

# NEXT GENERATION TECHNOLOGIES



The **BACHMANN Next Generation USB-C Chargers** are true technological wonders. An overview of the technological highlights.

## GaN

**Gallium nitride (GaN)** semiconductors are characterised by a higher efficiency than silicon semiconductors. When used in USB-C chargers, GaN technology enables a more compact design and therefore a higher power density. Compared to conventional power supplies with silicon semiconductors, USB-C chargers with integrated GaN technology can reduce energy consumption by up to 20 percent.

## PPS

**The Programmable Power Supply (PPS)** is an extension of the Power Delivery standard. While traditional USB Power Delivery power supply units deliver fixed voltages, a PPS charger allows you to adjust the voltage between 3 V and 21 V in 0.02 V increments, as well as the current in real time, based on the requirements of the device being charged. The two devices communicate with each other and decide upon the optimum voltage and current. This flexibility brings even more advantages: firstly, less heat is generated, which extends the life of the battery. Secondly, the charging process is more efficient and faster.

## PD 3.0

## PD 3.1

**The Power Delivery (PD)** fast charging technology only works with USB-C connections. The BACHMANN USB-C Charger and connected devices communicate with each other to select a fixed voltage (voltage profiles: 5 V, 9 V, 15 V, 20 V or 28 V). In addition, the current is defined, although this can change during the charging process. This guarantees effective fast charging of the devices.

## OCP

## OTP

## OVP

**Overcurrent Protection (OCP), Overvoltage Protection (OVP) and Overtemperature Protection (OTP)** ensure safe fast charging for devices and users, even with high current and voltage requirements. To prevent overheating, the charging power will be reduced when necessary, and increased again later. In addition, the devices are protected against overvoltage. In the event of a short circuit, the charging process will be interrupted immediately and only restarted once the error has been remedied.