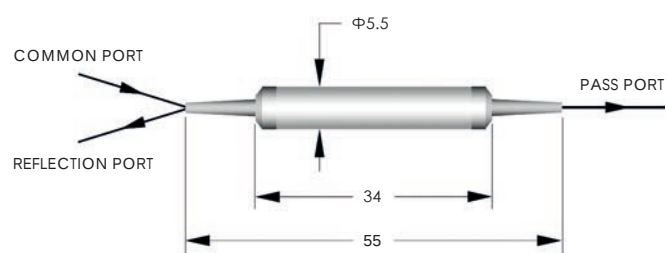
16 CH MODULES	MUX	DEMUX	MUX	DEMUX
Operating Wavelength	C & L Bands			
Channel Spacing	100 GHz		200 GHz	
Channel Passband	ITU ±0.11 nm		ITU ±0.25 nm	
Maximum Insertion Loss (with connectors)	3.7 dB	4.0 dB	3.4 dB	3.7 dB
Minimum Adjacent Channel Isolation	12 dB	25 dB	12 dB	30 dB
Minimum Non-adjacent Channel Isolation	12 dB	40 dB	12 dB	40 dB
Minimum Directivity	50 dB	60 dB	50 dB	60 dB
Minimum Return Loss	45 dB			
Maximum Thermal Dependent Loss	± 0.25 dB			
Maximum Polarization Dependent Loss	0.15 dB		0.10 dB	
Maximum Polarization Mode Dispersion	0.20 ps		0.10 ps	
Maximum Channel Uniformity	1.0 dB			
Maximum Passband Ripple	0.5 dB			
Maximum Tensile Load	5 N			
Maximum Power Handling	300 mW			
Operating Temperature	-15 ~ 70 °C			
Storage Temperature	-40 ~ 85 °C			
Pigtail Type	900 um, 2 mm, 3 mm			
Connector Type	FC, SC, MU, LC			
Package Dimension (L x W x H)	120 x 80 x 14 mm (standard)			

1X2 TRIPLEXER FILTER

Features

- Wide pass band
- High isolation
- Low insertion loss

PARAMETERS	1×2 TriPlexer Filter
Central wavelength (nm)	1310, 1490, 1550
Operating Wavelength (nm)	1310±40, 1490±10, 1550±10
Pass/Reflection wavelength (nm)	On customer request
Pass band insertion loss (nm)	≤0.8 (0.6 typical)
Reflection band insertion loss (dB)	≤0.6 (0.4 typical)
Pass band isolation (dB)	≥30
Reflection band isolation (dB)	≥15
Directivity (dB)	≥55
Return loss (dB)	≥50
PDL (dB)	≤0.1
Wavelength thermal stability (nm/ °C)	≤0.003
Insertion loss thermal stability (dB/ °C)	≤0.005
Power handling (Mw)	≤500
Operating temperature (°C)	-40 ~ +85
Storage temperature (°C)	-40 ~ +85
Dimensions (mm)	Φ5.5×L34

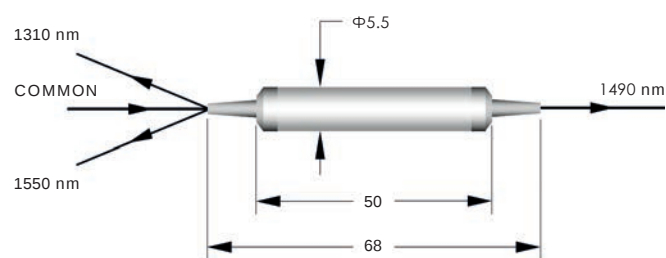
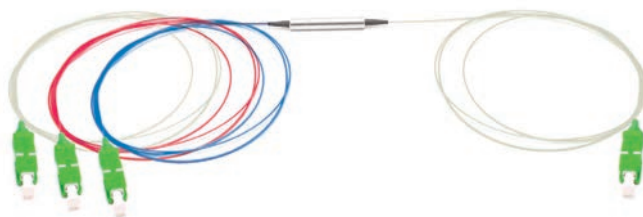


