



Product Description

MASTER SON-T PIA Plus

High Pressure Sodium lamp with clear tubular outer bulb, high output and long reliable lifetime

Benefits

- Superior technology results in a long and reliable lifetime, high lumen maintenance and a reliable ignition over lifetime
- High energy efficacy and absence of lead (Pb) makes this a sound environmental offer
- High luminous efficacy makes this the most energy efficient HPS lamp

Features

- Clear tubular outer bulb
- Ceramic discharge tube with Philips Integrated Antenna (PIA) for a long and reliable lifetime
- Robust construction with few welding points is highly vibration- and shock-resistant, further reducing early failures and extending lamp life
- ZrCo getter ensures high lumen maintenance and few early failures
- "Plus" concept with high efficacy translated into high light output
- Completely lead-free lamps

Application

- Road and residential lighting
- Decorative floodlighting, illumination
- Industrial area lighting
- Recreational sports facilities Outdoor and Indoor
- Horticultural lighting

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.

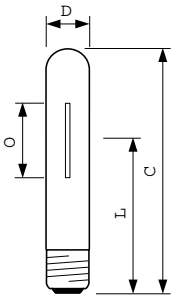
MASTER SON-T PIA Plus

Versions



SON-T PIA Plus, E40

Dimensional drawing



Product	D (max)	O	L	C (max)
MASTER SON-T PIA Plus 250W E40 1SL/12	48 mm	64 mm	158 mm	257 mm
MASTER SON-T PIA Plus 250W E E40 1SL/12	48 mm	64 mm	158 mm	257 mm
MASTER SON-T PIA Plus 70W/220 E27 1SL/12	36 mm	42 mm	104 mm	156 mm
MASTER SON-T PIA Plus 150W E40 1SL/12	47 mm	61 mm	132 mm	209 mm
MASTER SON-T PIA Plus 400W E40 1SL/12	48 mm	83 mm	175 mm	279 mm
MASTER SON-T PIA Plus 400W E E40 1SL/12	48 mm	83 mm	175 mm	279 mm
MASTER SON-T PIA Plus 50W/220 E27 1SL/12	36 mm	35 mm	104 mm	156 mm
MSTSON-TPIA Plus 70W E27 1CT/12	35.75 mm	42 mm	102 mm	156 mm
MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	48 mm	61 mm	132 mm	210 mm
MASTER SON-T PIA Plus 100W E40 1SL/12	47 mm	47 mm	132 mm	209 mm
MASTER SON-T PIA Plus 600W/220 E40 1SL/12	47 mm	126 mm	174.2 mm	279 mm
MASTER SON-T PIA Plus 100W/220 E40 1SL/12	48 mm	47 mm	132 mm	210 mm

MASTER SON-T PIA Plus

General Information

Operating Position	UNIVERSAL
System Description	External Ignitor (E)

Light Technical

Color Code	220
Correlated Color Temperature (Nom)	2000 K
Color Rendering Index (Max)	25

Mechanical and Housing

Bulb Finish	Clear
-------------	-------

Approval and Application

Order Code	Full Product Name	Energy Consumption kWh/1000 h	Energy Efficiency Label (EEL)	Mercury (Hg) Content (Nom)
17987615	MASTER SON-T PIA Plus 250W E E40 1SL/12	286 kWh	A+	15.1 mg
18075300	MASTER SON-T PIA Plus 250W E40 1SL/12	286 kWh	A+	15.1 mg
17988315	MASTER SON-T PIA Plus 400W E E40 1SL/12	449 kWh	A++	20 mg
18077700	MASTER SON-T PIA Plus 400W E40 1SL/12	449 kWh	A++	20 mg
19229515	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	171 kWh	A+	15 mg
19230115	MST SON-T PIA PLUS 100W/220 E40 SL/12	110 kWh	A+	16.3 mg

Order Code	Full Product Name	Energy Consumption kWh/1000 h	Energy Efficiency Label (EEL)	Mercury (Hg) Content (Nom)
19742915	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	663 kWh	A++	24 mg
18071500	MASTER SON-T PIA Plus 100W E40 1SL/12	110 kWh	A+	14.3 mg
18073900	MASTER SON-T PIA Plus 150W E40 1SL/12	169 kWh	A+	13.9 mg
19265315	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	58 kWh	A	9.8 mg
19266015	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	80 kWh	A+	12.2 mg
18069200	MASTER SON-T PIA Plus 70W E27 1SL/12	80 kWh	A+	12.2 mg

