



FlexLink R25 Switch Matrix System

...designed for perfect signals



Extended L-Band Switch Matrix System Eco and Pro Version 64:64

The FlexLink R25-Eco represents a unique, innovative & clever L-Band Switch Matrix system, built into a 5RU/19" rack mount chassis with only 500mm depth. It performs as a scalable distributive switch/routing platform allowing to switch/route any selected input to any or all outputs and can be assembled with various input/output configurations from 8:8 to 64:64 in one matrix chassis.

The FlexLink R25-Eco is future proof coming with widened bandwidth of 850 – 2450MHz supporting the extended L-Band (850 – 2450MHz) frequency range making it a perfect solution also for KA-Band and HTS applications.

This scalable Switch Matrix system offers a maximum in flexibility combined with state-of-the-art functionalities, features, excellent RF performance and various options. All matrix switch-boards are hot-swappable without uncabeling.

The flexible modular design makes it possible to mix the input and output connectors with various connector types (50Ohm SMA or BNC, 75Ohm F or BNC as well as optical inputs) giving the operator the flexibility for future expansions.

The FlexLink R25-Eco features variable gain control & slope-equalization, RF power monitoring as well as a 10MHz reference signal port. Furthermore, it supports status monitoring of all active components and comes with 1:1 redundant dual power supply (hot-swappable). Additional flexibility is being provided via available options like switchable LNB-supply, individually selectable and configurable for each input.

Beyond its state-of-the-art and unique mechanical concept, all the functionalities and options the FlexLink R25-Eco also assures superior and stable RF performance at the highest quality level.



The FlexLink R25-Eco matrix system can be configured and monitored locally via its front-side 10.4" colored touchscreen. Remote configuration can be done via an Ethernet-Interface (WebGUI, SNMP). RF-Design's local and remote configuration platform for the FlexLink R25-Eco allows the configuration of all relevant matrix settings including routing/switching settings, cross point locking, signal-path backup routing with reverse switch-back, double back-up storage of all settings/configurations, variable gain control, slope-equalization and of course all available options (if activated).

The configuration software also supports user administration management and user rights assignment, logbook function, storage functions and various parameter monitoring functions for critical RF values but also for each individual switch-board, power supplies and ventilators.

The FlexLink R25-Eco is ideal for flexible signal assignment and perfectly suited for RF distribution applications in Teleports, Satellite Earth Stations as well as Broadcast and CATV/IPTV headend operations.

FEATURES & BENEFITS

Conceptual Features

- ▶ Space saving 5RU/19" modular rack mount design
 - ▶ Extended L-Band frequency 850 – 2450MHz
 - ▶ Up to 64:64 inputs/outputs within one chassis
 - ▶ Easy expandable with external components
 - ▶ Coax inputs & outputs 50/75Ohm SMA(f), F(f) or BNC(f) or optical inputs (mixed input & output configuration)
 - ▶ 10MHz reference signal port (rear side)*
 - ▶ Beneficial options such as switchable LNB-power
 - ▶ Hot-swappable Controller Card and Matrix Switch-Boards
 - ▶ 10.4" front-side touchscreen LC-Display for local configuration
 - ▶ 100MBit Ethernet-Interface (WebGUI, SNMPv2c)
 - ▶ 1:1 redundant dual power supply (hot-swappable)
- * upon request only*

Hardware & RF Features

- ▶ Variable gain control (@ any input)
- ▶ Slope-equalization (@ any input)
- ▶ Threshold alarming
- ▶ RF power monitoring, dynamic range (@ any input/output)
- ▶ Internal monitoring of all active components
- ▶ Input connectors available as 50Ohm SMA or BNC, 75Ohm F or BNC or Optical-inputs 1310 – 1550nm increments of 8)
- ▶ Output connectors available as 50Ohm SMA or BNC, 75Ohm F or BNC (increments of 8)
- ▶ Superior RF performance especially @ Isolation and Frequency Response

Software & Configuration Features

- ▶ Local and remote configuration for all relevant settings and adjustments
- ▶ Local configuration via 10.4" colored touchscreen LC-Display
- ▶ Remote configuration via 100MBit Ethernet-Interface and RS232 (WebGUI, SNMPv2c)
- ▶ User administration with user rights management
- ▶ Cross point/routing locking for individual users
- ▶ Signal path backup routing with reverse switch-back
- ▶ Logbook and storage function
- ▶ Various parameter monitoring & error diagnosis functions for critical RF values, all switch-boards, psu´s...
- ▶ Save operation via double back-up storage for all settings