1X3 TRIPLEXER FILTER

Features

- Splitting all three wavelengths
- compact size
- Wide pass band
- High isolation
- Low insertion loss

PARAMETERS	1×3 TriPlexer Filter
Central wavelength (nm)	1310, 1490, 1550
Operating Wavelength (nm)	1310±40, 1490±10, 1550±10
Pass/Reflection wavelength (nm)	1490 ± 10/1310 ± 40, 1550 ± 10
Pass band insertion loss (nm)	≤0.8 (0.6 typical)
Reflection band insertion loss (dB)	≤1.0 (0.8 typical)
Pass band isolation (dB)	≥30
Reflection band isolation (dB)	≥15
Directivity (dB)	≥55
Return loss (dB)	≥50
PDL (dB)	≤0.1
Wavelength thermal stability (nm/ °C)	≤0.003
Insertion loss thermal stability (dB/ °C)	≤0.005
Power handling (Mw)	≤500
Operating temperature (°C)	0 ~ +75
Storage temperature (°C)	-40 ~ +85
Dimensions (mm)	Φ5.5×L50



ATTENUATORS

Features

- High return loss
- High power endurance
- Wavelength independent
- Low PDL
- Precise control of attenuation range
- Simple manipulation

OPTICAL ATTENUATORS (PLUG-IN & ADAPTER TYPE)	
SC/PC	
SC/APC	
FC/PC	
FC/APC	
ST/PC	
LC/PC	
LC/APC	



PARAMETER	UNIT	DESCRIPTION	
		Adapter type	Plug-in type
Operation Wavelength	nm	1310, 1550 nm	
Attenuator Value	dB	1,2,3 to 30 (base on your request)	
Attenuator Precision	dB	+/-0.5 (attenuation<10)	
		+/-1.0 (attenuation>10)	
Max. PDL	dB	0,1	
Return Loss	dB	40 PC/65 APC	40 PC/65 APC
Operating Temperature	°C	-40~+75	
Storage Temperature	°C	-40~+75	

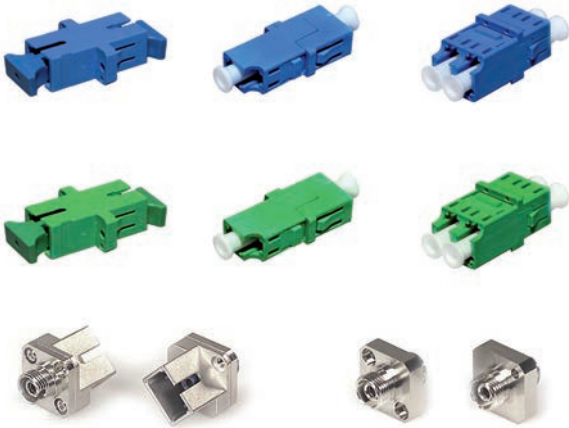
ADAPTERS

Features

- Low insertion and back reflection loss
- High precision alignment
- Compact design
- Zirconia (SM) or bronze (MM) sleeve

PARAMETER	UNIT	DESCRIPTION		
		SMPC	SMAPC	MM
Sleeve		Zirconia	Zirconia	Phosphor Bronze
Operation Wavelength	nm	1200~1600		850
Insertion Loss	dB	0,2	0,2	0,3
Connection Durability	Times	1000 Mating		
Operating Temperature	°C	-40~+80		
Storage Temperature	°C	-40~+85		
Relative Humidity	%	95		

HYBRID ADAPTERS	
SC-FC	SC/APC-FC/PC
SC-LC	SC/APC-LC/PC
FC-LC	SC/APC-LC/APC
SC/APC-FC/APC	LC/PC-SC/PC



SM-PC & APC ADAPTERS	
Simplex	Duplex
SC	SC
FC	
LC	LC
ST	

SFP MODULE

SFP (miniGBIC) (up to 1.25Gbps & up to 80km)

