Operating regulations for illuminated advertising with LEDs

1. USE - Illuminated advertising equipped with low-voltage LEDs is used to create large-scale illuminated advertisements on the walls of buildings or on separate carriers, **e.g. steel columns, etc. The design of the advertisement varies from case to case based on** the customer's **requirements and the conditions at the location of its installation.**

2. DESCRIPTION - Illuminated advertising with a plastic (PLEXI) or flexible (Vinyl) surface with foil graphics or printing, the front surface is fixed to the advertising body made of Al sheet metal or a frame made of Al profiles of sufficient depth, ensuring **uniform illumination by the lighting elements, using plastic or profiled sheet metal trim and screws (Plexi), or metal clips in a special profile (Vinyl). The LED diodes are mechanically or glued to the frame structure. The lighting elements (LED diodes) are powered by stabilized LED power sources (drivers).**

The connection of the LED diodes to the circuit with the LED source is carried out using a CYSY or CYLY cable with a cross-section of **2x0.75 mm2 and special gel connectors. The individual circuits of the LED diodes and their power supplies are connected to the central power supply using a CYKY cable of at least 3x1.5 mm2 and standard distribution boards. The back of the advertisement can be made of galvanized steel or aluminum sheet metal, or plastic. Here, according to local conditions, inspection holes are prepared for servicing the device.** The **side of the advertisement is usually made of profiled Al sheet metal, painted in a RAL shade. In accordance with the requirements of standards and guidelines, the advertisement is** equipped with **drainage and ventilation holes.**

3. INSTALLATION - The installation of the illuminated sign is handled by the project based on the customer's **request for its location and after evaluating the conditions at the installation site under the following conditions:**

- the installation of the illuminated sign is carried out by a company specialized in this activity while **complying with all applicable standards and guidelines related to this activity, - the**

customer ensures (unless otherwise agreed in the **contract) the installation of an electrical connection with a switchboard sized according to the data submitted by the contractor within the deadline specified in the relevant Contract for Work,**

- before putting into operation, it is necessary to check whether the placement and fastening of the advertisement corresponds to the project, the assembly work was carried out **in accordance with the established technological procedure and the prescribed quality,** the **electrical connection prepared by the customer corresponds to the required conditions and is in accordance with the conditions for** the safe **operation of illuminated advertising, the connection of electrical circuits and the actual connection of the advertisement to the connection prepared by the customer corresponds to valid standards and directives, by measuring (in accordance with the relevant standards) the specified electrical quantities and comparing them with the prescribed standard values, determine the suitability of the work thus implemented for putting into permanent operation.** The measured quantities **are then the basis for issuing the relevant Inspection Report.**

4. SERVICE, MAINTENANCE - regular maintenance of illuminated advertisements is recommended to be carried out in a period of 1 to 2 times a year depending on the environment **in which the advertisement is located, this maintenance in a period of at least 1 time per year washing the advertising area from the outside (and from the inside if necessary) is subject to a quality guarantee. Washing the advertisement both inside and outside is carried out with lukewarm water with a common detergent. Under no circumstances should hydrocarbon-based solvents (alcohol, acetone, petrol, etc.) be used for maintenance! The activity should be carried out only by a group of workers with expertise in this type of work (working at heights) using special climbing equipment or from a high-lift platform by a worker professionally trained to operate it.**

5. SERVICE, MAINTENANCE OF EL. CIRCUITS AND LIGHTING ELEMENTS - the date of service inspection and maintenance is determined depending on the date of the subsequent Revision of electrical equipment, and in the period of 1x every two years. Regular service inspection and maintenance of electrical circuits and lighting elements of illuminated advertisements is recommended to be carried out in the period of approximately 1x to 2x per year , depending on the environment **in which the advertisement is located. For repair and maintenance, it is prescribed to use the material installed in the product by the manufacturer. Documents with its technical parameters and other data, used, for example, to ensure ND for operation, etc., are part of the technical**

documentation of the product 6. MARKING - The products are marked **in accordance with the relevant standards; in a visible place there is a label with the name and address of the manufacturer** responsible **for the installation and the year of manufacture is indicated.**

7. SERVICE and MAINTENANCE BY THE OPERATOR - As part of the handover and acceptance of the advertisement after the end **of the warranty period , the operator's designated employees are trained for its service and maintenance by the supplier's representative, within the scope of their professional knowledge.**

8. EXCEPTIONS FROM THE

WARRANTY - 3P.spol.sro is not liable for defects in the work that occurred due to the customer's unprofessional intervention.

