AUTOMATIC VOLTAGE REGULATOR ST4

ST4 automatically corrects the input voltage changes by increasing it in the case of low input voltage or lowering it in the case of high voltage. If the voltage cannot be kept within the prescribed limits, output voltage is switched off in order to protect consumer's devices against voltage fault. ST4 incorporates overvoltage impulses protection.
Total power consumption of the equipment plugged into ST4 should not exceed the maximum power capacity given in the technical specifications. Automatic voltage regulator ST4 is designed to work with all kinds of electrical equipment, including refrigerators, air conditioners and other devices with motors. When it is used to power supply devices with electrical motor, you should take into account the maximum overload in the process of starting and maximum allowable values of power and current given in the technical specifications.

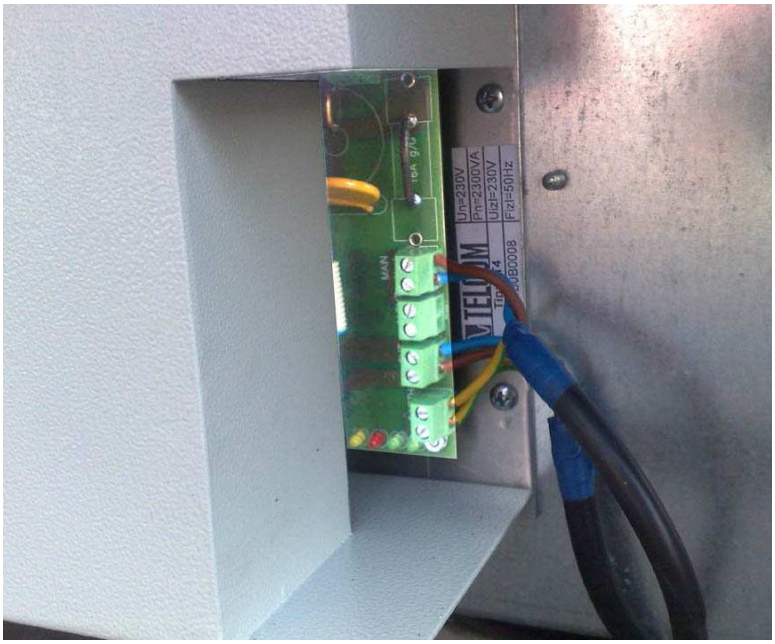

Figure 1: Automatic voltage regulator ST4 terminals

Technical specification

Input specification:
Minimum startup voltage without load (P=0) 160Vrms
Input voltage range 0Vrms-275Vrms
Maximum continuous input current (P≤Pn) 14.9Arms
Maximum surge current (tp≤0.4s) 40Arms
Overvoltage protection.....varistor 275V,150J
Under voltage protection..... 110Vrms

Output specification:
Nominal output voltage 230V 50Hz
Nominal output current 11Arms
Maximum surge current (tp≤0.4s) 30Arms
Nominal output load 2300W
Maximum output load (tp≤0.4s) 6900VA

Output voltage range for nominal load (Vin=160V-260V) 210Vrms-242Vrms
Response time..... 3 AC Cycles
Protection:
Overload protection.....switch off condition Vout≤190V and tp≥0.4s
Overvoltage protection.....switch off condition Vout≥255V and tp≥140ms
.....switch off condition Vout≥265V and tp≥80ms
.....switch off condition Vout≥270V and tp≥20ms
Restart time after switch off 120sec
Protection against high voltage .....grounding of metallic part of enclosure
Other:
Dimension 300mmx170mmx100mm
Weight..... 7kg
Operation temperature range .....from 0°C to 50°C

Automatic voltage regulator ST4 requires no maintenance.

ST4 should be installed in protected dry environment free of excessive dust, mechanical vibration, inflammable gases and explosive or corrosive atmospheres.

ST4 installation and removal can be performed by trained persons only. When installing or removing the input voltage must be switched off.

