



The most reliable solution in road lighting

MASTER SON PIA Plus

High Pressure Sodium lamp with opalized ovoid outer bulb, high output and long reliable lifetime

Benefits

- High efficacy/lumen output resulting in low energy cost
- Long and reliable lifetime reducing maintenance cost
- Constant light over lifetime

Features

- Ovoid, white coated outer bulb
- Ceramic discharge tube with Unique Philips Integrated Antenna (PIA) concept enabling long and reliable lifetime
- "Plus" concept with high efficacy translates into high light output and improved lumen maintenance
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life

Application

- Road and residential lighting
- Decorative floodlighting, illumination
- Industrial area lighting
- Recreational sports facilities, indoor and outdoor

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Warnings and Safety

- Control gear must include end-of-life protection (IEC60662, IEC 62035)
- A lamp breaking is extremely unlikely to have any impact on your health. If a lamp breaks, ventilate the room for 30 minutes and remove the parts, preferably with gloves. Put them in a sealed plastic bag and take it to your local waste facilities for recycling. Do not use a vacuum cleaner.

Controls and Dimming	
Dimmable	Yes
General Information	
LSF 4000 h Rated	99 %
LSF 6000 h Rated	99 %
LSF 8000 h Rated	99 %
Operating Position	UNIVERSAL
Luminaire Design Requirements	
Bulb Temperature (Max)	350 °C
Light Technical	
Colour Code	220
Colour Rendering Index (Max)	25
Mechanical and Housing	
Bulb Finish	Coated glass

Approval and Application

Order Code	Full Product Name	Energy Consumption	Energy Efficiency	Mercury (Hg)
		kWh/1000 h	Label (EEL)	Content (Nom)
20426430	MASTER SON PIA Plus 70W/220 I E27 ICT/24	79 kWh	A	16.3 mg
18228915	MASTER SON PIA Plus 150W/220 E40 1SL/12	169 kWh	A+	15 mg
18225815	MASTER SON PIA Plus 100W/220 E40 1SL/12	110 kWh	A+	16.3 mg
19344515	MASTER SON PIA Plus 250W/220 E40 1SL/12	283 kWh	A+	15.1 mg
19345215	MASTER SON PIA Plus 400W/220 E40 1SL/12	449 kWh	A++	20 mg

Operating and Electrical (1/2)

Order Code	Full Product Name	Lamp			
		Current (EM) (Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)
20426430	MASTER SON PIA Plus 70W/220 I E27 ICT/24	0.980 A	105 V	77 V	92 V
18228915	MASTER SON PIA Plus 150W/220 E40 1SL/12	0.178 A	115 V	85 V	100 V
18225815	MASTER SON PIA Plus 100W/220 E40 1SL/12	0.119 A	115 V	85 V	100 V

Order Code	Full Product Name	Lamp			
		Current (EM) (Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)
19344515	MASTER SON PIA Plus 250W/220 E40 1SL/12	0.291 A	115 V	85 V	102 V
19345215	MASTER SON PIA Plus 400W/220 E40 1SL/12	0.441 A	120 V	90 V	105 V

Operating and Electrical (2/2)

Order Code	Full Product Name	Power (Rated)	Re-Ignition Time
		(Nom)	(Min) (Max)
20426430	MASTER SON PIA Plus 70W/220 I E27 ICT/24	70 W	600 s
18228915	MASTER SON PIA Plus 150W/220 E40 1SL/12	154 W	180 s
18225815	MASTER SON PIA Plus 100W/220 E40 1SL/12	100.0 W	120 s

Order Code	Full Product Name	Power (Rated)	Re-Ignition Time
		(Nom)	(Min) (Max)
19344515	MASTER SON PIA Plus 250W/220 E40 1SL/12	257.0 W	120 s
19345215	MASTER SON PIA Plus 400W/220 E40 1SL/12	408.0 W	120 s

General Information (1/2)

MASTER SON PIA Plus

Order Code	Full Product Name	Cap-Base	Life To 10%	Life To 20%	Life To 50%
			Failures (Nom)	Failures (Nom)	Failures (Nom)
20426430	MASTER SON PIA Plus 70W/220 I E27 1CT/24	E27	17000 h	22000 h	30000 h
18228915	MASTER SON PIA Plus 150W/220 E40 1SL/12	E40	24000 h	28000 h	36000 h
18225815	MASTER SON PIA Plus 100W/220 E40 1SL/12	E40	21000 h	26000 h	36000 h

Order Code	Full Product Name	Cap-Base	Life To 10%	Life To 20%	Life To 50%
			Failures (Nom)	Failures (Nom)	Failures (Nom)
19344515	MASTER SON PIA Plus 250W/220 E40 1SL/12	E40	24000 h	28000 h	36000 h
19345215	MASTER SON PIA Plus 400W/220 E40 1SL/12	E40	24000 h	28000 h	36000 h

