



NEC proposal for Ampacity of 4-Pair LAN cables

The table below indicates the maximum Ampacity (in Amperes) allowed in 4-pair LAN cables installed in different configurations, ranging from a single cable up to bundles of 192 cables, for PoE Type 2 (4 wires energized) and for PoE Type 4 (8 wires energized).

The values indicated are for each conductor.

The values are provided for an ambient temperature of 30°C max. and for cables rated 60°C max. made of solid bare annealed pure electrolytic copper conductors.

Notes:

1. The table does not distinguish between shielded and unshielded cable although it has been shown that the cable shield improves the heat dissipation.
2. The table is based on UL publication named "UL, the NEC & Power Over LAN Cable" by Steve Galan and Randy Ivans published in September 2015.
3. The AWG sizes are based on UL 444 definitions.

Max. Ampacity (A) per conductor vs number of 4-pair cables in a bundle. Ambient temp: 30°C. Cables rated temp: 60°C max.								
Cables in bundle	1		2-7		8-19		20-37	
PoE Type	2	4	2	4	2	4	2	4
26 AWG	1.4A	1.0A	1.4A	1.0A	1.0A	0.7A	0.7A	0.5A
24 AWG	2.8A	2.0A	1.4A	1.0A	1.1A	0.8A	0.8A	0.6A
23 AWG	3.5A	2.5A	1.6A	1.2A	1.1A	0.8A	0.8A	0.6A
22 AWG	4.2A	3.0A	1.9A	1.4A	1.4A	1.0A	1.0A	0.7A
Cables in bundle	38-61		62-91		92-192		>192	
PoE Type	2	4	2	4	2	4	The Ampacity of larger bundles or thinner conductors may be determined by qualified personnel.	
26 AWG	0.5A	0.4A	0.5A	0.4A	NA	NA		
24 AWG	0.7A	0.5A	0.5A	0.4A	0.4A	0.3A		
23 AWG	0.7A	0.5A	0.7A	0.5A	0.5A	0.4A		
22 AWG	0.8A	0.6A	0.8A	0.6A	0.7A	0.5A		