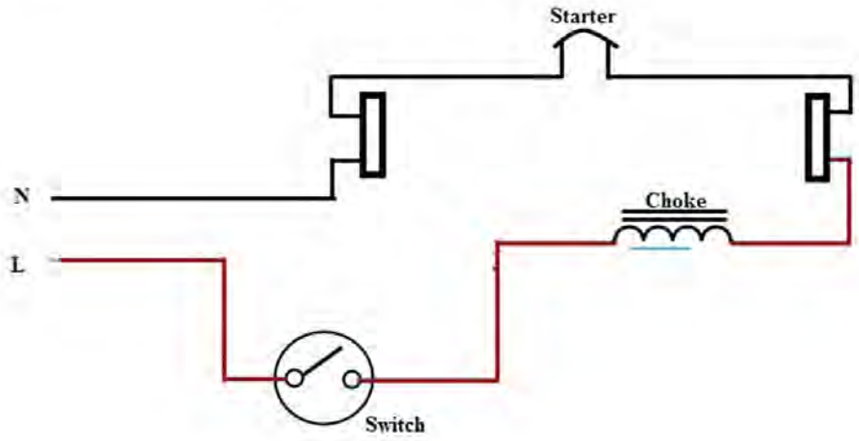
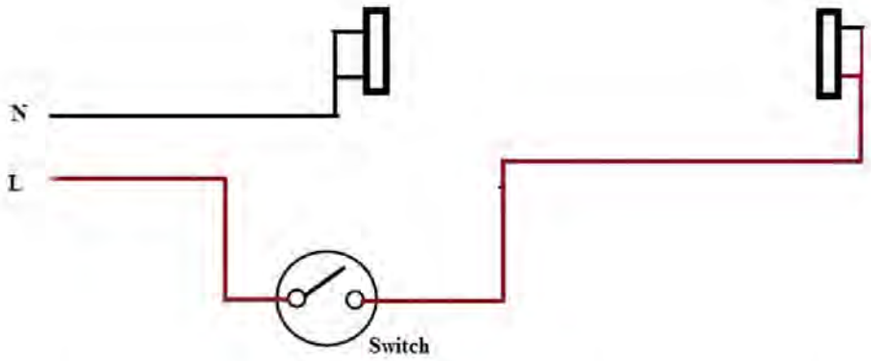
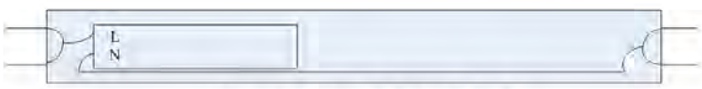


