

Dimmable T5 LED Datasheet

ECGsmart T5 LED tube with Dimmable LED Driver



Features

Easy Install

- T5 LED tube could retrofit old fluorescent lamps
- Reusing luminaire by changing ballast into LED driver

Intelligent Lighting

- Using DALI/TRIAC-0V/TRIAC dimmable LED Driver

Security

- Meet with New Erp regulation
- CE、RoHS certification
- Over heat, over current protection

Eco-design

- Less 50% energy using than fluorescent lamps
- 50,000hrs lifespan

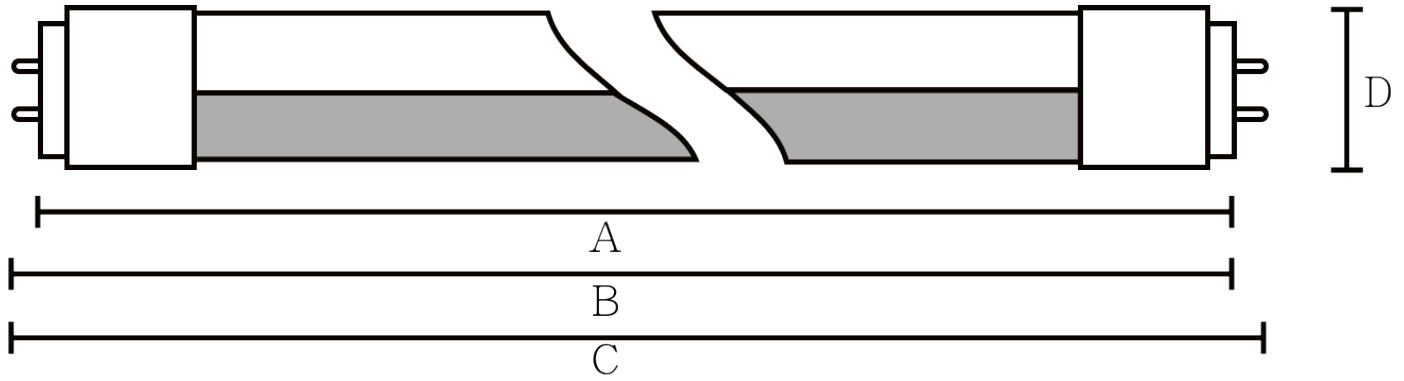
Application

- Office
- Supermarket
- Hypermarket
- Department store
- House hold
- Hospital
- Hotel
- School
- G5 base luminaire

New Erp Directives implement in Benson Energy Saving Technology LED lighting

- ❖ **Requirement for new product or from clients (2019/2015/EU)_
minimum Φ use For MLS replace old FL in EPREL**
 - LED tube to replace old T8 FL: 945lm(R15W), 1350lm(R18W), 1900lm(R25W), 2400lm(R30W), 3348lm(R36W), 3306lm(R38W), 5220lm(R58W), 6230lm(R70W)
 - LED tube to replace old T5 HE FL: 1204lm(R14W), 1890lm(R21W), 2604lm(R28W), 3290lm(R35W)
 - LED tube to replace old T5 HO FL: 1752lm(R24W), 3081lm(R39W), 4312lm(R49W), 4428lm(R54W), 6160lm(R80W)
- ❖ **The standby power (P_{sb}) and the net worked standby power (P_{net}) should be $< 0.5W$.**
- ❖ **Displacement factor** of all LED lighting source provided by Benson Energy Saving Technology are over **0.9**.
- ❖ **Lumen maintenance factor** for LED or OLED: the lumen maintenance factor after endurance testing, the calculation value of our products are exceeds 96,0%.
- ❖ **R9 color rendering index value >1**
- ❖ **SDCM < 6**
- ❖ **Survival Factor 100%**

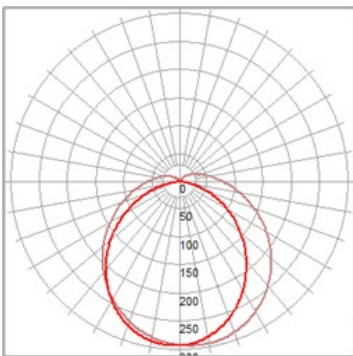
Dimension



T5 LED G5 Base

	A (mm)	B (mm)	C (mm)	D (mm)
T5 HE LED 2F	549	555 ±1.2	563	17.0
T5 HE LED 3F	849	855 ±1.2	863	17.0
T5 HE LED 4F	1149	1155 ±1.2	1163	17.0
T5 HE LED 5F	1449	1455 ±1.2	1463	17.0

