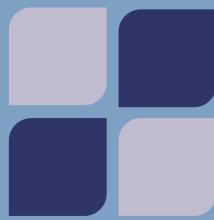


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EKSELANS BY ITS



**GPON**  
by**Ek**



**ENTER THE EK WORLD**

# GPON OLTS

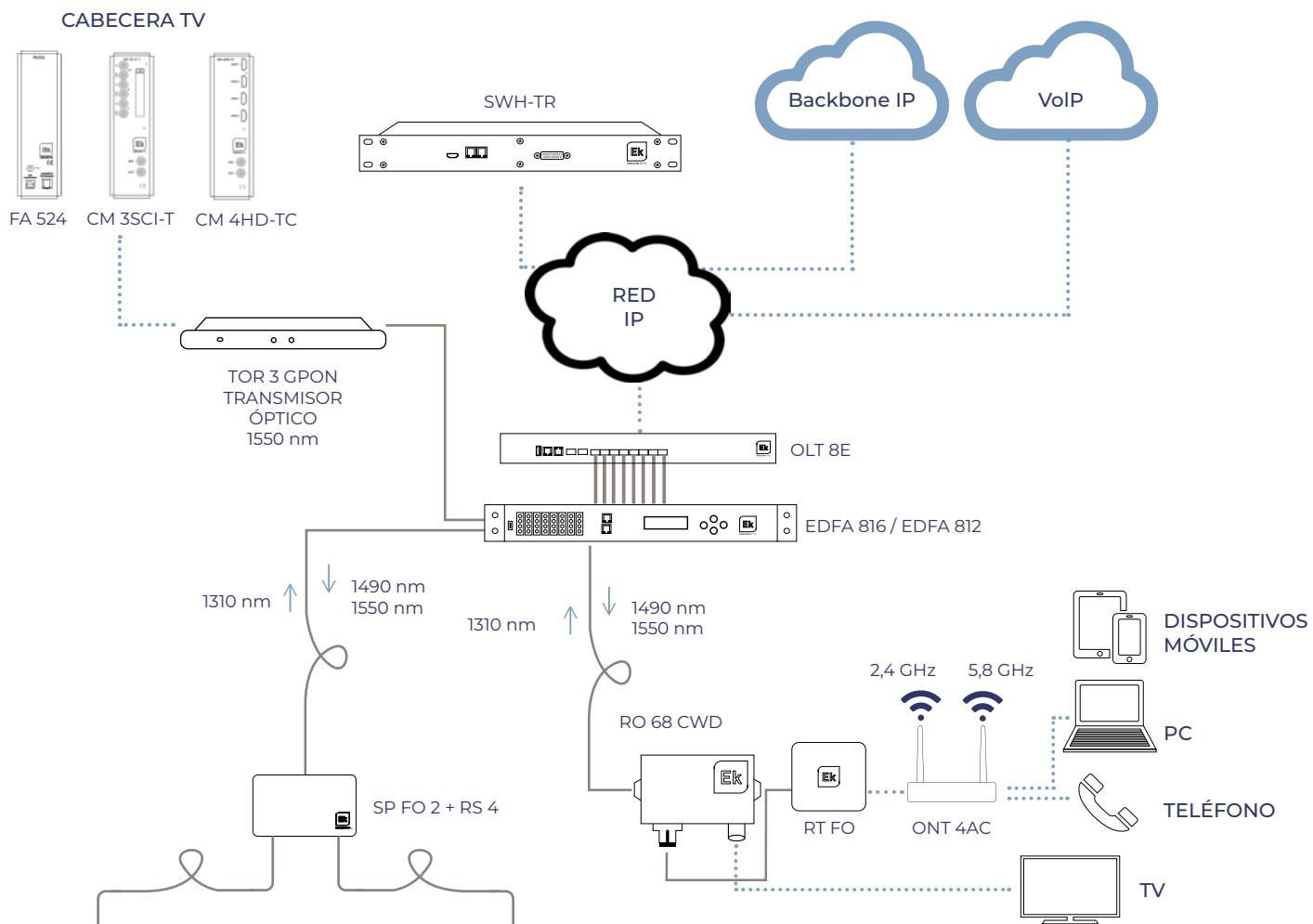
REFERENCE	OLT 8C
Code	310039
Interfaces	
Switching capacity	60 Gbps
PON Interfaces	8 ports SFP GPON
Uplink Interfaces	2 ports SFP 10GE / 1GE
Other interfaces	1 USB 1 FE management port
GPON specifications	
PON standard and characteristics	ITU-T G.984.x Up to 128 ONTs per each PON port and up to 1000 T-CONT Up to five profiles of T-CONT bandwidth management DBA algorithm for adaptive bandwidth management Different authentication types of ONT's: SN, password, SN+password, Loid, Loid Password
Ethernet specifications	
VLAN	Up to 4000 VLAN inputs VLAN stacking (Q-in-Q) ONT management of VLAN services
STP Protocols	IEEE 802.1D STP IEEE 802.1w RSTP IEEE 802.1s MSTP
Ports	Two-way bandwidth control Static and dynamic virtual links LACP aggregation Port & traffic mirroring
Multicast	Static multicast IGMP v1/v2/v3 IGMP Snooping / Proxy
QoS	Allows speed limitation on the port or defined service Allows port-based or service-based priority configuration and offers 802.1P and DSCP priority Port and defined service QoS support. Supports eight queues, SP algorithms, WRR or SP + WRR
Device security	ARP-flooding protection ARP-spoofing protection Supports port isolation and ONT isolation control Allows IP, MAC, VLAN and port linkage
Network security	Port broadcast multicast suppression ACL flow filtering mechanism
Management	
Network management	EK NMS CLI command line EK PROV+ provisioning system
General specifications	
Working temperature	-5 - 55°C
Mains feeding	AC: 100 – 240 VAC / 47 – 63 Hz DC: Input -40V / -75V
Consumption	56W (typ) / 80W (max)
Dimensions	440 x 320 x 44,2 mm
Weight	3,5 kg (approx.)

## OLT 8C

- ✓ GPON networks headend
- ✓ Intuitive configuration through EK NMS software and with EK PROV+ provisioning software
- ✓ Compatible with Ekselans ONTs and main brands in the market
- ✓ 8x downlink GPON ports
- ✓ 2x GE/10GE uplink ports
- ✓ ITU-T G.984.x & ITU-T G.988 standards compliant. Meets all requirements for creating ultra high speed FTTH networks
- ✓ 2,5Gbps maximum downlink / 1,25 Gbps uplink speed
- ✓ Remote management through SNMP
- ✓ ONTs remote management through OMCI protocol
- ✓ 1 rack unit



## APPLICATION EXAMPLE



# GPON OLTS

REFERENCE	OLT 8
Code	310006
Interfaces	
Switching capacity	60 Gbps
PON Interfaces	8 ports SFP GPON
Uplink Interfaces	2 ports SFP 10GE / 1GE
Other interfaces	1 USB 1 FE management port
GPON specifications	
PON standard and characteristics	ITU-T G.984.x Up to 128 ONTs per each PON port and up to 1000 T-CONT Up to five profiles of T-CONT bandwidth management DBA algorithm for adaptive bandwidth management Different authentication types of ONT's: SN, password, SN+password, Loid, Loid Password
Ethernet specifications	
VLAN	Up to 4000 VLAN inputs VLAN stacking (Q-in-Q) ONT management of VLAN services
STP Protocols	IEEE 802.1D STP IEEE 802.1w RSTP IEEE 802.1s MSTP
Ports	Two-way bandwidth control Static and dynamic virtual links LACP aggregation Port & traffic mirroring
Multicast	Static multicast IGMP v1/v2/v3 IGMP Snooping / Proxy
QoS	Allows speed limitation on the port or defined service Allows port-based or service-based priority observation and offers 802.1P and DSCP priority Port and defined service QoS support. Supports eight queues, SP algorithms, WRR or SP + WRR
Device security	ARP-flooding protection ARP-spoofing protection Supports port isolation and ONT isolation control Allows IP, MAC, VLAN and port linkage
Network security	Port broadcast multicast suppression ACL flow filtering mechanism
Management	
Network management	EK NMS CLI command line EK PROV+ provisioning system
General specifications	
Working temperature	-5 - 55°C
Mains feeding	AC: 100 – 240 VAC / 47 – 63 Hz DC: Input -40V / -75V
Consumption	56W (typ) / 80W (max)
Dimensions	440 x 320 x 44,2 mm
Weight	3,5 kg (approx.)