雙端線牛舊支架



雙端新支架

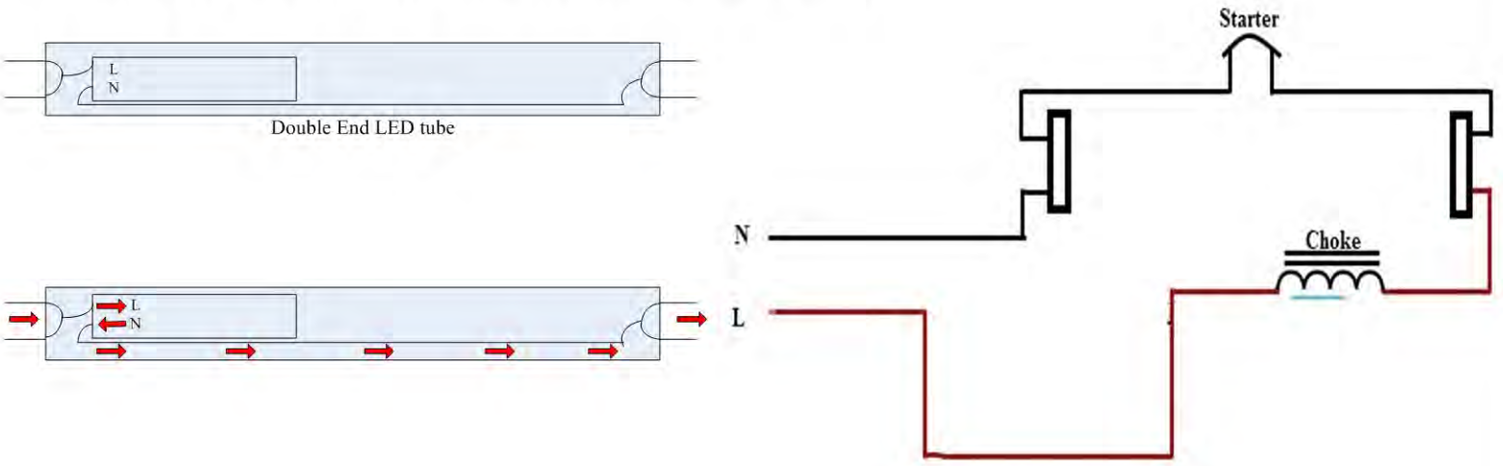
市場上新舊支架配雙端 **LED tube** 都是有潛在觸電夙險

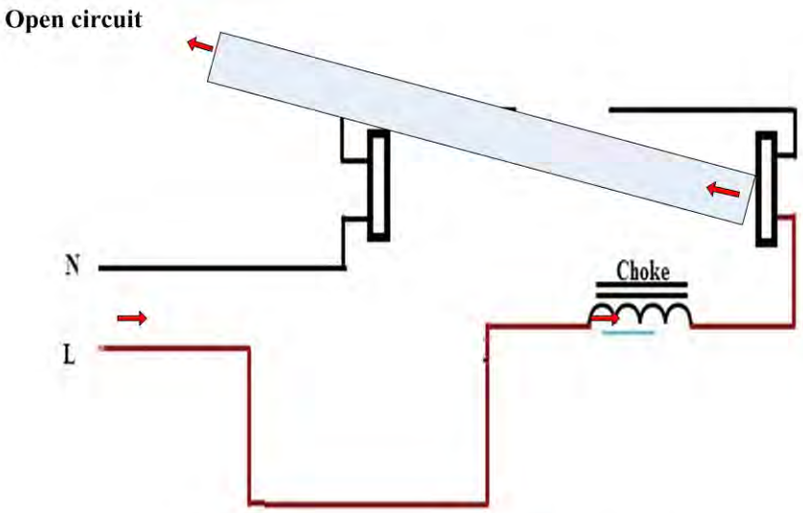


Double End LED tube

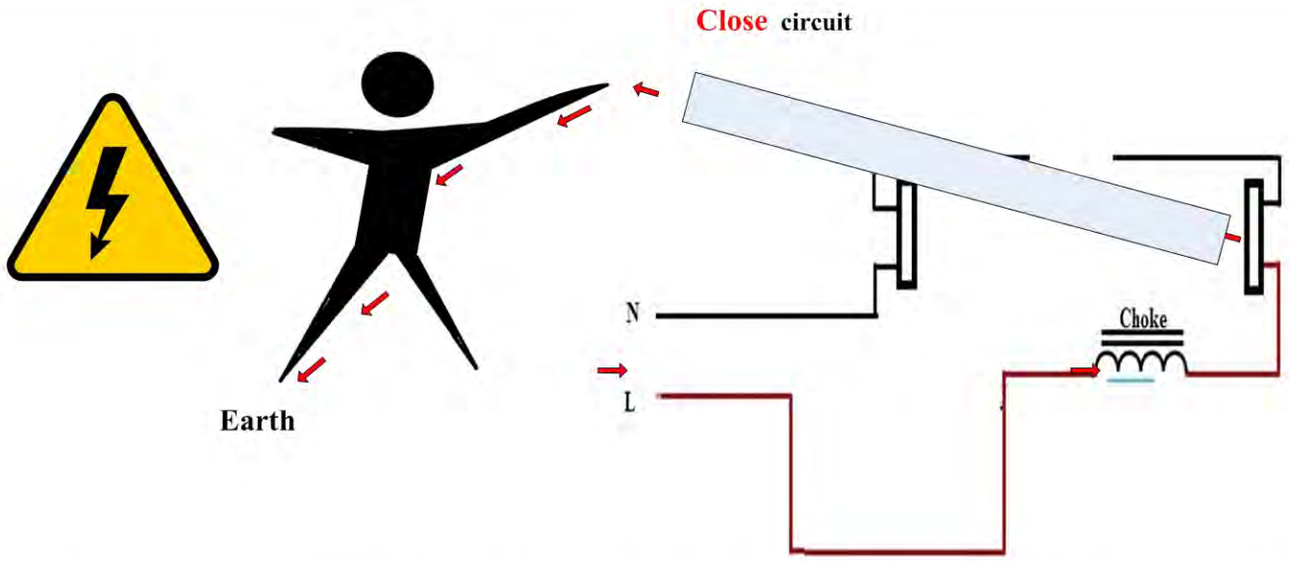
市場上雙端 **LED tube** 原理, 一端入電, 另一端出電. 形成**Close circuit .**
啟動原理簡單

