



# 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

# MASTER SON PIA Plus

## Versions

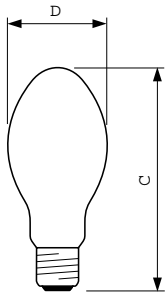


MASTER SON PIA E27



MASTER SON PIA Plus E40

## Dimensional drawing



Product	D (max)	C (max)
MASTER SON PIA Plus 100W/220 E40 1SL/12	76 mm	186 mm
MASTER SON PIA Plus 150W/220 E40 1SL/12	91 mm	227 mm
MASTER SON PIA Plus 70W E27	71 mm	156 mm
MASTER SON PIA Plus 250W/220 E40 1SL/12	91 mm	227 mm
MASTER SON PIA Plus 50W E27	71 mm	156 mm
MASTER SON PIA Plus 70W/220 I E27 1CT/24	70 mm	152 mm
MASTER SON PIA Plus 400W/220 E40 1SL/12	122 mm	290 mm

### Controls and Dimming

Dimmable	Yes
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### 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
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### Light Technical

Color Code	220
Color Rendering Index (Max)	25

### Mechanical and Housing

Bulb Finish	Coated glass
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## Approval and Application

Order Code	Full Product Name	Energy Consumption kWh/1000 h	Energy	
			Efficiency Label (EEL)	Mercury (Hg) Content (Nom)
928061009835	MASTER SON PIA Plus 70W E27	78 kWh	A	12 mg
928061109835	MASTER SON PIA Plus 50W E27	56 kWh	A	9.8 mg
928150008835	MASTER SON PIA Plus 70W/220 I E27 1CT/24	79 kWh	A	16.3 mg
928151409827	MASTER SON PIA Plus 150W/220 E40 1SL/12	169 kWh	A+	15 mg
928151608827	MASTER SON PIA Plus 100W/220 E40 1SL/12	110 kWh	A+	16.3 mg
928153309830	MASTER SON PIA Plus 250W/220 E40 1SL/12	286 kWh	A+	15.1 mg
928153409830	MASTER SON PIA Plus 400W/220 E40 1SL/12	446 kWh	A++	20 mg

## Operating and Electrical (1/2)

## MASTER SON PIA Plus

Order Code	Full Product Name	Lamp			
		Current (EM) (Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)
928061009835	MASTER SON PIA Plus 70W E27	0.98 A	105 V	75 V	90 V
928061109835	MASTER SON PIA Plus 50W E27	0.76 A	100 V	70 V	85 V
928150008835	MASTER SON PIA Plus 70W/220 I E27 1CT/24	0.980 A	105 V	77 V	92 V
928151409827	MASTER SON PIA Plus 150W/220 E40 1SL/12	1.8 A	115 V	85 V	100 V

Order Code	Full Product Name	Lamp			
		Current (EM) (Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)
928151608827	MASTER SON PIA Plus 100W/220 E40 1SL/12	1.2 A	115 V	85 V	100 V
928153309830	MASTER SON PIA Plus 250W/220 E40 1SL/12	2.85 A	115 V	85 V	100 V
928153409830	MASTER SON PIA Plus 400W/220 E40 1SL/12	4.3 A	120 V	90 V	105 V

### Operating and Electrical (2/2)

Order Code	Full Product Name	Power (Rated) (Nom)	Re-Ignition
			Time (Min) (Max)
928061009835	MASTER SON PIA Plus 70W E27	71.0 W	180 s
928061109835	MASTER SON PIA Plus 50W E27	51.0 W	180 s
928150008835	MASTER SON PIA Plus 70W/220 I E27 1CT/24	71.5 W	600 s
928151409827	MASTER SON PIA Plus 150W/220 E40 1SL/12	154.0 W	180 s

Order Code	Full Product Name	Power (Rated) (Nom)	Re-Ignition
			Time (Min) (Max)
928151608827	MASTER SON PIA Plus 100W/220 E40 1SL/12	100 W	120 s
928153309830	MASTER SON PIA Plus 250W/220 E40 1SL/12	260.0 W	120 s
928153409830	MASTER SON PIA Plus 400W/220 E40 1SL/12	405.0 W	120 s

