

FINAL REPORT
no. 31-8760

Product:	Infrared heating panel with wireless regulator
Manufacturer Product Label:	FIRST HEATING Infrared Panel...
Variants:	see page 2
Client:	FIRST Heating s.r.o. Ke Špejcharu 355 252 67 Tuchoměřice
Manufacturer:	FIRST Heating s.r.o. Ke Špejcharu 355 252 67 Tuchoměřice
Production Location:	PROBAEQ, s.r.o. Vrahovická 41 796 01 Prostějov
Responsible Staff:	Ing. Josef Soldán, CSc. Ing. Petr Buzek
Date of Report:	2010-12-17
Number of Copies:	1 x Engineering Test Institute (SZÚ, s.p.) 1 x Customer

A conformity assessment was carried out in accordance with law no. 22/1997, which concerns the the technical requirements of products, as amended, for government regulation number 17/2003 Sb., which describes the electrical technical requirements for low-voltage equipment (hereinafter referred to as NV no. 17/2003 Sb.) and regulation number 616/2006 Sb., specifying the technical requirements for products in terms of electromagnetic compatibility (hereinafter referred to as NV no. 616/2006 Sb.)

The requirements of NV no. 17/2003 Sb. for conformity assessment are in consensus with the requirements of Annex L of the European Parliament and Council Directive 2006/95/EC.

The requirements of NV no. 616/2006 Sb. for conformity assessment are in compliance with the requirements of Annex L of the European Parliament and Council 2004/108/ES.

The Engineering Test Institute (SZÚ, s. p.) in Brno has executed conformity assessments for order no. B-39079, dated 19 November, 2010 and contract no. B-39079/31, dated 26 November 2010.

I. Product specification and its variants

Infrared heating panels with the designation "FIRST HEATING Infrared Panel" are designed for heating residential, office and similar locations with radiant heat. The heat source is an infrared radiation emitter based on the principle of a resistive heating element powered by single-phase AC230V / 50 Hz or 115V / 50 Hz. The radiators are equipped with built-in resistance regulators that are controlled with a wireless thermostat. Each thermostat can control multiple heating panels. The surface temperature of each radiator is electromechanically limited. For a detailed description of the electrical, mechanical parts, and other detailed technical data, see the technical documentation.

Technical data (for all versions):

Parameter	Value
Supply Voltage	230V or 115V / 1~PE
Frequency	50-60 Hz

Overview of options in terms of size and power:

Item Name	Dimensions	Power
FIRST HEATING Infrared Panel 60x120cm / 2000W	60x120cm	2000W
FIRST HEATING Infrared Panel 60x90cm / 1500W	60x90cm	1500W
FIRST HEATING Infrared Panel 60x60cm / 1000W	60x60cm	1000W
FIRST HEATING Infrared Panel 60x30cm / 500W	60x30cm	500W

All four variants have the same structural design, and differ only in size and power. A FIRST HEATING Infrared Panel 60x120cm / 2000W was selected as the representative product, as this variant had the least favorable conditions in terms of load power and regulatory circuits, and also in terms of EMC emissions.

The FIRST HEATING Infrared Panel 60x120cm / 2000W was tested as representative of the intended products for all options, variants and documentation.

It was considered that the critical parts of all of the electrical products have the same design.

In particular, the following product properties were assessed:

- materials used
- design
- security, control and regulatory components
- method of control
- electrical wiring design

Based on the above findings, the tests could be performed on the selected representative product to assess the basic requirements of all product variants.

II. List of the submitted technical documentation

Table no. 1a) – under Annex 3, paragraph 3 NV no. 17/2003 Sb.

Technical Documentation Required:		Documentation Provided:	Eval. *)
a)	General description of the electrical equipment	User manual, electrical wiring diagram	+
b)	Conceptual design and manufacturing drawings, diagrams of components, circuits, etc.	Electrical wiring diagram, list of electrical parts, construction documentation	+
c)	Descriptions and comments for clarity of the necessary drawings and diagrams shown in b) and the function of electrical equipment	See points a) and b)	+
d)	List of documents pursuant to § 2, paragraph 2 in full or in part, and if such documents are not used, a description of the solutions adopted to meet the essential requirements	Not submitted	x
e)	Results of design calculations and examinations carried out, etc.	Not submitted	x
f)	Test reports	Not submitted	x

***) Evaluation:**

- + documentation is complete and satisfactory - documentation is incomplete or unsatisfactory x documentation is not required for the ordered activities

The presented technical documentation is sufficient to assess compliance with the essential requirements in Annex 2 of NV no. 17/2003 Sb.