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Photometric Curve



G5 base



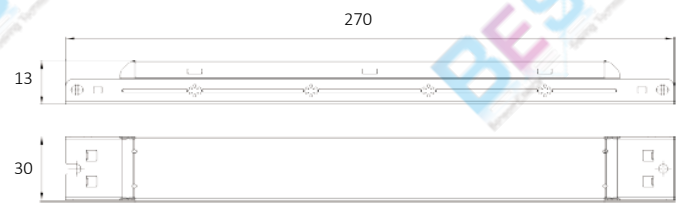
T5 stocker

T5 HE LED Dimmable LED Driver



Item.	Parameter
Input Voltage	220-240Vac; 310-340Vdc
Limited Voltage	198-264Vac; 280-374Vdc
THD	≤15%
Ta	-20°C~40°C
Tc	80°C
Protection	IP20
SVM	1
PstLM	0.4

Series connection		1 pcs.	2 pcs.	3 pcs.	4 pcs.
T5 HE 2F LED	Watt	9W	18W	27W	36W
	Voltage	50V	100V	150V	200V
T5 HE 3F LED	Watt	13W	26W		
	Voltage	75V	150V		
T5 HE 4F LED	Watt	18W	36W	54W	72W
	Voltage	105V	210V	305V	400V
T5 HE 5F LED	Watt	22W	44W		
	Voltage	132V	264V		



BSP-25WDA-135200FC
BSP-50WDA-270200FC

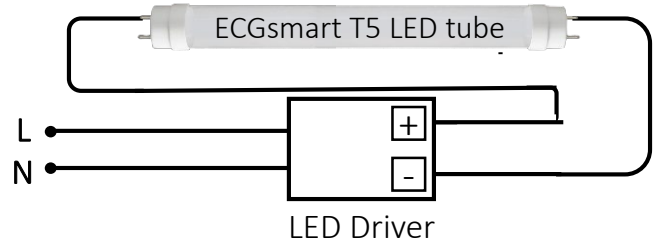


BSP-75WDA-400200FC

ITEM NO.	Watt	Output Voltage	Output Current	Energy Efficiency	Power Factor	Ta
BSP-25WDA-135200FC	9-25W	50-135V	150-200	88%	0.9	-20°C~40°C
BSP-50WDA-270200FC	18-50W	100-270V	150-200	88%	0.9	-20°C~40°C
BSP-75WDA-400200FC	36-75W	200-400V	150-200	88%	0.9	-20°C~40°C

Electrical and Technical Data

Working with Dimmable Constant Current LED driver:
 Electrical and Technical Data
 (Subject to change without notice)



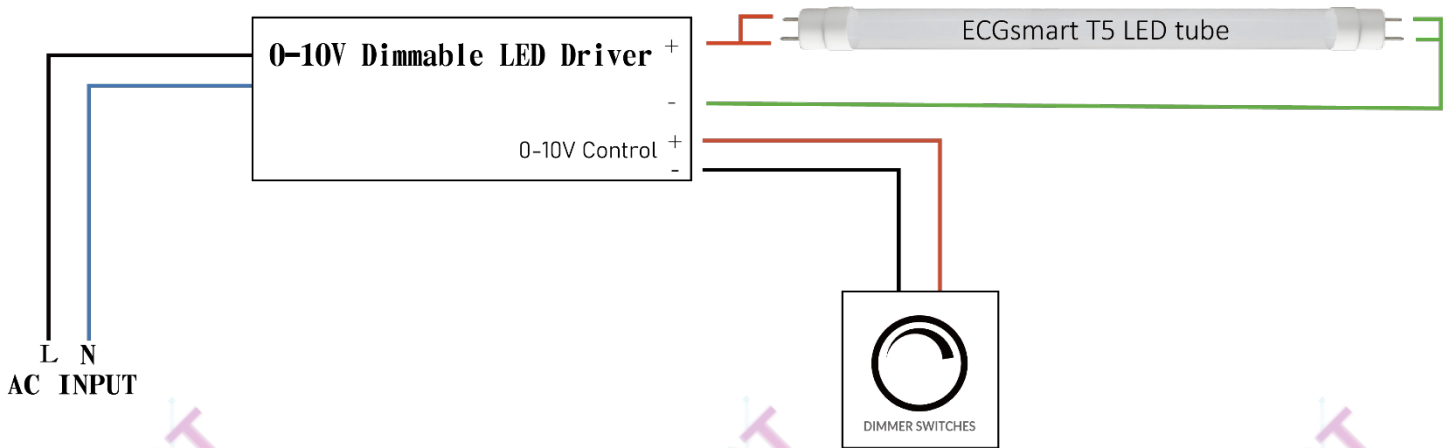
Model No.	產品編號	瓦數(W)	流明(lm)	輸入電壓 (mA)	輸入電流 (V)	備註
ECGsmart T5HE 2F LED Tube	ES-T52F-CRL-AL	9	1350	165	51	Replace T5 HE 14W FL
ECGsmart T5HE 3F LED Tube	ES-T53F-CRL-AL	14	2100	165	75	Replace T5 HE 21W FL
ECGsmart T5HE 4F LED Tube	ES-T54F-CRL-AL	20	3000	165	105	Replace T5 HE 28W FL
ECGsmart T5HE 5F LED Tube	ES-T55F-CRL-AL	24	3600	165	132	Replace T5 HE 35W FL

