



# Televend Box

## Installation Safety Requirements

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## **1. General notes**

- 1.1. Televend Box is not readily available for average consumer because average consumer does not have necessary knowledge and skills required for proper installation regarding functionality and safety. Therefore installation can be done only by means of professional installation.
- 1.2. Operation and maintenance can be performed only by skilled service personnel.
- 1.3. Follow safety requirements as mandatory.
- 1.4. Use good engineering practice.
- 1.5. Ensure compliance with country/regional specific technical normative laws and standards.

## **2. Protection against electric shock**

- 2.1. Vending machine must have correct protection for external metallic surfaces and parts which are touchable by customer, and must have correct protection for internally exposed metallic surfaces and parts which are touchable by service personnel.
- 2.2. Ensure correct power and protective earth connection of vending machine to certified and maintained building electrical installation.
- 2.3. AC or DC power supply unit of vending machine which powers Televend must be of safe class extra-low-voltage ELV, SELV or PELV.

## **3. Televend Box installation**

- 3.1. Fix devices to have correct mechanical stability regarding handling, operation and vibrations.
- 3.2. Avoid any mechanical stress, bending or twisting of devices during installation and operation.
- 3.3. Devices must have galvanic isolation to other metallic surfaces and parts, because otherwise galvanic contact can cause malfunctions due to leakage currents or high fault currents.
- 3.4. Use safe distance from heat sources, moisture, or dripping liquids.
- 3.5. Enable free flow of air around devices.
- 3.6. Arrange cable routes to avoid any mechanical stress and cable damage, because otherwise damaged cables can cause malfunctions or high fault currents.
- 3.7. Cable connection and disconnection must be done only during power-off condition.
- 3.8. Place antennas as far as possible from metal parts.

## **4. Overvoltage protection**

- 4.1. Power supply unit of vending machine which powers Televend must have protection against overvoltages according to relevant EXECUTIVE/MDB/BDV/CSI normative min/max peak voltage levels.



## **5. Current consumption of payment system**

5.1. Current consumption of devices of payment system in idle mode and operating modes must be within limits of current ratings of Televend.

- Check technical datasheets and ensure that current consumption is within permitted current ratings.
- If current consumption of EXECUTIVE/MDB configuration is out of current ratings of internal AC/DC power supply then use external DC power supply.

## **6. Overcurrent protection**

6.1. Power supply unit of vending machine which powers Televend must have overcurrent protection in order to protect itself against excessive current levels and to protect cable installation and powered devices against high fault currents and overloads. Overcurrent protection must be set correctly according to:

- Current rating of power supply unit
- Current ratings of Televend
- Current consumption of powered devices
- Inrush currents of powered devices

6.2. If overcurrent protection of power supply unit can not be set correctly then:

- Use additional cable of type protection-cable with in-line fuses, and insert it as first one to power supply.

## **7. Selective overcurrent protection against device overloads**

7.1. When overcurrent protection is set on relatively high current level, then for particular devices it can not be effective protection against overloads. If there is requirement for selectivity for some or for all devices to have overload protection then:

- For each required device of payment system and for Televend device use additional cable of type protection-cable with in-line fuses, and insert it as first one to device.
- Note that selective overcurrent protection of Televend device for configuration EXECUTIVE/MDB requires usage of external DC power supply.



## **8. Overcurrent protection against galvanic contact**

8.1. When there is high risk of galvanic contact then:

- Use additional cable of type protection-cable with in-line fuses, and insert it as first one to Televend.
- Note that protection against galvanic contact for configuration EXECUTIVE/MDB requires usage of external DC power supply.