

Neumarkt, 16 March 2023

20 years of product experience rolled into one conductor – DEHN presents HVI light plus for lightning protection applications

Even under difficult conditions. planning engineers and installers of lightning protection systems must maintain separation distances in order to prevent lightning current flashover into a building. Not only metal and electrical roof superstructures, but also retrofitted PV and mobile radio systems are in a highly exposed position. They must be protected from lightning strikes whilst maintaining the separation distance. The modern continuation of Benjamin Franklin style lightning protection is HVI light plus from DEHN. The high-voltage-resistant, insulated down conductor discharges lightning current from the air-termination system safely to the earth-termination system. It is system-tested and offers numerous advantages for installation and planning.

When installing bare, uninsulated air-termination conductors on the roof, the separation distance to electrical and metal systems installed under the roof surface must be maintained in accordance with the current lightning protection standard DIN EN 62305-3. Cable installations, pipe systems or metal parts are frequently installed under the roofing in direct proximity to the air-termination system / down conductor, thus posing a proximity issue. The solution is isolated air-termination systems with high-voltage-resistant, insulated down conductors.

The new high-voltage-resistant insulated HVI light plus Conductor has been tested with regard to its lightning current carrying capability and impulse withstand voltage both as a single conductor and as a system in accordance with DIN IEC/TS 62561-8 and offers simplified design options.

20 years of experience in one conductor: Back in 2002, the high-voltage-resistant, insulated HVI Conductor was patented and soon launched by DEHN as a pioneering innovation in external lightning protection in 2003.

The coaxially constructed cable consists of a single-wire inner conductor with a thick-walled high-voltage-resistant insulation and a semi-conductive outer sheath. This design allows the HVI light plus to maintain an equivalent separation distance in air of 60 cm to earthed metal building installations without creepage discharge. This prevents uncontrolled flashover and channels lightning current directly to the earthing system. The lightning current carrying capability of the HVI light plus is 150 kA and it can be used in lightning protection classes II, III and IV at $k_c = 1$.

Equipotential bonding is established without the need for an additional equipotential bonding connection. This results in easier planning and installation options and, subsequently, significant time savings.

Press release



The grey colour of HVI light plus blends in well with buildings with fair-faced concrete. In addition, the sheathing can be painted and thus adapted to the colour of the respective architectural surroundings.

The grey outer sheath protects against electric shock. In line with test standard IEC 60060-1, this ensures that in the event of lightning discharge no-one is subjected to dangerous voltages. For public buildings such as schools, nurseries, or museums, this is a requirement of DIN EN 62305-3 which is automatically met by the HVI light plus.

The HVI light plus also has Ex approval and can be used in hazardous areas of Ex zones 1 (gases, vapours, mists) and 21 (dusts).

The HVI light plus is halogen-free and has fire class E_{ca}.

All tools already in use for the existing HVI range can also be used for the HVI light plus. The HVI and HVI light conductor holders are also compatible with HVI light plus.

You can find more information about HVI light plus on our [Website](#).

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The new HVI light plus Conductor from DEHN: 20 years of experience rolled into in one conductor:

Photo: DEHN SE

Press release



About DEHN SE

DEHN is a leading, international family-owned electrical engineering company based in Neumarkt, Germany. With its comprehensive portfolio, DEHN addresses the megatrends of our time - from e-mobility and renewables to the protection of critical infrastructure. The company offers solutions and services for lightning and surge protection as well as safety equipment – fields in which, with more than 1,100 patents, DEHN is a leading innovator. The company's products protect people and buildings, systems and telecommunications technology, process industry, as well as photovoltaic systems and wind turbines.

With more than 2,300 employees worldwide, DEHNgroup achieved revenue of around 385 million euros in the fiscal year 2021/2022. Alongside more than 110 years of experience, this constant growth is based on the highest quality standards and a consistent orientation towards customers and markets worldwide.