Retrofit Project – replace fluorescent tube to LED tube





原理上, 雙端如在一端插入.. 另一端冇接觸,, 形成**Open Circuit** , 不產生間題



原理上, 雙端如在一端插入.. 另一端有工人接觸,, 形成**Close Circuit** , 正是經常說觸電之情形

參考 EMSD Guidelines for Specifying & Procuring LED Lighting Products for Lighting Projects

11. Safety considerations on retrofit LED tubes

If an LED replacement tube solution is deemed to be appropriate, it is essential that the equipment used is safe and the replacement lamp installed in a safe manner, to avoid risk during installation and also for future maintenance or subsequent replacement. IEC 62776 specifies the safety and interchangeability requirements, and the exchange operation together with the test methods and conditions required to show compliance of double-capped LED lamps with G5 and G13 caps, intended for replacing fluorescent lamps with the same caps.

參考 62776測試 認証上原文,對 G5 及G13安全性

Same as 13.6, repeated below:

During the tests 13.2 to 13.5, the lamp shall not catch fire, or produce flammable gases or smoke and live parts shall not become accessible.

To check if gases liberated from component parts are flammable or not, a test with a high-frequency spark generator is made.

To check if accessible parts have become live, a test in accordance with 8.2 is made.

After testing according to 13.2 to 13.5, the lamp shall meet the insulation resistance requirements of 8.3.

7 Pin-safety during insertion

G5 and G13 lamp caps do not assure the insertion of both ends of the lamp simultaneously, for this reason there shall not be any electrical continuity between the two ends of the lamp during the insertion.

With the lamp pins inserted into only one lampholder the voltage present at the un-inserted pins shall not be capable of causing an electric shock. Following IEC 60598-1, Section 8, basic insulation during lamp insertion is sufficient.

An accessible protection measure that may accidentally be deactivated and hereby deactivate the protection against electric shock is not permissible.

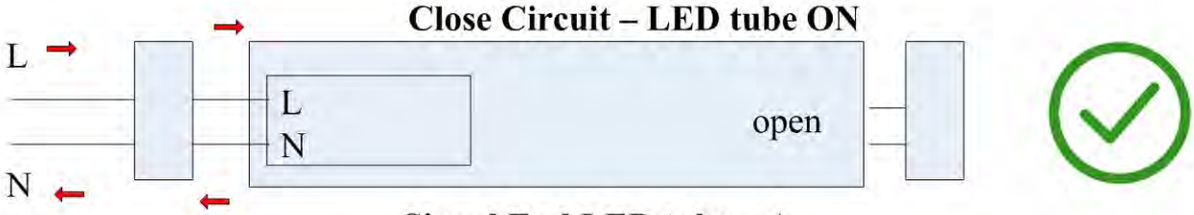
IEC 62776 認証下,,要求是單端 LED tube

Signal End LED tube - A

Signal End LED tube - B

市場上 pass 62776 LED tube 為單端,
Close circuit 下操作

Close Circuit – LED tube ON



Signal End LED tube – A

Open Circuit – LED tube OFF

Signal End LED tube - A

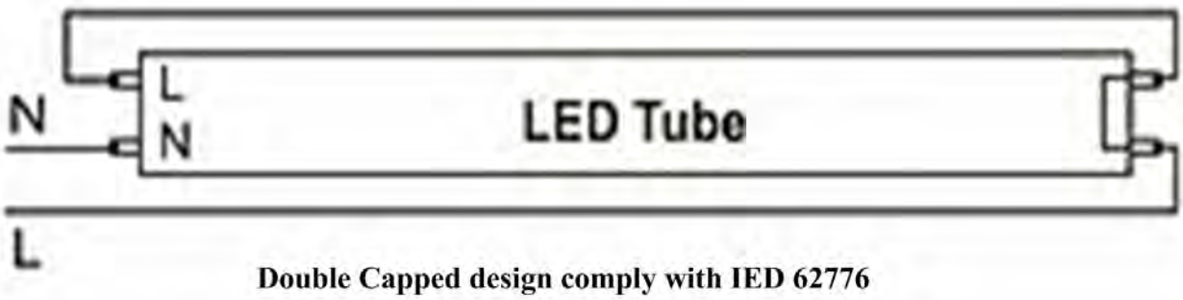
Comply IEC 62776 LED tube in signal End wiring ., must connect supply AC end

