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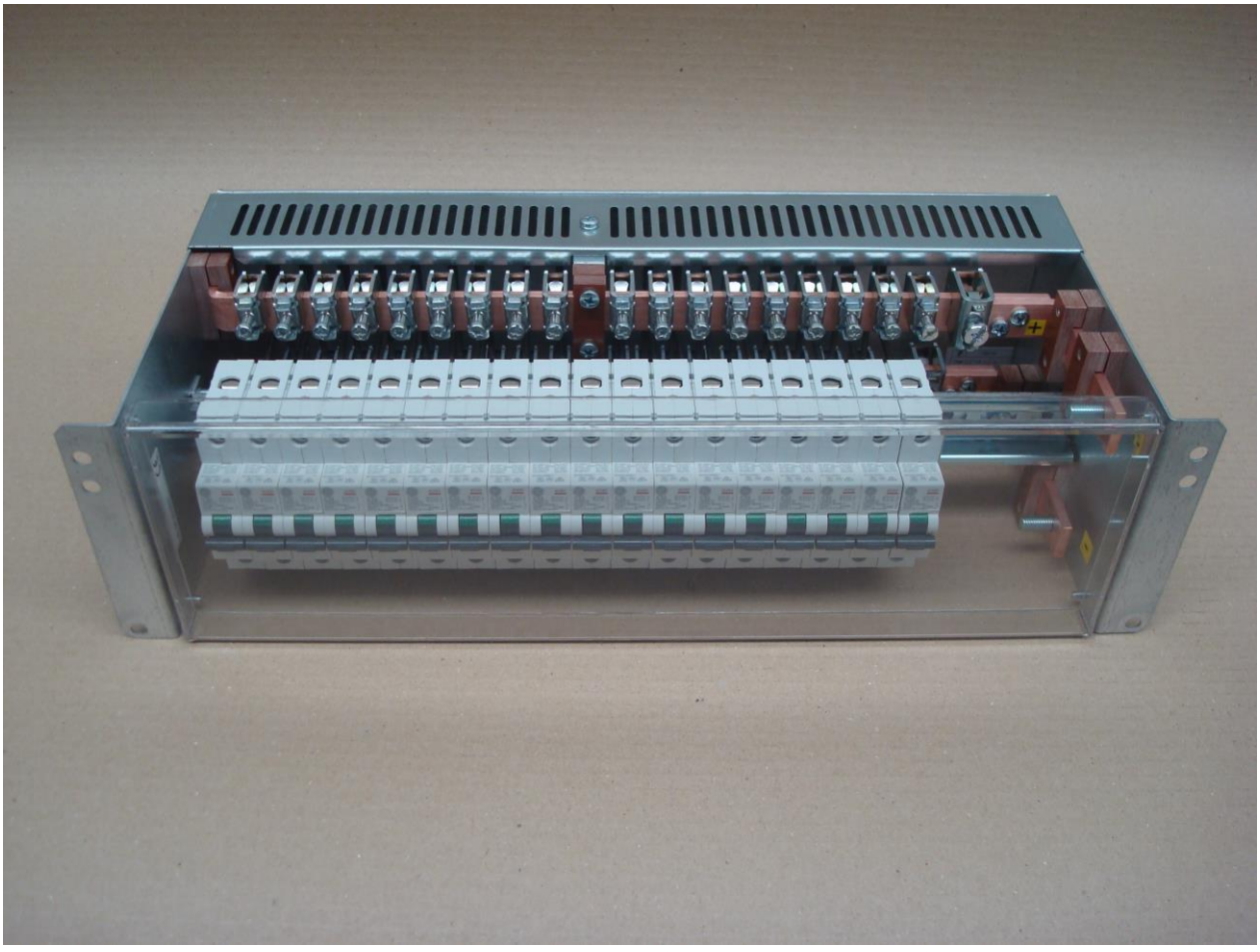
VZD		24.01.2020.	D	

TRANSIENT CURRENT LIMITING DC DISTRIBUTION BMGV 704001/1
- HIGH-OHMIC DISTRIBUTION -



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Description of transient current limiting distribution BMGV 704001/1