### General Information (1/2)

Order Code	Full Product Name	Cap-Base	Life To 10%	Life To 20%	Life To 50%
			Failures (Nom)	Failures (Nom)	Failures (Nom)
928061009835	MASTER SON PIA Plus 70W E27	E27	20000 h	23500 h	30000 h
928061109835	MASTER SON PIA Plus 50W E27	E27	17000 h	22000 h	30000 h
928150008835	MASTER SON PIA Plus 70W/220 I E27 1CT/24	E27	17000 h	22000 h	30000 h
928151409827	MASTER SON PIA Plus 150W/220 E40 1SL/12	E40	24000 h	28000 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)
928151608827	MASTER SON PIA Plus 100W/220 E40 1SL/12	E40	21000 h	26000 h	36000 h
928153309830	MASTER SON PIA Plus 250W/220 E40 1SL/12	E40	24000 h	28000 h	36000 h
928153409830	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 (Nom)	LSF 12000 h Rated	LSF 16000 h Rated	LSF 2000 h Rated	LSF 20000 h Rated	System Description
		928061009835	MASTER SON PIA Plus 70W E27	17000 h	99 %	96 %	
928061109835	MASTER SON PIA Plus 50W E27	14000 h	96 %	92 %	99 %	83 %	External Ignitor
928150008835	MASTER SON PIA Plus 70W/220 I E27 1CT/24	14000 h	96 %	92 %	99 %	83 %	Internal Ignitor
928151409827	MASTER SON PIA Plus 150W/220 E40 1SL/12	20500 h	99 %	98 %	100 %	95 %	External Ignitor
928151608827	MASTER SON PIA Plus 100W/220 E40 1SL/12	17000 h	98 %	96 %	100 %	91 %	External Ignitor

# MASTER SON PIA Plus

Order Code	Full Product Name	Life To 5% Failures (Nom)	LSF 12000 h Rated	LSF 16000 h Rated	LSF 2000 h Rated	LSF 20000 h Rated	System Description
928153309830	MASTER SON PIA Plus 250W/220 E40 1SL/12	20500 h	99 %	98 %	100 %	95 %	External Ignitor
928153409830	MASTER SON PIA Plus 400W/220 E40 1SL/12	20500 h	99 %	98 %	100 %	95 %	External Ignitor

## Light Technical (1/2)

Order Code	Full Product Name	Correlated				Order Code	Full Product Name	Correlated			
		Chromaticity Coordinate X (Nom)	Chromaticity Coordinate Y (Nom)	Color Temperature (Nom)	LLMF 12000 h Rated			Chromaticity Coordinate X (Nom)	Chromaticity Coordinate Y (Nom)	Color Temperature (Nom)	LLMF 12000 h Rated
928061009835	MASTER SON PIA Plus 70W E27	540	410	1900 K	83 %	928151608827	MASTER SON PIA Plus 100W/220 E40 1SL/12	535	420	2000 K	92 %
928061109835	MASTER SON PIA Plus 50W E27	540	410	1900 K	87 %	928153309830	MASTER SON PIA Plus 250W/220 E40 1SL/12	530	420	2000 K	96 %
928150008835	MASTER SON PIA Plus 70W/220 I E27 1CT/24	-	-	1900 K	87 %	928153409830	MASTER SON PIA Plus 400W/220 E40 1SL/12	525	425	2000 K	92 %
928151409827	MASTER SON PIA Plus	535	420	2000 K	96 %						

## Light Technical (2/2)

Order Code	Full Product Name	LLMF			LLMF			Luminous Efficacy (rated) (Nom)	Luminous Flux (Rated) (Nom)	Ratio Scotopic/Photopic Lumens
		16000 h Rated	LLMF 2000 h Rated	20000 h Rated	LLMF 4000 h Rated	LLMF 6000 h Rated	LLMF 8000 h Rated			
928061009835	MASTER SON PIA Plus 70W E27	82 %	90 %	81 %	87 %	86 %	85 %	83 lm/W	5900 lm	0.50
928061109835	MASTER SON PIA Plus 50W E27	86 %	92 %	86 %	90 %	89 %	88 %	76 lm/W	3900 lm	0.50
928150008835	MASTER SON PIA Plus 70W/220 I E27 1CT/24	86 %	92 %	86 %	90 %	89 %	88 %	82 lm/W	5900 lm	-
928151409827	MASTER SON PIA Plus 150W/220 E40 1SL/12	95 %	99 %	94 %	98 %	97 %	96 %	108 lm/W	16100 lm	0.55
928151608827	MASTER SON PIA Plus 100W/220 E40 1SL/12	90 %	98 %	89 %	96 %	95 %	94 %	97 lm/W	9700 lm	0.55
928153309830	MASTER SON PIA Plus 250W/220 E40 1SL/12	95 %	99 %	94 %	98 %	97 %	96 %	120 lm/W	30900 lm	0.60
928153409830	MASTER SON PIA Plus 400W/220 E40 1SL/12	90 %	99 %	88 %	97 %	96 %	94 %	136.5 lm/W	55400 lm	0.60

## Mechanical and Housing

Order Code	Full Product Name	Bulb Shape	Order Code	Full Product Name	Bulb Shape
928061009835	MASTER SON PIA Plus 70W E27	B70	928150008835	MASTER SON PIA Plus 70W/220 I E27 1CT/24	B70
928061109835	MASTER SON PIA Plus 50W E27	B70	928151409827	MASTER SON PIA Plus 150W/220 E40 1SL/12	BD90

# MASTER SON PIA Plus

Order Code	Full Product Name	Bulb Shape
928151608827	MASTER SON PIA Plus 100W/220 E40 1SL/12	B75
928153309830	MASTER SON PIA Plus 250W/220 E40 1SL/12	BD90
928153409830	MASTER SON PIA Plus 400W/220 E40 1SL/12	BD120

