



EKSELANS BY ITS

2024
VERSION

OPTICAL TRANSMITTERS AND RECEIVERS



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OPTICAL TRANSMITTERS BASIC SERIE

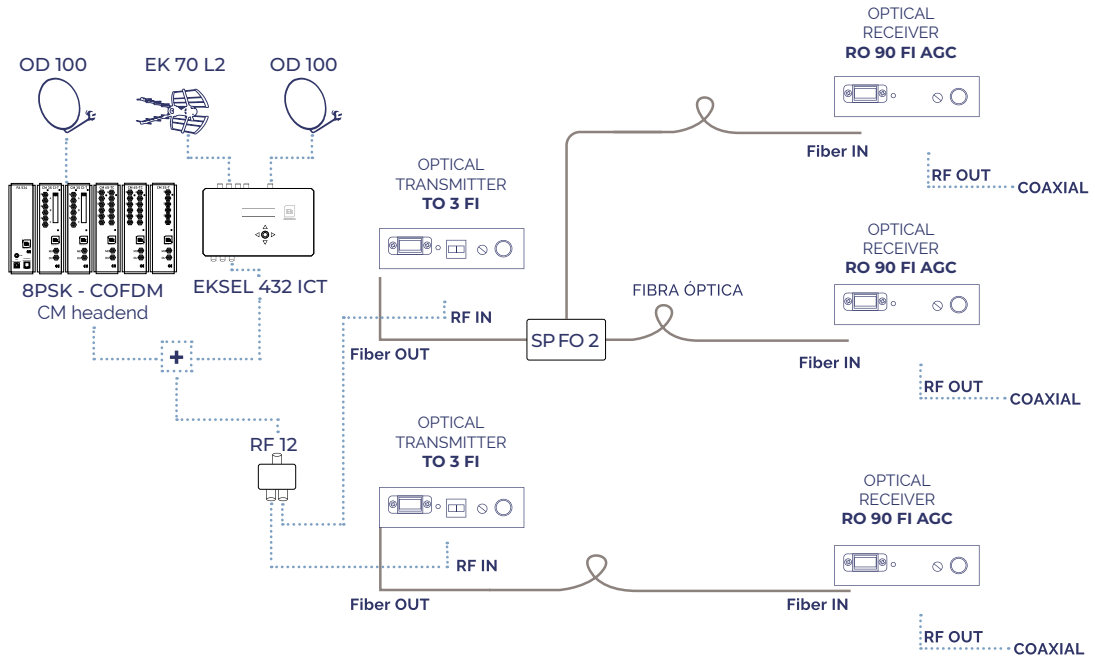
REFERENCE		TO 3 1310	TO 3 FI
Code		271017	271001
RF Input			
Frequency	MHz	47 - 1000	30 - 2150
Flatness	dB	≥1	≥1
TV input level (AGC)	dBμV	75-85	75-85
SAT input level (AGC)	dBμV	-	76-92
Input level TV + SAT (AGC)	dBμV	-	72-84
Input regulation	dBμV	20	20
Return loss	dB	≥16	≥12
Connector		Tipo F	Tipo F
Optical output			
Wavelength	nm	1310	1310
Optical power output	dBm	3	3
Laser type		DFB	DFB
Optical adaptation	dB	>50	>50
Optical connector		SC / APC	SC / APC
Power supply	Vdc	12 (included)	12 (included)
LNB power supply	Vdc KHZ	-	13 - 18 0 - 22
Operating temperature	°C	-20...+55	-20...+55
Dimensions	mm	73x103x23	73x103x23

TO 3 1310 · TO 3 FI

- ✓ They allow the distribution of radiofrequency signal over long distances taking advantage of optical fiber
- ✓ Led indicator of the optical output level
- ✓ Allows selection of satellite band and polarity (TO 3 FI)
- ✓ Input level regulation