Controls and Dimming

Order Code	Full Product Name	Dimmable
17987615	MASTER SON-T PIA Plus 250W E E40 1SL/12	Yes
18075300	MASTER SON-T PIA Plus 250W E40 1SL/12	Yes
17988315	MASTER SON-T PIA Plus 400W E E40 1SL/12	Yes
18077700	MASTER SON-T PIA Plus 400W E40 1SL/12	Yes
19229515	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	Yes
19230115	MST SON-T PIA PLUS 100W/220 E40 SL/12	Yes

Order Code	Full Product Name	Dimmable
19742915	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	No
18071500	MASTER SON-T PIA Plus 100W E40 1SL/12	No
18073900	MASTER SON-T PIA Plus 150W E40 1SL/12	No
19265315	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	Yes
19266015	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	Yes
18069200	MASTER SON-T PIA Plus 70W E27 1SL/12	No

Operating and Electrical

Order Code	Full Product Name	Lamp Current (EM)				Power (Rated) (Nom)	Re-Ignition Time (Min) (Max)
		(Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)		
17987615	MASTER SON-T PIA Plus 250W E E40 1SL/12	0.287 A	115 V	85 V	105 V	260.0 W	120 s
18075300	MASTER SON-T PIA Plus 250W E40 1SL/12	0.287 A	115 V	85 V	105 V	260.0 W	120 s
17988315	MASTER SON-T PIA Plus 400W E E40 1SL/12	0.441 A	115 V	85 V	105 V	408.0 W	120 s
18077700	MASTER SON-T PIA Plus 400W E40 1SL/12	0.441 A	115 V	85 V	105 V	408.0 W	120 s
19229515	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	0.175 A	115 V	85 V	104 V	155.0 W	180 s
19230115	MST SON-T PIA PLUS 100W/220 E40 SL/12	0.119 A	115 V	85 V	100 V	101.0 W	120 s

MASTER SON-T PIA Plus

Order Code	Full Product Name	Lamp Current (EM)					Power (Rated) (Nom)	Re-Ignition Time (Min) (Max)
		(Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)			
19742915	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	5.8 A	125 V	95 V	110 V	603 W	60 s	
18071500	MASTER SON-T PIA Plus 100W E40 1SL/12	1.2 A	115 V	85 V	100 V	100.4 W	120 s	
18073900	MASTER SON-T PIA Plus 150W E40 1SL/12	1.8 A	115 V	85 V	100 V	154.0 W	180 s	
19265315	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	0.74 A	100 V	70 V	91 V	54.5 W	30 s	
19266015	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	0.96 A	105 V	75 V	92 V	73 W	30 s	
18069200	MASTER SON-T PIA Plus 70W E27 1SL/12	0.975 A	103 V	73 V	93 V	73.0 W	30 s	

General Information (1/2)

Order Code	Full Product Name	Cap-Base	Life To 10% Failures (Nom)	Life To 20% Failures (Nom)	Life To 50% Failures (Nom)	Life To 5% Failures (Nom)	LSF 12000 h Rated	LSF 16000 h Rated
18075300	MASTER SON-T PIA Plus 250W E40 1SL/12	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %
17988315	MASTER SON-T PIA Plus 400W E E40 1SL/12	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %
18077700	MASTER SON-T PIA Plus 400W E40 1SL/12	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %
19229515	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %
19230115	MST SON-T PIA PLUS 100W/220 E40 SL/12	E40	21000 h	26000 h	36000 h	17000 h	98 %	96 %
19742915	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	E40	15000 h	20000 h	30000 h	12000 h	-	-
18071500	MASTER SON-T PIA Plus 100W E40 1SL/12	E40	-	23500 h	28000 h	17000 h	-	-
18073900	MASTER SON-T PIA Plus 150W E40 1SL/12	E40	24000 h	28000 h	32000 h	20500 h	-	-
19265315	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	E27	17000 h	22000 h	30000 h	14000 h	96 %	92 %
19266015	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	E27	20000 h	23500 h	30000 h	17000 h	99 %	96 %
18069200	MASTER SON-T PIA Plus 70W E27 1SL/12	E27	20000 h	23500 h	28000 h	17000 h	-	-

General Information (2/2)

