Łukasiewicz
Instytut
Elektrotechniki

Installation instructions

for FlexiWarm cables

Heating cables are very versatile products due to their wide heating temperature range, high flexibility and light weight. They are designed for applications in low-voltage heating systems supplied with ELV-compliant voltage such as heating mats for textile applications. The heating cables can be arranged in the form of lamellas with a large bending radius, coils and strands, as well as being formed into flexible heating mats or encapsulated into rigid panels. Such heating elements can be used in applications of various scales (without direct UV exposure.

Flexible heating cables are distinguished by the operating temperature of up to 150°C (permissible short-term 200°C, up to 10 minutes). The cables can operate at a DC or AC voltage not exceeding 400 V. they can be used in increased humidity and in the presence of aggressive agents. These exposures should be agreed with the manufacturer.

The power of the heating cable should be selected theoretically or experimentally for the specific application. The maximum power value should be such that the temperature of the cable does not exceed 150°C.

The double-sided heating cable is connected to a power source by means of a non-insulated terminal sleeve and a connection cable with a conductor diameter capable of sustained operation with operating current. The sleeve is additionally insulated with KY175 high-temperature heat shrink cable with a shrink temperature of 175°C.

If the supply voltage value is higher than that specified by ELV, i.e. 50 VAC or 120 VDC (IEC 61140:2016 *Protection against electric shock – Common aspects for installation and equipment*), no residual current protection is required. If supplied with a voltage higher than that specified by the ELV, an RCD with a tripping current of 30mA must be used. Due to the lack of an earthing screen, an earthing braid connected to a residual current device (RCD) with a tripping current of 30 mA placed on the heating cables must be used.

The overcurrent protection should be selected on the basis of the calculated or measured current for the system.

FlexiWarm heating cables are distinguished by a mechanical classification of M1. Note: Do not use in areas subject to high mechanical stress or impact.

Installation of FlexiWarm elements at temperatures below -20°C is not recommended.

The bending radius of the heating cable should be at least the size of its diameter.

The presence of the heating cable should be indicated by warning signs or markings at appropriate locations, such as power connections and/or at frequent intervals along the circuit and be part of any electrical documentation once the installation has been completed.

FlexiWarm heating cables, with a minimum section length (see data sheet), are designed to be connected in series or parallel as required.

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Customer service:
phone: **+48 22 11 25 225**
email: **bok@iel.lukasiewicz.gov.pl**

The Łukasiewicz Research Network – Institute of Electrical Engineering
ul. Mieczysława Pożaryskiego 28, 04-703 Warsaw,
NIP: 5250007684
www.iel.lukasiewicz.gov.pl