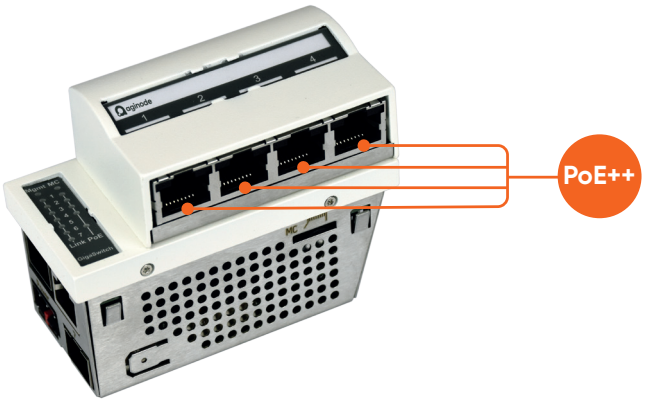
Application Note

Power over Ethernet (PoE ++) for existing and new FTTO infrastructures



With Power over Ethernet, it is possible to transmit data as well as power via an eight-wire network cable. The table below shows which outputs are possible with the different standards.

	2003	2009	2018	2018
	PoE Type 1 IEEE 802.3af	**PoE+** Type 2 IEEE 802.3at	**PoE++** Type 3 IEEE 802.3bt	**PoE++** Type 4 IEEE 802.3bt
Output power at PSE	**15,4W**	**30W**	**60W**	**90W**
Input power at PD	12,95W	25,50W	51W	71W
Used pairs	2	2	4	4

Typical applications for PoE are wireless LAN access points, IP cameras and Voice over IP phones. For Building Internet of Things (BIoT) the number of possible applications grows continuously. Are per-formance classes in the range of 60 or 90W really needed today? This can be answered with a clear „yes".

Already today wireless LAN access points are in need for more and more power to support the latest wireless LAN standard IEEE802.11ax (WiFi 6) and presuppose that supply of PoE++ to provide full functionality.

In addition to wireless LAN access points, also PTZ IR IP cameras need very high power level (up to 71W) using PoE++.

How can the increasing PoE demand be met with the current network infrastructure and the used network components?

The current Aginode LANactive GigaSwitch V5 supports 4x PoE+ via the user ports with up to 30W per port. Thanks to the modularity of the switch, the head is removable and can be ex-changed with a head supporting PoE++.

This enables existing FTTO installations to upgra-de with the new PoE++ standard and retrieve up to 4x PoE++ with an entire power budget up to 150W per switch.