General Information (2/2)

Order Code	Full Product Name	Life To 5% Failures	LSF 12000 h	LSF 16000 h	LSF 2000 h	LSF 20000 h	System Description
		(Nom)	Rated	Rated	Rated	Rated	
20426430	MASTER SON PIA Plus 70W/220 I E27 1CT/24	14000 h	96 %	92 %	99 %	83 %	Internal Ignitor (I)
18228915	MASTER SON PIA Plus 150W/220 E40 1SL/12	20500 h	99 %	98 %	100 %	95 %	External Ignitor (E)
18225815	MASTER SON PIA Plus 100W/220 E40 1SL/12	17000 h	98 %	96 %	100 %	91 %	External Ignitor (E)
19344515	MASTER SON PIA Plus 250W/220 E40 1SL/12	20500 h	99 %	98 %	100 %	95 %	External Ignitor (E)
19345215	MASTER SON PIA Plus 400W/220 E40 1SL/12	20500 h	99 %	98 %	100 %	95 %	External Ignitor (E)

Light Technical (1/3)

Order Code	Full Product Name	Chromaticity Coordinate X (Nom)	Chromaticity Coordinate Y (Nom)	Correlated	
				Colour Temperature (Nom)	LLMF 12000 h Rated
20426430	MASTER SON PIA Plus 70W/220 I E27 1CT/24	-	-	1900 K	87 %
18228915	MASTER SON PIA Plus 150W/220 E40 1SL/12	535	420	2000 K	96 %
18225815	MASTER SON PIA Plus 100W/220 E40 1SL/12	535	420	2000 K	92 %

Order Code	Full Product Name	Chromaticity Coordinate X (Nom)	Chromaticity Coordinate Y (Nom)	Correlated	
				Colour Temperature (Nom)	LLMF 12000 h Rated
19344515	MASTER SON PIA Plus 250W/220 E40 1SL/12	530	420	2000 K	96 %
19345215	MASTER SON PIA Plus 400W/220 E40 1SL/12	525	425	2000 K	92 %

Light Technical (2/3)

Order Code	Full Product Name	LLMF 16000 h Rated	LLMF 2000 h Rated	LLMF 20000 h Rated	LLMF 4000 h Rated	LLMF 6000 h Rated	LLMF 8000 h Rated	Luminous Efficacy (rated) (Nom)	Luminous	
									Flux (Rated) (Min)	Luminous Flux (Rated) (Nom)
20426430	MASTER SON PIA Plus 70W/220 I E27 1CT/24	86 %	92 %	86 %	90 %	89 %	88 %	80 lm/W	5040 lm	5600 lm
18228915	MASTER SON PIA Plus 150W/220 E40 1SL/12	95 %	99 %	94 %	98 %	97 %	96 %	107.79 lm/W	-	16600 lm
18225815	MASTER SON PIA Plus 100W/220 E40 1SL/12	90 %	98 %	89 %	96 %	95 %	94 %	96 lm/W	-	9600 lm
19344515	MASTER SON PIA Plus 250W/220 E40 1SL/12	95 %	99 %	94 %	98 %	97 %	96 %	119.07 lm/W	-	30600 lm
19345215	MASTER SON PIA Plus 400W/220 E40 1SL/12	90 %	99 %	88 %	97 %	96 %	94 %	136.27 lm/W	-	55600 lm

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Light Technical (3/3)

Order Code	Full Product Name	Ratio Scotopic/Photopic Lumens
20426430	MASTER SON PIA Plus 70W/220 I E27 1CT/24	-
18228915	MASTER SON PIA Plus 150W/220 E40 1SL/12	0.55
18225815	MASTER SON PIA Plus 100W/220 E40 1SL/12	0.55

Order Code	Full Product Name	Ratio Scotopic/Photopic Lumens
19344515	MASTER SON PIA Plus 250W/220 E40 1SL/12	0.60
19345215	MASTER SON PIA Plus 400W/220 E40 1SL/12	0.60

Mechanical and Housing

Order Code	Full Product Name	Bulb Shape
20426430	MASTER SON PIA Plus 70W/220 I E27 1CT/24	B70
18228915	MASTER SON PIA Plus 150W/220 E40 1SL/12	BD90
18225815	MASTER SON PIA Plus 100W/220 E40 1SL/12	B75

Order Code	Full Product Name	Bulb Shape
19344515	MASTER SON PIA Plus 250W/220 E40 1SL/12	BD90
19345215	MASTER SON PIA Plus 400W/220 E40 1SL/12	BD120