- Standard SFP (Dual-Fiber)
- SFP BiDi WDM (Single-Fiber)
- SFP CWDM/DWDM

SFP+ (up to 10.51875Gbps & up to 80km)

- Standard SFP+ (Dual-Fiber)
- SFP+ BiDi WDM (Single-Fiber)
- SFP+ CWDM/DWDM

XFP (up to 10.51875Gbps & up to 80km)

- Standard XFP (Dual-Fiber)
- XFP BiDi WDM (Single-Fiber)
- XFP CWDM/DWDM



ON-2100 OPTICAL NODE

FORWARD PATH

Optical parameters

- Input Wavelength: 1260 – 1620nm
- Optical connector: SC/APC
- Optical Level Control (OLC): -7 – +1 dBm

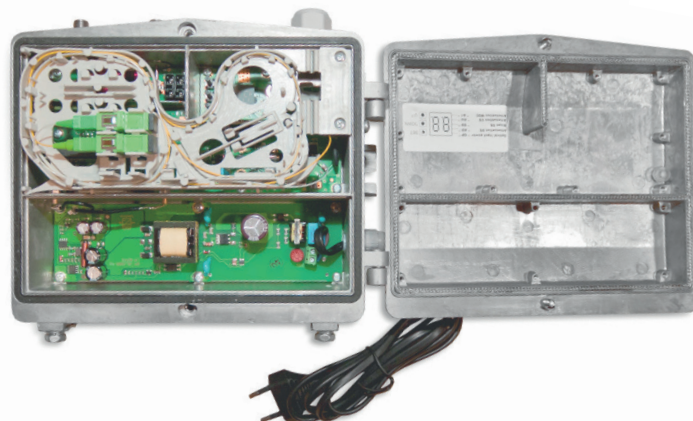
Link performance

- CNR (dB): 53
- CTB (dB): 60
- CSO (dB): 60

- Test condition: 41 PAL channels + 54 QAM channels, 10 km fiber, OMI 4%, Pin: -3 dBm

RF parameters

- Bandwidth: 47/85 – 1000 MHz
- Output level: 113 dBμV
- Output ports active/passive: 1/2
- Output level adj.: 0 – 15 dB (electronic, 1dB step)
- Slope adj.: 0 – 15 dB (electronic, 1dB step)