III. Assessment of conformity with the essential requirements according to Annex 2 of NV no. 17/2003 Sb.

Table 2c) - Basic requirements of electrical equipment in Annex 2 of NV no. 17/2003 Sb.

Basic Requirement	Applied Standard	Test Report	Eval. *)
1. General Requirements			
1.a) The basic technical characteristics of the electrical equipment shall be labeled on the electrical equipment to ensure that it will be used safely and in the conditions for which it was made. If this is not possible, it must be stated in the accompanying documentation.	ČSN EN 60335-1 ed.2:2003 ČSN EN 60335-2-30 ed.3:2010 ČSN EN 60730-1 ed.2:2001	no. 31-8760/E	+
1.b) The name and surname of an individual person, a trade name, corporate name, manufacturer, make, or mark must be clearly stated on the product, and if possible, on the packaging	ČSN EN 60730-2-9 ed.2:2002		+
1.c) The electrical equipment and components shall be constructed/ assembled so as to ensure safe and proper installation and connection.			+
1.d) The electrical equipment must be designed and constructed so that it will be used for the purpose for which it is addressed and it is properly maintained to protect against the hazards set out in paragraphs 2 and 3.			+
2. Protection against the hazards which electrical equipment can cause. Within the meaning of section 1, the technical design of the electrical equipment ensures that			
2.a) persons and domestic animals are adequately protected from risk of injury or other harm that could be caused by electric shock when touching functioning or non-functioning parts of the appliance,	ČSN EN 60335-1 ed.2:2003 ČSN EN 60335-2-30 ed.3:2010 ČSN EN 60730-1 ed.2:2001	no. 31-8760/E	+
2.b) dangerous temperatures, arcs or hazardous radiation will not arise	ČSN EN 60730-2-9 ed.2:2002		+
2.c) persons, domestic animals and property are adequately protected against non-electrical dangers the device may cause	ČSN EN 50366:2004		+
2.d) its insulation shall perform to predictable conditions			+
3. Protection from hazards which may be caused by external influences on the electrical equipment. Within the meaning of section 1, the technical design of the electrical equipment ensures that			
3.a) it will withstand expected mechanical stresses, so that people, domestic animals or property will not be compromised	ČSN EN 60335-1 ed.2:2003 ČSN EN 60335-2-30 ed.3:2010 ČSN EN 60730-1 ed.2:2001	no. 31-8760/E	+
3.b) it will withstand anticipated environmental conditions other than the effect from mechanical influences, so that people, domestic animals or property will not be compromised	ČSN EN 60730-2-9 ed.2:2002		+
3.c) any foreseeable equipment overload will not compromise persons, domestic animals and livestock, or property in any way.			+

***) Evaluation:**

+ requirement met - requirement not met 0 requirement does not apply to the product x Requirement not assessed

The basic requirements for electrical equipment listed in Annex 2 of NV no.17/2003 Sb. are met.

To meet the requirements for assessing compliance with the foregoing NV, conformity to the requirements of Annex L of the European Parliament and Council Directive 2006/95/EC are met. The applicable ČSN EN standards are identical with the following normative documents of the EU:

EN 60335-1:2002	EN 60335-2-30:2009
EN 60730-1:2000	EN 60730-2-9:2002
EN 50366:2003	

The results of test no. 31-8760/E that was completed at the Engineering Test Institute (SZÚ s. p.) in Brno on December 17, 2010 are stored at the Engineering Test Institute (SZÚ s. p.) in Brno.

IV. Assessment of conformity with the essential requirements for protection under Section 1a) and 1b) of Annex 1 of NV no. 616/2006 Sb.

Table no. 3) Assessment of compliance with the essential requirements for products in terms of their electromagnetic compatibility in accordance with points 1a) and 1b) of Annex 1 of NV no. 616/2006 Sb.

