



## HF-Selectalume TL-D II

### Electronic ballasts for TL-D lamps

#### Product Description

- Affordable, reliable, high frequency electronic ballast for TL-D fluorescent lamps

#### Product Features and Benefits

- Energy efficient CELMA A3
- Robust design for 30.000 hour lifetime and 8.000 on/off switches
- High power factor 0.98 with THD <10%
- Rapid, flicker-free start (< 1.6 s)
- Connectors allow for horizontal robot wiring

#### Applications

- Ideal for applications where increasing lumen per watt or lowering operating cost is required
  - Indoor with long operating hours e.g. class rooms and call centers
  - On industrial premises with long operating hours e.g. corridors and car parks
  - In emergency lighting applications

#### Quality

We ensure optimum quality regarding:

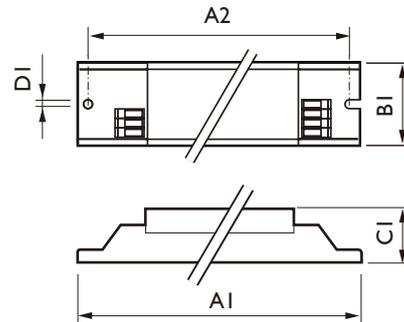
- Product safety:  
Ballast is protected against excessive mains voltage, incorrect connections and a safety stop is automatically activated in case of lamp failure
- System supplier:  
As a manufacturer of both lamps and electronic ballast we ensure that optimum lamp/ballast performance is pursued from the earliest development stage
- International standards:  
Our ballast complies to all international rules and regulations including the latest EN55015 ed7.1 EMC standard and is fitted with connectors for both manual and automatic wiring

**PHILIPS**

sense and simplicity

## Compliances and approvals

- Conducted interference EN55015 ed 7.1  
9 kHz-30 MHz
- Radiated interference EN55015 ed 7.1  
9 kHz - 300MHz
- Harmonics EN 61000-3-/A1:2008/  
A2:2009 Class C  
EN 61547  
IEC 61000-4-4:2004 Class 3  
IEC 61000-4-5:2006 Class 3  
IEC 61000-4-11:2004  
IEC 61547:2009,  
performance C
- Immunity IEC 61347-2-3:2000/A2:2006
- Safety IEC 60068-2-14:2009-Na
- Temperature protection IEC 60068-2-6-Fc  
IEC 60068-2-29:1993-Eb
- Vibration & bump test IEC 61347-2-3:2000/A2:2006
- Humidity ISO 9000:2008
- Quality standard RoHS  
ISO 14001:2004
- Environment standard CE, CCC, KEMA-KEUR,  
VDE-EMC, RCM, TISI, PSB,  
SIRIM
- Approval marks



### Dimensions in mm

Type	A1	A2	B1	C1	D1
HF-S II 1/2 lamp	280.0	265.0	30.0	28.0	4.2
HF-S II 3/4 lamp	280.0	265.0	39.0	28.0	4.2

## Electrical data

Type	Lamps (W)	Number on lamps (x)	rated gear lamp Power	Power losses gear (W)	Energy Efficiency index	Line Freq. (Hz)	Line Voltage (V)	T-Case life (°C)	T-Case Max. (°C)	T-Amb. (°C)
HF-S 118 TL-D II	TLD 18	1	19.5	3.5	A3	50/60	220-240	75	75	50
HF-S 218 TL-D II	TLD 18	2	39.0	6.0	A3	50/60	220-240	75	75	50
HF-S 3/418 TL-D II	TLD 18	3	56.5	8.5	A3	50/60	220-240	75	75	50
HF-S 3/418 TL-D II	TLD 18	4	69.0	9.0	A3	50/60	220-240	75	75	50
HF-S 136 TL-D II	TLD 36	1	38.0	6.0	A3	50/60	220-240	75	75	50
HF-S 236 TL-D II	TLD 36	2	69.0	8.0	A3	50/60	220-240	75	75	50
HF-S 336 TL-D II	TLD 36	3	107.0	8.6	A3	50/60	220-240	75	75	50
HF-S 158 TL-D II	TLD 58	1	57.0	7.0	A3	50/60	220-240	75	75	50
HF-S 258 TL-D II	TLD 58	2	110	10.0	A3	50/60	220-240	75	75	50