APPLICATION EXAMPLE



OPTICAL TRANSMITTERS BASIC SERIE

NEW

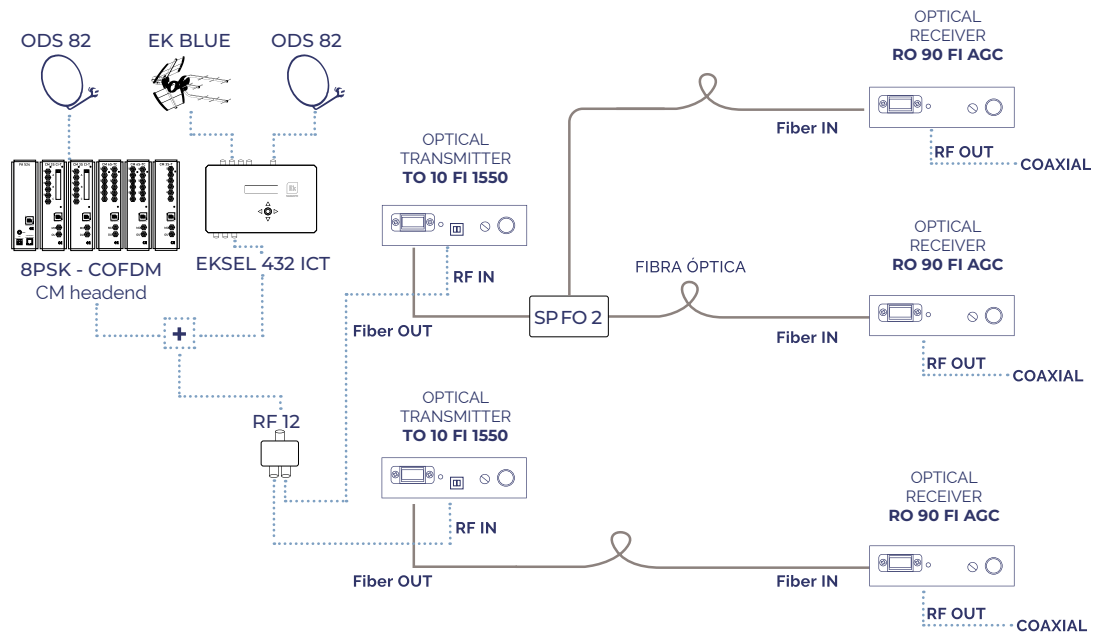
TO 10 FI 1550

- ✓ Permite la distribución de señal de radiofrecuencia a grandes distancias aprovechando las ventajas de la fibra óptica
- ✓ Led indicador del nivel óptico de salida
- ✓ Permite la selección de la banda y polaridad de satélite
- ✓ Regulación del nivel de entrada
- ✓ Longitud de onda: 1550nm
- ✓ Potencia óptica: 10 dBm

REFERENCIA		TO 3 1310	TO 3 FI
Código		271017	271001
Entrada RF			
Frecuencia	MHz	47 - 1000	47 - 2150
Planitud	dB	±0,75	±0,75
Nivel de entrada TV	dBµV	70-80*	70-80*
Nivel de entrada SAT	dBµV	-	58-78**
Nivel de entrada TV+SAT	dBµV	-	72-84***
Regulación de entrada	dBµV	20	20
Perdidas de retorno	dB	≥14	≥14
Impedancia de entrada	Ω	75	75
Conector		Tipo F	Tipo F
Salida óptica			
Longitud de onda	nm	1310	1310
Potencia óptica de salida	dBm	3	3
Tipo de láser		DFB	DFB
Adaptación óptica	dB	>45	>45
Conector óptico		SC / APC	SC / APC
Alimentación	Vdc	12 (alimentador incluido)	12 (alimentador incluido)
Corriente máxima	mA	-	500
Alimentación LNB	Vdc KHz	-	13 - 18 0 - 22
Temperatura de funcionamiento	°C	-20...+55	-20...+55
Medidas	mm	73x103x23	73x103x23



