DEHN protects.

Active mobile radio components at Vodafone LTE sites

Customer

Vodafone Deutschland GmbH

Project overview

Sector

LTE network extension

Application

Protection of the voltage supply of mobile radio transmitting systems from lightning and surge damage

Hardware

Overvoltage Protection Box (OVP box) from DEHN with integrated DEHNsecure M 2P 60 (FM) lightning current arrester

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Vodafone is pushing ahead with the expansion of LTE in Germany: Since the beginning of the year, around 1,500 LTE construction projects have already been completed – 3,800 more are to follow. The aim is to increase LTE capacities (and thus also the surfing speed) and, at the same time, eliminate dead spots. Around 18,000 LTE masts have been installed throughout Germany to provide the population with mobile radio. Network expansion will focus on rural regions in addition to the main traffic routes: LTE is currently available at approx. 97 % of the area covered by Germany's motorways.

Challenge

New and expanded mobile radio sites are immediately connected to the core network. Special protection is required to optimally protect these powerful transmitting systems from the consequences of lightning strikes and surges: The power supply of the sensitive mobile radio components requires made-to-measure solutions that are adapted to the local conditions.

Solution

As previous concepts could not be adapted 1:1 for these special requirements, the Overvoltage Protection Box (in short: OVP box) was specially developed for DC systems as a customised lightning and surge protection solution. This OVP box is based on the high discharge capacity of 25 kA (10/350 µs) of the DEHNsecure lightning current arrester. Customer-specific requirements were taken into account throughout the entire course of the project. Final laboratory tests in the DEHN test centre verified the lightning current withstand capability of the OVP box and the final technical release was issued.

Protection of the voltage supply of a mobile radio transmitting system by means of the DEHN OVP box

Benefits of the DEHN solution

- Individual design of the box: For perfect integration in complex mobile radio systems
- Increased protective effect: No inductive coupling on the output side thanks to optimal cable routing
- Easy installation: The screws of the enclosure lid are secured to prevent them falling out
- Time-saving installation: Integrated shield terminals are wired without tools
- Flexible wall or mast mounting: Thanks to universal mounting bracket
- Safe coordination with downstream terminal devices: Via system tests in the DEHN test centre which meet your individual requirements
- Weather-proof enclosure: Allows outdoor installation of sensitive components

Surge Protection
Lightning Protection
Safety Equipment
DEHN protects.

DEHN SE
Hans-Dehn-Str. 1
Postfach 1640
92306 Neumarkt, Germany

Tel. +49 9181 906-0
Fax +49 9181 906-1100
info@dehn.de
www.dehn-international.com

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