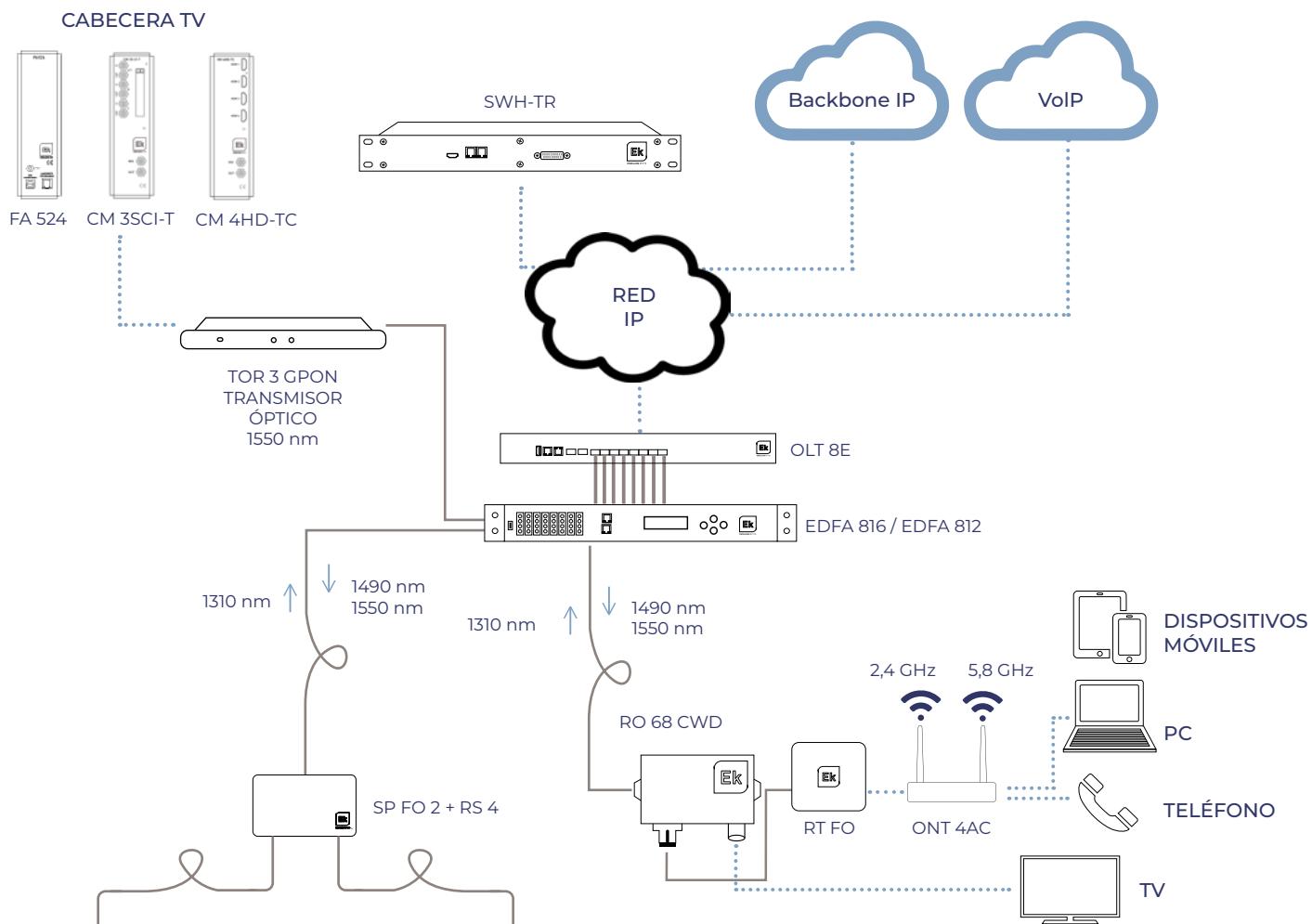
## OLT 8E

- ✓ GPON networks headend
- ✓ Intuitive configuration through EK NMS software and with EK PROV+ provisioning software
- ✓ Compatible with Ekselans ONTs and main brands in the market
- ✓ 8x downlink GPON ports
- ✓ 2x GE/10GE uplink ports
- ✓ ITU-T G.984.x & ITU-T G.988 standards compliant. Meets all requirements for creating ultra high speed FTTH networks
- ✓ 2,5Gbps maximum downlink / 1,25 Gbps uplink speed
- ✓ Remote management through SNMP
- ✓ ONTs remote management through OMCI protocol
- ✓ 1 rack unit



OLT 8E

## APPLICATION EXAMPLE



# GPON OLTS

REFERENCE	OLT 16E
Code	310009
Interfaces	
Switching capacity	60 Gbps
PON Interfaces	16 ports SFP GPON
Uplink Interfaces	2 ports SFP 10GE / 1GE 6 ports SFP 1 GE
Other interfaces	1 USB 1 FE management port
GPON specifications	
PON standard and characteristics	ITU-T G.984.x Up to 128 ONTs per each PON port and up to 1000 T-CONT Up to five profiles of T-CONT bandwidth management DBA algorithm for adaptive bandwidth management Different authentication types of ONT's: SN, password, SN+password, Loid, Loid Password
Ethernet specifications	
VLAN	Up to 4000 VLAN inputs VLAN stacking (Q-in-Q) ONT management of VLAN services
STP Protocols	IEEE 802.1D STP IEEE 802.1w RSTP IEEE 802.1s MSTP
Ports	Two-way bandwidth control Static and dynamic virtual links LACP aggregation Port & traffic mirroring
Multicast	Static multicast IGMP v1/v2/v3 IGMP Snooping / Proxy
QoS	Allows speed limitation on the port or defined service Allows port-based or service-based priority observation and offers 802.1P and DSCP priority Port and defined service QoS support. Supports eight queues, SP algorithms, WRR or SP + WRR
Device security	ARP-flooding protection ARP-spoofing protection Supports port isolation and ONT isolation control Allows IP, MAC, VLAN and port linkage
Network security	Port broadcast multicast suppression ACL flow filtering mechanism
Management	
Network management	EK NMS CLI command line EK PROV+ provisioning system
General specifications	
Working temperature	-5 - 55°C
Mains feeding	AC: 100 – 240 VAC / 47 – 63 Hz DC: Input -40V / -75V Included redundant power supply
Consumption	56W (typ) / 80W (max)
Dimensions	440 x 320 x 44,2 mm
Weight	3,5 kg (approx.)