Driving current and voltage requirement for Constant Current(CC) LED driver

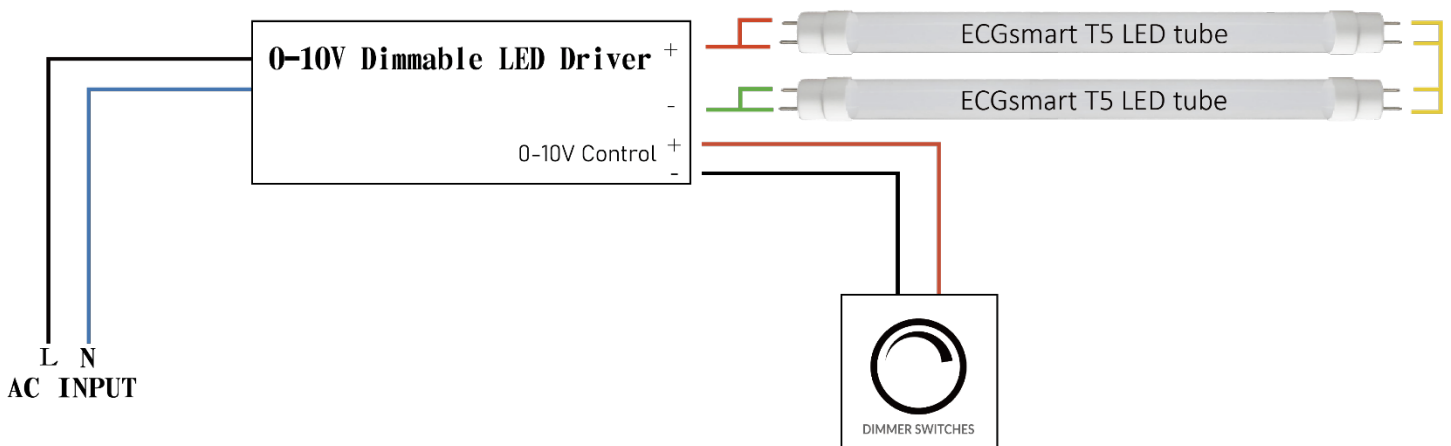
	1 lamp		2 lamps in serial	
	Current (mA)	Voltage (V)	Current (mA)	Voltage (V)
ECGsmart T5HE 2F LED Tube	165	51	165	102
ECGsmart T5HE 3F LED Tube	165	75	165	150
ECGsmart T5HE 4F LED Tube	165	105	165	210
ECGsmart T5HE 5F LED Tube	165	132	165	260

