

# Enika pantograph stations in Lublin

For 30 years, Enika has specialised in the design, production and maintenance of comprehensive electric and electric energy equipment for municipal public transport (trams, trolleybuses, electric buses and infrastructure), as well as railway infrastructure and rolling stock. Thanks to its considerable competencies and immense experience, Enika offers high-quality devices and full onboard integration of all components, as per customers' specifications.

For years, Enika has been involved in pro-environmental projects. The company's solutions dedicated to zero-emission buses (mostly electric buses) are appreciated by carriers in Poland and abroad. Enika provides customised products for particular means of transport. An important and fast-developing area involves current issues related to charging of energy storage systems of electric buses. Enika offers both stationary and mobile chargers, allowing regenerative charging, as well as pantograph stations of high capacity, allowing fast supplementation of the storage system in a vehicle.

Cities and local carriers are increasingly focused on the sustainable model of transport, which is efficient, convenient and environment-friendly. To satisfy the market demand for environment-friendly transport, the company has designed and produced the ENI-SPANT/450 pantograph station, which is a fast and efficient charger meant to charge electric buses equipped with a Ride&Charge pantograph (by EC Engineering sp. z o.o.). In 2021, Enika participated in a pro-environmental project for STRABAG.



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ENI-SPANT/450 Pantograph Station is a fast and powerful charger. It is intended for charging electric buses equipped with Ride&Charge pantographs (by EC Engineering sp. z o.o.) The station is designed to be used outdoors. The charger is powered directly from an industrial power supply, 3 x 400 V AC. The pantograph mast can be adjusted to any pantograph type and manufacturer of the applied docking unit. ENI-SPANT/450 pantograph station is a standalone device which requires only a connection to 3 x 400 V AC power supply. The set consists of two main subassemblies – an SZ1 power supply cabinet and an MP1 mast fitted with an RM1 switchboard, and a docking unit.

ENI-SPANT/450 pantograph station converts the 3 x 400 V AC supply into a direct current output in the range 460 VDC ÷ 800 VDC and adjusts it to the operating voltage range of the traction batteries fixed in the electric bus. There are two options to initiate the charging process.



*Fot. Korolski*

The first option involves an electric bus, with its pantograph raised, entering the designated charging site; the bus pantograph must connect to the docking unit on the station's mast. The second option involves driving an electric bus to the designated charging site, opening the switchboard, setting the CCS2 switch to position "1", and connecting the station's CCS2 cable connector to the electric bus. Next, the charging process should be initiated inside the bus. The second option is a reserve variant to be applied in the case of damage to the docking unit.

ENI-SPANT/450 pantograph stations were already installed in Lublin last year. Their official presentation drew a lot of attention. Journalists and city officials had a chance to verify the efficiency of this solution at a formal presentation. At the first launch, a Solaris electric bus was easily charged on the first try. The bus charging presentation was a full success. The next step involved the Office of Technical Inspection (UDT) inspecting all ENI-SPANT/450 pantograph stations installed in Lublin. All ten stations were successfully approved for use and are now applied by the Municipality of Lublin at the spots where they were installed.

Currently, the quality of transport in the city has increased – the used electric city buses recharge very quickly, which is convenient for commuters.

Comfortable and environment-friendly public transport is the future of modern cities; that's why for some time now, Enika has focused on this aspect, implementing various environmental projects.

Its solutions dedicated to electric buses are appreciated by carriers in Poland and abroad. In recent years, Enika designed and delivered high-quality chargers for carriers in Środa Śląska and Ostrava, Czech Republic, and last year – for a public transport provider in Częstochowa.



Enika is built by specialists and experts who guarantee the best quality. This is why the company's reliable products are used to improve transport solutions all over the world.

*Materials and photos: Enika Sp. z o.o.*