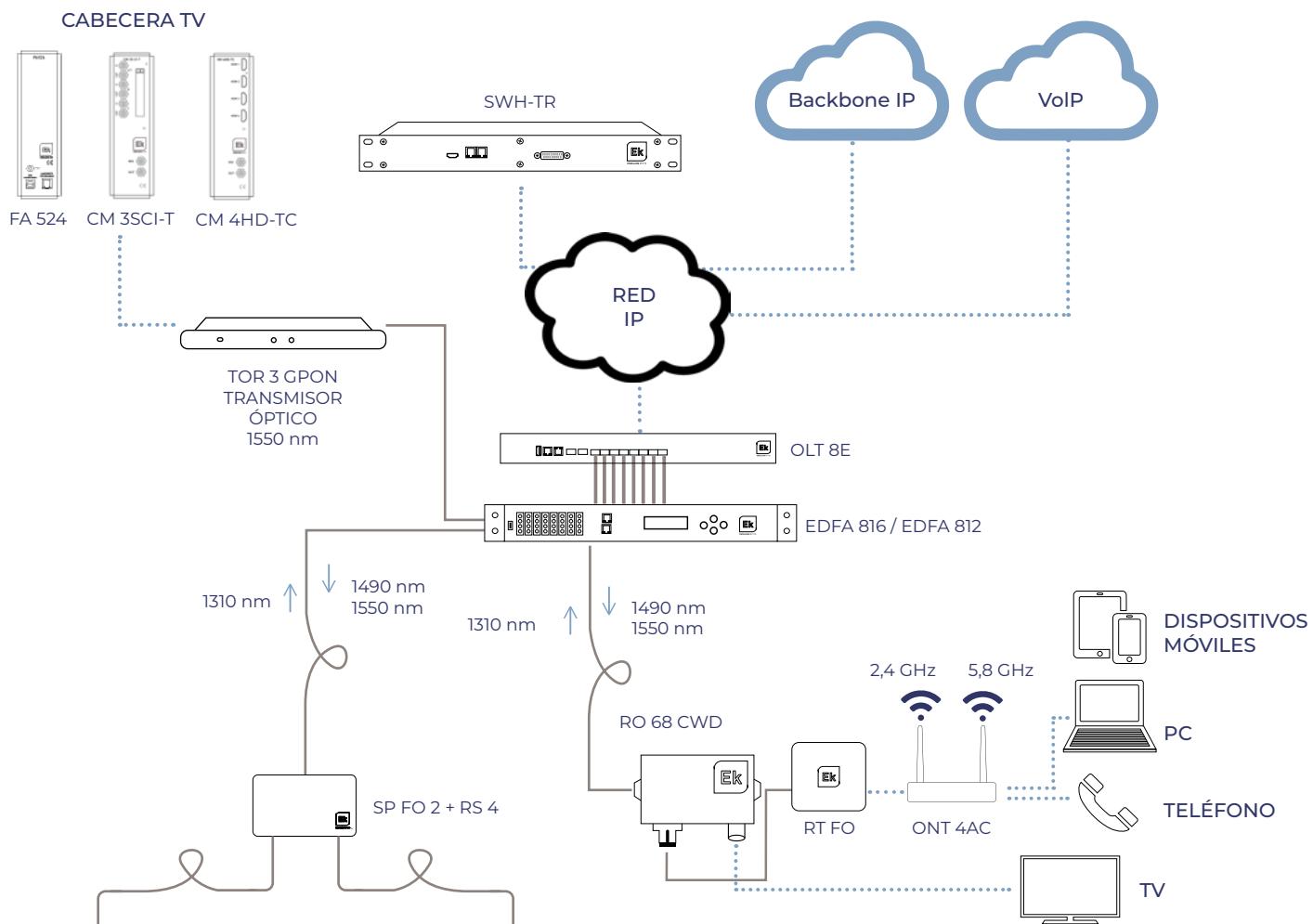
## OLT 16E

- ✓ GPON networks headend
- ✓ Intuitive configuration through EK NMS software and with EK PROV+ provisioning software
- ✓ Compatible with Ekselans ONTs and main brands in the market
- ✓ 16x downlink GPON ports
- ✓ 2x GE/10GE uplink ports + 6x GE uplink ports
- ✓ 2x 10GE/GE uplink ports
- ✓ ITU-T G.984.x & ITU-T G.988 standards compliant.  
Meets all requirements for creating ultra high speed FTTH networks
- ✓ 2,5Gbps maximum downlink / 1,25 Gbps uplink speed
- ✓ Remote management through SNMP
- ✓ ONTs remote management through OMCI protocol
- ✓ Redundant power supply
- ✓ 1 rack unit



OLT 16E

## APPLICATION EXAMPLE



# CONFIGURATION SERVER

## OLT Configuration

- ✓ Profile and VLAN configuration
- ✓ Uplink Port Configuration
- ✓ Multicast Configuration
- ✓ OLT restart
- ✓ OLT Factory Reset

## ONTs configuration

- ✓ Configuration of private ONT parameters: Wifi, VoIP, port assignment to VLAN
- ✓ Automatically apply template to ONTs in bulk
- ✓ Manual configuration of ONTs by groups or individually
- ✓ Management IP allocation to each ONT automatically
- ✓ Group ONTs firmware update
- ✓ Resetting ONTs individually or in groups
- ✓ Factory reset of ONTs individually or in groups

## General characteristics

- ✓ Dedicated server
- ✓ Management web interface
- ✓ Import and export of complete system configuration
- ✓ Guaranteed compatibility with Chrome browser

## SWH-TR

- ✓ Configuration system for GPON networks in hospitality environments
- ✓ Complete and intuitive view of the system from the main page
- ✓ OLT and ONTs unified configuration, including WIFI and VoIP



# OPTICAL TRANSMITTER

## FOR RF OVERLAY

### HEADBOARDS

#### TOR 3 GPON · TOR 3 GPON FI

- ✓ 1 GHz and 2.6 GHz optical transmitters compatible with GPON installations
- ✓ Allows radio frequency signal distribution within the GPON network
- ✓ One 19 "rack unit



REFERENCE		TOR 3 GPON	TOR 3 GPON FI
Code		271021	271020
RF Input			
Frequency	MHz	47 - 1000	47 - 2600
Flatness	dB	≥1	≥1
Input level (CAG)	dBµV	77 - 87*	77 - 87*
Return loss	dB	≥16	≥16
Input connector		F	F
Output test	dB	-20	-20
Optical output			
Wavelength	nm	1550	1550
Optical power	dBm	3	3
Light source		DFB	DFB
Optical return loss	dB	>50	>50
Optical connector		SC/APC	SC/APC
GENERAL			
Feeding	Vac / Hz	90-265 / 50-60	90-265 / 50-60
Consumption	W	<14	<14
Working temperature	°C	-20...55	-20...55

\* For 60 analog channels

# EDFAs GPON

## FOR RF OVERLAY

REFERENCE		EDFA 816	EDFA 812	EDFA 1617	EDFA 3219
Code		310010	310023	310011	310022
Connections					
Number of optical ports for OLT	N.	8	8	16	32
Number of output optical ports	N.	8	8	16	32
Input					
Working wavelength (CATV)	nm	1540 - 1563			
Pass wavelength (OLT)	nm	1310 / 1490			
Input optical power (CATV)	dBm	±10			
Output					
Total output optical power	dBm / mW	27/500	24/250	31/1260	37/5000
Output optical power adjustment	dB	0...6			
Optical output power per port	dBm	16	12	16,5	19,2
Difference of each output port optical power	dB	±0,5			
Attenuation working wavelength (CATV)	dB	<0,8			
OLT wavelength attenuation	dB	<0,8			
Optical power monitor	dB	-20			
Polarization dependence Loss / Gain	dB	0,3 / 0,4			
Noise Figure	dB	<5,5			
IN - OUT					
CATV - OLT Isolation	dB	>40			
IN - OUT Isolation	dB	30			
Optical connectors		SC/APC			
Mains feeding					
Voltage	Vac / Hz	90-265 / 50-60			
Consumption	W	<50			
Number of PSUs	N.	2			
General					
Management interface		SNMP - RJ45			
Serial Interface		RS-232			
Puertos		Ethernet - LAN RJ45			
Display / Buttons		LCD /4			
STATUS LEDs		Pump, Input, Alarm, Power 1, Power 2			
Working temperature	°C	-5...65			
Dimensions	mm	1xU Rack 19"		2xU Rack 19"	

### EDFA 812 / 816 / 1617 / 3219

- ✓ Compatible with FTTx PON (EPON / GEAPON / GPON)
- ✓ Models of 8, 16 and 32 optical output ports with powers from 8 to 19 dBm per port
- ✓ Low noise pre amp Very low degradation of CNR and MER
- ✓ Avoid the need to cascade different EDFAs
- ✓ Very low noise figure
- ✓ Redundant power supply
- ✓ Control and monitoring via SNMP

