



ISO9001-2001 certified

T5 Adapter Product Manual



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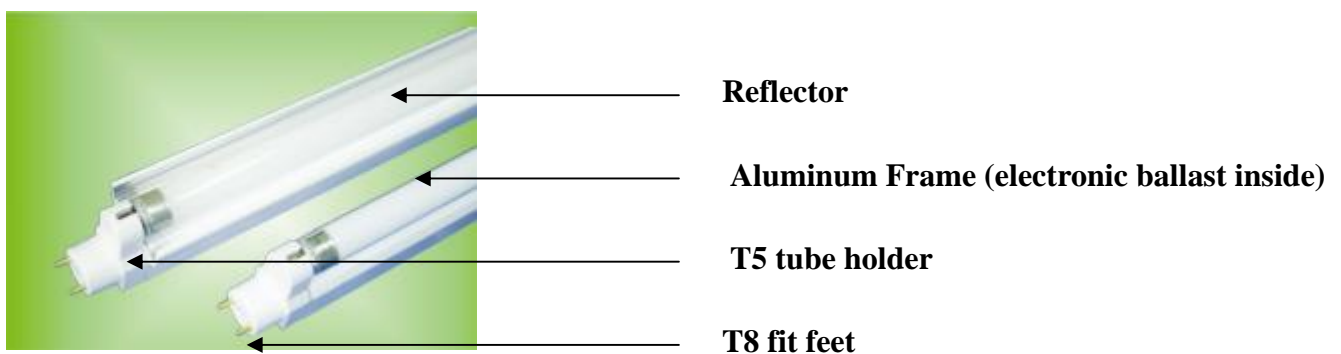
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1. Introduction

Helico T5 adapter is a best solution for updating T8/T10/T12 fluorescent system with traditional electromagnetic ballast to the new energy saving T5 system with electronic ballast. Easy-fit T5 adapter is a breakthrough in fluorescent lighting field, which not only saves both energy and installation costs, but also improves lighting quality in an efficient and environmentally friendly manner. Moreover, because of the IC-controlled electronic ballast in the adapter, the replacement will improve performance of the lamp greatly (no flickering, perfect protection and so on). And it's easily installable on existing T8/T10/T12 lamp fitting; the installation is similar to replacement of a burnt tube. What all you need to do is to replace the old tube and starter by the adapter with T5 tube and new starter. That's all.

HELICO T5 adapter structure schematic



2. Features

1. more than 30%~50% power saved.
2. fit for many T8/T10/T12 fixtures, f.i. build-up fixture, build-in grila, high-bay.
3. fit for electromagnetic and electronic and rapid-start ballasts.
4. special high-efficiency reflector material improve lumin greatly.
5. many lampholders optional, new C type take BJB holder and spring structure.
6. Advanced ballast technology (APFC, IC control) = perfect performance: PF>0.98, THD<10%, Alcf<1.5, wide voltage(150-265V), no flicker or hum.
7. Warm start: increase lamp service life up to 50%. switch life is more than 20,000 cycle times. 
8. perfect protection: switch-off in case of abnormal situation: include Lamp missing, over-current, over-voltage, and end of lamp life. 
9. Cut off technology. The cut-off technology cut filaments current after preheating, and avoid overload for filaments and make more energy saved. 
10. Complies with CE(LVD and EMC), RoHs.

Notice

- APFC: Active Power Factor Correction circuit, this circuit adopt intellectual IC to control input current and voltage characteristics, this circuit is one best performance circuit, which make power net more clean, so have been utilized in most top/good electronics.
- PFC: passive power factor correction circuit,
- CCF: Current Crest Factor, which means the fluctuation of lamp current, according to IEEC standard, it should be under 1.7, the best limit is 1.4, we are 1.4~1.5,