## Mains current

Ballast	Lamps W	Qty of lamps	Input current at 230V (A)
HF-S 118 TL-D II	TLD 18	1	0.080
HF-S 218 TL-D II	TLD 18	2	0.175
HF-S 3/418 TL-D II	TLD 18	3	0.250
HF-S 3/418 TL-D II	TLD 18	4	0.310
HF-S 136 TL-D II	TLD 36	1	0.170
HF-S 236 TL-D II	TLD 36	2	0.310
HF-S 336 TL-D II	TLD 36	3	0.480
HF-S 158 TL-D II	TLD 58	1	0.255
HF-S 258 TL-D II	TLD 58	2	0.480

## Inrush current

Type	Maximum Number of Ballast on MCB (pcs)	Inrush current Peak (A)	Inrush current Width (ms)
HF-S 118 TL-D II	28	20	0.25
HF-S 218 TL-D II	28	20	0.25
HF-S 3/418 TL-D II	28	20	0.25
HF-S 3/418 TL-D II	28	20	0.25
HF-S 136 TL-D II	28	20	0.25
HF-S 236 TL-D II	28	20	0.25
HF-S 336 TL-D II	12	28	0.35
HF-S 158 TL-D II	28	17	0.25
HF-S 258 TL-D II	12	28	0.35

## Electrical installation notes

### Mains operation

Rated mains voltage	220-240 V
With tolerances for performance	202-254 V
With tolerances for safety	198-264 V
Mains frequency	50/60 Hz

Output frequency	> 42 kHz
Power factor	0.98
Earth leakage current	< 0.5 mA / ballast
Ignition time	< 1.6 s
Overvoltage protection	48 hours at 264-320 V 2 hours at 320-350 V
Undervoltage protection	48 hours at 176-198 V
Dual fixture master slave operation	Possible, max cable length between lamp and ballast 0.75 m
Cable capacity	Max 200 pF between lamp wires Max 200 pF between lamp wires and earth MI precautions have to be taken
Lamp exchange	New lamps will automatically ignite without switch on/off
Insulation and resistance test	500 V DC from both main inputs to Earth (not between Line and Neutral) Note: Ensure that the neutral is reconnected again after the above mentioned test is carried out and before the installation is put into operation.

### DC/Emergency operation

Nominal light output is obtained at DC voltages:	220-240 V
Required battery voltage for guaranteed ignition:	176-275 V
Required battery voltage for burning lamps:	176-275 V
DC switchover time	180-200 ms

### Notes:

1. For continuous DC application, an external fuse should be used in the luminaire
2. Continuous low DC voltages (<198 V) can influence the lifetime of ballast
3. Ballast can operate at least 200 hours under normal DC input voltage

### Conversion table for max. quantities of ballasts on other types of Miniature Circuit Breaker

MCB type	Rating	Relative number of ballasts
B	16 A	100% (see table above)
B	10 A	63%
C	16 A	170%
C	10 A	104%
L, I	16 A	108%
L, I	10 A	65%
G, U, II	16 A	212%
G, U, II	10 A	127%
K, III	16 A	254%
K, III	10 A	154%

### Notes:

1. Data is based on a mains supply with an impedance of 400 mΩ (equal to 15 m cable of 2.5 mm<sup>2</sup> and other 20 m to the middle of the power distribution), under worst case conditions. With an impedance of 800 mΩ the number of ballasts can be increased by 10%.
2. Measurements will be verified in real installations; therefore data are subject to change.
3. In some cases the maximum number of ballasts is not determined by the MCB but by the maximum electrical load of the installation.
4. Note that the maximum number of ballasts is given when these are all switched on at the same moment, i.e. by a wall switch.
5. Measurements were carried out on single-pole MCB's. For multi-pole MCB's it is advisable to reduce the number of ballasts by 20%.
6. The maximum number of ballasts which can be connected to one Residual Current Detector of 30 mA is 30.