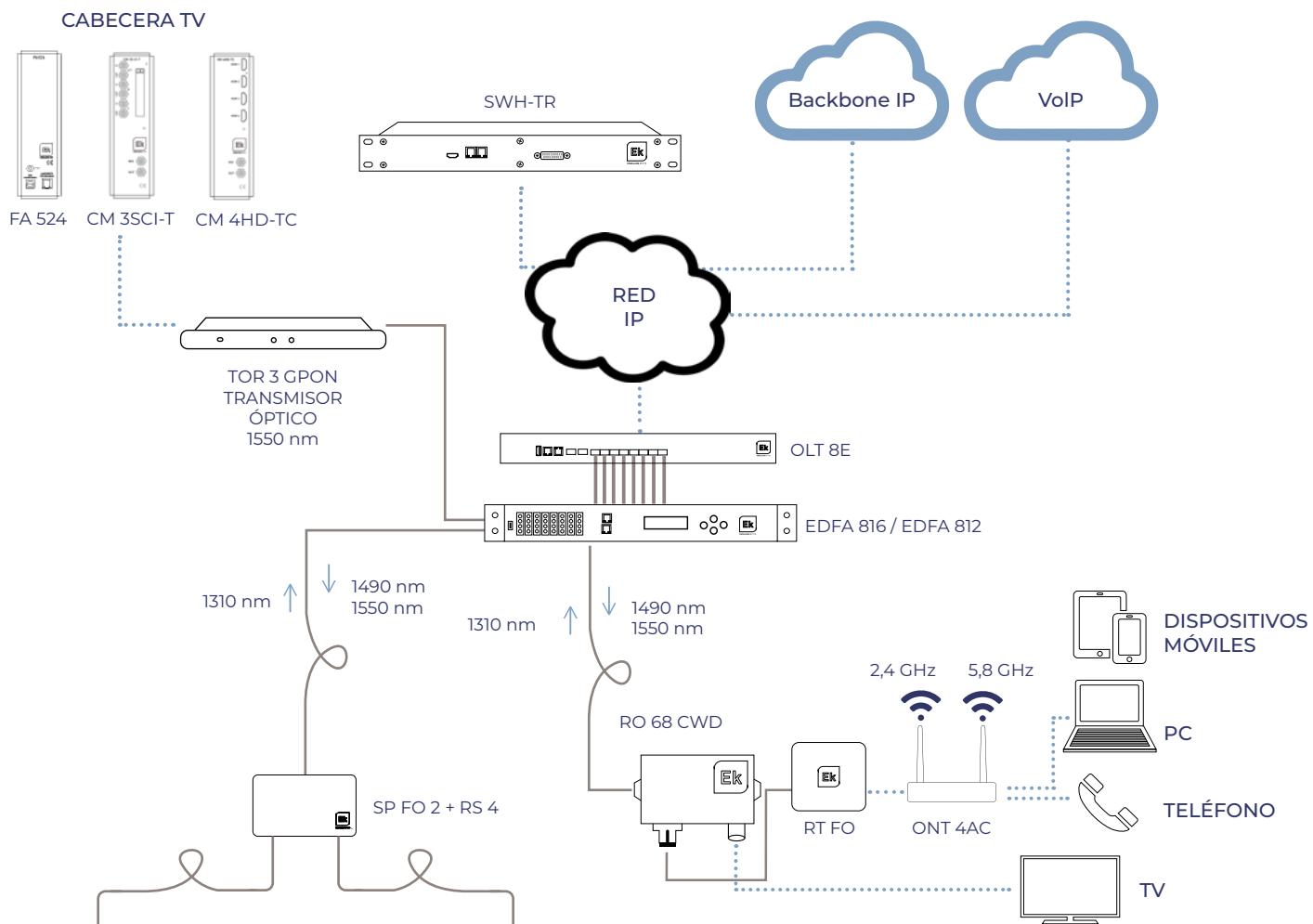
EDFA 812 / 816



EDFA 1617 / 3219



## APPLICATION EXAMPLE



# GPON / FTTH OPTICAL NETWORK TERMINAL

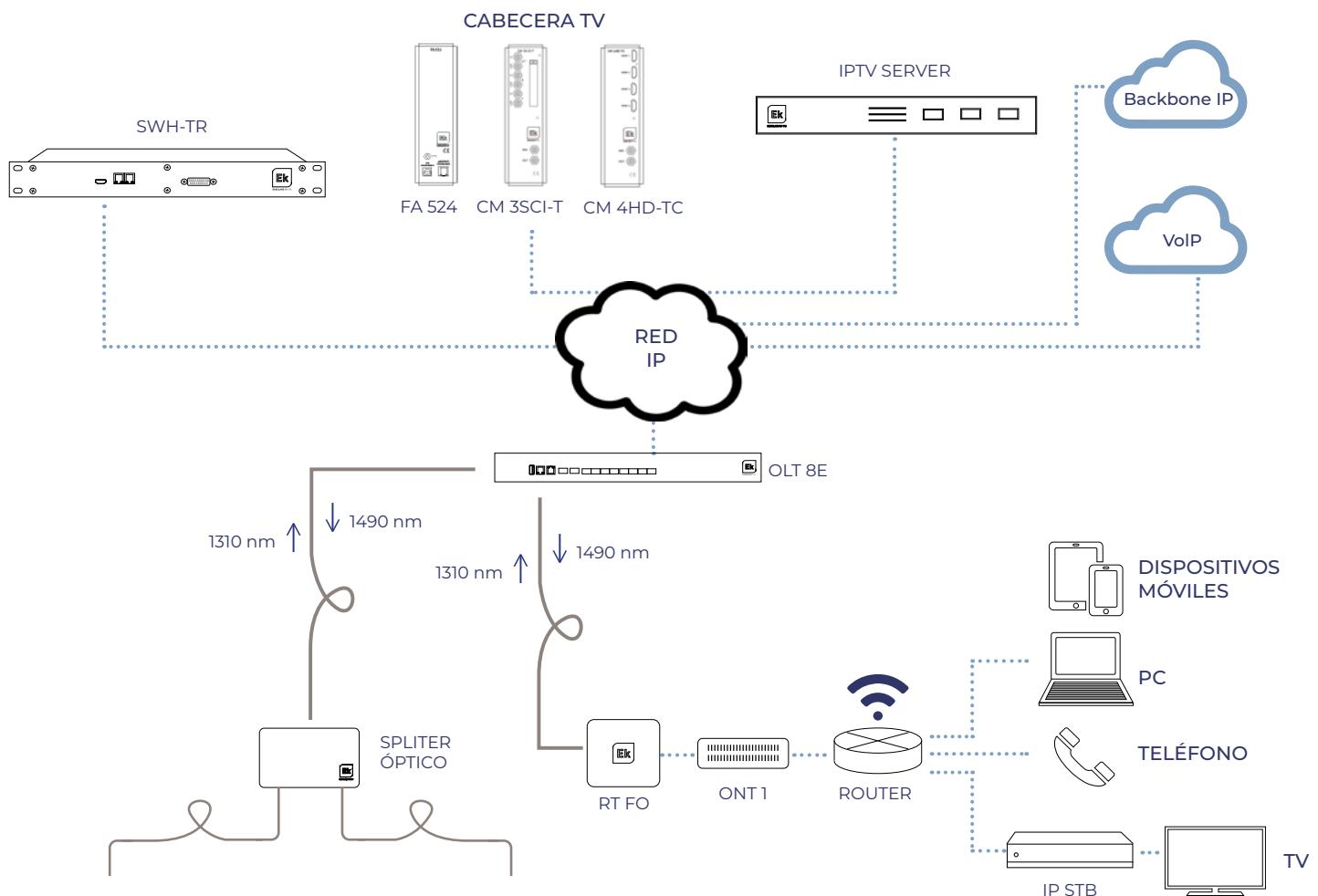
REFERENCE	ONT 1
Code	310002
Throughput	Downstream: 2.488Gbps Upstream: 1.244Gbps
Connector	SC/PC
Optical specifications	ITU-T G.984.2 Clase B+
Standards	ITU-T G.984.x (G.984.5 support) FCC 47 CFR Part 15, Class B FDA 21 CFR 1040.10 & 1040.11, Class I IEEE 802.3 Ethernet 802.1 q/p VLANs
Optical wavelength and power	Downlink Wavelength: 1490nm Sensitivity: -27dBm Saturation: -8dBm Uplink Wavelength: 1310nm Transmission power: 0.5 - 5dBm
Fiber mode	G.652 Monomode
Others	64 GEM ports Flexible mapping between GEM ports and T-CONTs Queues priority Upstream traffic management FEC (Forward Error Correction) DBA Remote firmware upgrade
Ethernet specifications	
Standards	IEEE802.1
Interfaces	1x10/100/1000BASE-T port. RJ45 Connector Auto negotiation Auto MDI/MDIX
Router functionality (switching & routing)	Bridging & Switching (802.1d) 802.1p DSCP mapping VLAN labeling and filtering VLAN stacking ( Q-in-Q ) Dying Gasp MACs automatic addressing IGMP v2/v3 Snooping and MLD v2/v3
General specifications	
Working temperature	-5 - 45°C
Voltage	12V DC,0.5A max
Dimensions	110 x 96 x 52 mm
Weight	300g (aprox.)

## ONT 1

- ✓ GPON Optical Network Unit for SOHO and residential purposes
- ✓ Market routers compliant media converter
- ✓ 1x Autoadaptive 10/100/1000Base-T Ethernet ports
- ✓ Compatible with ITU-T G.984.x standard. Meets all requirements for creating ultra high speed FTTH networks
- ✓ 2,5Gbps maximum downlink / 125 Gbps uplink speed
- ✓ Local and remote management. OMCI, Web, CLI and SNMP



