

Data Sheet

Switching Unit 19 kV, 3U/8HP

Model: ZS001
Date: 05.05.2015

Attention

The unit must not be operated with the cover removed to avoid the possibility of lethal shock to the operator!

There are no user maintainable parts inside the power supply!

Unit may only be operated with protective ground connected, also by the H15 connector.

We decline all responsibility for damages and injuries caused by an improper use of the device. It is strongly recommended to read the manual before operation!

All informations in this document are subject to change without notice. We take no responsibility for any error in this document. We reserve the right to make changes in the product design without any notification to the users.

Warning!



notes in the text call attention to hazards in operation of these units that could lead to possible injury or death.

Caution!

notes in the text indicate procedures to be followed to avoid possible damage to equipment

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1 Safety instructions

This switching unit has to be installed by trained and qualified personnel only.

Following instructions are made for the personal safety of the operator, the safe use of this product and the connected devices.

Before connecting to the power supply it must be made sure that the nominal supply voltage of this unit matches to the power supply voltage.

After system assembly the connections with the protective ground have to be locked!

This module is cooled by natural convection. Therefore do not cover any air input or output slots.

The unit can be operated with an ambient temperature of 0°C to 50°C.

2 Technical data

Table 2-1: Technical data

Switching Unit, 19"/3U/4HP	
Switching power P_{max} [W, VA]	10
Breakdown voltage [kV]	19
Switching voltage (DC or AC peak) [kV]	12
Switching current [A]	1
Initial contact resistance [mΩ]	150
Life expectancy (load 10 kV DC, 1 mA)	$0,5 \times 10^6$ operations
Output voltage monitor accuracy	$< 1\% * V_{nom}$ for one year
Control	Via analog interface
Supply	$V_{IN} = 22 \text{ VDC} - 26 \text{ VDC} / I_{IN} < 1 \text{ 0.5}$
Working conditions	Temperature: 0°C to 50°C Humidity: 30% to 80%, no condensation
Storage conditions	-20°C to 80°C
HV connector	GES 20kV
Dimensions	3U cassette with 8 HP, 160 mm depth
Weight [kg]	ca. 0.5

3 Dimensions

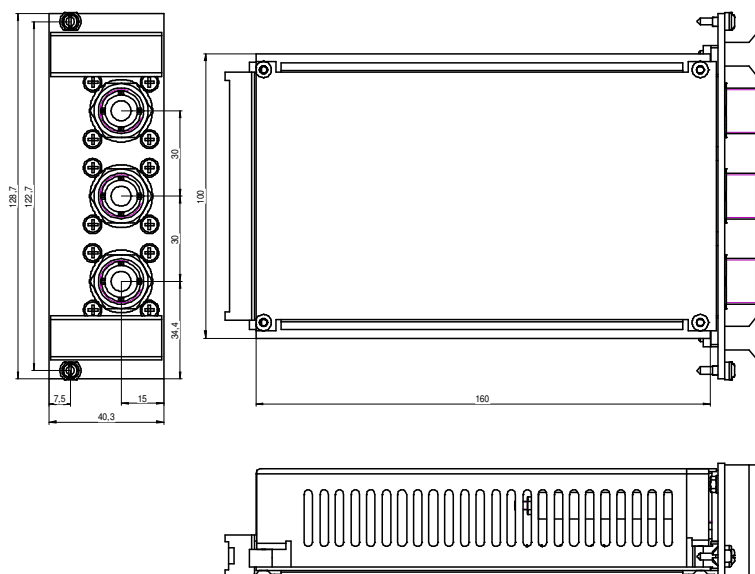


Figure 1: Dimensioned drawing (in mm)

4 Functional description

The module “Switching unit“ is a single pole double-throw switch for using in a 19” Eurocrate.

Powered by a voltage of 22 VDC – 26 VDC and controlled by the analogue interface the module switches the input 1 or the input 2 to the output.

Output voltage is measured by high precision voltage dividers is fed back to the control circuit. Due to the low permissible switching energy it is important

Warning!



Note the low permitted switching energy of the switch. Therefore, it should be switched only at low voltages at the inputs and the output. Output voltage is measured by high precision voltage dividers and can read out at the monitor output.

5 Pinout

5.1 Supply and control connector

Table4: Pin assignment male H15 connector

Supply and control connector, male H15 connector			
Pin	Name	Description	
Pin 4	n.c.		
Pin 6	GND		
Pin 8	n.c.		
Pin 10	GND		
Pin 12	n.c.		
Pin 14	n.c.		
Pin 16	n.c.		
Pin 18	+24V	Supply voltage	$22 \text{ VDC} \leq V_{in} \leq 26 \text{ VDC} / I_{in} \leq 0.5 \text{ A}$
Pin 20	n.c.		
Pin 22	POL	Polarity	Low level 0 V – 1 V or open \Rightarrow Output is connected with Input 2 High level 3.5 V – 5 V \Rightarrow Output is connected with Input 1
Pin 24	VMON	Monitor output voltage	$V_{out} = 0 \text{ to } 19 \text{ kV} \quad \Rightarrow \quad V_{MON} = 0 \text{ to } 5 \text{ V}$
Pin 26	+24V	Supply voltage	connected with Pin 18
Pin 28	n.c.		
Pin 30	KILL_EN	Serial number reading	
Pin 32	INH	Serial number reading	

5.2 HV connection

The module has at the front panel three HV connectors. In dependence of the polarity signal the output is connected with input 1 or input 2. The shield of the HV cables is always connected to the housing. It can be used as return.

6 Maintenance

For compliance of the specified accuracy of set and monitor signals, the unit has to be recalibrated once a year.

Repair and maintenance may only be performed by trained and authorized personnel.