TECHNICAL SPECIFICATIONS

General Specifications

Dimensions:	6RU/19", 400mm deep
Switch Matrix Type:	Fan-out/distributive
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:	850 – 2450MHz (extended L-Band)
Available I/O Connectors:	50Ohm SMA(f), 50Ohm BNC(f), 75Ohm F(f), 75Ohm BNC(f)
Optical Input Connectors:	SC/APC, 1310... 1560nm
Variable Gain Control:	-20dB to +10dB (1dB steps)
Slope Equalization:	0 to 7dB
10MHz Reference*:	50Ohm SMA(f)*, rear side
RF Power Monitoring:	65dB dynamic range
Input Level Control:	Monitoring threshold adjustment/alarming
Local Configuration:	10" Touchscreen LC-Display
Remote Configuration:	RJ45 Ethernet-Interface (WebGUI, SNMPv2c)
Serial Interface:	RS232*
LNB-Supply/10MHz*:	Switchable 13/15/18VDC, 22kHz tone, 400mA current monitoring*

*Option

RF Specifications

Frequency Range:	850 – 2450MHz (extended L-Band)
Frequency Response:	± 2dB typ. ±3dB max. (@ Extended L-Band), ± 0,25dB max. (@ 40MHz window)
Noise Figure:	<14dB
Input/Output Return Loss:	14dB min., 16dB typ.
Isolation:	≥60dB typ. (In/Out, In/In, Out/Out)
Operational Input Power:	-70dBm to -10dBm nominal, 0dBm max. (Recommended)
RF Input Power:	+6dBm max. (damage level, depends on gain setting)
RF Output Power:	+10dBm max. (damage level, depends on gain setting)
IMA3 @ -10dBm:	<60dBc
P1dB:	+8.5dBm
SFDR:	< -70dBm

Optical Specifications (Unit with optical inputs)

Fiber Type:	Single mode 9/125
Optical Input Connector:	SC/APC
Optical Wavelength:	1310 to 1560nm
Optical Input Power:	-10dBm (min. optical sensitivity) to +10dBm max. (damage level)
SFDR:	-107dB/Hz typ.

Environmental Specifications

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

OPTIONS

Type	Type No.:	Short Description
FlexLink R25/5 Switch Matrix Main Chassis For custom configuration with Part. No. 9001291 and 9001292	9001289	R25 Switch Matrix Chassis for up to 64:64 Configuration, 16 x internal Switch Boards, CPU, Touchscreen, RJ45 1Gbit Ethernet Interface (WebGUI, SNMP), 1:1 redundant dual power supply, 5RU/19" rack mount
FlexLink R25 ISB0816D Input Switch Board 8:16	9001291	Input Switch Board, 8 x RF Input, extended L-Band 850 - 2450MHz, 50Ohm SMA(f)
FlexLink R25 OSB1608D Output Switch Board 16:8	9001292	Output Switch Board, 8 x RF Output, extended L-Band 850 - 2450MHz, 50Ohm SMA(f)
FlexLink R25/5 Switch Matrix 64:64 Pre-Configured	9001216	L-Band Switch Matrix 64:64 (fan-out/distributive), 50Ohm SMA(f), extended L-Band 850 - 2450MHz, 5RU/19" rack mount chassis, 1:1 redundant power supply, front panel touchscreen, RJ45 100Mbit Ethernet Interface (WebGUI, SNMP)
FlexLink R25-16128D-50S (fan- out/distributive) Pre-Configured	9001297	L-Band Switch Matrix 16:128 (fan-out/distributive), 50Ohm SMA(f), extended L-Band 850 - 2450MHz, 5RU/19" rack mount chassis, 1:1 redundant power supply, front panel touchscreen, RJ45 100Mbit Ethernet Interface (WebGUI, SNMP)
FlexLink R25-12808C-50S (fan- in/combining) Pre-Configured	9001298	L-Band Switch Matrix 128:8 (fan-in/combining), 50Ohm SMA(f), extended L-Band 850 - 2450MHz, 6RU/19" rack mount chassis, 1:1 redundant power supply, front panel touchscreen, RJ45 100Mbit Ethernet Interface (WebGUI, SNMP)

Other configuration on request / Other connectors on request