## APPLICATION EXAMPLE



# GPON / FTTH OPTICAL NETWORK TERMINAL

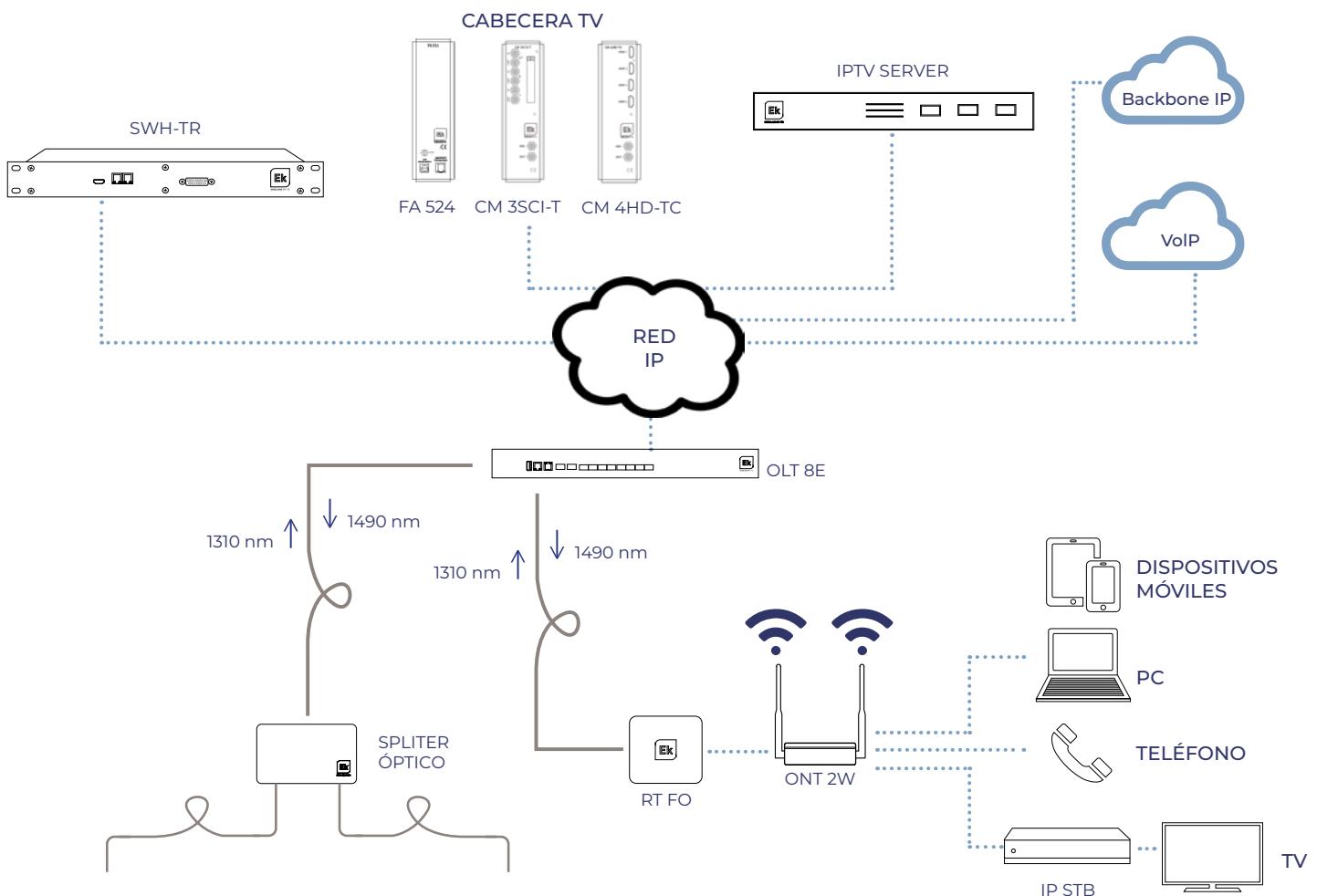
REFERENCE	ONT 2W
Code	310032
GPON specifications	
Transfer speed	Dowstream: 2.488Gbps Upstream: 1.244Gbps
Connector	SC/APC
Optical	ITU-T G.984.2 Clase B+
Standards	ITU-T G.984.x (G.984.5 support) FCC 47 CFR Part 15, Class B FDA 21 CFR 1040.10 & 1040.11, Class I IEEE 802.3 Ethernet 802.1q/p VLANs
Optical wavelength and power	<b>Downlink</b> Wavelength: 1490nm Sensitivity: -28dBm Saturation: -8dBm <b>Uplink</b> Wavelength: 1310nm Transmission power: 0.5 - 5dBm
Fiber mode	G.652 Monomode
Others	32 T-CONTs 256 GEM Flexible mapping between GEM ports and T-CONTs Upstream and downstream FEC (Forward Error Correction) Automatic discovery of SN and password activation AES-128 encryption with keys generation and commutation 802.1p service upstream
Ethernet specifications	
Standards	IEEE802.3 IEEE802.3au IEEE802.3x
Interfaces	2 ports 10/100/1000BASE-T port. RJ45 Connector Auto negotiation Auto MDI/MDIX
Router functionality (switching & routing)	Bridging & Switching ( 802.1d / 802.1q) 8 clases de tráfico (802.1p) Control de flujos 802.3n Etiquetado y filtrado de VLAN VLAN stacking ( Q-in-Q ) IGMP multicast para video IPTV IGMP snooping RSTP IPHOST SSH QOSSP, WRR, SP+WRR
WiFi specifications	Port Mirror
Standard	IEEE 802.11 b/g/n (Up to 300 Mbps throughput)
Antenna	2x2, 5dBi
EIRP	Max 25dBm
Others	Up to 4 possible SSID's Up to 64 simultaneous connections WEP, WPA-PSK, WPA2-PSK (AES, TKIP) Security MAC filtering
POTS Telephony specifications	
REN	Max SREN
Connector	1 port RJ11
Call Voltage	65V RMS
Protocols	SIP / MGCP G.711 (A- & u-), G.729, G.726 codec DTMF Calling Echo suppression support, VAD, CNI Call identification, hold call, forward call, 3-users call T.30 & T.38 FAX
General specifications	
Working temperature	-5~45°C
Voltage	12V DC1.5A max
Dimensions	244 x 161 x 41 mm
Weight	500g (aprox.)

## ONT 2W

- ✓ GPON Optical Network Unit for SOHO and residential purposes
- ✓ 2 x Autoadaptative 10/100/1000Base-T Ethernet ports
- ✓ WiFi 2x2 802.11n (Up to 300Mbps of wireless throughput)
- ✓ 1x POTS telephony port
- ✓ Allows access to ultra high speed networks: Internet, VoIP and IPTV
- ✓ Compatible with ITU-T G.984.x standard. Meets all requirements for creating ultra high speed FTTH networks
- ✓ 2,5Gbps maximum downlink / 1,25 Gbps uplink speed
- ✓ Local and remote management. OMCI, Web, CLI and SNMP
- ✓ Compatible and interoperable with the Ekselans by ITS OTTs and other main brands in the market



