

# FlexLink-K4

## Extended L-Band Switch Matrix 4:4 to 32:32 (fan-out/distributive)

The FlexLink-K4 is a professional, flexible and scalable L-Band Switch Matrix in 4RU/19" rack mount design supporting L-Band and Extended L-Band frequency range (850...2450MHz), useable for standard L-Band, KA-Band and HTS applications. It allows various switch/routing configurations from 4:4 to 32:32 (increments of 4) where one input can be switched/routed to one or all outputs (fan-out/distributive).

The system comes in two versions, the K4-Eco and the K4-Plus both available with max. 32 inputs and 32 outputs. The K4-Eco system is a standard unity gain matrix while the K4-Plus comes with additional features such as variable gain-control, slope equalization, RF power monitoring and optionally with LNB-supply and 10MHz external reference signal port.

The FlexLink-K4 Matrix Systems are designed for today's and future signal management requirements e.g. in Satellite downlink operations providing maximum flexibility as well as a space and cost efficient solutions. A front panel touchscreen allows easy local configuration. Remote configuration can be done via its Ethernet-interface (http/WebGUI, SNMPv2c).



### FEATURES & BENEFITS

- Space saving 4RU/19" modular design
- Extended L-Band frequency range 850...2450MHz
- Matrix size expandable from 4:4 to 32:32 (symmetrical/unsymmetrical)
- RF input and output connectors 50Ohm SMA, 50Ohm BNC, 75Ohm F or 75Ohm BNC
- Hot swappable input & output switch boards

- Status monitoring of all active components
- RF power monitoring and threshold alarm function (@ any input and output)
- Local configuration via front panel touchscreen
- Remote configuration via Ethernet-Interface (WebGUI, SNMPv2c)
- 1:1 redundant dual power supply

### K4-Plus Version

- Variable gain control (@ any input)
- Slope equalization (@ any input)
- Fix gain low noise post amplifier (output card)
- Switchable LNB-supply 13/15/18VDC, 500mA max\*
- 10MHz external reference port (@ any input)\*

### K4-Eco Version

- Unity gain 0dB ±1dB
- Fix gain high IP1 input amplifier (input card)
- Fix gain low noise post amplifier (output card)

### System configuration & monitoring features

- Supports local and remote configuration
- Local configuration & monitoring via front panel touchscreen
- Remote configuration via 100MBit Ethernet-Interface (WebGUI, SNMPv2c)
- User administration with user rights management
- Cross point/routing locking for individual users

- Signal path backup routing with reverse switching
- Logbook and storage function
- Status monitoring of all active components
- Permanent parameter monitoring & error diagnosis functions for critical RF values
- Save operation via double back-up storage

### Option K4-Plus LNB-supply

- Additional 1:1 dual redundant power supply
- Switchable LNB-supply 13/15/18VDC, 500mA max.
- 10MHz external reference port (@ any input)

\*Option

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## Extended L-Band Switch Matrix 4:4 to 32:32 (fan-out/distributive)

### TECHNICAL SPECIFICATIONS

#### General Specifications

|                                    |                                                             |
|------------------------------------|-------------------------------------------------------------|
| ➤ <b>Dimensions:</b>               | 4RU/19", 400mm deep                                         |
| ➤ <b>Switch matrix type:</b>       | Fan-out/distributive                                        |
| ➤ <b>Configuration variants:</b>   | 4:4 to 32:32 (increments of 4), symmetrical & unsymmetrical |
| ➤ <b>Power supply:</b>             | 85...265V, 50/60Hz (1:1 redundant, hot swappable)           |
| ➤ <b>Power consumption</b>         | <200W (@32:32 configuration)                                |
| ➤ <b>Frequency range:</b>          | 850...2450MHz (extended L-Band)                             |
| ➤ <b>Available I/O connectors:</b> | 50Ohm SMA(f), 50Ohm BNC(f), 75Ohm F(f), 75Ohm BNC(f)        |
| ➤ <b>RF power monitoring:</b>      | 70dB dynamic range                                          |
| ➤ <b>Input level control:</b>      | Monitoring threshold adjustment/alarming                    |
| ➤ <b>Local configuration:</b>      | 7,6" colored touchscreen LC-Display                         |
| ➤ <b>Remote configuration:</b>     | RJ45 Ethernet-Interface (WebGUI, SNMPv2c)                   |
| ➤ <b>Operating temperature:</b>    | 0°C...45°C                                                  |
| ➤ <b>Storage temperature:</b>      | -10°C...65°C                                                |
| ➤ <b>Humidity:</b>                 | 90%, non-condensing                                         |

#### K4-Plus Specifications

|                                 |                                                                            |
|---------------------------------|----------------------------------------------------------------------------|
| ➤ <b>Frequency range:</b>       | 850...2450MHz (extended L-Band)                                            |
| ➤ <b>Frequency response:</b>    | ±2.5dB (over full band 850 – 2450MHz) / ±0,25dB (@36MHz channel)           |
| ➤ <b>Input return loss:</b>     | < -14dB                                                                    |
| ➤ <b>Output return loss:</b>    | < -14dB                                                                    |
| ➤ <b>Isolation:</b>             | ≥60dB typ. (In/Out, In/In, Out/Out)                                        |
| ➤ <b>RF Input power max:</b>    | +6dBm                                                                      |
| ➤ <b>Max. RF output power:</b>  | +6dBm                                                                      |
| ➤ <b>IMA3 @ -10dBm:</b>         | <-46dBc                                                                    |
| ➤ <b>Output IP1:</b>            | +3dBm                                                                      |
| ➤ <b>SFDR:</b>                  | <-80dBm                                                                    |
| ➤ <b>Noise figure:</b>          | 14dB                                                                       |
| ➤ <b>Variable gain control:</b> | 0dB ±10dB (1dB steps)                                                      |
| ➤ <b>Slope equalization:</b>    | 0...6dB (1dB steps)                                                        |
| ➤ <b>LNB-supply/10MHz:</b>      | Switchable 13/15/18VDC, 500mA, including 10MHz external reference (Option) |

#### K4-Eco Specifications

|                                |                                                                  |
|--------------------------------|------------------------------------------------------------------|
| ➤ <b>Frequency range:</b>      | 850...2450MHz (extended L-Band)                                  |
| ➤ <b>Frequency response:</b>   | ±2.5dB (over full band 800 – 2450MHz) / ±0,25dB (@36MHz channel) |
| ➤ <b>Input return loss:</b>    | < -14dB                                                          |
| ➤ <b>Output return loss:</b>   | < -14dB                                                          |
| ➤ <b>Isolation:</b>            | ≥60dB typ. (In/Out, In/In, Out/Out)                              |
| ➤ <b>RF Input power max:</b>   | +6dBm                                                            |
| ➤ <b>Max. RF output power:</b> | +6dBm                                                            |
| ➤ <b>IMA3 @ -10dBm:</b>        | <-46dBc                                                          |
| ➤ <b>SFDR:</b>                 | < -80dBm                                                         |
| ➤ <b>Output IP1:</b>           | +3dBm                                                            |
| ➤ <b>Noise figure:</b>         | 14dB                                                             |
| ➤ <b>Insertion Loss:</b>       | 0dB ±1dB                                                         |

#### OPTIONS

|                              |                                                                                                       |
|------------------------------|-------------------------------------------------------------------------------------------------------|
| ➤ <b>K4-Plus LNB Option:</b> | 13/15/18VDC, 500mA max (@ any input),<br>including 10MHz external reference signal port (@ any input) |
|------------------------------|-------------------------------------------------------------------------------------------------------|