RETURN PATH

Optical parameters

- Optical output power: 0, +3 dBm
- Wavelegth: 1310, 1550, CWDM

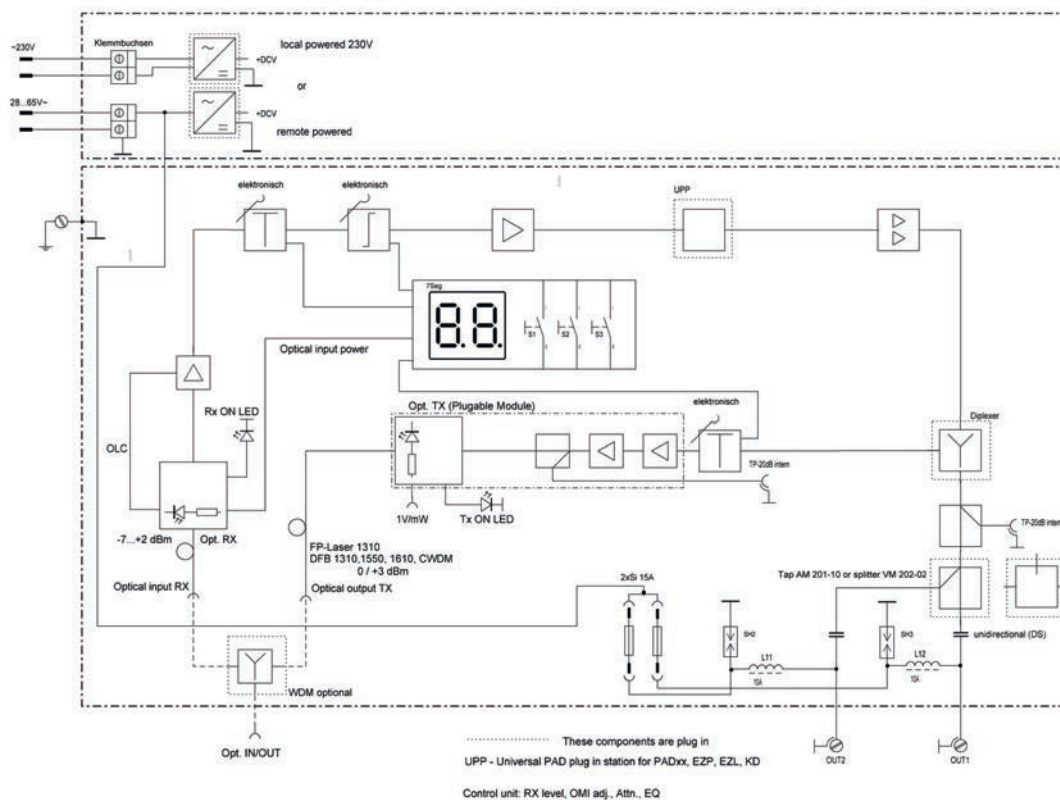
RF parameters

- Bandwidth: 5 – 42/65 MHz
- Input level: 70 – 100 dBμV

OPTIONS

- FP, DFB, CWDW return transmitters

BLOCK DIAGRAM



ON-100 FTTx OPTICAL RECEIVER SERIES

Introduction

Teletronik ON-100 series of optical receiver is professionally designed for Fiber To The Home (FTTH & xPON) networks, which has characters of small size and NO power consumption.

Features

- **No Power required**
- Work bandwidth 45~1050 MHz
- Output Level = 68 dBμV (Pin= -1dBm)



Specifications

Optic feature	Unit	Index	Supplement
Operating wavelength	nm	1540 ~ 1563	ON-100/WF
Channel Isolation	dB	≥ 40	1550nm & 1490nm
Responsibility	A/W	≥ 0.85	1310nm
		≥ 0.9	1550nm
Receiving power	dBm	-10 ~ 0 dBm	Digital TV MER > 29dB
Optical return loss	dB	≥ 55	
Optical fiber connector		SC/APC	
RF Feature			
Work bandwidth	MHz	45 ~ 1050	
Output level	dBμV	> 68	Digital TV Pin= -1dBm
Return loss	dB	≥ 14	47 ~ 862 MHz
Output impedance	Ω	75	
Output port number		1	
RF connector		F-Female	
Digital TV Link feature			
OMI	%	4.3	
MER	dB	≥ 38	Pin= -1dBm
		≥ 30	Pin= -13dBm
BER		< 1.0E-9	Pin: +2 ~ -14dBm
General features			
Work temp	°C	-20 ~ +55	
Storage temp	°C	-40 ~ 85	
Work relative temp	%	5 ~ 95	
Size W×D×H	mm	23 × 53 × 12	

Remarks:

1. Test signal MER: 39.0, BER: <1.0E-9 (OMI=4.3%)
2. Test frequency: 858 MHz

Data's are valid in case of usage of external modulated optical transmitter

ON-500 / P / G FTTx OPTICAL RECEIVER SERIES

Introduction

Teletronik ON-500's operating bandwidth is 45 ~ 1000MHz. With high sensitivity optical receiver tube and Teletronik's special low noise matching circuit, whether used in analog television or digital television, have high reception sensitivity and excellent intermodulation distortion index. It's a low power, high performance, cost-effective triple play, FTTH CATV optical receiver.

