...designed for perfect signals

Featuring Extended L-Band 850 - 2450 MHz

Made in Germany

FlexLink K7-Pro Switch Matrix

Extended L-Band Switch Matrix 8:8…64:64, expandable to 256:256

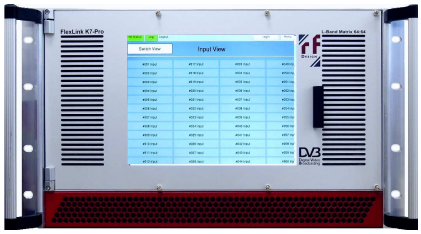
The **"FlexLink K7-Pro"** represents an unique, innovative & clever L-Band Switch Matrix system, built into a 6RU/19" rack mount chassis with only 500mm depth. It performs as a scalable distributive switch/routing platform allowing to switch/route any selected input to any or all outputs and can be assembled with various input/output configurations from 8:8 to 64:64 in one matrix chassis and to up to 256:256 (symmetrical & unsymmetrical) with additional matrix chassis and corresponding I/O switch-boards, while the modular concept also allows other input/output configurations (increments of 8).

The **"FlexLink K7-Pro"** 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.

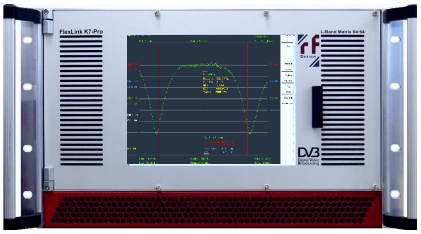
This scalable Switch Matrix system offers a maximum in flexibility combined with state-of-the-art functionalities, features, excellent RF performance and various options. All matrix switch-boards are hot-swappable while each I/O switch-board is equipped with cascading-interfaces allowing to expand an existing system without the need of any other additional devices. This unique expansion concept results in less space requirement, reduced power consumption and avoids additional point of failures.

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.

UNIQUE



INNOVATIVE



CLEVER

The **"FlexLink K7 Pro"** 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 a 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.

A very special and unique optional feature is the **"K7SQA Signal Quality Analyzer"**. It is an add-on Spectrum-Analyzer/DVB demodulator board allowing measurement and monitoring of RF and DVB-S/S2 parameters (any input & output of the matrix). At the RF section it measures parameters like RF power and C/N while at the DVB section (DVB-S/S2) it monitors channel power, MER, BER, frequency drift, symbol rate drift, Network-ID, Service-ID, Service-Type and more. Furthermore, it completely scans all inputs and outputs and its transponders. It is equipped with an RJ45/100MBit interface allowing IP output streaming (MPTS).

Beyond its state-of-the-art and unique mechanical concept, all the functionalities and options the **"FlexLink K7-Pro"** also assures superior and stable RF performance at the highest quality level.

The "FlexLink K7-Pro" 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 K7-Pro"** allows the configuration of all relevant matrix settings including routing/switching settings, crosspoint-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 K7-Pro" 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***

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FEATURES & BENEFITS

Conceptual Features

- Space saving 6RU/19" modular rack-mount design,
- Extended L-Band frequency 850...2450MHz ready for KA-Band and HTS applications
- Up to 64:64 inputs/outputs within one chassis, expansion e.g. to 256:256 possible (symmetrical/unsymmetrical)
- Easy expandable via integrated cascade ports
- 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 LNB-supply and RF/DVB monitoring
- Hot-swappable matrix switch-boards
- 10.4" front-side touchscreen LC-Display for local configuration
- 100MBit Ethernet-Interface for remote configuration (WEB-GUI/SNMPv2c)
- 1:1 redundant dual power-supply (hot-swappable)

Hardware & RF Features

- Variable gain control/adjustment (@ any input)
- Slope-equalization (@ any input)
- 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

- Supports 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
- Features crosspoint/routing locking for individual users
- Signal-path backup routing with reverse switch-back
- Features 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

K7 SQA Signal Quality Analyzer Features

- RF & DVB-S/S2 measurement & monitoring (for any input and output of the matrix system)
- RF parameter measurement such as RF power, C/N, bandwidth
- DVB-S/S2 parameter monitoring such as frequency & channel power, MER, BER, frequency drift, symbol rate drift, Network-ID, TS-ID, Service-Type and Service-provider
- Supports a complete scan of all inputs and outputs and its transponders
- Spectrum analysis of one or more transponders remotely via Ethernet-Interface with CMS
- IP streaming output of the configured transponder (MPTS) via additional RJ45/100MBit interface
- Ideal for flexible analysis of RF/DVB-S2 signals and parameters)

⇨ ***Technical Specifications***

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TECHNICAL SPECIFICATIONS

General Specifications

Dimensions:	6RU/19", 400mm deep
Switch matrix type:	Fan-out/distributive
Configuration variants:	8:8…64:64 to 256:256 (increments of 8), symmetrical & unsymmetrical
Power supply:	85…230, 50/60Hz (1:1 redundant, hot swappable)
Power consumption	<200W (@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...+10dB (1dB steps)
Slope equalization:	0...9dB
10MHz reference*:	50Ohm SMA(f)*, rear side
RF power monitoring:	65dB dynamic range
Input level control:	Monitoring threshold adjustment/alarming
Local configuration:	10.4" Touchscreen LC-Display
Remote configuration:	RJ45 Ethernet-Interface (WebGUI, SNMPv2c)
Serial Interface:	RS232 (upon request)
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. (@ L-Band) ± 3dB typ. ±4dB max. (@ Extended L-Band), ± 0,25dB max. (@ 36MHz channel)
Noise Figure:	17dB typ. ± 3dB (@full gain)
Input / Output Return loss:	14dB min., 16db typ.
Isolation:	≥60dB typ. (In/Out, In/In, Out/Out)
RF input power:	-65dBm to 10dBm max. (damage level)
RF output power:	-65dBm to 10dBm max. (damage level)
IMA3 @ -10dBm:	< 53dBc
P1dB:	+6dBm
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…45°C
Storage temperature:	-10°C…65°C
Humidity:	90%, non-condensing

Choice of Options

FlexLink K7-Pro LNB-supply/10MHz:	Switchable 13/15/18VDC, 22kHz tone (@ any input) and 10MHz external reference signal port (rear side 50Ohm SMA)
FlexLink K7-Pro SQA:	Signal Quality Analyzer board, RF & DVB-S/S2 monitoring

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