0-10V LED Driver Wiring

1 LED driver to 1 lamp



1 LED driver to 2 lamps in serial connection

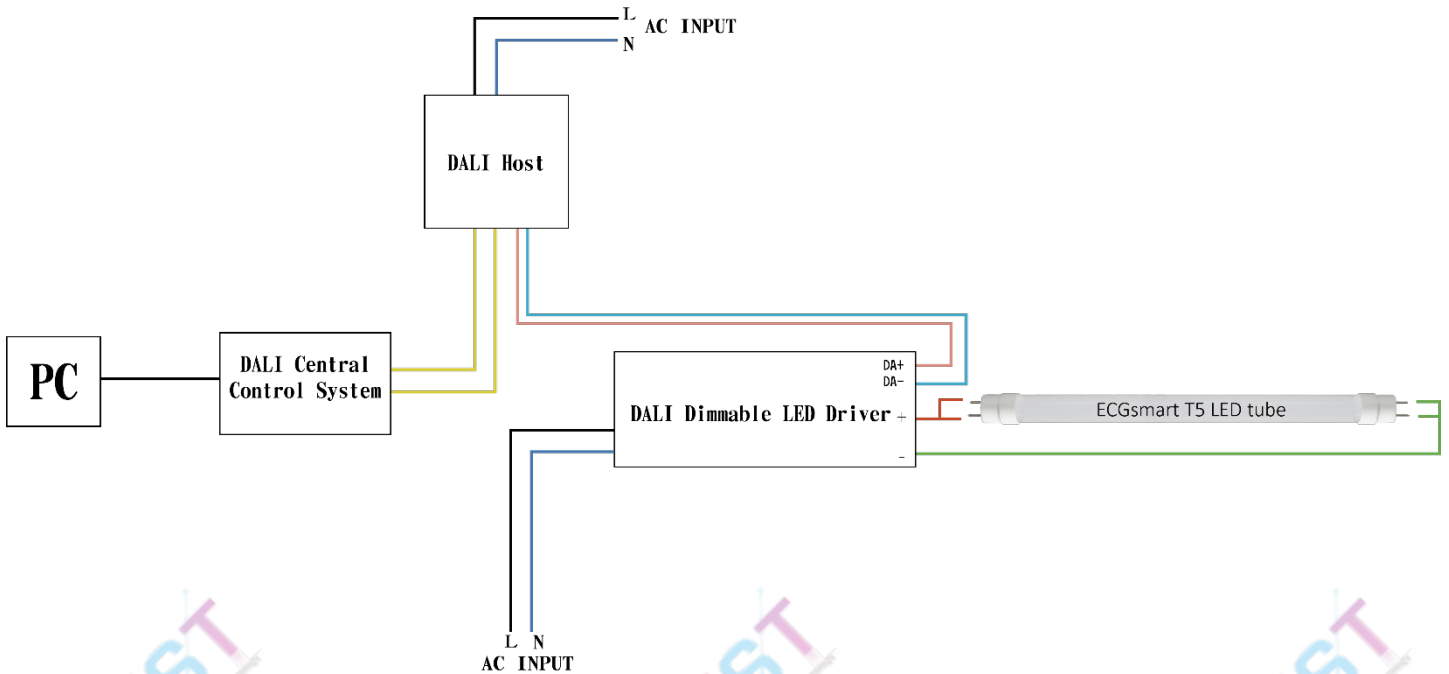


Note 1: BEST LED retrofit tubes don't care which end-cap is connected to positive or negative.