APPLICATION EXAMPLE



OPTICAL RECEIVER

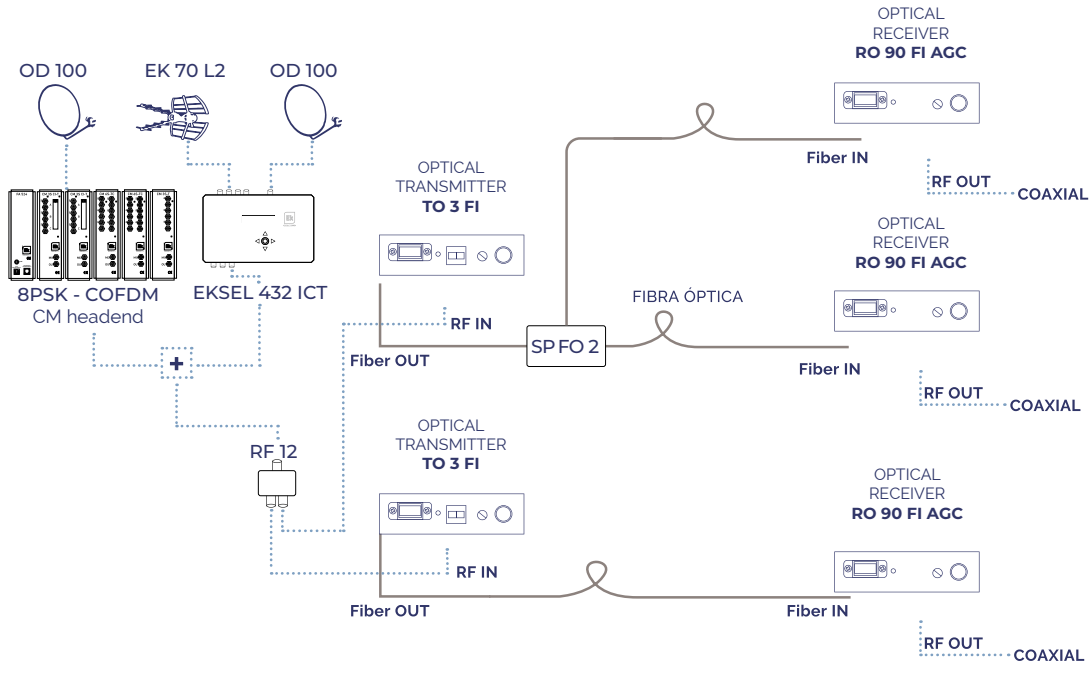
REFERENCE		RO 88 AGC	RO 90 FI AGC
Code		270002	270003
Optical input			
Wavelength	nm	1260-1620	1260-1620
Optical power	dBm	+2/-15	+3/-15
AGC range	dBm	0 / -12	2 / -7
Efficiency	A/W	≥0,85/1310 nm ≥0,9/1550 nm	≥0,9/1310 nm ≥0,95/1550 nm
Optical return loss	dB	>45	>45
Optical connector		SC / APC	SC / APC
RF Output			
Frequency range	MHz	47 - 862	47 - 2150
Flatness	dB	≥0,75	≥1,5
Output level	dBμV	>80 AGC	TV >80 (AGC) FI >70 (AGC)
Regulation	dB	20	20
Return loss	dB	≥14	≥14
Connector		F type	F type
Voltage feeding	Vdc	12 (included)	12 (included)
Dimensions		73 x 103 x 23	
Power consumption	W	<1	<1
Working temperature	°C	-20...+55	-20...+55

RO 88 AGC · RO 90 FI AGC

- ✓ It allows the reception of optical signal and its distribution in radiofrequency
- ✓ Automatic gain control



APPLICATION EXAMPLE



TER + SAT (4 POL) IN ONE SINGLE FIBER

TO 4 ST · RO ST 44

- ✓ Permite la transmisión de 4 polaridades de satélite y TDT a través de una única fibra
- ✓ Excelente linealidad y planitud.
- ✓ Fibra monomodo alta pérdida de retorno
- ✓ Tecnología de ruido ultra bajo
- ✓ LED rojo para indicación de potencia
- ✓ Incorpora CWDM (TO 4 ST / RO ST 44), utilizando PD de alta linealidad (RO ST 44)
- ✓ Incorpora AGC óptico (RO ST 44)
- ✓ Laser tipo DFB (TO 4 ST)
- ✓ Compatible con LNBs tipo quattro o quad (TO 4 ST)
- ✓ Admite hasta 16 RO 44 ST (TO 4 ST)

