



# HF-Matchbox Red

## HF-M RED 109 SH TL/PL-S 230-240V

HF-Matchbox Red is an affordable, reliable, compact, lightweight and high-frequency ballast for use with system wattages below 25 W in combination with TL mini, TL-D, TL5 and TL5c, PL-T/C, and PL-L/S lamps. The HF-M Red range has a robust design, meets all relevant international safety and performance standards and has an energy efficiency index (CELMA EEI ) of A2. The ballast is primarily designed for Indoor application. For outdoor application, the luminaire should be minimum Classland 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	TL/PL-S
Number of Lamps	1 piece/unit
Number of Products on MCB (16A Type B) (Nom)	159
Automatic Restart	Yes
Operating and Electrical	
Input Voltage	230 to 240 V
Input Frequency	50 to 60 Hz
Power Factor 100% Load (Nom)	0.64
Ignition Time (Max)	0.45 s
Mains Voltage Performance (AC)	-8%~+6%
Mains Voltage Safety (AC)	-10%~+10%
Power Losses (Nom)	1.7 W
Efficiency at full load [%]	80.76 %

Wiring	
Connector Type Input Terminals	Insert
Color Input Terminals	Black
Color Output Terminals	Grey
Connector Type Output Terminals	Insert
Cable Length From Device to Lamp	1.50 m
Cable Length Hot Wiring	0.30 m
Wire Striplength	8.0-9.0 mm
Input Terminal Cross Section	0.50-1.50 mm <sup>2</sup>
Output Terminal Cross Section	0.50-1.50 mm <sup>2</sup>

System characteristics	
Rated Ballast-Lamp Power	9 W
System Power on PL-S	8.2 W
Rated Lamp Power on PL-S	9 W
Power Loss on PL-S	1.7 W
Lamp Power on PL-S	6.5 W
Lamp Power on TL	5.3 W

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Rated Lamp Power on TL	9 W
System Power on TL	7 W
Power Loss on TL	1.7 W

### Temperature

T-Ambient (Max)	40 °C
T-Ambient (Min)	-10 °C
T-Case Maximum (Max)	75 °C

### Mechanical and Housing

Housing	SH
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### Emergency Operation

Battery Voltage Lamp Ignition	194-254 V
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### Approval and Application

IP Classification	IP 20 [ Ingress Protection 20]
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Approval Marks	F-Marking CE marking ENEC certificate CB Certificate
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### Product Data

Full product code	871150093142930
Order product name	HF-M RED 109 SH TL/PL-S 230-240V
EAN/UPC - Product	8711500931429
Order code	913700422866
Numerator - Quantity Per Pack	1
Numerator - Packs per outer box	50
Material Nr. (12NC)	913700422866
Net Weight (Piece)	0.034 kg

## Dimensional drawing

A?

Product	D1	C1	C2	A1	A2	B1
HF-M RED 109 SH	4.4 mm	22.0	10.0	80.0	70.0	40.0
TL/PL-S 230-240V		mm	mm	mm	mm	mm

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