MS5/5+2PIP-4
MS5/5+2PEP-4

Dear Customer,

congratulations on the purchase of the EMP-Centauri product. Before its installation and putting into operation, read carefully the entire operation manual. Keep the purchase and rework (if any) records for future need.

Content

1) Field of Application, Warranty

The product is designed for the distribution of satellite (SAT), terrestrial (TERR); TV and radio signals. Its purpose is to allow connecting of multiple user to the common satellite antenna.
The manufacturer provides for PROFI CLASS products extended 6 (six) years warranty from the date of purchase, see details in EMP-Centauri's General trade conditions, published at manufacturer's website www.emp-centauri.cz.
It is prohibited to dismantle the product and make any interventions in it. Repairs or any interventions in the product may be performed only by EMP-Centauri company, or other companies authorized by EMP-Centauri.

2) Technical Specifications

Products **MS5/5+2PIP-4** and **MS5/5+2PEP-4** are cascadable satellite multiswitches for distribution of terrestrial and satellite signals from 1 satellite positions to 8 users, utilizing the Unicable™ technology according to standard EN50494. Besides of a SCR (Satellite Channel Router) output, a legacy output is provided for testing purposes (SAT band only). Both outputs feature an AGC loop for maintaining constant output signal level.
Multiswitch MS5/5+2PIP-4 contains a build-in power supply, while MS5/5+2PEP-4 features a DC socket for external power supply. Power supply is however required only if LNB is connected to input ports of the multiswitch.

Specification	**MS5/5+2PIP-4**	**MS5/5+2PEP-4**
Number of Trunk Lines	5	
Number of SCR Outputs	1	
Number of Legacy Outputs	1	
Frequency Range – SCR Output	SAT 950–2150 MHz, TERR 48–862 MHz	
Frequency Range – Legacy Output	SAT 950–2150 MHz	
Control SCR / Legacy Output	EN50494 / DiSEqC 2.0	
Insertion Loss – SCR Output (avg)	SAT 25 dB gain (AGC), TERR 10 dB loss	
Insertion Loss – Legacy Output (avg)	SAT 3 dB	
Insertion Loss – Trunk Outputs (avg)	SAT 4 dB, TERR 3 dB	
Isolation (min)	25 dB	
Maximum Input / Output level*	SAT 95 / 95 dBuV	
Current consumption	270 mA from sat receivers	
Dimensions (w,d,h)	26.5 x 15.2 x 8.7 cm	18.2 x 15.2 x 4.5 cm
Power Cord Length	130 cm	—
Temperature Range	−30 – +60 °C	

* Terr.: EN 50083-3/60dB IMA3 [dBµV]; SAT: EN 50083-3/35dB IMA3 [dBµV]

3) Product Takeover

Make sure that the product is not damaged and following accessories are enclosed:

- Multiswitch
- Screws & wall plugs (4 pcs)
- Plastic DIN rail mounting foots (2 pcs)

In the case of damage or missing accessories please contact your dealer.

4) Product Storing and Installation

We recommend the device to be installed and serviced by the qualified technician.

The product must not be stored and installed:

- in the place with excessive humidity
- in the place with dropping or splashing water,
- in the place with excessive dust pollution, mechanical vibrations or impacts
- in the place out of temperature limits specified in the section 2) Technical Specifications
- close to heat sources (radiators or air ventilators, direct sunshine etc.)
- in the reach of children

Use the apparatus only in moderate climates (not in tropical climate).
Fix the product firmly on a wall or another hard and inflammable surface with screws and dowels, or to DIN rail using provided plastic holders. The product shall be in no case held only by the connected cables.
The mains socket must be placed near the product. The mains plug shall remain readily operable. The mains socket and plug must be easily available.
Pay attention also to following rules

- ensure the free space at least 10 cm around the product for the sufficient air circulation.
- do not cover the product (with curtains etc.)
- do not place any containers with liquids (vases, glasses etc.) or naked flame sources (lighted candle etc.) on the product or near the product

5) Product Connection

Connect the product in accordance with this manual and valid regulation in you country. Use high quality 75 Ω coaxial cable designed for satellite reception. The coaxial cables shall not be broken, the minimum bending radius should be 5 cm. Mount the F connectors (screw, crimp or compress type) on the ends of coaxial cables, in the case of using the screw F connectors proceed according to the following picture and instructions:

1. Remove the outer coaxial cable coating in the length of approx. 15 mm.
2. Roll up the metal shielding braid and the shielding foil underneath and cut the shielding with scissors to approx. 5 mm.
3. Remove approx. 10 mm of the inner plastic insulation (approx. 5 mm of the insulation remains in a place).
4. Carefully screw the F connector on the cable end until the plastic insulation levels with the F connector opening.
5. Check there is no short between the inner conductor of coaxial cable and F connector.

Connect the F connectors into the F sockets of product and fasten them with an appropriate force.