## APPLICATION EXAMPLE



# GPON / FTTH OPTICAL NETWORK TERMINAL

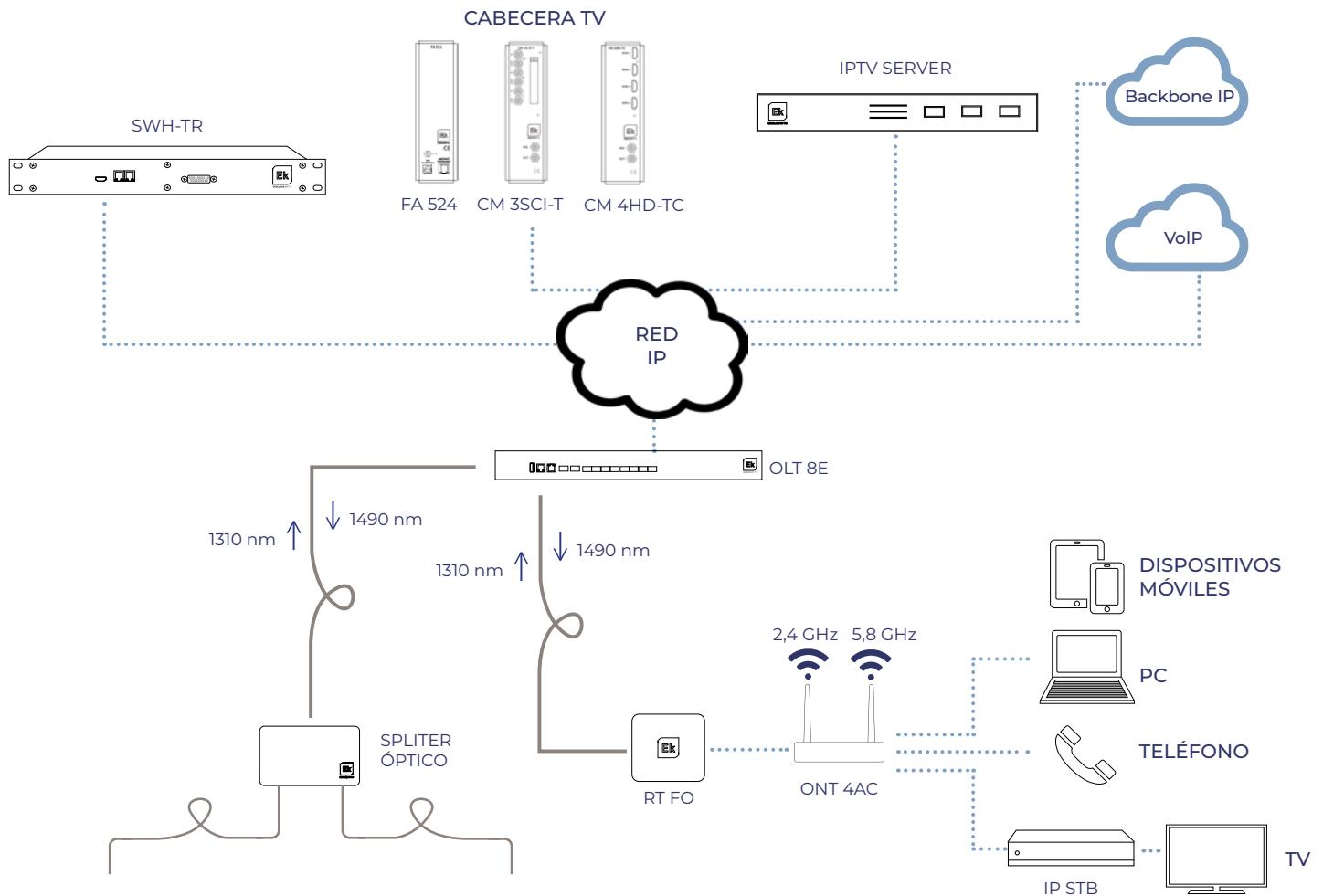
REFERENCE	ONT 4 AC
Code	310017
GPON specifications	
Transfer speed	Downstream: 2.488Gbps Upstream: 1.244Gbps
Connector	SC/APC
Optical	ITU-T G.984.2 Clase B+
Standards	ITU-T G.984.x (G.984.5 support) FCC 47 CFR Part 15, B Class FDA 21 CFR 1040.10 & 1040.11, Class I IEEE 802.3 Ethernet 802.1q/p VLANs
Optical wavelength and power	Downlink Wavelength: 1490nm Sensitivity: -28dBm Saturation: -8dBm Uplink Wavelength: 1310nm Transmission power: 0.5 - 5dBm
Fiber mode	G.652 Monomode
Others	32 T-CONTs 256 GEM Flexible mapping between GEM ports and T-CONTs Upstream and downstream FEC (Forward Error Correction) Automatic discovery of SN and password activation AES-128 encryption with keys generation and conmutation 802.1p service upstream
Ethernet specifications	
Standards	IEEE802.3 IEEE802.3au IEEE802.3x
Interfaces	4 ports 10/100/1000BASE-T port. RJ45 Connector Auto negotiation Auto MDI/MDIX
Router functionality (switching & routing)	Bridging & Switching ( 802.1d / 802.1q) 8 traffic classes (802.1p) Flow control 802.3n VLAN labelling and filtering VLAN stacking ( Q-in-Q ) IGMP multicast for IPTV video IGMP snooping RSTP IPHOST SSH
WiFi specifications	QOS (SP, WRR, SP+WRR) Port Mirror
Standard	IEEE 802.11 b/g/n (hasta 300 Mbps de transferencia)
Antenna	2x2, 5dBi
EIRP	Max 25dBm
Others	Up to 4 possible SSID's Up to 64 simultaneous connections WEP, WPA-PSK, WPA2-PSK (AES, TKIP) Security MAC filtering
POTS Telephony specifications	
REN	Max 5REN
Connector	2 puertos RJ11
Call Voltage	65V RMS
Protocols	SIP / MGCP G.711 (A- & u-), G.729, G.726 codec DTMF Calling Echo suppression support, VAD, CNI Call identification, hold call, forward call, 3-users call T.30 & T.38 FAX
USB	
Funtion mode	Host / device
Current	Max 1A
Características generales	
Working temperature	-5~45°C
Voltage	12V DC1.5A max
Dimensions	244 x 161 x 41 mm
Weight	500g (aprox.)

## ONT 4AC

- ✓ GPON Optical Network Unit for SOHO and residential purposes
- ✓ 4x Autoadaptive 10/100/1000Base-T Ethernet ports
- ✓ WiFi 3x3 802.11b/g/n 2,4GHz and 3x3 802.11n/ac 5,8 GHz
- ✓ 2x POTS telephony ports
- ✓ 1 USB port
- ✓ Allows access to ultra high speed networks: Internet, VoIP and IPTV
- ✓ Compatible with ITU-T G.984.x standard. Meets all requirements for creating ultra high speed FTTH networks
- ✓ 2,5Gbps maximum downlink / 1,25 Gbps uplink speed
- ✓ Local and remote management. OMCI, Web, CLI and SNMP
- ✓ Compatible and interoperable with the Ekselans by ITS OLTs and other main brands in the market



## APPLICATION EXAMPLE



# PoE GPON OPTICAL NETWORK TERMINAL

REFERENCIA	ONT 4 POE
Code	310033
GPON specifications	
Transfer speed	Downstream: 2.488Gbps / Upstream: 1.244Gbps
Connector	SC/APC
Optical	ITU-T G.984.2 Clase B+
Standards	ITU-T G.984.x (G.984.5 support) FCC 47 CFR Part 15, Class B FDA 21 CFR 1040.10 & 1040.11, Class I IEEE 802.3 Ethernet 802.1q/p VLANs
Optical wavelength and power	Downlink Wavelength: 1490nm Sensitivity: -28dBm Saturation: -8dBm Uplink Wavelength: 1310nm Transmission power: 0.5 - 5dBm
Fiber mode	G.652 Monomodo
Otros	32 T-CONTs 256 GEM Mapeo flexible entre puertos GEM y T-CONTs FEC upstream & downstream Activación con descubrimiento automático de SN y contraseña Codificación AES-128 con generación de claves y commutación Servicio 802.1p en upstream FEC (Forward Error Correction)
Características Ethernet	
Standards	IEEE802.3 / IEEE802.3au / IEEE802.3x
Interfaces	4 puertos 10/100/1000BASE-T. Conector RJ45 Auto negociación Auto MDI/MDIX 100m de distancia 48V PoE power supply 60W maximum power
Router functionality (switching & routing)	Bridging & Switching ( 802.1d / 802.1q) 8 clases de tráfico (802.1p) Control de flujos 802.3n VLAN filtering and labeling VLAN stacking ( Q-in-Q ) IGMP multicast para video IPTV IGMP snooping RSTP IPHOST SSH QOSSP, WRR, SP+WRR Port Mirror
General specifications	
Working temperature	-5~45°C
Voltage	12V DC1.5A max
Dimensions	244 x 161 x 41 mm
Weight	500g (aprox.)