IEC 62776 認証下,,要求是單端 LED tube

Signal End LED tube - A

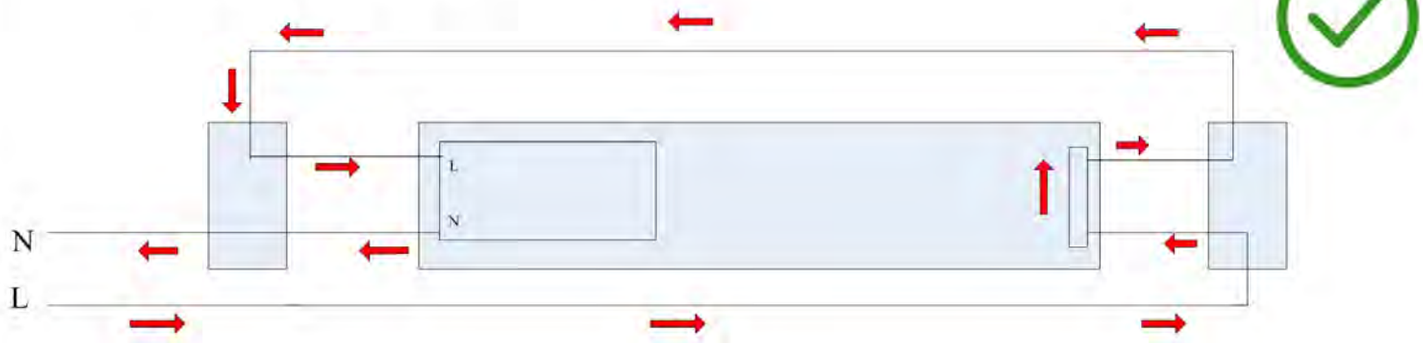
Signal End LED tube - B

市場上 pass 62776 LED tube 為單端,
Close circuit 下操作



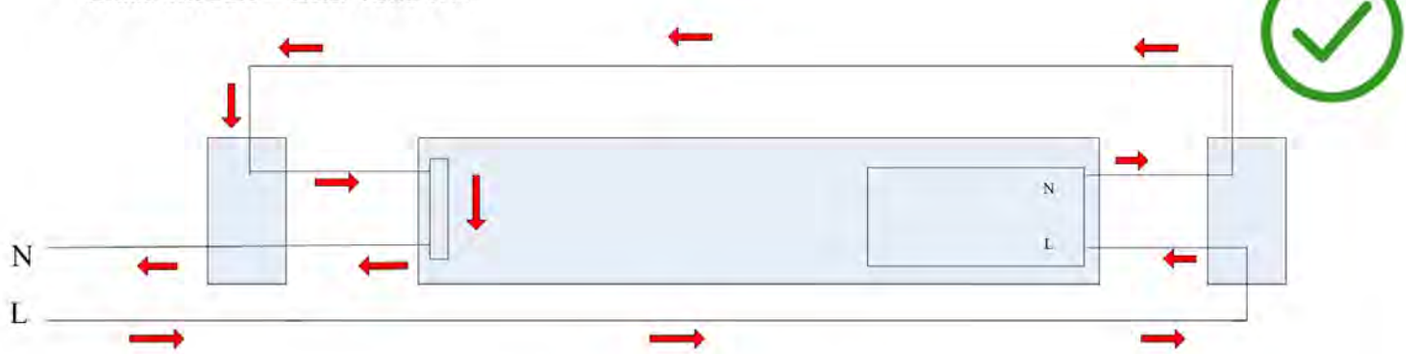
Double Capped design comply with IED 62776

Close Circuit – LED tube ON



Double Capped design comply with IED 62776

Close Circuit – LED tube ON



Double Capped design comply with IED 62776

EN / IEC62776 Double-capped LED lamps designed to retrofit linear fluorescent lamps - safety specifications

IEC 62776:2014 specifies the safety and interchangeability requirements, and the exchange operation together with the test methods and conditions required to show compliance of double-capped LED lamps with G5 and G13 caps, intended for replacing fluorescent lamps with the same caps, having:

- a rated power up to 125 W;
- a rated voltage up to 250 V.