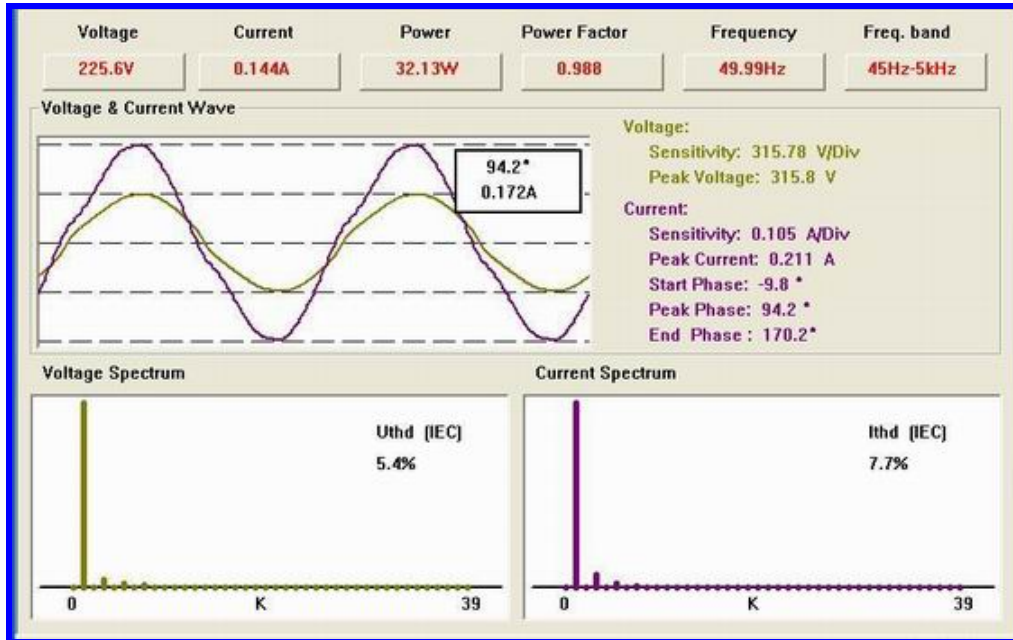
the low level ECG(electronics control gear=electronic ballast) is 1.9, even >2.0.

- PF: Power Factor, the power utilization ratio, the low PF means the electronics consume much power, but only a little is used efficiently , as you know, the electromagnet ballast PF is only about 0.5, that means only 50% power is used, but our products PF is more than 0.98.
- THD: Total Harmonic Distortion of current, according to IEEC standard, it should be less than 15%, higher THD means greater pollution to power net.
- EEI: EEI means Energy Efficiency Index, if you see CELMA Europe organization, you know the limit of 28W lamp is only 4w self-consumption for EEI=A2(that's top level for ECG), the electromagnet ballast is under B lever according CELMA.

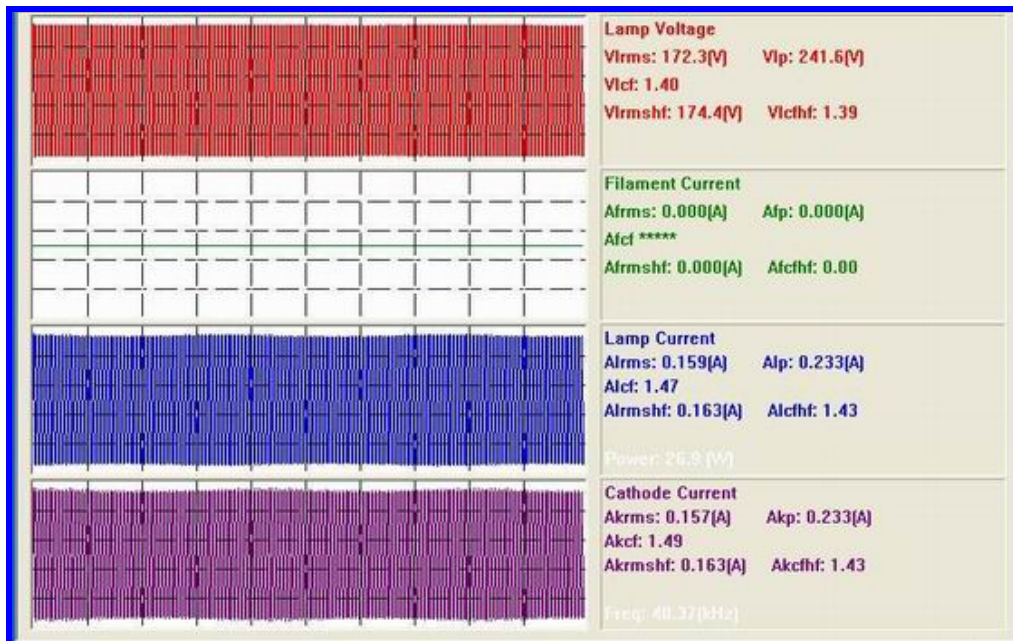
3. Analysis report

(by HB-3A electronic ballast comprehensive performance analysis instrument)