- If connected directly to LNB, connect input F sockets marked “LNB A” – “LNB D” with LNBs outputs according to the next table:

marking of F socket of multiswitch	marking of outputs of quattro LNB
A	V/L or 12V/0kHz
B	H/L or 18V/0kHz
C	V/H or 12V/22kHz
D	H/H or 18V/22kHz

- Connect input F socket marked “TERR” with output of terrestrial antenna, eventually with output of terrestrial amplifier or channel processing equipment
- Connect input F socket marked “TERR IN” with output of terrestrial antenna, eventually with output of terrestrial amplifier or channel processing equipment
- If connected to preceding device in a cascade, connect input F sockets with corresponding outputs of that device
- Connect output F sockets marked “LNB A” – “LNB D” with next device in the cascade*
- Connect output F socket marked “SCR OUT” with SCR-compatible wall sockets (max 8 pcs)
- Connect output F socket marked “STANDARD OUT” with sat receiver for testing purposes
- MS5/5+2PIP-4 only: connect mains cord plug into grid socket*
- MS5/5+2PEP-4 only: connect DC2.1 socket marked “DC 12–18V” with external power supply*

* Power supply is to be used only if the device is connected directly to LNB.

Note: Use Quattro LNB as source of satellite signals!

The wiring examples are shown in the section 11) Wiring Example or at the website www.emp-centauri.cz.

6) Product Settings

The product has no setting available. Each receiver has to be set to one of available communication frequencies (1 frequency for 1 receiver) in case using the SCR output. The frequency table below is printed on the multiswitch’s sticker, too.

Satellite receiver no.	1	2	3	4	5	6	7	8
Frequency [MHz]	1080	1176	1237	1413	1555	1668	1842	1960

We recommend:

- Use the highest communication frequency for a subscriber socket located the nearest the multiswitch and the lowest communication frequency for a subscriber socket located the furthest the multiswitch.
- If using a multiswitch for less than 8 subscriber use the lowest communication frequencies.
- Note down assigned communication frequency on each wall socket for receiver's installation.

7) Safety

Due to security reasons the product and wiring in which the product is connected, must be grounded properly. Use the earthing terminal identified with the symbol of grounding to ground the product. Make sure the antennas are grounded properly.

Connect all devices to power grid only after all connections are finished and checked.

The product works with the AC voltage, see section 2) Technical Specifications. Make sure, that the local AC voltage corresponds to the operating voltage of product.

No objects can be placed on the mains cord for prevent its damage or break. No hot objects should touch the mains cord.

While disconnecting the product from power grid, never pull the mains cord but the mains plug to prevent the mains cord damage. Pay attention that the mains plug holds tight in the mains socket. Loose mains plug or mains socket means the danger of fire.

Never disassemble the product connected to the power grid, you risk the danger of electrical shock.

Never work on the wiring (including satellite and terrestrial receivers, TVs) during or before a storm. A lightning stroke into the antenna may cause dangerous overvoltage in the product metallic parts.
The product should be disconnected from the wiring immediately if it gets into contact with liquids (dropping water, spilled drinks etc.).

8) Product Maintenance

Always disconnect the product from the power grid and wiring before performing any maintenance of the product. If you have to enter places with a risk of fall, pay attention to your safety.
Use only dry cloth to clean the product and do not use any liquid agents.
Coaxial cables installed outdoors should be replaced once in a few years. Unscrew all F connectors and clean connector contacts, resp. shorten the coaxial cable by approx. 2 cm, every 2 years.
Check the state of power supply and its mains cord periodically. If the mains cord or the mains plug of product is damaged, it must be replaced by manufacturer or qualified technician to prevent any dangerous situation. Let the product serviced if the housing of power supply is damaged.
If not used for long time, disconnect the product from the power grid.

9) Troubleshooting

Always disconnect the product from the power grid before working on product, otherwise you risk the electric hazard. Pay attention to your safety if you have to enter places with a risk of fall.
In the case the product does not work and LED of power supply is on:

- Check if the terrestrial and satellite antennas are correctly fixed, optimally set and connected to the product, satellite and terrestrial receivers turned on, plugged on and correctly set.
- Check the connector connections. The inner conductor of coaxial cable must be in contact with the inner conductor of F socket and the shielding of coaxial cable with F connector. Replace broken or interrupted coaxial cable.
- Sometimes the reset of the multiswitch microprocessor is enough to fix the problem. Pull out the power plug of the multiswitch and satellite receiver from power grid and then re-plug them a few seconds later.

In the case the product does not work and LED of power supply is off or blinks:

- Check that the product is connected to the power grid with AC voltage. If not, connect the product to the power grid with correct AC voltage.
- Disconnect the product from the power grid and check that there is no short-circuit on the input satellite coaxial cables, which prevents the power supplying of LNBs. If yes, remove short-circuit and re-plug the product into the power grid again.
- The power supply can fail temporarily in case of overload or overheating. The cause can be current consumption of devices connected to the satellite inputs of product which exceeds the specifications, see section 2) Product Specifications. The next cause can be the overheating of product in consequence of wrong installation, see section 4) Product Storing and Installation. Disconnect the product from the power grid, remove the cause, and re-plug the product into the power grid after a few minutes again.

