美标电源线及插头极性解析

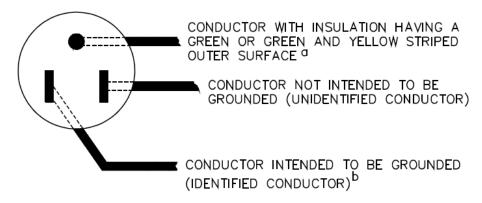
在美标认证的过程中,经常碰到工厂提供的样品在电源线及插头的极性方面出现问题,主要原因是工厂相关人员不清楚美标电源线及插头的极性规定,为了帮助工厂解决该问题,现结合相关美标进行解析。

引用标准: UL 507

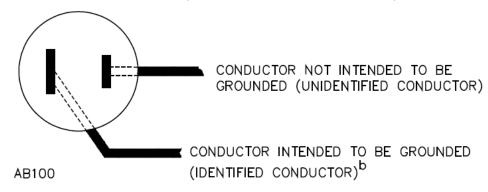
Connection to attachment plug

CONNECTIONS OF CORD CONDUCTORS TO GROUNDING — TYPE

ATTACHMENT PLUG (FACE OF PLUG REPRESENTED)



CONNECTIONS OF CORD CONDUCTORS TO POLARIZED ATTACHMENT PLUG (FACE OF PLUG REPRESENTED)



美标电源线及插头极性解析

Table 14.2 Polarity identification of flexible cords

Table 14.2 revised February 21, 2003

Method of polarity identification	Acceptable combinations	
	Wire intended to be grounded ^d	All other wires
Colored braid	Solid white or gray	Solid color other than white or gray
Tracer in braid	Solid white or gray braid with no tracer in braid ^b	Solid white or gray braid with a colored tracer in braid ^b
	Colored tracer in braid of a color other than white or gray	No tracer in braid of solid color other than white or gray
Colored insulation ^c	Solid white or gray ^a	Solid color other than white or gray
	Light blue ^d	Solid color other than light blue, white, or gray ^d
Colored separatore	White or gray	Color other than white or gray
Tinned conductors ^f	Tin or other white metal on all strands of the conductor	No tin or other white metal on the strands of the conductor
Surface marking ^e	One or more stripes, ridges, or grooves, or a combination of these on the exterior surface of the cord	

^a A conductor having insulation finished to show a green color with or without one or more straight or helical unbroken yellow stripes or having a green braid with or without one or more yellow tracers is to be used only as an equipment grounding conductor. See Figure 14.1 for the connection of conductors to attachment plugs.

引用标准: UL 817

6.5.3 The conductor in the cord identified as follows shall be connected to the contact designated by the letter "W" or an equivalent means to designate the identified conductor:

- a) Finished to show a white or gray color,
- b) Covered by a white or gray braid,
- c) Equivalently identified by:
- 1) A white or gray separator,
- 2) A stripe, ridge, or groove on the outside surface of the insulation; or
- 3) A tin or other white metallic coating on each strand.

解析:

- 1、美标中 Grounding 的意思和 Earthing 一样,表示接地;美标中 Grounded 指的是零线 N,原因是在以美国为代表的美标电力系统中,零线 N 就是与大地相通的;美标中 Ungrounded (Not intended to be grounded)指的是火线 L,原因是火线 L 与大地不相通。
- 2、结合以上第 1 点的描述就可以看出 AB100 图示中的两极插头中的宽插脚就是零线 N , 窄插脚就 是 L。
- 3、结合图示 Table 14.2 以及以上黄色底纹标记的标准 UL 817 引用条款,电源线绝缘皮上的条纹、 脊或凹槽表示零线 N;白色或灰色的电源线内导线绝缘片颜色也表示零线 N。

^b Only for Types C and PD cords.

^c Only for a cord having no braid on any individual conductor.

^d Only for a cord having a jacket that is not integral with the circuit conductor insulation.

e Only for Types SP-1, SP-2, SPE-1, SPE-2, SPT-1, and SPT-2 cords.

f Only for Types SPT-1 and SPT-2 cords.