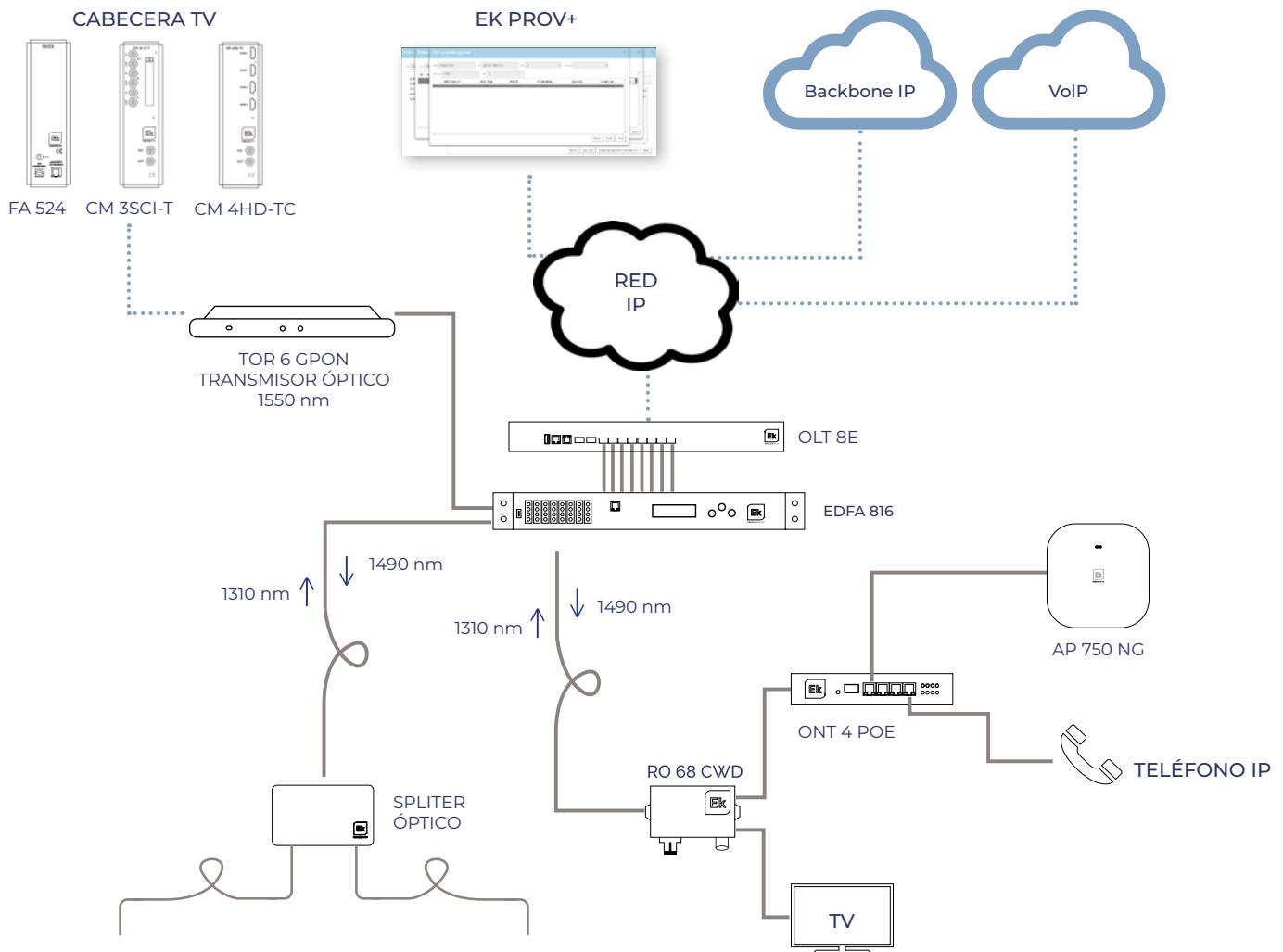
## ONT 4 POE

- ✓ GPON Optical Network Unit for SOHO and residential purposes
- ✓ 4x Autoadaptative 10/100/1000 Base-T Ethernet ports with PoE 48V power supply
- ✓ Compatible with ITU-T G.984.x standard. Meets all requirements for creating ultra high speed FTTH/FTTR networks
- ✓ 2,5Gbps maximum downlink / 1,25 Gbps uplink speed
- ✓ Allows access to ultra-broadband services: internet, VoIP and IPTV
- ✓ Local and remote management. OMCI, Web, CLI and SNMP
- ✓ Compatible and interoperable with the Ekselans by ITS OTLs



ONT4 POE

## EJEMPLO DE APLICACIÓN



REFERENCIA	ONT IN	ONT IN24
Code	310029	310034
Transfer speed	Dowstream: 2.488Gbps Upstream: 1.244Gbps	
Connector	SC/APC	
Optical	ITU-T G.984.2 Clase B+	
Standards	ITU-T G.984.x (G.984.5 support) FCC 47 CFR Part 15, Class B FDA 21 CFR 1040.10 & 1040.11, Class I IEEE 802.3 Ethernet 802.1 q/p VLANs	
Optical wavelength and power	Downlink Longitud de onda: 1490nm Sensibilidad: -28dBm Saturación: -8dBm Uplink Longitud de onda: 1310nm Potencia de transmisión: 0.5 ~ 5dBm	
Fiber mode	G.652 Monomodo	
Others	32 T-CONTs 256 GEM Mapeo flexible entre puertos GEM y T-CONTs FEC upstream & downstream Activación con descubrimiento automático de SN y contraseña Codificación AES-128 con generación de claves y conmutación Servicio 802.1p en upstream FEC (Forward Error Correction)	
Power supply	12 Vdc 1,5A max.	24 Vdc
Características Ethernet		
Standards	IEEE802.3 / IEEE802.3au / IEEE802.3x	
Interfaces	4 puertos 10/100/1000BASE-T. Conector RJ45 Auto negociación Auto MDI/MDIX	
Router functionality (switching & routing)	Bridging & Switching ( 802.1d / 802.1q) 8 traffic classes (802.1p) Flow control 802.3n VLAN filtering and labeling VLAN stacking ( Q-in-Q ) IGMP multicast for IPTV video IGMP snooping RSTP / IPHOST /SSH QoS-SP, WRR, SP+WRR Port Mirror	
Industrial features	Compatible with industrial PLC systems	
Características WiFi		
Standar	IEEE 802.11 b/g/n (Up to 300 Mbps transfer rate)	
Antenna	SMA connectors for 2.4/5 GHz WiFi antennas	
EIRP	Max 25 dBm	
Others	Up to 4 possible SSID's per band Up to 64 simultaneous connections WEP, WPA-PSK, WPA2-PSK (AES, TKIP) Security MAC filtering	

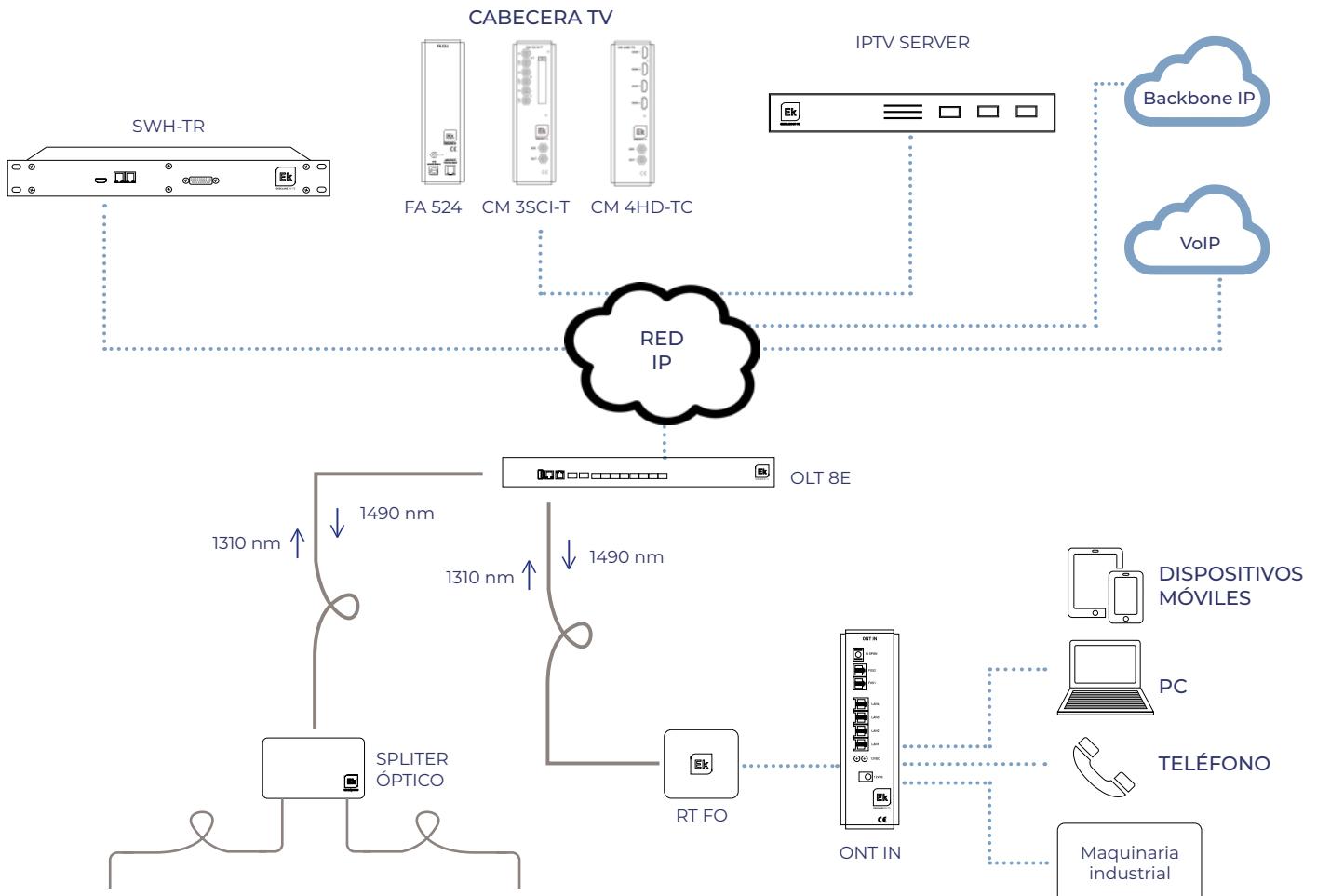
# GPON/FTHH OPTICAL NETWORK TERMINAL

## ONT IN / ONT IN 24

- ✓ Optical Network Unit and gateway for industry sector
- ✓ 4x Autoadaptive 10/100/1000 Base-T Ethernet ports
- ✓ Compatible with ITU-T G.984.x standard. Meets all requirements for creating ultra high speed FTTH networks
- ✓ 2,5Gbps maximum downlink / 1,25 Gbps uplink speed
- ✓ Allows access to ultra-broadband services: internet, VoIP and IPTV
- ✓ Local and remote management. OMCI, Web, CLI, SNMP and SWH servers
- ✓ Compatible and interoperable with the Ekselans by ITS OTLs