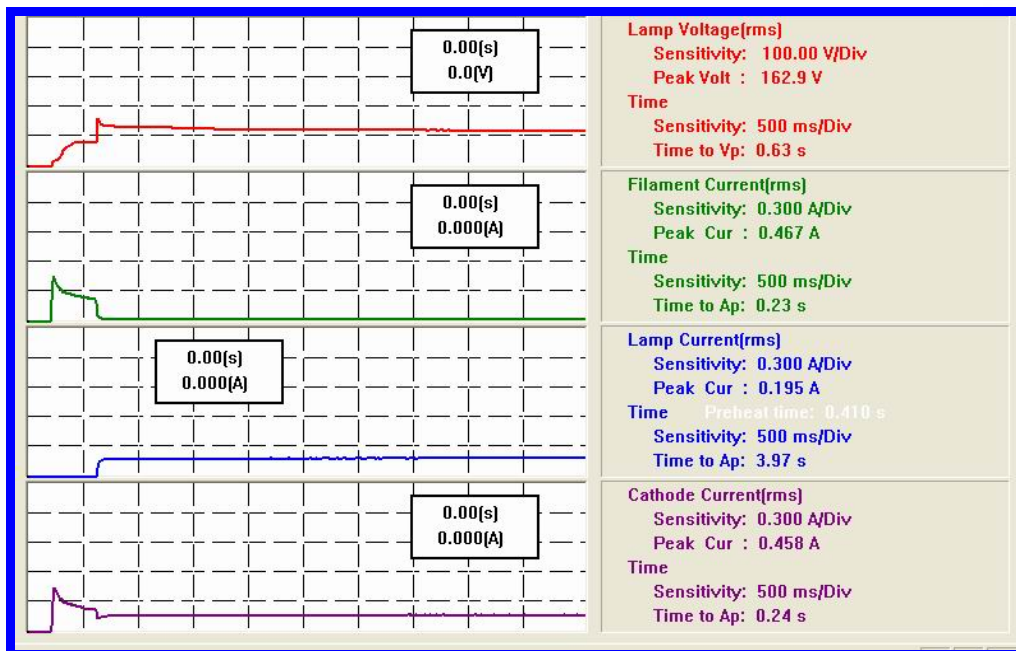
Input Specification



Output Specification



Warm start specification



4. Product models:

AD □ - □**2** - **0201** - □ □ □
 | | | |
1 2 3 4 5 6

1: T5 tube rated power

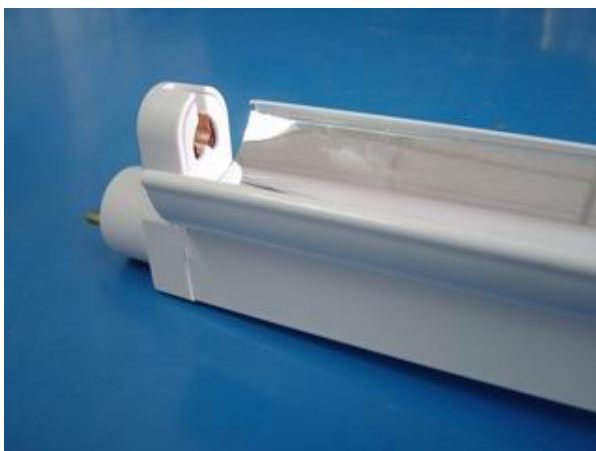
- 49: adapter with 49w T5 tube(1449mm), adapter length is 1497mm.
- 35: adapter with 35w T5 tube(1449mm), adapter length is 1497mm
- 28: adapter with 28w T5 tube(1149mm), adapter length is 1197mm
- 21: adapter with 21w T5 tube(849mm), adapter length is 895mm
- 14: adapter for 14w T5 tube(549mm), adapter length is 590mm