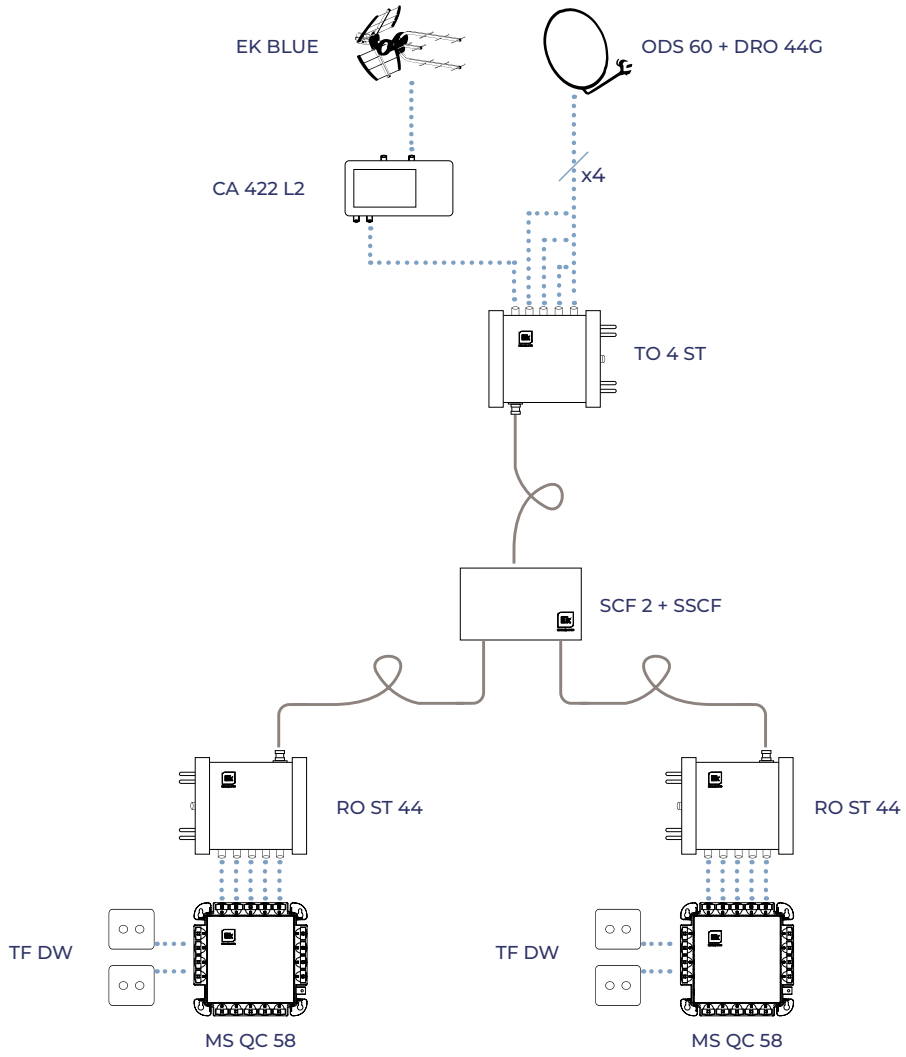


TO 4 ST

RO ST 44

REFER-ENCE	TO 4ST		REFER-ENCE	RO ST 44	
Code		276001	Code		276003
User interface			User interface		
RF Connector		F-hembra	RF Connector		F-hembra
Optical connector		SC/APC	Optical connector		SC/APC
Power supply		F-hembra	Power supply		F-hembra
Optical parameters			Optical parameters		
Return loss	dB	≥ 45dB	Pérdidas de retorno	dB	≥ 45dB
Output wave-length	nm	1510 VL	Output wavelength	nm	1510 VL
		1530 HL			1530 HL
		1550 VH+-Terr.			1550 VH+-Terr.
		1570 HH			1570 HH
Responsiveness	A/W	≥ 0.9	Responsiveness	A/W	≥ 0.9
Output power per λ	dBm	+3	Input power per λ	dBm	-15~3
				dBm	-7~2 AGC
Fiber optic type		Monomodo	Fiber optic type		Monomodo
Terr parameters + Sat-IF			Terr parameters + Sat-IF		
Input impedance	Ω	75	Input impedance	Ω	75
Terr. Frequency range	MHz	47~860	Terr. Frequency range	MHz	47~860
Terr. Curly	dB	± 0.75	Terr. Curly	dB	± 0.75
Terr. input level	dB μ V	65-85	Terr. input level	dB μ V	≥ 80 AGC