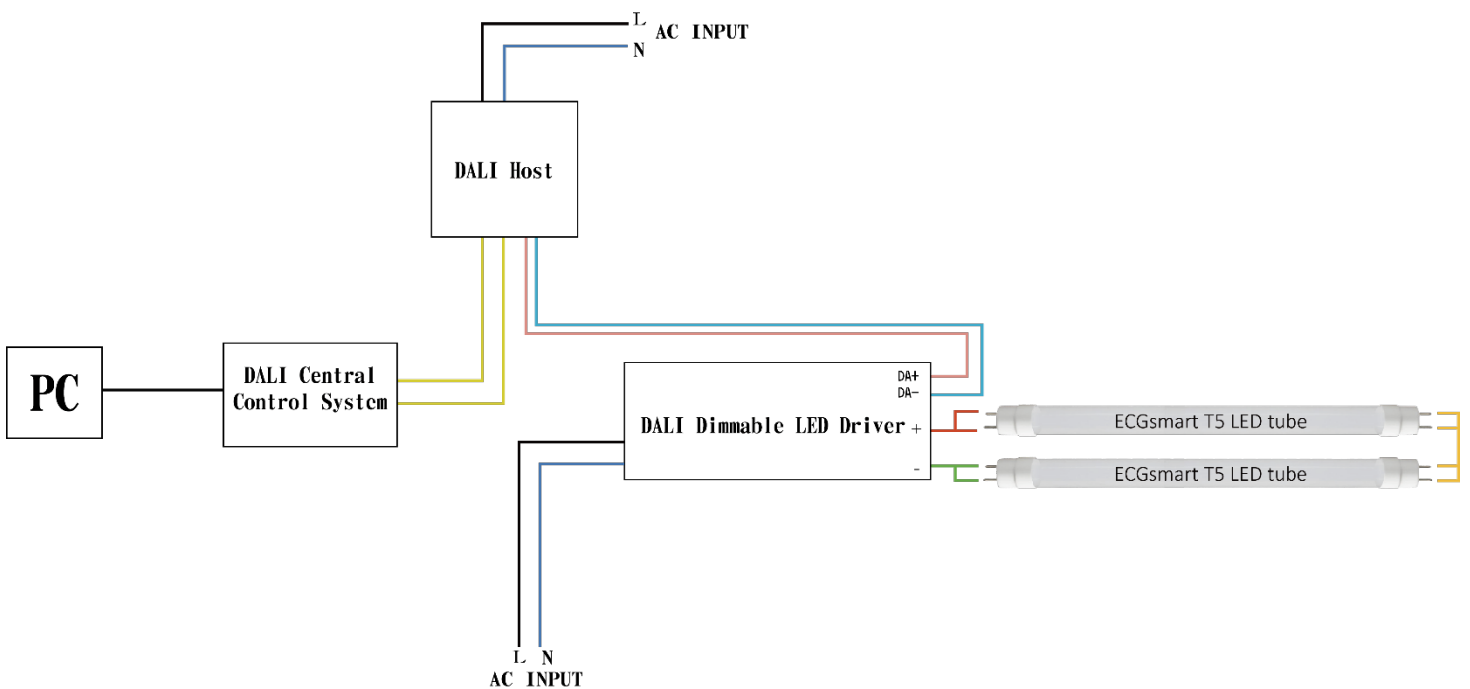
Note 2: LED driver must be constant current type and its output current and voltage shall meet the required value for ECGsmart LED lamps

DALI LED Driver Wiring

1 LED driver to 1 lamp



1 LED driver to 2 lamps in serial connection



Note 1: BEST LED retrofit tubes don't care which end-cap is connected to positive or negative.

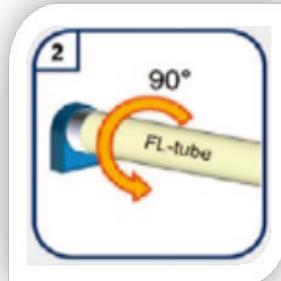
Note 2: LED driver must be constant current type and its output current and voltage shall meet the required value for ECGsmart LED lamps

Installation

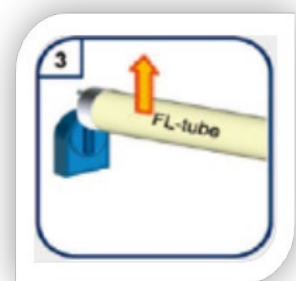
Schematic steps of removing a fluorescent lamp and inserting LED lamp



Switch off electricity.



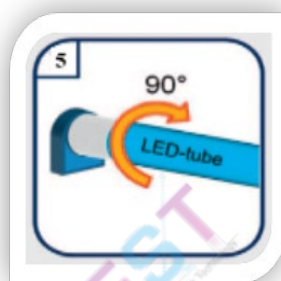
Secure the position by turning the lamp by 90° .



Remove the conventional lamp.



Insert the LED lamp into the lamp holder.



Secure the position by turning the lamp by 90° .

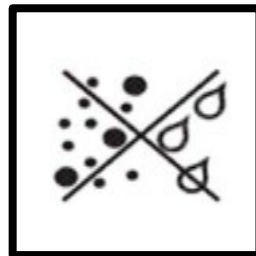


Switch on electricity and check for lamp starting.

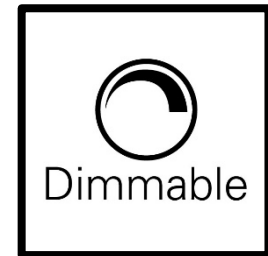
Attention



Lamp suitable for Electronic Ballast or LED driver



Lamp to be used in dry conditions or in a luminaire that provides protection



可搭配DALI/0-10V /TRIAC調光驅動器



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Pursuing **BEST** lighting



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