



FlexLink R25CS Combining Matrix

...designed for perfect signals



L-Band / S-Band Combining Matrix 64:64 800 – 4000MHz

FlexLink R25CS – Advanced RF Combining Matrix for Extended L- to S-Band Applications (800–4000 MHz).

The FlexLink R25CS is a versatile, innovative, and compact RF combining matrix, designed for high-performance signal routing in satellite, broadcast, test, and defense environments. Housed in a 5RU/19" rackmount chassis with just 500 mm depth, it supports fan-in/combining configurations from 8:8 up to 64:64, available in both symmetric and asymmetric layouts.

Engineered with a wide frequency range (800–4000 MHz), the R25CS goes beyond traditional L-Band, covering parts of the S-Band, making it ideally suited for Ka-Band gateways, HTS (High Throughput Satellites), S-band satellite links, radar systems, and RF test automation.

Its modular design allows flexible combinations of input/output connectors (50 Ohm SMA or BNC), enabling seamless future upgrades or integration into existing infrastructures.

Key features include:

- ▶ Variable gain control and slope equalization
- ▶ RF power monitoring for all signal paths
- ▶ Full status monitoring of active components
- ▶ Hot-swappable, 1:1 redundant power supplies

The FlexLink R25CS is a future-proof RF signal management solution for demanding applications in satellite communications, aerospace, defense, and RF laboratories—where flexibility, performance, and reliability are critical.



FEATURES & BENEFITS

- ▶ Space saving 5RU/19" modular rack mount design
- ▶ Extended L-Band frequency 800 – 4000MHz
- ▶ Various input/output configurations from 8:8 to 64:64
- ▶ Coax inputs & outputs 50Ohm SMA(f)
- ▶ Variable gain control any input and any output)
- ▶ Threshold alarming (local and remote signaling)
- ▶ RF power monitoring any input/output
- ▶ Internal monitoring of all active components
- ▶ Hot-swappable controller card and matrix switch boards

- ▶ 10.4" front-side touchscreen LC-Display for local configuration
- ▶ 1:1 redundant dual power supply (hot-swappable)
- ▶ Local and remote configuration
- ▶ Local configuration via 7/10.4" colored touchscreen LC-Display
- ▶ 1Gbit Ethernet-Interface (WebGUI, https, SNMPv3)
- ▶ Cross point/routing locking for individual users
- ▶ Logbook and storage function



TECHNICAL SPECIFICATIONS

General Specifications 5RU Chassis

Dimensions:	5RU/19", 500mm deep, 45kg
Switch Matrix Type:	Fan -in/combining
Configuration Variants:	8:8 – 64:64 (increments of 8), symmetrical & unsymmetrical
Power Supply:	85 – 230, 50/60Hz, 1:1 redundant (hot- swappable)
Power Consumption:	<350W (@64:64 configuration)
Frequency Range:	800 – 4000MHz
Available I/O Connectors:	50Ohm SMA(f)
Optical Input Connectors:	SC/APC, 1100...1650nm*
Variable Gain Control:	-10dB to +10dB (1dB steps) all inputs and outputs
RF Power Monitoring:	65dB dynamic range all inputs and outputs
Input Level Control:	Monitoring threshold adjustment/alarming
Local Configuration:	10" Touchscreen LC-Display
Remote Configuration:	RJ45 Ethernet-Interface (WebGUI https, SNMPV3)
Operating Temperature:	0°C to 45°C
Storage Temperature:	-10°C to 65°C
Humidity:	90%, non-condensing

*Option

RF Specifications Combining Matrix

Frequency Range:	800 – 4000MHz (extended L-Band)
Frequency Response:	± 3dB typ. ±3,5dB max.
Noise Figure:	≤20dB
Input/Output Return Loss:	14dB min.
Isolation:	≥60dB typ.
Operational Input Power:	-70dBm to -10dBm nominal, 0dBm max. (Recommended)
RF Input Power:	+6dBm max. (damage level, depends on gain setting)
RF Output Power:	+6dBm max. (damage level, depends on gain setting)
IMA3 @ -10dBm:	<50dBc
P1dB:	+8dBm
SFDR:	< -80dBm

Environmental Specifications

Location:	Indoor use only
Operating Temperature:	0°C to 45°C
Storage Temperature:	-10°C to 65°C
Humidity:	90%, non-condensing



ORDER INFORMATION

Type	Type No.	Short Description
FlexLink R25CS Combining Matrix Chassis	9001472	FlexLink R25CS/5 Combining Switch Matrix Chassis Main controller, 10" touchscreen, RJ45 1Gbit Ethernet Interface (WebGUI, SNMP), 1:1 redundant dual power supply, 5RU/19" rack mount
FlexLink R25CS ISB0808CS Input 8:8 Combiner Board	9001473	Input Combiner Switch Board, 8 x RF Input, 800 - 4000MHz, 50Ohm SMA
FlexLink R25CS OSB0808CS Output 8_8 Combiner Board 50S	9001474	Output Combiner Switch Board 8 x RF Output, 800 - 4000MHz, SMA 50Ohm