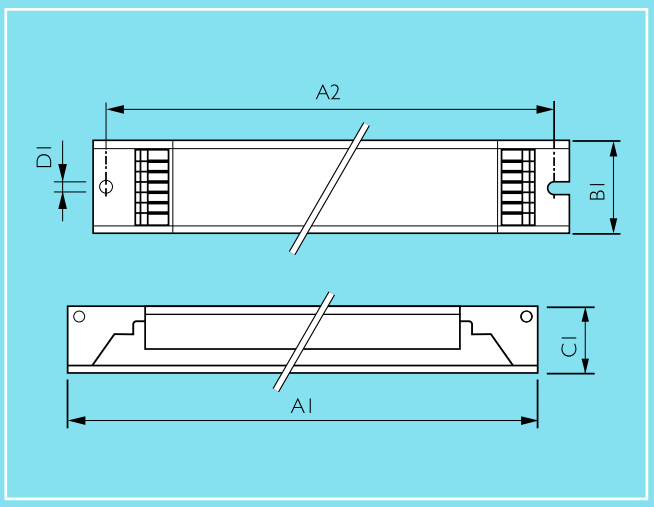
Electronics (Dimming) : TL-D Lamps

HF-REGULATIORII I-10V

1-10V



Dimensions in mm

	A1	A2	B1	C1	D1
1 Lamp	360	350	30	21	4.2
2 Lamps	360	350	30	21	4.2
3/4 Lamps	360	350	39	21	4.2

HF-REGULATOR//TL-D

Product description

Flat, light weight, high-frequency electronic regulating ballast, using 1-10V protocol, for TL-D flourescent lamps. The HF-Regulator//ballasts incorporate the new Philips E*II* technology.

Features and benefits

- The lamp power can be regulated between 100% and 1%
- Flat ballast design, 21mm high
- Up to 60% reduction in energy consumption can be achieved by using automatic lighting control systems
- Quick programmed starts 0.5 sec, flicker-free warm start, preheating the lamp electrodes. This enables the lamps to be switched on and off without reducing useful life, ideal for area with a high switching frequency
- Analog control input according to the industry standard 1-10V
- Increased lamp wire flexibility thanks to the Parasitic Capacitance Compensation (longer lamp wiring possible up to 2 meters)
- Smart power: constant light, independent of mains voltage fluctuations
- Unit is protected against excessive mains voltages incorrect connections and incorrect lamp use
- Striation-free operation, no stroboscopic effects
- Automatic stop circuit is activated within five seconds in case of lamp failure (safety stop). Once the lamp has been replaced, the ballast resets automatically
- Equipped with connectors suitable for automatic wiring machines.

Philips HF-REGULATOR*II* electronic ballasts are equipped with E*II*-Dim technology. This is a dedicated integrated circuit that ensures independent control of each electrode and, in doing so, takes care that:
a. Lamp life is unaffected by dimming position
b. Lamp burning is stabler in every dimming position; and
c. Energy savings, when dimming, are maximised.

Applications

Typical areas of application include:

- 1-10V installations with daylight-linked and/or movement detection (for energy savings)
- 1-10V installations with remote control systems (combining energy savings with comfort)
- Installations with emergency back-up according to IEC 60598-2-22/DEO108.

Compliances and approvals

RFI <30 MHz	EN 55015
RFI >30 MHz	EN 55022 Limit B
Harmonics	IEC 61000-3-2
Immunity	IEC 61547
Safety	IEC 61347- 2-3
Performance	IEC 60929
Vibration and bump tests	IEC 60068-2-6-FC
	IEC 60068-2-29 Eb
	ISO 9001
Quality standard	ISO 9001
Environmental standard	ISO 14001
Approval marks	ENEC
	EMV-VDE
Temp declared thermally protected	IEC 61347-1
CE making	

PHILIPS

Technical Data

Technical Data (all typical values at Vmains=230V)

Lamps	Qty. of Lamps	Ballast	System Power W	Lamp Power W	Ballast Loss W	Efficacy lm/W	Lumen lm	CELMA Nom. EEI
TL-D 18W	1	HF-R 118 TL-D EII	20	16	4	75	1300	A1
TL-D 18W	2	HF-R 218 TL-D EII	38	2X16	6	75	2600	A1
TL-D 18W	3	HF-R 318 TL-D EII	-	-	-	-	3900	A1
TL-D 18W	4	HF-R 418 TL-D EII	-	-	-	-	5200	A1
TL-D 36W	1	HF-R 136 TL-D EII	37	32	5	100	3200	A1
TL-D 36W	2	HF-R 236 TL-D EII	71	2X32	7	100	6400	A1
TL-D 58W	1	HF-R 158 TL-D EII	56	50	6	100	5000	A1
TL-D 58W	2	HF-R 258 TL-D EII	110	2X50	10	100	10000	A1

*Typical values for /830 measured at 100% power and 25°C lamp ambient temperature

Ordering and packaging data

Ballast	Bulk packging			
	Weight	Qty.	Dimensions l x w x h	Volume	Weight Gross
	kg.	pcs.	cm	m^3	kg.
HF-R 118 TL-D EII	0.28	12	40.8X20.8X7.6	0.0065	3.4
HF-R 218 TL-D EII	0.30	12	40.8X20.8X7.6	0.0065	3.9
HF-R 136 TL-D EII	0.27	12	40.8X20.8X7.6	0.0065	3.4
HF-R 236 TL-D EII	0.30	12	40.8X20.8X7.6	0.0065	3.8
HF-R 158 TL-D EII	0.27	12	40.8X20.8X7.6	0.0065	3.4
HF-R 258 TL-D EII	0.31	12	40.8X20.8X7.6	0.0065	4.0

Technical data for installation

Mains operation	
Rated mains voltage	220-240 V
With tolerances for safety:+1-10%	198-264 V
Tolerances for performance: 6%-8%	202-254 V
Mains frequency	50/60 Hz
Smart power: with AC mains voltage fluctuations, luminous flux varies by ±2% max	202-254 V
DC voltage operation (during emergency back-up)	
Required battery voltage for guaranteed ignition	198 V - 254 V
Required battery voltage for burning lamps	176 V- 254 V
Nominal light output is obtained at a voltage of	220 V- 240 V

Notes :
1. For continuous DC application, an external fuse should be used in the luminaire.
2. Continuous low DC voltages (198V) can influence the lifetime of the ballast.

Earth leakage current	<0.5mA per ballast
Insulation resistance test	500 V DC from Line/Neutral 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.
Ignition time	Typical 0.5 sec. quick warm start.