

sat-nms TMPS - Transfer Multipurpose Switch with integrated DC inserter, input level monitoring and automatic switch functionality

The base of the new **sat-nms** modular system is the Universal Multipurpose Chassis called **sat-nms** MPC. This chassis provides the remote M&C interface via web-browser, SNMP, HTTP GET functions and RS232 interface as in all other **sat-nms** products. It is equipped with two hot-pluggable power supplies. As an option the 2RU 19" rack-mount chassis also provides an LCD display and keyboard for local control. One **sat-nms** MPC could handle up to 5 hot-pluggable modules. This flexible system chassis is able to be fitted with a combination of different modules to meet your system requirements.

The module **sat-nms** TMPS (Transfer Multipurpose Switch) with integrated DC inserter, input level monitoring and automatic switch functionality is a highly sophisticated module designed for professional satellite receive applications or signal backup switching.



Each **sat-nms** TMPS module contains two latching transfer switches (DPDT). Each input is able to supply DC voltage to an LNB and performs monitoring of the input signal power. This enables the **sat-nms** TMPS to switch automatically in case of violation of the adjustable thresholds. Integrated on the same card are two waveguide switch driver outputs which are virtually connected to the transfer switches on the board. In addition 4 auxiliary inputs are integrated as external alarm inputs.

This enables the system to fulfill a lot of switching applications like LNB/LNC redundancy switching.

The big advantage against other LNB/LNC redundancy systems is the flexibility of the **sat-nms** TMPS and the fact that a loss of input level also indicates a backup switching. The combination of two **sat-nms** TMPS modules in one chassis fulfills the requirement of a LNB backup switching using dual output LNBs.

All modules include extensive monitoring functionality like DC supply current measurement with min/max current threshold, signal level monitoring with min/max threshold and automatic switching in case of violation of the thresholds.

Key Features

- Switching capability
- DC Power Insertion and Monitoring
- RF Input Power Monitoring
- 19" 2RU Unit Compact Design
- Redundant Power Supplies
- Scalable Design with hot-swap Modules
- TCP/IP, SNMP, **sat-nms** MNC available

Applications

- Satellite Ground Stations and Teleports
- Cable Head-end Stations

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Application examples

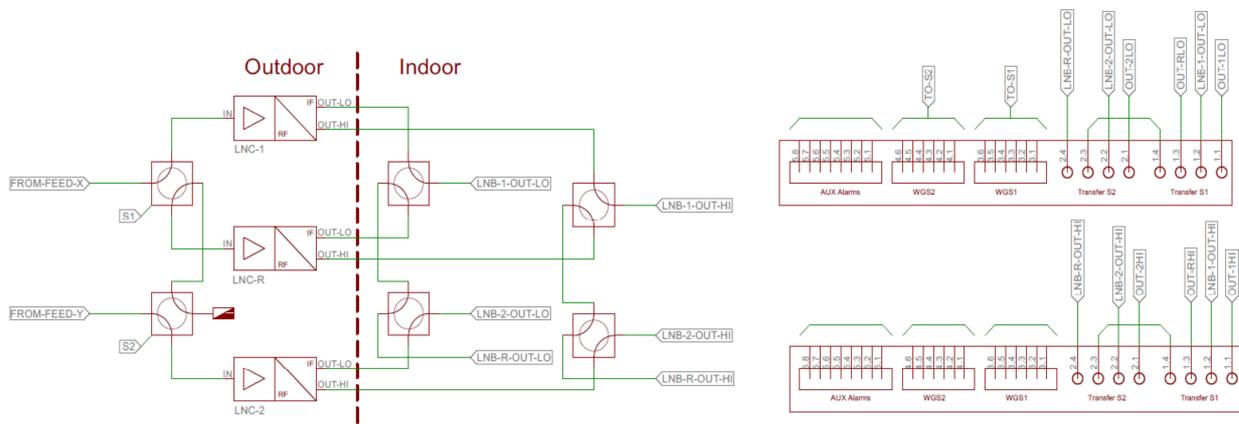
Configuration #1

1 x 2:1 LNB Redundancy System with dual output LNBS (2x TMPS)

Application: automatic redundancy switching of Ku-Band dual output LNBS in 2 port RX only or 4 port RX/TX antennas.

The often used dual output LNBS configured in a 2:1 redundancy system could not be switched using ganged waveguide/coaxial switches as most offered for standard 2:1 LNA/LNB systems. The use of two *sat-nms* TMPS solves this problem. You just have to run each single LNB output to the *sat-nms* MPC and you can configure and perform a 2:1 redundancy system with dual output LNBS.

TMPS Card Module



Technical Specification

RF Specification of *sat-nms* TMPS card module

Frequency Range	950 to 2150MHz
L-Band Input Connectors	SMA female 50Ohm
L-Band Output Connector	SMA female 50Ohm
Input and Output Return Loss	> 17dB
Input Noise Figure	< 10dB
Damage Input Level	+13dBm
Insertion Loss	<3dB
DC-output at L-Band input connector	15+/-1V

M&C Interface Specification of *sat-nms* MPC

Ethernet Interface for M&C and User Interface	10/100-Base-T, via HTTP GET Requests and SNMP
Front Panel Display (Optional)	Optional LCD 16x2
RS232 M&C Interface	D-SUB 9 female
Summary Fault Indication	Relay Contact D-SUB 9 male

Electrical and Mechanical Specification, Environmental Conditions of *sat-nms* MPC

Supply Voltage	90 to 230V AC 50 to 60Hz
Connector for the two Mains Voltage AC Inputs	IEC
Redundant Power Supplies	Hot-swap Capability
Temperature Range	-20 to + 50°C
Humidity	Up to 90% non-condensing
Mechanical Size	436 x 89 x 350 mm (WxHxD), 19" 2RU
Weight	5,2kg