NV no. 616/2006 Sb. Annex no. 1:	Standards, technical regulations	Test Report	Evaluation
1.Requirements for protection			
The equipment must be designed and constructed so that its technology ensures that:			
a) electromagnetic interference caused shall not exceed the level above which radio and telecommunications equipment, or other devices will not be able to function as intended	ČSN EN 61000-6-3 ed.2:2007 ČSN EN 55014-1 ed.3:2007 ČSN EN 61000-3-2 ed.3:2006 ČSN EN 61000-3-3 ed.2:2009	no. 31-8760/EMC	+
b) its level of immunity to electromagnetic interference when used for the intended purpose will allow it to operate without unacceptable degradation in function	ČSN EN 55014-2:1998	no. 31-8760/EMC	+

***) Evaluation:**

+	requirement met	-	requirement not met	0	requirement does not apply to the product	x	Requirement not assessed
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The basic requirements for the protection of the products in terms of electromagnetic compatibility are in accordance with points 1a) and 1b) in Annex no. 1 of of NV no. 616/2006 Sb.

To meet the requirements for assessing compliance with the foregoing NV, conformity to the requirements of Annex 1, points 1a) and 1b) of the European Parliament and Council 2004/108/ES document relating to electromagnetic compatibility are met. The applicable ČSN EN standards are identical with the following normative documents of the EU:

EN 55014-1:2006	EN 55014-2:1997
EN 61000-3-2:2006	EN 61000-3-3:2008
EN 61000-6-3:2007	

The results of test no. 31-8760/EMC that was completed at the Engineering Test Institute (SZÚ s. p.) in Brno on December 17, 2010 are stored at the Engineering Test Institute (SZÚ s. p.) in Brno.

V. Conclusion

The review of the submitted technical documentation, and conducted verification tests show that the products:

**Infrared heating panel with wireless regulator
FIRST HEATING Infrared Panel 60x120cm / 2000W, FIRST HEATING Infrared Panel 60x90cm / 1500W,
FIRST HEATING Infrared Panel 60x60cm / 1000W, FIRST HEATING Infrared Panel 60x30cm / 500W**

Are designed and manufactured in accordance:

- with the essential requirements of NV no. 17/2003 Sb., which specify the technical requirements for low-voltage electrical equipment,
- with the essential requirements of NV no. 616/2006 Sb., which specify the technical requirements for the electromagnetic compatibility of products,

To meet the requirements for assessment compliance with the above,

- NV no. 17/2003 Sb. lays down the technical requirements for low-voltage electrical equipment, which conforms to the requirements of Annex 1 of the European Parliament and Council Directive 2006/95/EC,
- NV no. 616/2006 Sb. lays down the requirements for the electromagnetic compatibility protection of products in terms of the requirements of Annex L, points 1a) and 1b) of the European Parliament and Council Directive 2004/108/ES.

VI. Related documentation

- Order no. B-39079 from date 2010-11-19
- Contract no. B-39079/31 from date 2010-11-26
- ČSN EN 60335-1 ed.2:2003 – Safety of household and similar electrical appliances - Part 1: General Requirements
- ČSN EN 60335-2-30 ed.3:2010 – Specification for safety of household and similar electrical appliances. Particular requirements. Particular requirements for room heaters.
- ČSN EN 60730-1 ed.2:2001 – Automatic electrical controls for household and similar use – Part 1: General Requirements
- ČSN EN 60730-2-9 ed.2-2002 – Automatic Electrical Controls for Household and Similar Use - Part 2-9: Particular Requirements for Temperature Sensing Controls.
- ČSN EN 61000-6-3 ed.2-2007 – Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
- ČSN EN 61000-3-3 ed.2-2009 – Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection
- ČSN EN 61000-3-2 ed.3-2006 – Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)
- ČSN EN 55014-1 ed.3-2007 – Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission
- ČSN EN 55014-2:1998 – Electromagnetic compatibility. Requirements for household appliances, electric tools and similar apparatus. Immunity. Product family standard
- ČSN EN 50366:2004 – Household And Similar Electrical Appliances - Electromagnetic Fields - Methods For Evaluation And Measurement
- Test Report no. 31-8760/E from date 2010-12-17
- Test Report no. 31-8760/EMC from date 2010-12-17

Responsible for accuracy of the data:

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