## Mechanical installation notes

### Technical data for design and mounting HF ballasts in fixtures

#### Temperatures

Temperature range to ignite lamp	-15°C to +50°C
Max. T <sub>case</sub>	75°C
Hum and noise level	Inaudible
Connector types	Wago 744

#### Wiring

1 lamp circuit: keep wires to terminal 1 & 2 short

2 lamp circuit: keep wires to terminal 1, 2, 5 & 6 short

3/4 lamp circuit: keep wires to terminal 1, 2, 9 & 10 short

#### Wiring cross-section

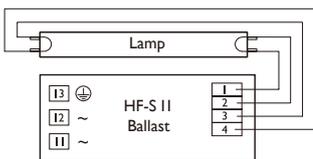
Mains side manual insertion:	0.5...1.5 mm <sup>2</sup> solid wire
Lamp side manual insertion:	0.5...1.5 mm <sup>2</sup> solid wire

Mains side automatic insertion (ALF/ADS): 0.5 mm<sup>2</sup> solid wire

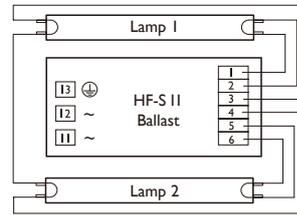
Lamp side automatic insertion (ALF/ADS): 0.5 mm<sup>2</sup> solid wire

Wire strip length 8-9 mm

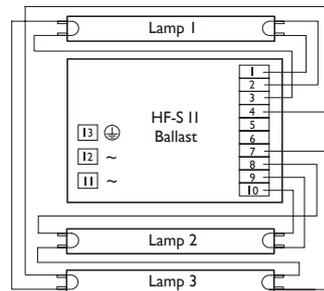
#### TL-D 1 Lamp



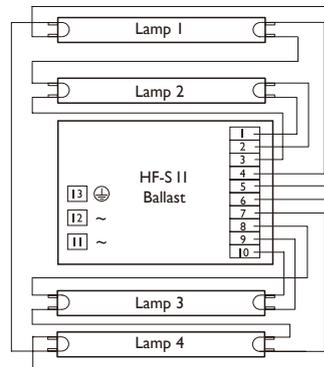
#### TL-D 2 Lamps



#### TL-D 3 Lamps



#### TL-D 4 Lamps



## Ordering and packing data

Type	weight kg	CAS Qty pcs	CAS Dimension cm	EOC	I2NC
HF-S 118 TL-D II 220-240V 50/60Hz	0.190	12	32.8 × 22.6 × 7.7	90550200	913713032066
HF-S 218 TL-D II 220-240V 50/60Hz	0.200	12	32.8 × 22.6 × 7.7	90552600	913713032366
HF-S 3/418 TL-D II 220-240V 50/60Hz	0.225	10	32.8 × 25.0 × 7.9	90555700	913713032666
HF-S 136 TL-D II 220-240V 50/60Hz	0.200	12	32.8 × 22.6 × 7.7	90551900	913713032166
HF-S 236 TL-D II 220-240V 50/60Hz	0.205	12	32.8 × 22.6 × 7.7	90553300	913713032466
HF-S 336 TL-D II 220-240V 50/60Hz	0.255	10	32.8 × 25.0 × 7.9	89747000	913713032766
HF-S 158 TL-D II 220-240V 50/60Hz	0.200	12	32.8 × 22.6 × 7.7	89739500	913713032266
HF-S 258 TL-D II 220-240V 50/60Hz	0.220	12	32.8 × 22.6 × 7.7	89746300	913713032566



© 2010 Philips Lighting

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent or other industrial or intellectual property rights.

01/2010  
[www.philips.com](http://www.philips.com)