



# HF-Essential for TL5/TL-D

## HF-E 228 TL5 220-240 50/60Hz

Essentially smart and reliable HF-Essential is the most cost-effective, slim and affordable ballast to reliably operate a fluorescent lamp. It is also the ideal entry-level product for EM system users who want to enjoy the benefits offered by electronic ballasts. The cost-saving and reliable HF-Essential has an energy efficiency class A2, and its robust design meets all relevant international safety and performance standards. HF-Essential is intended for use with indoor lighting fixtures such as recessed luminaires, which are largely used in office, industrial, hotel, restaurant and other applications. The ballast is primarily designed for Indoor application. For outdoor application, the luminaire should be minimum Class II and need to be sufficiently protected against water & dust. The installation should also be guard against any lightening surge or any other necessary electrical protection as deemed in such typical installation & application.

### Product data

General Information	
Lamp Type	TL5
Number of Lamps	2 piece/unit
Automatic Restart	Yes
Operating and Electrical	
Input Voltage	220 to 240 V
Input Frequency	50 to 60 Hz
Operating Frequency (Nom)	50 kHz
Crestfactor (Nom)	1.8
Power Factor 100% Load (Nom)	0.95
Mains Voltage Performance (AC)	184...253V

Mains Voltage Safety (AC)	198...264V
Earth Leakage Current (Max)	0.5 mA
Inrush Current Width	0.35 ms
Ballast Factor (Nom)	1.03
Power Losses (Nom)	6.7 W
Inrush Current Peak (Max)	20 A
Wiring	
Connector Type Input Terminals	Insert
Cable Capacity Output Wires Mutual (Max)	120 pF
Connector Type Output Terminals	Insert
Cable Length Hot Wiring	0.75 m

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Wire Striplength	8.0-9.0 mm
Dual Fixture Master/Slave	Not applicable [ Master/Slave oper. not applicable]
Input Terminal Cross Section	0.50-1.50 mm <sup>2</sup>
Output Terminal Cross Section	0.50-1.50 mm <sup>2</sup>
Cable Capacity Cold Output Wires - Earth (Max)	120 pF
Cable Capacity Hot Output Wires - Earth (Max)	120 pF

### System characteristics

Rated Ballast-Lamp Power	28 W
Rated Lamp Power on TL5	28 W
System Power on TL5	35.1/36.2/37.7 W
Lamp Power on TL5	28.2/29.5/30.7 W
Power Loss on TL5	6.9/6.7/7 W

### Temperature

T-Ambient (Max)	50 °C
T-Ambient (Min)	0 °C
T-Storage (Max)	80 °C
T-Storage (Min)	-20 °C
T-Case Lifetime (Nom)	75 °C
T-Case Maximum (Max)	75 °C

### Mechanical and Housing

Housing	L 275x29.6x25.5
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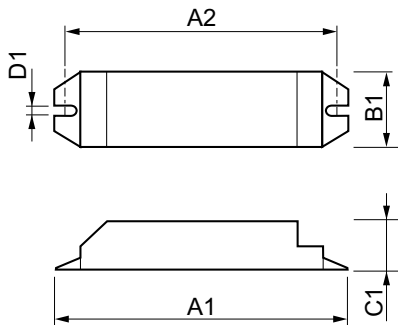
### Approval and Application

Energy Efficiency Index	A2
IP Classification	IP 20 [ Ingress Protection 20]
EMI 9 kHz ... 30 MHz	EN55015
Vibration Standard	IEC60068-2-6_2007-Fc
Bumps Standard	IEC 60068-2-29:1993-Eb
Approval Marks	CE marking C-Tick certificate CB Certificate KEMA Keur certificate ISO9001 RoHS Compliant
Hum And Noise Level	< 30 dB(A)

### Product Data

Full product code	871829166887900
Order product name	HF-E 228 TL5 220-240 50/60Hz
EAN/UPC - Product	8718291668879
Order code	913713039766
Numerator - Quantity Per Pack	1
Numerator - Packs per outer box	20
Material Nr. (12NC)	913713039766
Net Weight (Piece)	0.091 kg

### Dimensional drawing



HF-E 228 TL5 220-240V 50/60Hz

Product	D1	C1	A1	A2	B1
HF-E 228 TL5 220-240 50/60Hz	4.2 mm	25.5 mm	275.0 mm	263.0 mm	29.6 mm

