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## dCSS NevoSwitch 5 inputs - 2 outputs

### A multiswitch has never been so clever

Multiswitch equipped with 5 inputs (one passive terrestrial and the four polarities of one satellite), which user outputs are compliant with SCR I (EN50494) and SCR II (EN 50607) and the legacy mode, which makes it compatible with any new or existing set top boxes. Can be used as a terminal (star topology) or as a cascade by using a simple switch. Furthermore, the exclusive DCFLEX functionality provides full flexibility to the multiswitch by allowing the equipment to be powered from anywhere in the system. The installer is free to choose the powering method for the multiswitch, to better adapt to the requirements of any given scenario. The versatility is provided by several control switches, but essentially by the capacity of the multiswitch to be isolated from the cascade (in terms of current) or not.

This product is certified with the European IRS Certification Scheme mark, representing that it has passed the relevant test as set out in the latest EICS test specification, available from the DTG or CAI

Ref.714101

Art.Nr	MSU5216SKY
EAN13	8424450188613

## Highlights

- 2 user outputs, with up to 16 user bands each
- DCFLEX functionality
- Multiple powering options: From the power supply, from the receiver, or from the cascade through the satellite inputs or outputs
- Easy to integrate in an existing system: By switching the SAT DC LINK to OFF with the power supply connected, the MSW is locally powered (or through the STB) without adding nor taking power from the cascade

- Brings higher security to the set top boxes connected to the multiswitch, which can be fully isolated (RECEIVER POWER OFF) from the power supply in the cascade. If switched to ON, the MSW can be powered through the STB
- The TERR.DC ON switch isolates or connects the power supply available from the cascade in the terrestrial branch. Can be useful for the feeding of a mast amplifier or a BOSS antenna, but also for the terrestrial branches of other MSW in the cascade
- Wide voltage range: Voltages from 10 V to 20 V make it compatible with most existing systems
- Eco mode: Isolated from the cascade, the multiswitch can reduce power consumption down to zero, when the set top boxes are disconnected and the terrestrial passive
- Equipped with the TForce technology, the terrestrial output level is automatically adjusted (TERR. AMP. ACTIVE) to the optimal level
- European design, quality, and manufacturing

## Main features

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- Very compact
- Made of zamak
- Input and output colour identification
- Compatible with conventional multiswitches in the NevoSwitch series, and with other IRS systems
- Versatile: Cascade and independent configurations in a single reference (by pushing a switch)

## Discover

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### What is dCSS technology?

dCSS technology is the evolution of the SCR technology, which characteristics are described below:

The SCR technology (Satellite Channel Router) allows full distribution of one or several satellite signals to multiple users over a single coaxial cable.

The relevant aspect here is the suppression of the multiple cables required to support the new reception devices; this is achieved by means of a static or dynamic user band assignment and the use of DiseQc commands for satellite signal tuning.

A historical note: the SCR standard (EN50494) was defined in 2007. Based on the analogue concept, this technology considered the use of up to 8 user bands (User Bands) in the satellite IF band (950 MHz-2150 MHz). Each band is assigned a user tuner, and on each any input band and polarity can be selected using frequency processing.

Later, the dCSS technology (Digital Channel Stacking Switch), based on the EN50607 standard, introduces significant improvements, such as the increase in the number of satellites to be distributed, or the possibility to use 32 user bands in a single cable, which is almost equivalent to occupying the whole satellite band. Furthermore, the dCSS technology is

backwards compatible with SCR.

The dCSS technology can be used in multiple scenarios (individual and communal distribution), and in dynamic or static operation modes. The latter is the most flexible and inexpensive alternative to the headends with intermediate frequency processing that came along with early analogue and digital satellite distributions.

Likewise, the dCSS technology can be combined with optical fibre, which significantly extends the reach of the satellite distribution.

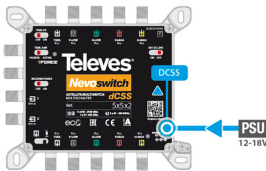
In short, the dCSS Technology is quite a step forward in the distribution of satellite signals over a single coaxial cable, and it will make for the mass introduction of the new reception devices in homes; devices such as Home Gateways or PVR, the big bet of satellite operators in the short and medium terms.