## APPLICATION EXAMPLE



# OPTICAL RECEIVERS

## FOR GPON INSTALLATIONS

REFERENCIA		RO 68 CWD	RO 88 CWD	RO 65 FI CWD
Código		270005	270004	270006
Entrada óptica				
Longitud de onda	nm	1540 - 1563	1540 - 1563	1540 - 1563
L. de onda de paso	nm	1310 / 1490	1310 / 1490	1310 / 1490
Nivel de potencia óptica	dBm	0 / -10	+2 / -15	0 / -10
Rango AGC	dBm	-	0 / -12	-
Eficiencia	A/W	≥0,9/1550 nm	≥0,85/1310 nm ≥0,9/1550 nm	≥0,9/1550 nm
Pérdidas de retorno ópticas	dB	>45	>45	>45
Conecotor óptico	-	SC/APC (IN/OUT)	SC/APC (IN/OUT)	SC/APC (IN/OUT)
Salida RF				
Rango de frecuencia	MHz	47 - 1000	47 - 1000	47 - 2350
Planitud	dB	± 1	± 0,75	± 1,5
Nivel de salida	dBμV	62 @ -1dBm*	>80 (AGC)*	60 @ 1dBm**
Regulación nivel de salida	dB	-	0 - 20	-
Pérdidas de retorno	dB	≥14	≥14	≥14
Conecotor de salida	-	F	F	F
General				
Alimentación	Vdc	No requiere	12 (F. alimentación incluida)	No requiere
Consumo	W	-	≤1	-
Temperatura de funcionamiento	°C	-20 / +55	-20 / +55	-20 / +55

### RO 68 CWD · RO 88 CWD

- ✓ It allows the reception of optical signal and can continue distributing it in radio frequency
- ✓ Compatible with GPON networks. Wavelength step 1310/1490 nm
- ✓ RO 68 CWD: passive behavior. Does not need power

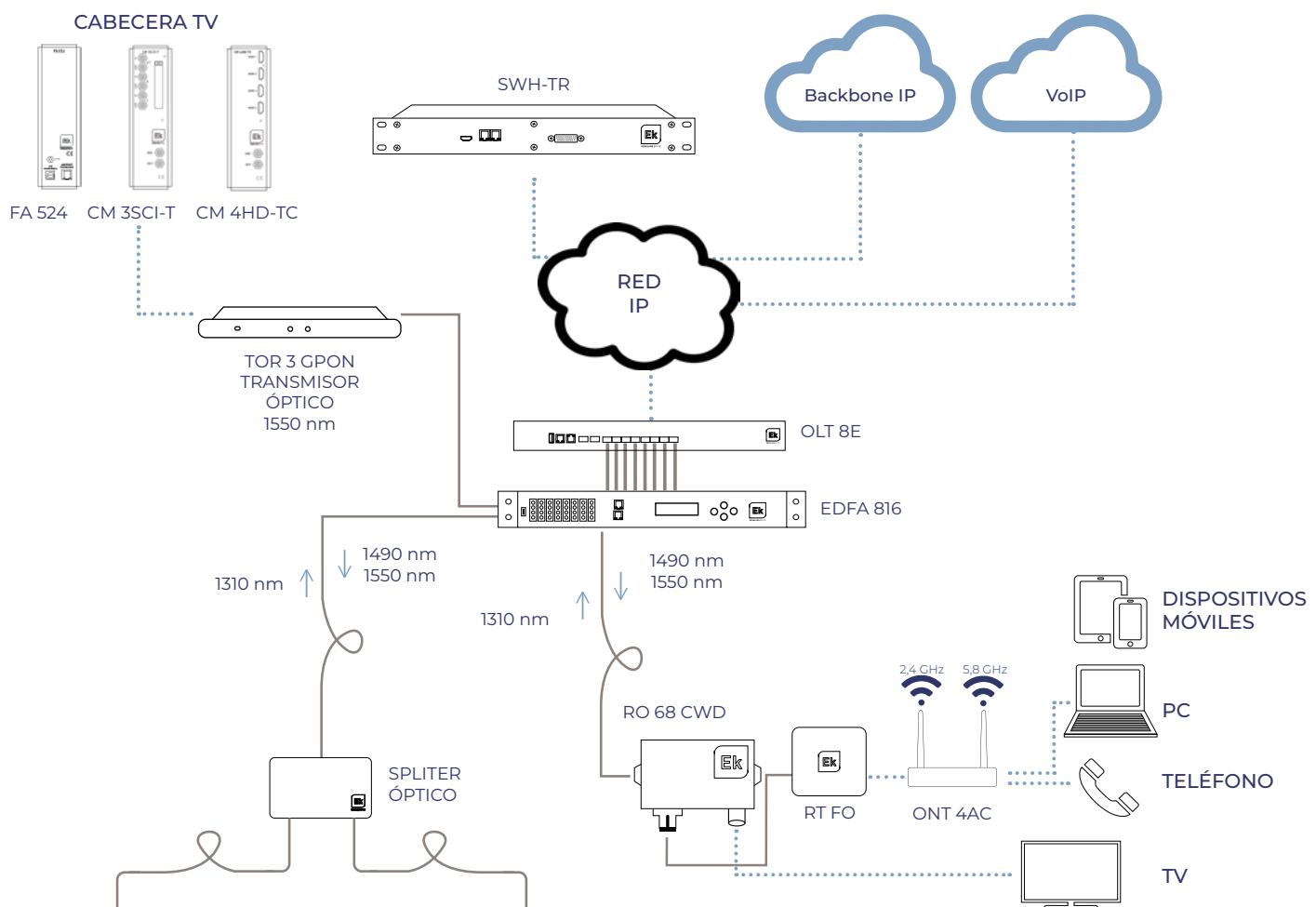


RO 68 CWD



RO 88 CWD

## APPLICATION EXAMPLE



# EQUIPOS DE CONTINUIDAD PARA ONT

REFERENCIA		UPS 16	UPS 32	UPS 48
Código		312001	312002	312003
Tensión máxima de entrada	V		13	
Tensión mínima de entrada	V		9	
Tensión nominal de salida	V		12 ± 5%	
Corriente máxima de salida	mA		1000	
Baterías	mAh	2x 2200 (LiPo)	4x 2200 (LiPo)	6x 2200 (LiPo)
Capacidad	Wh	16	32	48
Temperatura de trabajo	°C		10 ÷ 40	
Temperatura de almacenaje	°C		-5 ÷ 50	
Humedad máxima	% Hum		<90	
Dimensiones	cm		23 x 15 x 3	

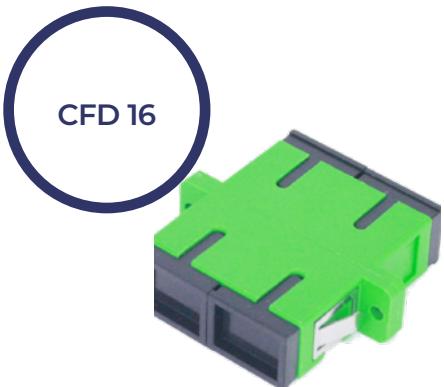
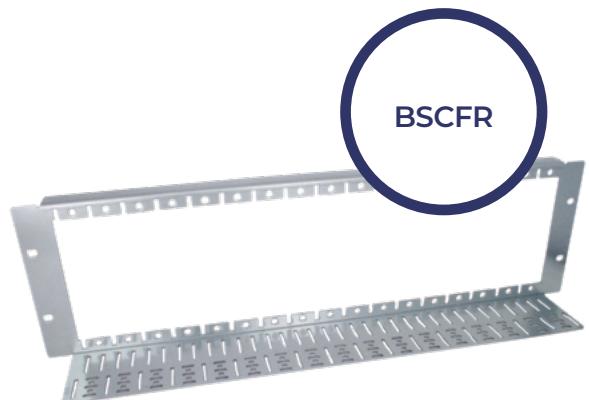
## UPS 16 · UPS 32 · UPS 48

- ✓ Sistema Alimentación Ininterrumpida
- ✓ Gestión eficaz del proceso de carga de las baterías
- ✓ Apilable con otras unidades para mayor autonomía
- ✓ Protegido frente a sobretensiones y cortocircuitos
- ✓ Interruptor para desconexión de baterías
- ✓ No olvide conectar las baterías



# ACCESORIOS PARA REDES GPON

- ✓ Racks and Accessories
- ✓ Fiber trays for 19" rack
- ✓ Fiber distribution box
- ✓ Fiber distribution box
- ✓ Fiber cables
- ✓ Pigtails, patch-cords, Fiber optics terminal boxes and other accessories



More information in [www.ek.plus](http://www.ek.plus)



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