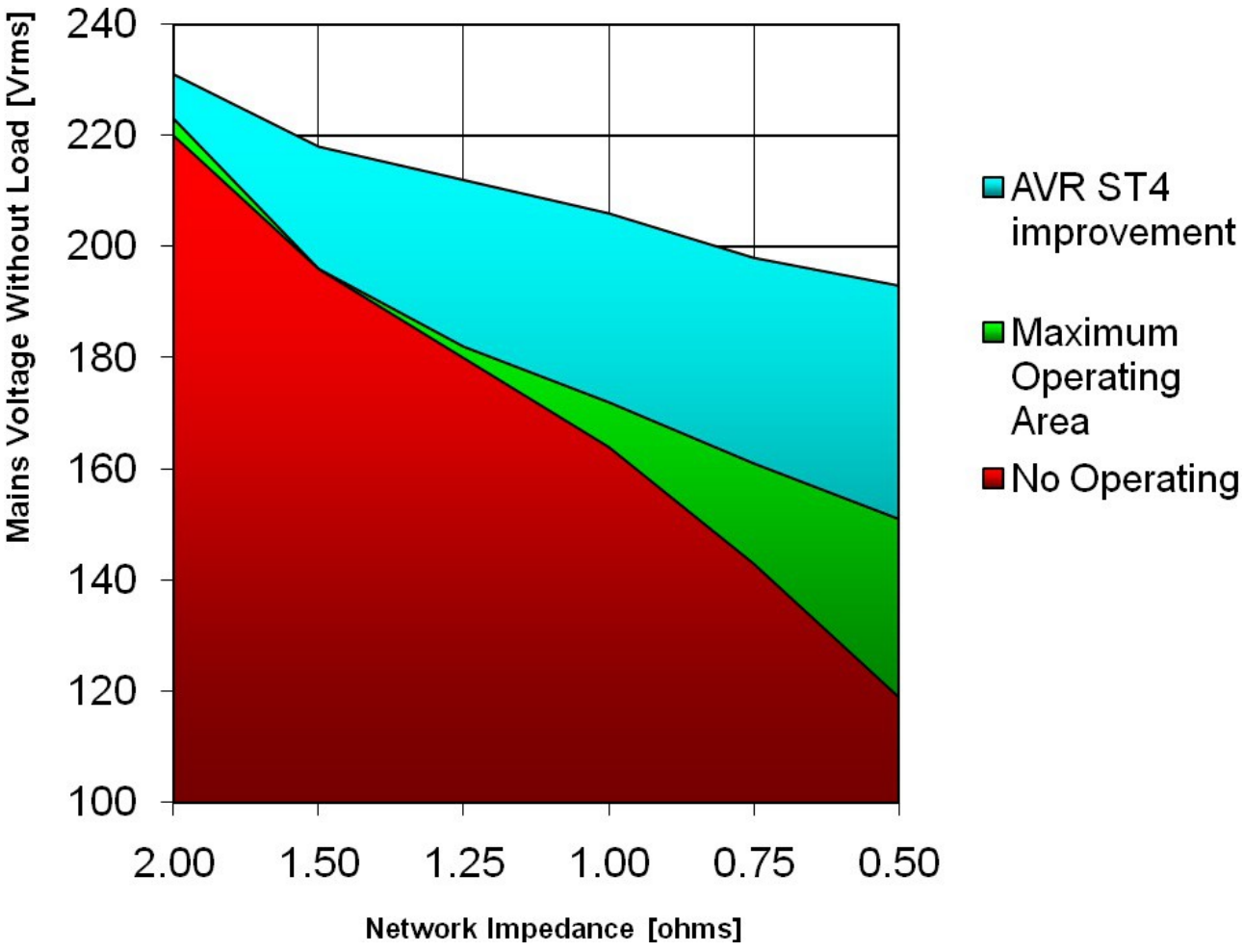

Figure 2: Operating Area of "Easy Reach CC" refrigerating cabinet vs Mains Voltage And Network Impedance

Troubleshooting

1.	Check the input voltage presence	If there is no input voltage, check the input cable, outlet and fuse. Otherwise, go to the following paragraph.
2.	Check the input voltage value	If the input voltage is lower than 160V, there won't be output voltage (this applies to starting after return of mains). In this case report the problem to your electricity supplier. If the input voltage is higher than 160V, go to the following paragraph.
3.	Wait for 2min.	If plugged equipment is power supplied, the trouble is resolved. Otherwise go to the following paragraph.
4.	Check that the input voltage and power installation resistance allow supplying of the plugged equipment.	shows operating area for the refrigerating cabinet with 2300VA power consumption. If your installation does not provide enough power for your equipment, contact your electricity supplier to expand the capacity of your installation. Otherwise, go to the following paragraph.
5.	Deinstall ST4 and send it to service center or bridge it as it has been previously described.	

In case of ST4 failure, it should be bridged according to the following procedure. Remove output cable from "OUT" terminal and tie it to "AUX" terminal. Cut the "CB" jumper. **During these operations input voltage must be switched off.**