GPeR

The Gigabit Passive Ethernet Repeater (GPeR) is part of our new GPEN (Gigabit Passive Ethernet Network) concept, which aims to replace GPON installations with lower cost and more easy to deploy Ethernet alternative.

The GPeR unit allows to extend Ethernet cable by additional hop (< 100 - 150 m to regular network devices, and up to 210 m to another GPeR unit) up to 1,500 m. Handy for highrise buildings, multi-apartment buildings, with many floors and sections, where very long ethernet cables might be a problem.

Maximium allowed length of CAT6 Ethernet cable between GPeR and power source/router is up to 100 m (depending on cable quality, high quality - up to 150 m).

Maximium allowed distance of CAT6 Ethernet cable between two GPeR devices is up to 210 m (depending on cable quality).

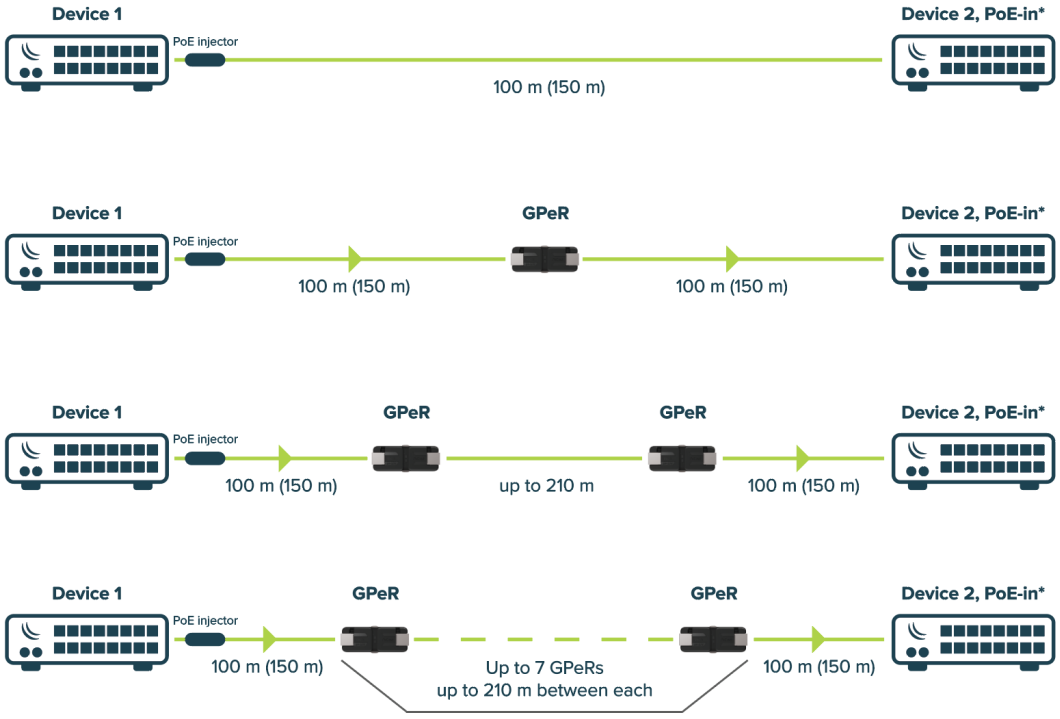


Specifications

Product code	GPeR
Gigabit Ethernet ports	2
PoE in	802.3af/at, 24 - 57 V
PoE out	Jumper selectable passive PoE Passthrough
Max power consumption	2 W
Operating temperature	-40 to 70°C

Use case 1: Extension of Ethernet link to up to 1,5 km if one side have PoE source (up to 3 km both sides of the link have PoE sources).

Use case 2: Home user connects his WiFi AP to GPEN11, which then outputs PoE (Power over Ethernet), Ethernet is extended with GPeR units then on the roof you have a netPower series switch (coming later this year), which takes power from all the apartments (from GPEN11), after that the switch is connected to the uplink connection, for example with our 60 GHz series of device.



* Voltage drop on the cable and on GPeR units needs to be taken into account when calculating PoE-in possibility, in case of insufficient power take off PoE jumpers to disable Passive PoE passtrough and use other power source for Device 2.

Example of 1440 m CAT6e Ethernet link

Distance	Voltage in (V)	Voltage out (V)
Device 1 (0 m)	-	57 (0.7 A)
GPeR 1 (100 m)	53.5	53.2
GPeR 2 (310 m)	46.1	45.8
GPeR 3 (520 m)	39.7	39.4
GPeR 4 (720 m)	34.0	33.7
GPeR 5 (930 m)	29.2	28.9
GPeR 6 (1140 m)	25.1	24.4
GPeR 7 (1340 m)	21.1	No PoE (Jumpers OFF)
Device 2 (1440 m)	-	-