In the event of a violation of the operating regulations for advertising by the client, which were delivered to the client **with the invoice, the warranty cannot** be applied . If **a defect covered by the warranty is not detected** during **the repair ,** or if **a defect** is detected **due to unauthorized intervention in the work, even unintentionally, or if the defect was caused by a natural event, in particular an earthquake, flood, lightning strike, wind with a force greater than 20.7 m/s, hail, explosion, landslide, etc., the costs associated with the repair shall be borne by the client, who is obliged to pay the invoiced costs.**

9. ANNEXES -

Declaration of conformity of the manufacturer of illuminated **advertising 3P sro according to Council Directive 2014/35/EU as** amended **- Simplified wiring diagram of the electrical circuits** of illuminated advertising equipped with **LEDs.**

10. OTHER ARRANGEMENTS

In accordance with the relevant standards, the illuminated advertising operator **acknowledges that by handing over and accepting these Operating Regulations, he undertakes to supplement the information specified in paragraph 6 of these Operating Regulations in the event** that **any** changes are made to the device **circuits or the installation** of LED **light modules after maintenance** of the device .

In Námÿšÿ **nad Oslavou on April 14, 2026**

On behalf of the supplier Ing. Jiÿí **Janák –** company executive

Instructions for mounting and using LEDs

LED lighting in the form of modules is made of optoelectronic components, the main part of which are LED diodes mounted on printed circuit boards. The description and technical parameters of the used LED diodes and the module itself are given in the product card. The modules are delivered from the factory connected into larger segments. The modules can be mounted and placed in illuminated advertisements under conditions that meet the IP67 protection level (unless otherwise stated in the technical description). We recommend **mounting the modules with double-sided adhesive tapes, glue (approved by the module manufacturer), or mechanically using screws.** When **attaching the screws, it is necessary to remember the correct size of the screws so that the use of screws that are too large does not cause internal destruction of the module.**
The handling and assembly of the modules should be such that there is no mechanical damage to the modules under any **circumstances . We connect the modules to the power supplies supplied by the module manufacturer. In the case of using our own modules, unconditional approval of these power supplies** by **the module manufacturer is required. The modules** meet **IP67 standards (unless otherwise stated in the technical description) and also the valid European standards ÿSN EN 60 529 and are powered by a safe** voltage **of 12V or 24V (according to the specifications of the LED modules used). Maintenance: The LED lighting produced by us, as well as the supplied power supplies, are essentially maintenance-free. If cleaning** is necessary , we recommend **using common household cleaning** products , without **acids , solvents and thinners.** When **cleaning our products**
Special care must be taken with LEDs. The luminous top part of the LEDs consists of a fine special silicone layer, which can be damaged if **handled carelessly . In general,** care **must** be **taken to avoid mechanical damage from pressure and bending.**
Warranty: covers material defects of the product, damage and manufacturing errors . Any unprofessional interventions, product modifications not approved by the manufacturer and mechanical damage to the product are considered a violation of the warranty conditions. The warranty does not cover damage caused by overvoltage **in the electrical network, electromagnetic influences,** excessive **temperature (+- 45 °C) and other external influences.**
Example: when the sign is divided **according to sources, we decide whether we will pull one common cable from the source or use 2-4 12V outlets. In order for the sign to shine well, we must follow the principles that prevent** voltage drops **on** the wires. **These principles include: placing the sources as close as possible to the sign / modules,** dividing **the modules into individual segments of max. 30 pieces, or up to 60 pieces** when **connecting the modules from two sides (e.g. the letter "X"), using wires of appropriate strength with respect to the preceding current (from 1 mm 2** thicker, **e.g.** with **a current of around 12A it should be up to 4mm2 .) and correctly designing the electrical installation, showing** a voltage **not lower than +/- 11.5V. .**

There are two ways to connect the cable from the
power supply: A/ we pull one cable from the power supply (we connect all 12V output cables together, i.e. all plus wires together and all minus wires together. With **this connection,** we recommend a wire size **of up to 4mm2 for 150W** power supplies and **up to 2mm2 for 60W power supplies.**
B/ we pull 3-4 wires from the source (depending on the project), each of them powers a certain segment/letter. It is recommended that the cross-section **of the wires b around 1.5mm2.**
ATTENTION – if it concerns output wires from the source, the power of the source is not divided by wires = theoretically we can load the entire source on one cable, or 80% of the modules on one cable and the rest on the second cable. So it is not true that if we have, for example, a 100W source, then 4 cables are divided **by 25W power. As** stated in **the above detail of the letter "X", it is generally true that** the number **of modules**
connected in series on one side should not exceed a current load of 1.5A.