## Functionalities

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### 1) Powering from PSU

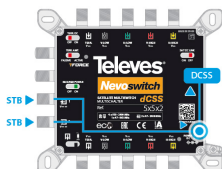
Switches: TERR.DC – OFF, TERR.AMP. - PASSIVE, RECEIVER POWER – OFF, SAT DC LINK – OFF



- NO, powering is not supplied from the STB receivers / RECEIVER POWER = OFF/
- NO, the satellite (V-LOW, H-LOW, V-HIGH, H-HIGH) trunk is not supplied / SAT DC LINK = OFF/
- NO, the terrestrial (TERR.) trunk is not supplied/ TERR.DC = OFF/

### 2) Powering from the User STB receiver

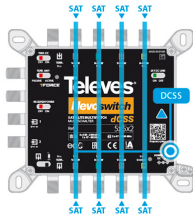
Switches: TERR.DC - OFF, TERR.AMP. - PASSIVE, RECEIVER POWER – ON, SAT DC LINK – OFF



- YES, powering is supplied from the STB receivers /RECEIVER POWER = ON/
- NO, the satellite trunk is not supplied (V-LOW, H-LOW, V-HIGH, H-HIGH) /SAT DC LINK = OFF/
- NO, the terrestrial (TERR.) trunk is not supplied /TERR.DC = OFF/

### 3) Powering from the satellite trunk (V-LOW, H-LOW, V-HIGH, H-HIGH)

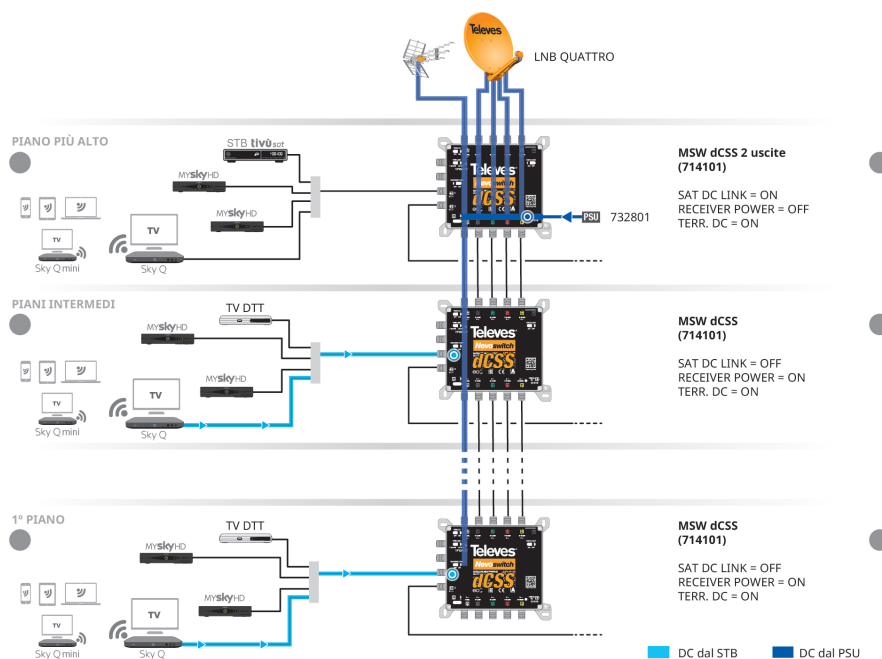
Switches: TERR.DC – OFF, TERR.AMP. - PASSIVE, RECEIVER POWER – OFF, SAT DC LINK – ON



- NO, powering is not supplied from the STB receivers /RECEIVER POWER = OFF/
- NO, the satellite trunk is not supplied but YES powering is supplied from the trunk /SAT DC LINK = ON/
- NO, the terrestrial (TERR.) trunk is not supplied /TERR.DC = OFF/

## Application example

(Click to see the picture)



The LNB, terrestrial signal (or antenna) and 4 way NevoSwitch are powered by the 1.6A PSU.

Each dCSS multiswitch is powered by the STB, so a PSU is not required. An apartment with SkyQ needs to have a power injector.

## Technical specifications

Number of inputs		5
Number of cascable outputs		5
Number of user outputs		2
Frequency range TERR.	MHz	47 ... 862
Frequency range SAT.	MHz	950 ... 2150
Input level TERR Active	dBµV	75 ... 100
Input level TERR Passive	dBµV	65 ... 110
Input level SAT.	dBµV	60 ... 97
Through losses TERR.	dB	< 2,5
Through losses SAT.	dB	2
Cross-polarity isolation	dB	> 30
Output modes dCSS		Legacy / SCR I / SCR II
dCSS standard		Sky (EN50494/EN50607)
User Band bandwidth	MHz	46
User Bands (UB) per user		16
Output level SAT	dBµV	84
Output level 2CH DBV-T	dBµV	84
Gain TERR Active 1...4	dB	12 ... 15
Attenuation TERR Passive	dB	-16
Automatic gain range TERR. Active	dB	25
Overall DC Power options MSW dCSS		PWR port / dCSS out (Receiver power ON) / Trunk lines VL/VH/HL/HH
Powering	Vdc	11 ... 20
Powering Trunk TERR	Vdc	11 ... 20
Max current (@12V): dCSS + Terr. Amp. + Auto load	mA	425
Max current (@18V): dCSS + Terr. Amp. + Auto load	mA	302
Max current input TERR	mA	500

User output max current	A	1
Max current SAT trunk 4 lines	A	3
Operating temperature	°C	-5 ... 45
Protection index (IP)		20