2: Reflector

- R: with reflector
- Z: without reflector

3: lampholder

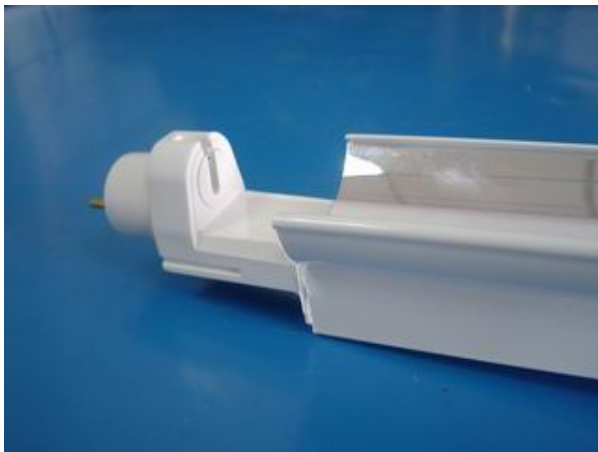
- O: Standard lamp holder



- C: lampholder with spring and protection



- L: lamp holder for reflector fitting



- T: lampholder for superthin aluminum adapter



4: input power

- T: standard power same as tube
- N: low input power
- H: high input power

5: degree of pin

- A: 0 degree



- B: 90 degree



6. voltage

- V1: 110V (90~130)
- V2: 230V (180~260)
- V3: 275V (250~300)
- V4: 347V (310~380)
- V5: 90-260V

For example

AD28-R2-0201-LTBV1 means: Advance adapter with reflector and lampholder for reflector fitting, pin of lampholder is 90 degree, and voltage is 110v.

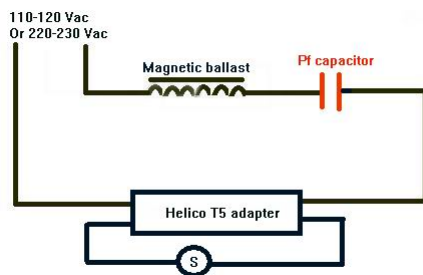
5. installation

● installation for T8 fixture with electromagnetic ballast and starter

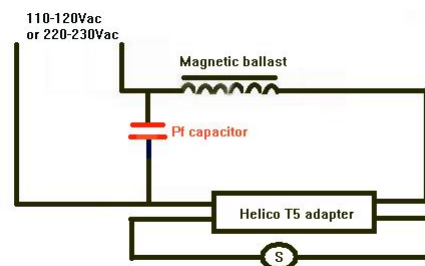
1. Turn off the power.
2. remove existing T8 tube and starter.
3. Install HELICO starter into starter holder.
4. Install T5 tube into adapter, then install adapter with T5 tube into T8 fixture.
5. turn on the power.

● installation for T8 fixture with electromagnetic ballast and starter, and with series and parallel Pf capacitor.

for this fixture, HELICO adapter can work well for standard and good capacitor, but for old fixture, removal of the capacitor is recommended, because bad capacitor may cause damage to adapter.



Fitting with series capacitor



Fitting with parallel capacitor

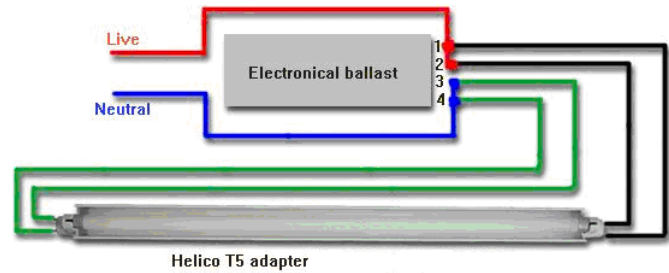
Notice

Bad capacitor refer to the capacitor with lower capacitance than marked value, normally the capacitance decrease after long time working or damaged. for example, T8 36w standard series capacitor is 3.4 u F capacitor, tolerance +/- 5%, T8 58W standard series capacitor is 5.3 u F, tolerance +/- 5%.

● installation for T8 fixture with electronic ballast and rapid start ballast

for this fixture, the rewiring is needed to bypass the electronic or rapid start ballast.

1. turn off the power
2. Connect live to wire 1 and 2.
3. connect neutral to wire 3 and 4
4. install HELICO adapter and starter
5. turn on the power



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