Attention

1. Not allow any modification to the luminaire internal wiring and components. Only allow the replacement of the lamp tube and glow-starter to a new "LED replacement starter" if provided.

2. Weight for LED lamp tube should be <200g (G5) and <500g(G13).

For more information, please contact our Electrical Products Division:
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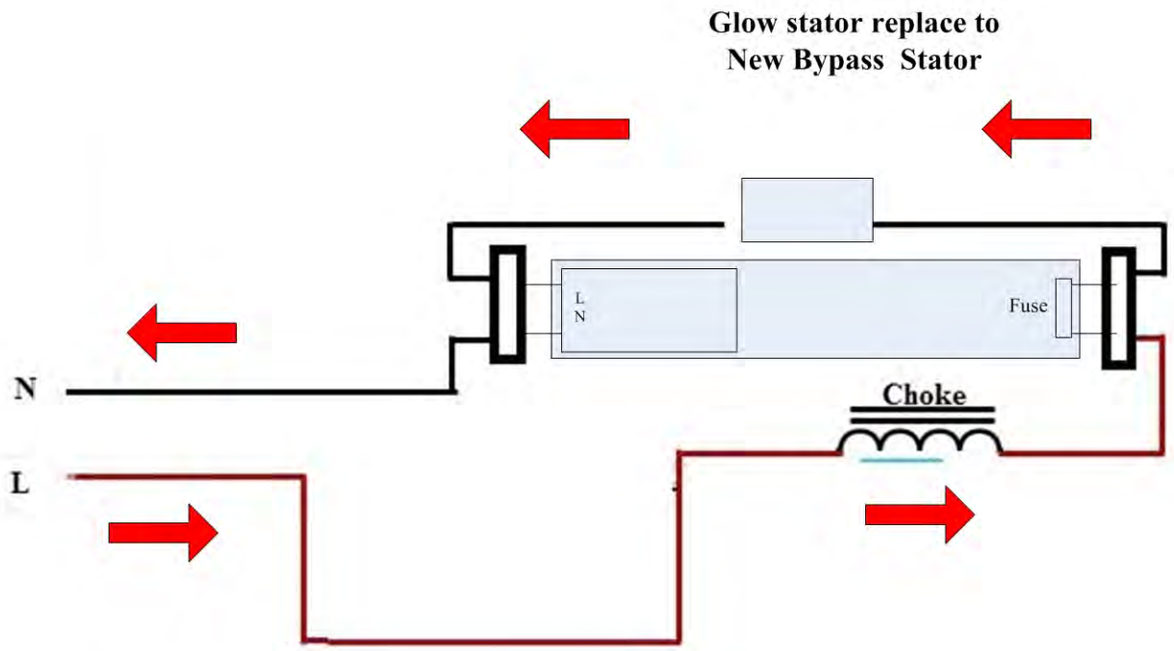
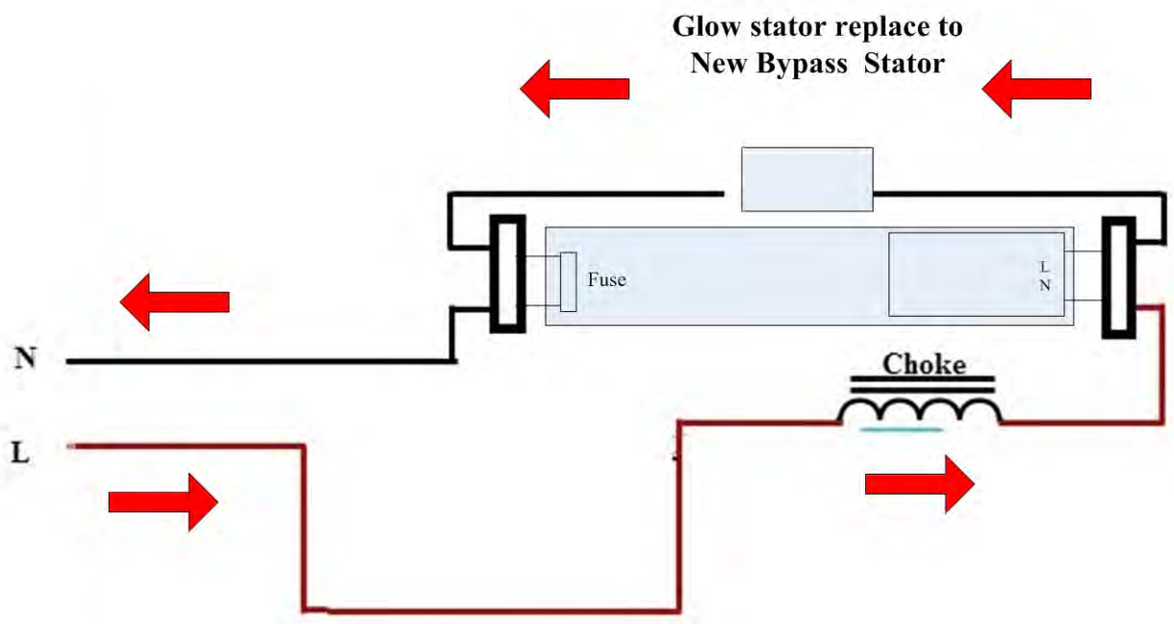
Fax: +852 2665 0848
Email: eet@hkstc.org
Website: www.stc-group.org
Address: 10 Dai Wang Street, Tai Po Industrial Estate, Tai Po, N.T., HK