Triple play, fiber to the home, using the ON-500 can save a lot of optical fiber amplifier power resources. For operators, can greatly reduce the cost of building the network.

ON-500 optical port mode of the following three selection:

- ON-500: operating wavelength 1260~1620nm.
- ON-500/WD: Built-in CWDM, suitable for single-fiber triple wavelength system, CATV operating wavelength 1550nm, passwavelength 1310/1490nm, can conveniently connect the ONU of EPON, GPON.
- ON-500/WF: built-in 1310/1490nm filter, suitable for single-fiber triple wavelength system, CATV operating wavelength 1550nm.
- ON-500 P/WF: Plastic wall mounted version - built-in 1310/1490nm filter, suitable for single-fiber triple wavelength system, CATV operating wavelength 1550nm.
- ON-500 G series with AGC

Features

- Extra-low noise (3.8% modulate, -10dBm receive, CNR ≥ 45dB)
- Wide dynamic receiving optical power range: within Pin= -15, MER ≥ 36.8dB
- Can save a large number of optical power resource, greatly reduce the network configuration cost
- In the range of 45~1000 MHz, all have good flatness (FL ≤ ± 0.75dB)
- Metal or plastic shell, supply safeguards to opto-electrical sensing device
- High output level can supply for many users
- Low power consumption, high cost performance

Product series

Model	Input wavelength	CATV operating wavelength	Data pass wavelength
ON-500	1310 or 1550nm	1260 ~ 1620nm	-
ON-500/WF	1310, 1490/1550nm	1540 ~ 1563nm	-
ON-500/WD	1310, 1490/1550nm	1540 ~ 1563nm	1310 / 1490nm



Specifications

Performance			Index	Supplement
Optic feature	CATV work wavelength	nm	1260 ~ 1620	ON-500
			1540 ~ 1563	ON-500/WF, ON-500/WD
	Pass wavelength	nm	1310, 1490	ON-500/WD
	Channel Isolation	dB	≥ 40	1550 & 1490nm
	Responsibility	A/W	≥ 0.85	1310nm
			≥ 0.9	1550nm
	Receiving power	dBm	+2 ~ -10	Analog TV (CNR > 45dB)
			+2 ~ -20	Digital TV (MER > 29dB)
RF feature	Optical return loss	dB	≥ 55	
	Optical fiber connector		SC/APC	
	Work bandwidth	MHz	45 ~ 1000	
	Flatness	dB	≤ ±0.75	45 ~ 1000MHz
	Output level	dBμV	> 82	Analog TV (Pin= -3dBm)
			> 82	Digital TV (Pin= -5dBm)
	Output level adjust	dB	0 ~ 18	MGC
	ALC AGC character ΔVo *	dB	≤ ±1.0	Pin: +2.0 ~ -8.0dBm
	Return loss	dB	≥ 14	47 ~ 862 MHz
	Output impedance	Ω	75	
Analog TV Link feature	Output port number		1	
	RF connector		F-Female	
	Test channel	CH	59 CH (PAL-D)	NTSC / 80 CH
	OMI	%	3.8	
	CNR1	dB	54.6	Pin = -2dBm
	CNR2	dB	45.1	Pin = -10dBm
Digital TV Link feature	CTB	dB	≤ -65	Pin: 0 ~ -10dBm
	CSO	dB	≤ -65	Pin: 0 ~ -10dBm
	MER	dB	≥ 36	Pin = -15.0dBm
			≥ 30	Pin = -19.0dBm
General feature	BER	dB	< 1.0E-9	Pin: +2.0 ~ -20dBm
	Power supply	V	DC+12V	±1.0V
	Power Consume	W	≤ 3	+12VDC, 210mA
	Work temp	°C	-20 ~ +55	
	Storage temp	°C	-40 ~ 85	
	Humidity	%	5 ~ 95	
	Size	mm	59.5 × 98 × 24	

* Only AGC model

Data's are valid in case of usage of external modulated optical transmitter

ON600WD WDM OPTICAL RECEIVER

Introduction

FTTH broadband access is the ultimate development goal, ON600WD is the target terminal product for this. It adopts technology of high isolation WDM in order to separate CATV and ONU signal. Furthermore, it also adopts low optical power receiving and RF-AGC control technique, which could achieve the requirement of $\leq -10\text{dBm}$ CATV receiving for FTTH. It supports RF outputs constantly.