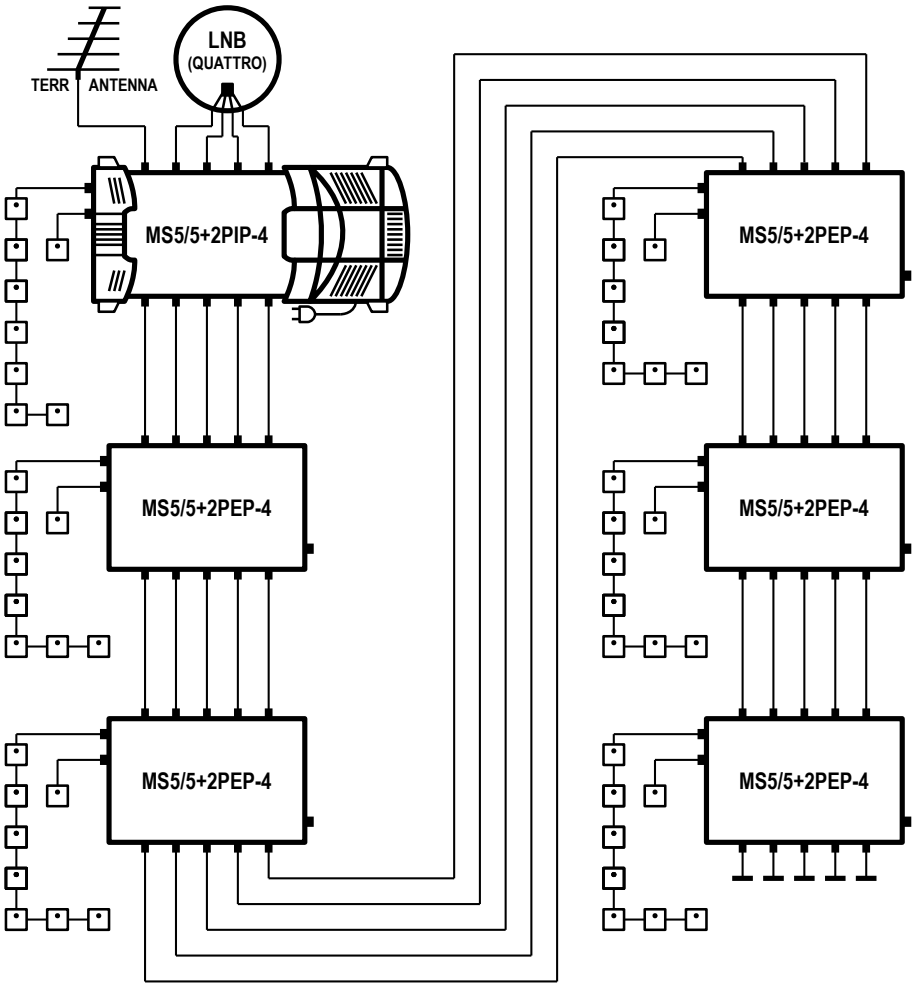
It the failure seems to be not related to power supply, check setting of all satellite receivers connected to SCR output. Wrongly set up receiver may disturb or disable the operation for all other users that share the same cable.

If the failure cannot be removed, please contact your distributor.

10) Symbols Explanation

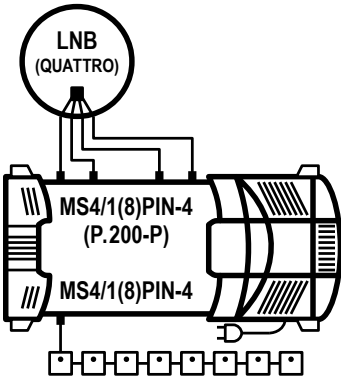
	Unicable™ technology (Unicable™ is a trademark of company FTA Communication technologies / Luxembourg)
	certificate of conformity
	for indoor use only
	DC power supply
	grounding
	class II device
	fuse protected
	safety transformer
	According to EU directive, electric and electronic devices which are identified by one of the following symbols must not be disposed of together with municipal waste. When disposing of the old device, use local waste collection and separation systems.

11) Wiring Example



11) EMP-Centauri's Related Products

MS4/1(8)PIN-4



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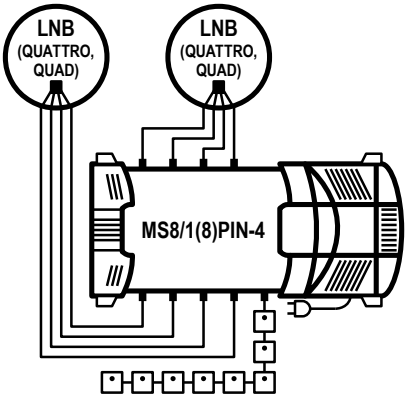
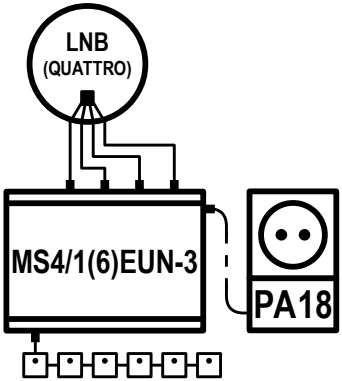


MS4/1(6)EUN-3



12) Contact

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