



# 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)
- 1:1 redundant dual controller card (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

\*upon request only

## TECHNICAL SPECIFICATIONS

### General Specifications 5RU Chassis

|                                  |                                                            |
|----------------------------------|------------------------------------------------------------|
| <b>Dimensions:</b>               | 5RU/19", 400mm deep, 45kg                                  |
| <b>Switch Matrix Type:</b>       | Fan -in/combining                                          |
| <b>Configuration Variants:</b>   | 8:8 – 64:64 (increments of 8), symmetrical & unsymmetrical |
| <b>Power Supply:</b>             | 85 – 230, 50/60Hz, 1:1 redundant (hot- swappable)          |
| <b>Power Consumption:</b>        | <350W (@64:64 configuration)                               |
| <b>Frequency Range:</b>          | 800 – 4000MHz                                              |
| <b>Available I/O Connectors:</b> | 50Ohm SMA(f)                                               |
| <b>Optical Input Connectors:</b> | SC/APC, 1100...1650nm*                                     |
| <b>Variable Gain Control:</b>    | -10dB to +10dB (1dB steps) all inputs and outputs          |
| <b>Slope Equalization:</b>       | 0 to 7dB'                                                  |
| <b>RF Power Monitoring:</b>      | 65dB dynamic range all inputs and outputs                  |
| <b>Input Level Control:</b>      | Monitoring threshold adjustment/alarming                   |
| <b>Local Configuration:</b>      | 10" Touchscreen LC-Display                                 |
| <b>Remote Configuration:</b>     | RJ45 Ethernet-Interface (WebGUI https, SNMPV3)             |
| <b>Operating Temperature:</b>    | 0°C to 45°C                                                |
| <b>Storage Temperature:</b>      | -10°C to 65°C                                              |
| <b>Humidity:</b>                 | 90%, non-condensing                                        |

\*Option

### RF Specifications Combining Matrix

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

### Environmental Specifications

|                               |                     |
|-------------------------------|---------------------|
| <b>Location:</b>              | Indoor use only     |
| <b>Operating Temperature:</b> | 0°C to 45°C         |
| <b>Storage Temperature:</b>   | -10°C to 65°C       |
| <b>Humidity:</b>              | 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<br>Input 8:8 Combiner Board      | 9001473  | Input Combiner Switch Board, 8 x RF Input, 800 - 4000MHz, 50Ohm SMA                                                                                                                  |
| FlexLink R25CS OSB0808CS<br>Output 8_8 Combiner Board 50S | 9001474  | Output Combiner Switch Board 8 x RF Output, 800 - 4000MHz, SMA 50Ohm                                                                                                                 |