1. General description:

Transient current limiting distribution unit, also known as “high-ohmic distribution” is used for power supply of sensitive electronic circuits in telecommunication equipment.
Principle of high-ohmic distribution implies augmented increase in resistance of power supply conduits between rectifier (batteries) and load.
At the same time, the supply conduits are sized in a manner so that voltage drop does not exceed 1V at nominal current. In that way the transients (under-voltage and over-voltage) which are present in case of breaker switch-off or blown fuse are diminished.
In case of short-circuit in one of distribution circuits, in brief time which is needed for a breaker to switch off, or for a fuse to blow (in practice, about 10ms) the electric circuit which is consisted of supply battery, supply conduits, distribution conduits and power conduits of device which shorted-out is under short-circuit current. That current is determined by inner resistance of supply battery and a sum of stated conduits resistance. From the point of transient limiting it is preferred for the short-circuit current to be as low as possible. The short-circuit current accumulates energy in supply conduit inductivity which is proportional to conduit inductivity and square of current. In the moment of short-circuit current breaking, that energy is dissipated on other parts of the same distribution board in form of over-voltage, which can cause damage to other circuits connected to the same distribution board.
Transient current limiting (or high-ohmic) distribution board consists of resistors in addition to protective elements (breakers). The purpose of resistors is to increase resistance of supply conduits to load, thus decreasing short-circuit current.

2. Technical specification:

- Nominal supply voltage= 48 VDC
- Maximum supply cable = 70 mm2
- Maximum output cable = 16 mm2
- Maximum number of circuits connected = 20
- Allowed current per circuit = 32 A max
- Resistor value per circuit = 30 mΩ
- Protective element type = automatic breaker (2 – 32A, 1p) breaking capacity 10 kA
- Mechanical construction = device fits 19“ rack unit cabinets, height = 3 U
- Maximum inner dissipation = 650 W
- Cooling method = natural vertical air circulation

3. Mechanical design:

The distribution housing dimensions: h = 130mm, w = 482mm, l = 190mm .
Housing material: Galvanized steel, with polycarbonate front mask.

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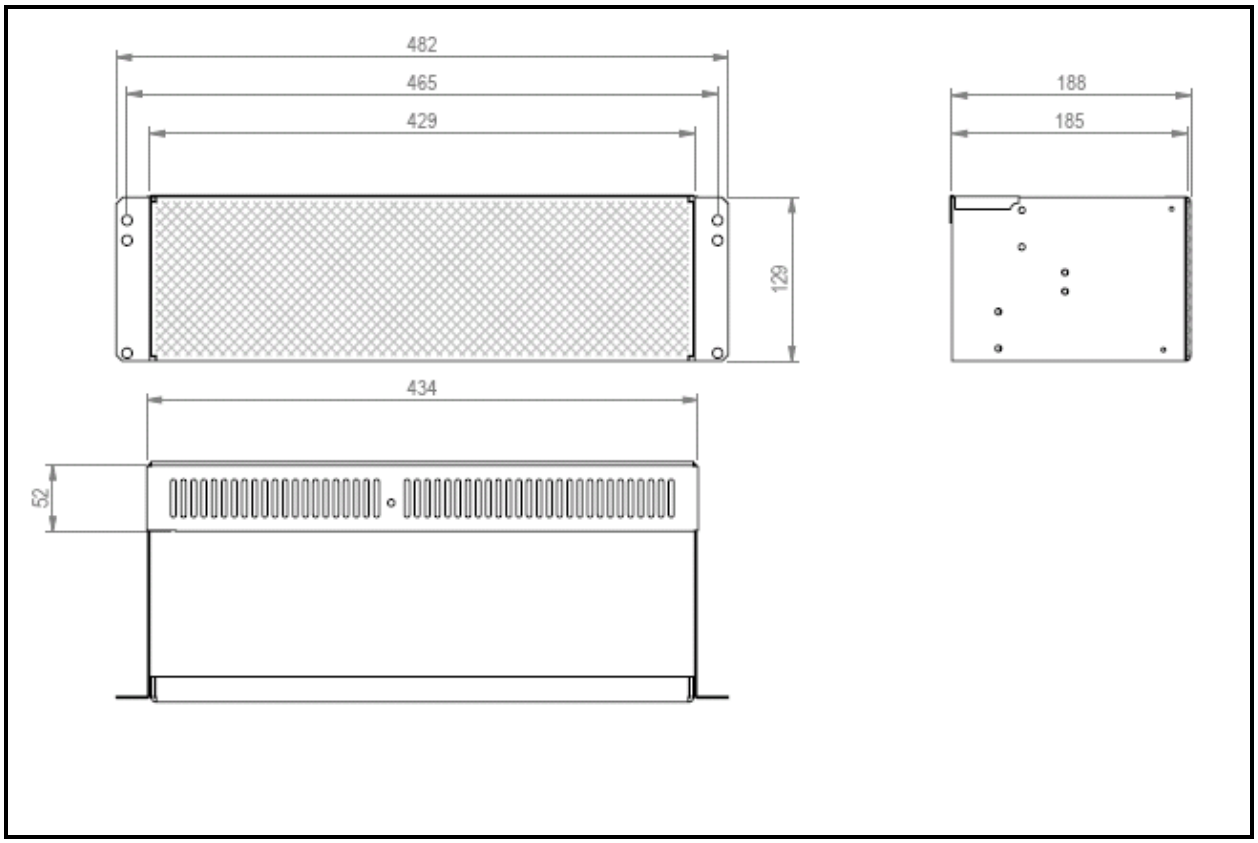
Unit housing dimensions:



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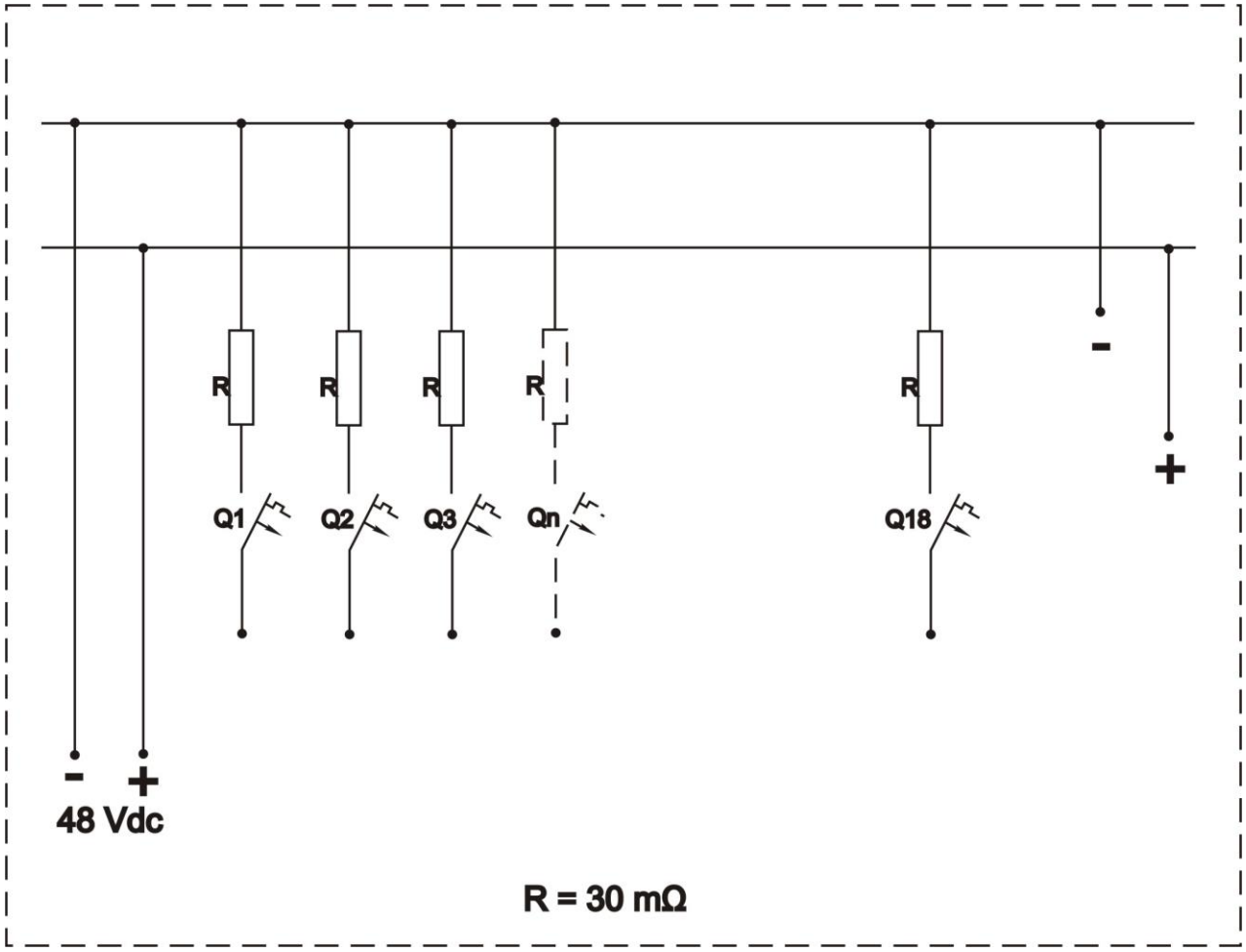
4. Distribution board schematics:



5. Safety guidelines:

- When handling the device, there is a risk of electric shock, so installation and connection can only be performed by qualified personnel.
- The device is not allowed to be mounted in areas with high humidity (over 95%).
- Do not install device in locations exposed to high temperatures (≥ 45 ˚ C), direct sunlight, or open flames.