

WIRELESS PROFESSIONAL - reliable and secure wireless.

What is Wireless Professional?

Wireless Professional is a wireless monitoring system for monitoring and controlling of safety lighting. Monitoring is implemented by using radio transmission based on the 868 MHz frequency band, which works with a self-organizing ad-hoc radio protocol. This means that the failure of individual luminaires does not affect communication in the rest of the installation and the luminaire monitoring system works reliably.

Radio solutions in everyday life!

In our everyday environment, we find radio-based devices such as mobile phones and wireless telephones, TV and radio transmitters, WLAN, Bluetooth and baby phones, to name but a few. All these devices are subject to legal regulations limiting transmission power in order to minimize any potential health effects (EU Directives 2014/53/EU - formerly 1999/5/EC - and 1999/519/EC). These directives specify limits for the transmission power of electromagnetic transmitters depending on the frequency. Examples of the transmitting power of various transmitters in the following:

Transmitter	Frequency range	Maximum transmission power (typical)
Bluetooth	2400 MHz	100 mW
WLAN	2400 MHz	100 mW
DECT	1900 MHz	250 mW
GSM	900 MHz	2000 mW
GSM / 4G	1800 MHz	1000 mW
TV-Sender	470-790 MHz	500 kW
Wireless Professional	868 MHz	< 10 mW

The devices and transmitters listed in the table differ considerably in their transmission power. In direct comparison, the Wireless Professional system from the RP-Group is characterized by a very low maximum transmission power.

A safe solution!

When considering a possible influence on organisms, the decisive factor is the average transmission power, which can be calculated during operation by

averaging transmission times (transmitter active) and pause times (transmitter not active). Wireless Professional luminaires transmit for a maximum of 10 milliseconds per second, which corresponds to a maximum of 1% active transmission time. This means that the average transmission power of a Wireless Professional luminaire is below 0.1 mW. For comparison: the limit value according to ETSI EN 300 220-2 V3.2.1 (2018-06) for the radio frequency used by Wireless Professional is 25 mW throughout the EU. That is 250 times higher!

With their low average transmission power, Wireless Professional systems also comply with the maximum values for electromagnetic radiation recommended by the Federal Office for Radiation Protection and are suitable and harmless for use in more sensitive environments such as hospitals, retirement homes, airports, army air bases or day care centers.

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