ETL Systems
Excelling in RF Engineering

Model Number:
22292-XXXX

Hybrid 4-way L-band Active Splitter & Combiner

with LNB Powering, BUC Powering, dual redundant amplifiers, 10MHz Source & Ethernet monitoring

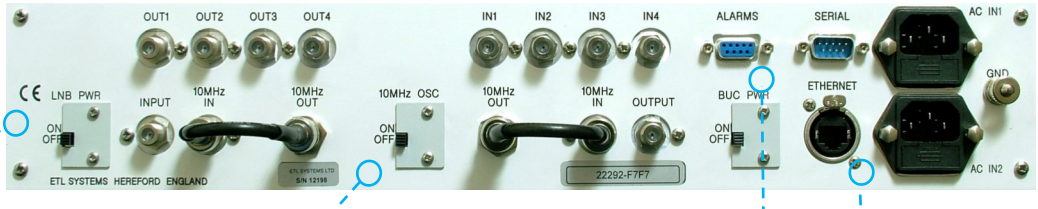
Typical applications:
- Satellite operators, VSAT, teleports, and broadcasters
- High resilience RF distribution, and optimum satellite signal quality

10 MHz source injected onto the common port

LNB & BUC Powering switchable on/off 18VDC & 24V DC

Local monitoring via front panel status LEDs

Resilience from dual redundant power supplies & dual redundant amplifiers



Compact 1 x 4-way splitter & 1 x 4-way combiner housed in a 2U high chassis

850 - 2150 MHz operating frequency range

Dry contact alarm port & serial communications for LNB status

Remote monitoring via RJ45 Ethernet port

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Model Number: 22292-XXXX

Hybrid 4-way L-band Active Splitter & Combiner with LNB Powering, BUC Powering, dual redundant amplifiers, 10MHz Source & Ethernet monitoring

Technical specifications and operating parameters

RF Parameters					
RX Side					
Capacity	4-way Splitter (1 in x 4 out)				
Frequency Range	850-2150 MHz (L-band)				
Connector & impedances	50Ω SMA	50Ω N-type	50Ω BNC	75Ω BNC	75Ω F-type
Gain (dB) Typ.	0±2	0±2	0±2	0±2	0±2
Gain flatness (dB) 850-2150 MHz	±1.0	±1.0	±1.25	±1.75	±2.25
Return Loss (dB) Typ.	14	14	12	10	10
1dB Compression	0 dBm				
Noise Figure	16 dB Typical				
Isolation	20dB	Between any two output ports			
10MHz Ref Source	U-link on rear panel to select internal/external. The 10MHz reference is injected onto the common L-band port.				
Amp Redundancy	1-to-1 redundant	With current monitoring & auto switchover			
TX SIDE					
Capacity	4-way Combiner (4 in x 1 out)				
Frequency Range	850-2150 MHz (L-band)				
Connector & impedances	50Ω SMA	50Ω N-type	50Ω BNC	75Ω BNC	75Ω F-Type
Gain (dB)	0±2	0±2	0±2	0±2	0±2
Gain flatness (dB) Over 850-2150MHz	±1.25	±1.25	±1.25	±1.75	±2.25
Return Loss (dB)	12	12	12	10	10
1dB Compression	+ 12 dBm				
Noise Figure	18 dB Typical				
Isolation	20dB	Between any two input ports			
10MHz Ref Source	U-link on rear panel to select internal/external. The 10MHz reference is injected onto the common L-band port.				
Amp Redundancy	1-to-1 redundant	With current monitoring & auto switchover			

Power		
AC Power	85-264Vac 50/60Hz . Fused 2A	Dual mains inlet
LNB Power (RX)	18V DC, 0.5A via common (RF In) port	Can be switched on / off from rear panel
BUC Power (TX)	24V DC, 3.2A via common (RF Out) port	
PSU	Dual redundant and alarmed	

RF Parameters		
10MHz SOURCE		
Internal Ref	10MHz Sine Wave	Ovenised Crystal Oscillator
10MHz Accuracy	Factory set to 0.1 ppm	
10MHz output level	1.5 dBm ± 2.5 dBm	Fundamental frequency (10MHz) with all unused ports terminated into a matched load.
Frequency Stability Over Temperature	± 1 x 10^{-8}	0 to +55ºC
Reference Source Ageing	± 5 x 10^{-8} / year	
	± 5 x 10^{-10} / day	
Reference Source Phase Noise	<-85 dBc / Hz @ 1Hz	
	<-115 dBc / Hz @ 10Hz	
	<-140 dBc / Hz @ 100Hz	
	<-150 dBc / Hz @ 1000Hz	
	<-155 dBc / Hz @ 10000Hz	
Warm up time	<2 minutes	At 25ºC to within ± 1 x 10^{-7}
10MHz ref source	U-link on rear panel to select internal/external. The 10MHz reference is injected onto the common L-band port. Source can be de-powered from switch on rear panel.	2 x 50 ohm BNCs on rear panel for 10MHz external IN and internal OUT, with a U-link supplied. **There is no 10MHz injection if the U-link is removed and the port is terminated (i.e. no external source supplied).**
Harmonic & Spurii Levels	-60 dBc typical, -50 dBc worst case	With respect to 10MHz harmonics (non-related spurii levels <-80dBm max)

Environmental	
Operating temp.	0 to 45˚C
Location	Indoor use only
Storage temp.	-20˚C to +75˚C
Humidity	20 to 85% non-condensing

Physical	
Weight	11Kg
Dimensions	2U high x 450mm deep x 19" wide
Colour	White 00-E-55 semi-gloss

System Control	
Display	Front panel LED's for LNB Power & amp condition
Monitoring	Amplifier & PSU monitoring via RS232/RS485 & Ethernet (RJ45) port
Alarms	Dry contact alarm port on rear panel for PSU & amp failure.

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.
Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

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