Specifications

Item		Unit	Performance Parameter
Optical characteristic	Input wavelength	(nm)	1310, 1490, 1550
	Output wavelength	(nm)	1310, 1490
	Operation wavelength	(nm)	1540~1560
	Channel separation	(dB)	≥ 40 (1310/1490nm & 1550nm)
	Response	(A/W)	≥ 0.9
	Receive power range	(dBm)	+2 ... -15
	Reflection loss	(dB)	≥ 55
	Fiber linker		SC/APC
	PON linker		SC/UPC (or SC/APC)
RF characteristic	Bandwidth / flatness	MHz/dB	47-1000 / $\leq \pm 1$
	Output level	dBuV	AGC: 82 ± 1 / (-2 ~ -10dBm)
	Reflection loss	dB	≥ 14 (75 Ω characteristic impedance)
	RF output interface		1 way output (or two way output)
	CNR / MER	dB	$\geq 44/34$ (PAL-D 60CH, OMI 3.8%, -9dBm)
	CTB / CSO / HUM	dB	≥ 65 / ≥ 60 / ≥ 60 (-1dBm receive)
Other requirement	Power supply / consumption	V/W	External AC100~240V→DC5/5
	Working / storage temperature	°C	-35~50 / -40~75 (humidity 5~90%)
	Size	mm	95×92×23

OT-4000H-xx OPTICAL TRANSMITTER-1310nm

Optical parameters

- Wavelength 1310 ± 10nm
- Optical connector SC/APC, FC/APC (optional)
- Output power 4 – 32 mW

RF parameters

- Bandwidth 45 – 1000 MHz
- Input level 15 – 25 dBmV/ch
- Return loss >16 dB
- Connector type F type

Link features

- Transmit channel PAL-D/60CH - NTSC/80CH
- CNR ≥52
- CTB ≤-70
- CSO ≤-63

Control interface

- RS-232
- RJ-45
- Support I.E. & SNMP

Power supply

- 90 to 265 VAC, 50/60 Hz
- optional -48 VDC (30~60 VDC)
- optional dual power supply

Other parameters

- Dimensions (DxWxH) 360 x 483 x 44mm
- Operating temp. -5°C / +65°C
- Relative humidity 5-95%



OT-5510-xx OPTICAL EXTERNAL MODULATED TRANSMITTER - 1550nm

Optical parameters

- Wavelength 1548 - 1563 nm
- Output power 1 x output
3 – 10dBm
- Optical connector SC/APC

RF parameters

- Bandwidth 47 – 862 MHz
- Input level 18 – 28 dBmV/ch
- Return loss >16 dB

Link features

- CNR (dB) 52
- CTB (dB) 65
- CSO (dB) 65
- Test condition: PAL-60CH, 65 km fiber, Pin=0 dBm
- SBS restrain 13 – 20 dBm

Control interface

- SNMP management, RJ45

Power supply

- 90 – 240 VAC, 50/60 Hz
- optional -48 VDC (30~60 VDC)
- optional dual power supply

Other parameters

- Dimensions (DxWxH) 483 × 455 × 44mm
- Operating temp. 0°C / +50°C
- Relative humidity 5-95%



OT-5520-xx OPTICAL EXTERNAL MODULATED TRANSMITTER - 1550nm

Optical parameters

- Wavelength 1548 - 1563nm (OT-5520-xx)
ITU-TG.692 (OT-5520U-xx)
- Output power 2 x output
3 – 13dBm (each output)
- Optical connector SC/APC