Order Code	Full Product Name	LSF 2000 h	LSF 20000 h	LSF 4000 h	LSF 6000 h	LSF 8000 h	Order Code	Full Product Name	LSF 2000 h	LSF 20000 h	LSF 4000 h	LSF 6000 h	LSF 8000 h
		Rated	Rated	Rated	Rated	Rated			Rated	Rated	Rated	Rated	Rated
17987615	MASTER SON-T PIA Plus 250W E E40 1SL/12	100 %	95 %	99 %	99 %	99 %	19742915	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	-	-	-	-	-
18075300	MASTER SON-T PIA Plus 250W E40 1SL/12	100 %	95 %	99 %	99 %	99 %	18071500	MASTER SON-T PIA Plus 100W E40 1SL/12	-	-	-	-	-
17988315	MASTER SON-T PIA Plus 400W E E40 1SL/12	100 %	95 %	99 %	99 %	99 %	18073900	MASTER SON-T PIA Plus 150W E40 1SL/12	-	-	-	-	-
18077700	MASTER SON-T PIA Plus 400W E40 1SL/12	100 %	95 %	99 %	99 %	99 %	19265315	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	99 %	83 %	99 %	99 %	99 %
19229515	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	100 %	95 %	99 %	99 %	99 %	19266015	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	99 %	90 %	99 %	99 %	99 %
19230115	MST SON-T PIA PLUS 100W/220 E40 SL/12	100 %	91 %	99 %	99 %	99 %	18069200	MASTER SON-T PIA Plus 70W E27 1SL/12	-	-	-	-	-

Luminaire Design Requirements

Order Code	Full Product Name	Bulb Temperature (Max)	Order Code	Full Product Name	Bulb Temperature (Max)
17987615	MASTER SON-T PIA Plus 250W E E40 1SL/12	450 °C	17988315	MASTER SON-T PIA Plus 400W E E40 1SL/12	450 °C
18075300	MASTER SON-T PIA Plus 250W E40 1SL/12	450 °C	18077700	MASTER SON-T PIA Plus 400W E40 1SL/12	450 °C

MASTER SON-T PIA Plus

Order Code	Full Product Name	Bulb Temperature (Max)	Order Code	Full Product Name	Bulb Temperature (Max)
19229515	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	450 °C	18073900	MASTER SON-T PIA Plus 150W E40 1SL/12	450 °C
19230115	MST SON-T PIA PLUS 100W/220 E40 SL/12	450 °C	19265315	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	350 °C
19742915	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	450 °C	19266015	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	350 °C
18071500	MASTER SON-T PIA Plus 100W E40 1SL/12	450 °C	18069200	MASTER SON-T PIA Plus 70W E27 1SL/12	350 °C

Light Technical (1/3)

Order Code	Full Product Name	Chromaticity	Chromaticity	Color				
		Coordinate X (Nom)	Coordinate Y (Nom)	Rendering Index (Nom)	LLMF 12000 h Rated	LLMF 16000 h Rated	LLMF 2000 h Rated	LLMF 20000 h Rated
17987615	MASTER SON-T PIA Plus 250W E E40 1SL/12	530	420	-	96 %	95 %	99 %	94 %
18075300	MASTER SON-T PIA Plus 250W E40 1SL/12	530	420	-	96 %	95 %	99 %	94 %
17988315	MASTER SON-T PIA Plus 400W E E40 1SL/12	525	425	-	92 %	90 %	99 %	88 %
18077700	MASTER SON-T PIA Plus 400W E40 1SL/12	525	425	-	92 %	90 %	99 %	88 %
19229515	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	535	420	-	96 %	95 %	99 %	94 %
19230115	MST SON-T PIA PLUS 100W/220 E40 SL/12	535	420	-	92 %	90 %	98 %	89 %
19742915	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	526	424	-	-	-	-	-
18071500	MASTER SON-T PIA Plus 100W E40 1SL/12	525	420	-	-	-	-	-
18073900	MASTER SON-T PIA Plus 150W E40 1SL/12	535	420	-	-	-	-	-
19265315	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	540	420	-	87 %	86 %	92 %	86 %
19266015	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	540	420	-	83 %	82 %	90 %	81 %
18069200	MASTER SON-T PIA Plus 70W E27 1SL/12	540	420	-	-	-	-	-

Light Technical (2/3)