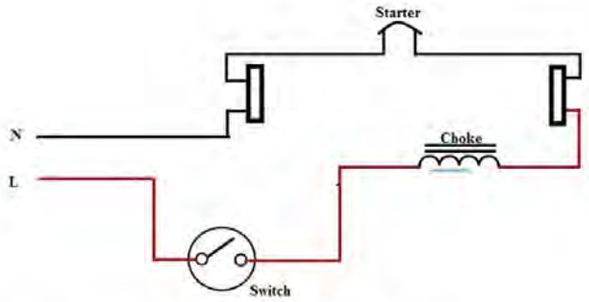
參 STC attention 指引., Double cap IEC 62776 LED tube retrofit replace fluorescent tube to LED tube

Signal End LED tube - B

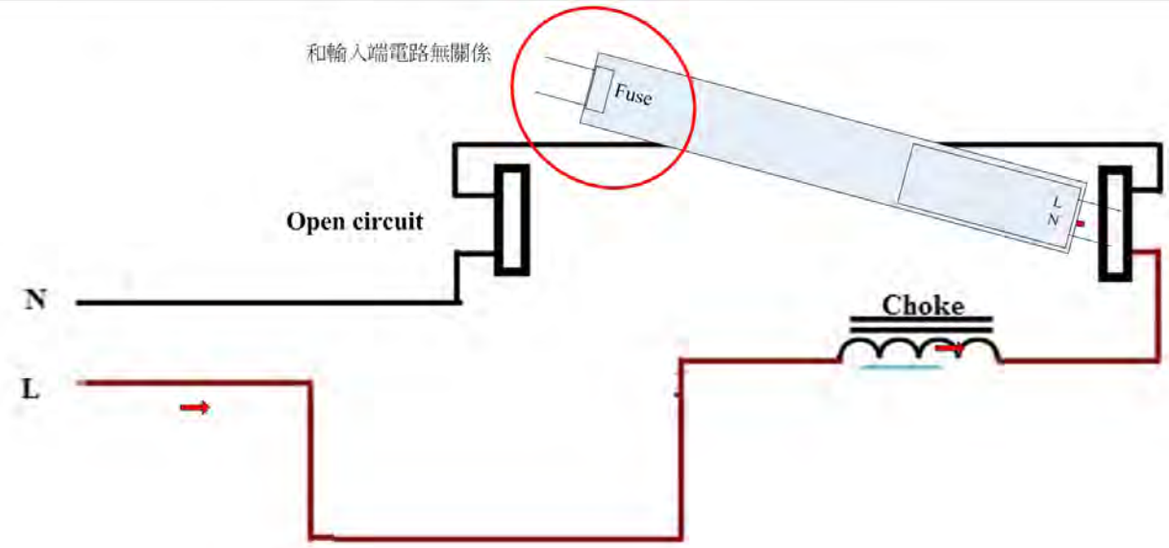




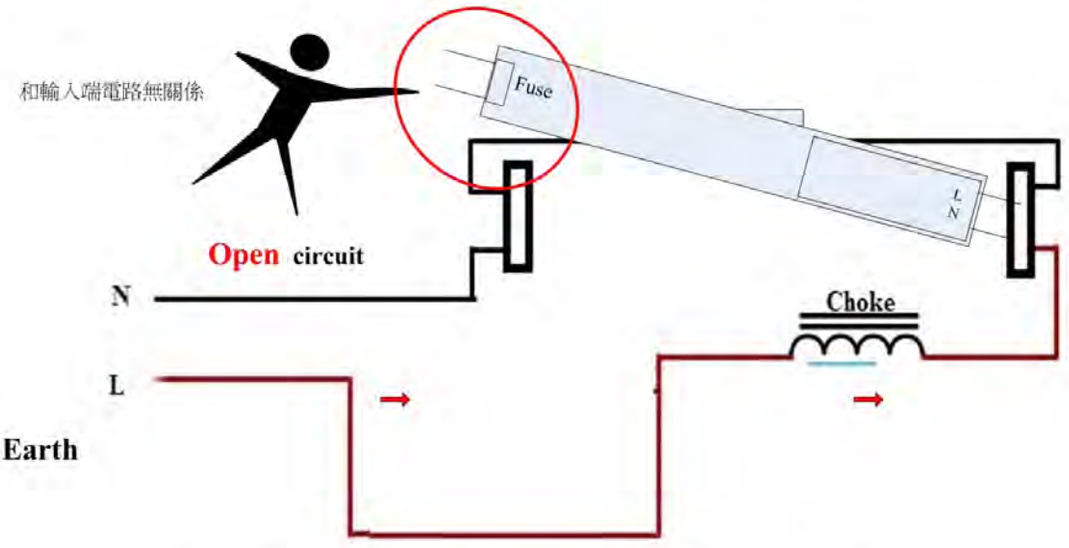
Signal End LED tube - B



Retrofit Project – replace fluorescent tube to LED tube (IEC 62776)



原理上, 雙端如在一端插入.. 另一端冇接觸,, 形成**Open Circuit** , 不產生問題



如在一端插入.. 另一端有工人接觸, 另一端端電路無關係
Open Circuit , 解決雙端**LED** 有觸電之可能情形

As a Result
For safety requirement ., The LED tube comply with IEC 62776 design to Retrofit fluorescent lamp to LED tube

The design mention : Double end capped LED tube design refers to the design of LED tubes that have electrical connectors or caps at both ends of the tube. This design allows for bi-directional installation, meaning that the tube can be installed in the lighting fixture regardless of its orientation.

In a double end capped LED tube, each end of the tube has a socket or connector that can directly connect to the existing fixture's tombstone or socket. This design eliminates the need for rewiring or modification of the fixture, as the tube can be easily installed by inserting it into the sockets at both ends.

This design offers convenience and flexibility in retrofitting traditional fluorescent lighting fixtures to LED technology. It allows for a quick and straightforward upgrade, as the existing fixture can be reused without any major modifications.

因此為了安全要求，LED燈管符合IEC 62776設計
將螢光燈改造成 LED 燈管

設計提到：

双端封装LED管设计是指管具應用設計。指燈貝有兩端都有電連接器或封裝帽的設計。

這種設計允許雙向安裝，也就是說，管子可以根據需要在燈具中的任何方向安裝。

在雙端封裝LED管中，管子的每一端都有一個插座或連接器，可以直接連接到現有燈具的燈座上。這種設計消除了需要重新佈線或修改燈具的需要，因為管子可以輕鬆地插入兩端的插座進行安裝。

這種設計在將傳統螢光燈照明燈具升級為LED技術時提供了便利性和靈活性。它可以快速簡單地進行升級，因為現有的燈具可以在沒有任何重大改變的情況下繼續使用。