RF parameters

- Bandwidth 47 – 862 MHz
- Input level 18 – 28 dBmV/ch
- Return loss >16 dB

Link features

- CNR (dB) 53
- CTB (dB) 65
- CSO (dB) 65
- Test condition: PAL-60CH, 65 km fiber, Pin=0 dBm
- SBS restrain 13 – 18 dBm

Control interface

- SNMP management, RJ45

Power supply

- 90 – 240 VAC, 50/60 Hz
- optional -48 VDC (30~60 VDC)
- optional dual power supply

Other parameters

- Dimensions (DxWxH) 360 x 483 x 44mm
- Operating temp. 0°C / +50°C
- Relative humidity 5-95%



OA-55Lxx CATV LINE EDFA

Optical parameters

- Wavelength 1540 - 1563nm
- Input power -10 to +10 dBm
(+3 dBm typical)
- Output power 10 – 26 dBm
(10 dbm to 26 dBm output)
- Noise figure 4 – 6.8 dB
- Optical connector SC/APC

Control interface

- SNMP management, RJ45

Power supply

- 90 – 240 VAC, 50/60 Hz
- optional -48 VDC (30~60 VDC)
- optional dual power supply

Other parameters

- Dimensions (DxWxH) 360 x 483 x 44mm
- Operating temp. -5°C / +65°C
- Relative humidity 5-95%



FTTx EDFA

Features

- Each output optical port is with built-in high performance CWDM, single fiber three wavelengths, which can save optical fiber resources largely (only OA55Wxx series).
- Total output power optional 500~80000 mW (27~49 dBmW).
- Chassis height optional 1U, 2U, 3U, 5U.
- Built-in low noise pre-amplifier, not necessary EDFA cascade, extremely lower the CNR, MER degradation of the system.
- Low noise figure (Typ ≤4.5dB, Max ≤5.0dB).
- Perfect RS232, SNMP.
- Dual power supply optional, 1+1 backup.



Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	CATV Operation wavelength	(nm)	1540		1563	CATV
	OLT pass wavelength	(nm)		1310/1490		
	CATV pass wavelength loss	(dB)			0.8	1550nm
	OLT pass wavelength loss	(dB)			0.8	1310/1490nm
	CATV & OLT isolation	(dB)	40			
	CATV input power(P _i)	(dBm)	-10		+10	
	Typical outpout power	(dBm)	0		22	
	Noise figure	(dB)		4.5	5.0	Pin=0dBm
	Each port output power	(dBm)	10	22		
	Difference of each output power	(dB)	-0.5		+0.5	
	Output power dajustable range	(dBm)	-6		0	
	Polarization dependance loss	(dB)			0.3	
	Polarization dependance gain	(dB)			0.4	
	Polarization mode dispersion	(ps/nm)			0.3	
	Input/output isolation	(dB)	30			
	Pump power leakage	(dBm)			-30	
General featre	Echo loss	(dB)	55			APC
	Serial interface		RS232			
	Network management interface		RJ45			
	Power supply	(V)	90		265	220VAC
			30		72	-48VDC
	Power consume	(W)			360	OA55W49E
	Operation temp.	(°C)	-5		65	
	Storage temp.	(°C)	-40		80	
	Operation relative humidity	(%)	5		95	
	Size (W) × (D) × (H)	(")	19 × 14.5 × 1.75 (")			OA55WxxA (1RU)
			19 × 14.7 × 3.5 (")			OA55WxxB (2RU)
			19 × 14.7 × 5.25 (")			OA55WxxC (3RU)
			19 × 14.7 × 8.75 (")			OA55WxxE (5RU)

Note: the above is the standard options, the output port number or each port output power can be customized.

For in depth information please visit our webpage
Für mehr Information bitte besuchen Sie unsere Webseite

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