Order Code	Full Product Name	LLMF	LLMF	LLMF	Lumen	Lumen	Lumen	Lumen	Lumen	Luminous
		4000 h Rated	6000 h Rated	8000 h Rated	Maintenance 2000 h (Min)	Maintenance 2000 h (Nom)	Maintenance 20000 h	Maintenance 5000 h (Min)	Maintenance 5000 h (Nom)	Efficacy (rated) (Nom)
17987615	MASTER SON-T PIA Plus 250W E E40 1SL/12	98 %	97 %	96 %	-	-	-	-	-	126.15 lm/W
18075300	MASTER SON-T PIA Plus 250W E40 1SL/12	98 %	97 %	96 %	-	-	-	-	-	126.15 lm/W
17988315	MASTER SON-T PIA Plus 400W E E40 1SL/12	97 %	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %	137 lm/W
18077700	MASTER SON-T PIA Plus 400W E40 1SL/12	97 %	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %	137 lm/W
19229515	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	98 %	97 %	96 %	-	-	-	-	-	115.16 lm/W
19230115	MST SON-T PIA PLUS 100W/220 E40 SL/12	96 %	95 %	94 %	-	-	-	-	-	105 lm/W
19742915	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	-	-	-	85 %	96 %	77 %	80 %	90 %	143.5 lm/W
18071500	MASTER SON-T PIA Plus 100W E40 1SL/12	-	-	-	94 %	97 %	-	90 %	95 %	107 lm/W
18073900	MASTER SON-T PIA Plus 150W E40 1SL/12	-	-	-	94 %	97 %	-	88 %	95 %	117 lm/W
19265315	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	90 %	89 %	88 %	-	-	-	-	-	83 lm/W
19266015	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	87 %	86 %	85 %	-	90 %	81 %	-	86.5 %	90.41 lm/W

MASTER SON-T PIA Plus

Order Code	Full Product Name	LLMF 4000 h Rated	LLMF 6000 h Rated	LLMF 8000 h Rated	Lumen Maintenance 2000 h (Min)	Lumen Maintenance 2000 h (Nom)	Lumen Maintenance 20000 h	Lumen Maintenance 5000 h (Min)	Lumen Maintenance 5000 h (Nom)	Luminous Efficacy (rated) (Nom)
18069200	MASTER SON-T PIA Plus 70W E27 1SL/12	-	-	-	90 %	95 %	-	85 %	92 %	91 lm/W

Light Technical (3/3)

Order Code	Full Product Name	Luminous Flux (Rated) (Min)	Luminous Flux (Rated) (Nom)	Ratio Scotopic/ Photopic Lumens
17987615	MASTER SON-T PIA Plus 250W E E40 1SL/12	-	32800 lm	0.60
18075300	MASTER SON-T PIA Plus 250W E40 1SL/12	-	32800 lm	0.60
17988315	MASTER SON-T PIA Plus 400W E E40 1SL/12	-	55900 lm	0.60
18077700	MASTER SON-T PIA Plus 400W E40 1SL/12	-	55900 lm	0.60
19229515	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	-	17800 lm	0.55
19230115	MST SON-T PIA PLUS 100W/220 E40 SL/12	-	10600 lm	0.55

Order Code	Full Product Name	Luminous Flux (Rated) (Min)	Luminous Flux (Rated) (Nom)	Ratio Scotopic/ Photopic Lumens
19742915	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	-	86500 lm	0.60
18071500	MASTER SON-T PIA Plus 100W E40 1SL/12	8700 lm	10700 lm	-
18073900	MASTER SON-T PIA Plus 150W E40 1SL/12	14500 lm	18000 lm	-
19265315	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	-	4500 lm	0.50
19266015	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	-	6600 lm	0.50
18069200	MASTER SON-T PIA Plus 70W E27 1SL/12	5940 lm	6600 lm	-

Mechanical and Housing

Order Code	Full Product Name	Bulb Shape
17987615	MASTER SON-T PIA Plus 250W E E40 1SL/12	T46
18075300	MASTER SON-T PIA Plus 250W E40 1SL/12	T46
17988315	MASTER SON-T PIA Plus 400W E E40 1SL/12	T46
18077700	MASTER SON-T PIA Plus 400W E40 1SL/12	T46
19229515	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	T46
19230115	MST SON-T PIA PLUS 100W/220 E40 SL/12	T46
19742915	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	T46
18071500	MASTER SON-T PIA Plus 100W E40 1SL/12	T46
18073900	MASTER SON-T PIA Plus 150W E40 1SL/12	T46
19265315	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	T35

Order Code	Full Product Name	Bulb Shape
19266015	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	T35
18069200	MASTER SON-T PIA Plus 70W E27 1SL/12	T35