Terr. Return loss	dB	≥ 14	Terr. Return loss	dB	≥ 14
Sat-IF frequency range	MHz	950~2150	CNR	dB	≥ 50
Sat-IF return loss	dB	≥ 10dB	CSO	dB	≥ 62 (*)
Planitud Sat-IF	dB	± 1.5	CTB	dB	≥ 65 (*)
Sat-IF input level	dB μ V	65-85	Sat-IF frequency range	MHz	950~2150
LNB power	V/KHz	13-18/0-22	Sat-IF return loss	dB	≥ 10dB
Other parameters			Planitud Sat-IF	dB	± 1.5
Power supply	Vdc	20 (Incluida)	Sat-IF input level	dB μ V	75 ± 5 AGC
Power consumption	W	< 10	AGC stability	dB	± 1
Other parameters			Other parameters		
Power supply	Vdc	20 (Incluida)	Power supply	Vdc	20 (Incluida)
Power consumption	W	< 10	Power consumption	W	< 10

APPLICATION EXAMPLE



RF OVERLAY OPTICAL RECEIVERS

RO 68 CWD · RO 88 CWD · RO 65 FI CWD RO 90 FI CWD

- ✓ It allows the reception of optical signal and can continue distributing it in radiofrequency
- ✓ Compatible with GPON networks. Wavelength pitch 1310/1490 nm
- ✓ RO 68 CWD/ RO 65 FI CWD: passive behavior. No need power



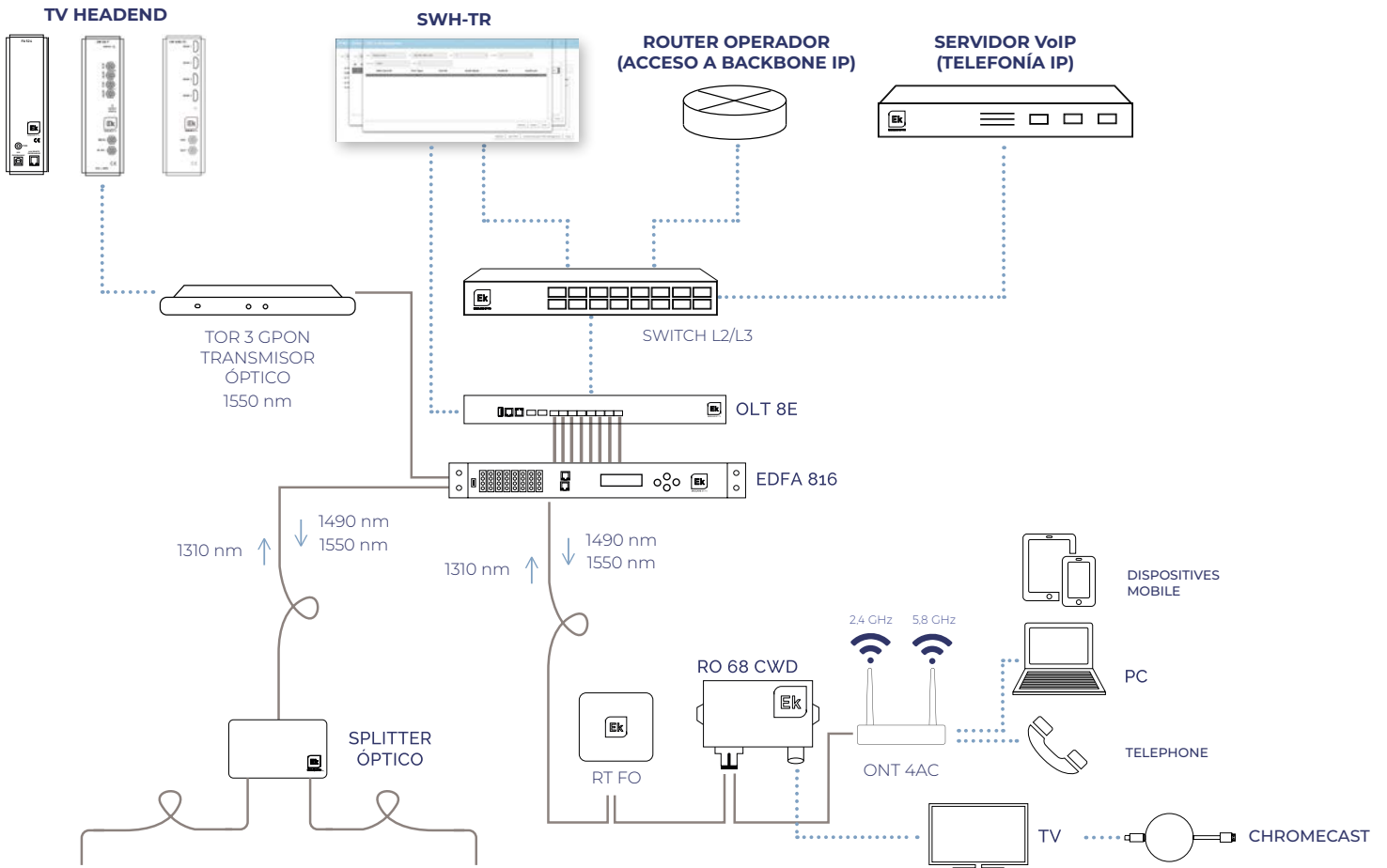
RO 68 CWD



RO 88 CWD

REFERENCE		RO 68 CWD	RO 88 CWD	RO 65 FI CWD	RO 90 FI CWD
Code		270005	270004	270006	270007
Optical input					
Wavelength	nm	1540 - 1563	1540 - 1563	1540 - 1563	1540 - 1563
Pass wavelength	nm	1310 / 1490	1310 / 1490	1310 / 1490	1310 / 1490
Optical input level	dBm	0 / -10	+2 / -20	0 / -10	+3 / -15
ACC range	dBm	-	0 / -12	-	+2 / -7
Efficiency	A/W	≥0,9/1550 nm	≥0,85/1310 nm ≥0,9/1550 nm	≥0,9/1550 nm	≥0,9/1310 nm ≥0,95/1550 nm
Optical return loss	dB	>45	>45	>45	>45
Optical connector	-	SC/APC (IN/OUT)	SC/APC (IN/OUT)	SC/APC (IN/OUT)	SC/APC (IN/OUT)
RF Output					
Frequency range	MHz	47 - 1000	47 - 1000	47 - 2350	47 - 2150
Flatness	dB	± 1	± 0,75	± 1,5	± 0,75
Output level	dBμV	62 @ -1dBm*	>80 (AGC)*	60 @ -1dBm**	>80 (AGC)**
Output level regulation	dB	-	0 - 20	-	0 - 20
MER	dB	≥31dB	≥31dB	≥31dB	≥31dB
VBER	-	1E-8	1E-8	1E-8	1E-8
Return loss	dB	≥14	≥14	≥14	≥14
Output connector	-	F	F	F	F
General					
Voltage feeding	Vdc	Not required	12 (PSU included)	Not required	12 (PSU included)
Dimensions	mm	73 x 103 x 23			
Power consumption	W	-	≤1	-	≤1
Working temperature	°C	-20 / +55	-20 / +55	-20 / +55	-20 / +55

APPLICATION EXAMPLE





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