



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

General Information

Operating Position	UNIVERSAL
System Description	External Ignitor (E)

Light Technical

Colour Code	220
Colour Rendering Index (Max)	25

Mechanical and Housing

Bulb Finish	Clear
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Approval and Application

Order Code	Full Product Name	Energy Consumption kWh/1000 h	Mercury (Hg) Content (Max)	Mercury (Hg) Content (Nom)
928144709230	MASTER SON-T PIA Plus 250W E E40 1SL/12	257 kWh	15.1 mg	15.1 mg
928144709293	MASTER SON-T PIA Plus 250W E40 1SL/12	257 kWh	15.1 mg	15.1 mg
928144809227	MASTER SON-T PIA Plus 400W E E40 1SL/12	408 kWh	19.6 mg	20 mg
928144809293	MASTER SON-T PIA Plus 400W E40 1SL/12	408 kWh	19.6 mg	20 mg
928150909230	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	155 kWh	15.1 mg	15 mg
928151709230	MASTER SON-T PIA Plus 100W/220 E40 1SL/12	101 kWh	16.3 mg	16.3 mg

Order Code	Full Product Name	Energy Consumption kWh/1000 h	Mercury (Hg) Content (Max)	Mercury (Hg) Content (Nom)
928158409227	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	663 kWh	-	24 mg
928483300095	MASTER SON-T PIA Plus 100W E40 1SL/12	101 kWh	16.3 mg	14.3 mg
928483400095	MASTER SON-T PIA Plus 150W E40 1SL/12	155 kWh	15.1 mg	13.9 mg
928151900028	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	55 kWh	9.8 mg	9.8 mg
928152700028	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	73 kWh	12.2 mg	12.2 mg
928483200094	MSTSON-TPIA Plus 70W E27 1CT/12	73 kWh	12.2 mg	12.2 mg

Controls and Dimming

Order Code	Full Product Name	Dimmable
928144709230	MASTER SON-T PIA Plus 250W E E40 1SL/12	Yes
928144709293	MASTER SON-T PIA Plus 250W E40 1SL/12	Yes
928144809227	MASTER SON-T PIA Plus 400W E E40 1SL/12	Yes
928144809293	MASTER SON-T PIA Plus 400W E40 1SL/12	Yes
928150909230	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	Yes
928151709230	MASTER SON-T PIA Plus 100W/220 E40 1SL/12	Yes

Order Code	Full Product Name	Dimmable
928158409227	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	No
928483300095	MASTER SON-T PIA Plus 100W E40 1SL/12	Yes
928483400095	MASTER SON-T PIA Plus 150W E40 1SL/12	Yes
928151900028	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	Yes
928152700028	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	Yes
928483200094	MSTSON-TPIA Plus 70W E27 1CT/12	Yes

Operating and Electrical

Order Code	Full Product Name	Lamp Current (EM)			Power (Rated)		Re-Ignition Time	
		(Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)	(Nom)	(Min) (Max)	
928144709230	MASTER SON-T PIA Plus 250W E E40 1SL/12	0.290 A	115 V	85 V	102 V	257.0 W	120 s	
928144709293	MASTER SON-T PIA Plus 250W E40 1SL/12	0.290 A	115 V	85 V	102 V	257.0 W	120 s	
928144809227	MASTER SON-T PIA Plus 400W E E40 1SL/12	0.441 A	115 V	85 V	105 V	408.0 W	120 s	
928144809293	MASTER SON-T PIA Plus 400W E40 1SL/12	0.441 A	115 V	85 V	105 V	408.0 W	120 s	
928150909230	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	0.175 A	115 V	85 V	104 V	155.0 W	180 s	
928151709230	MASTER SON-T PIA Plus 100W/220 E40 1SL/12	0.119 A	115 V	85 V	100 V	101.0 W	120 s	
928158409227	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	5.8 A	125 V	95 V	110 V	603 W	60 s	

MASTER SON-T PIA Plus

Order Code	Full Product Name	Lamp Current (EM)				Power (Rated)		Re-Ignition Time	
		(Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)	(Nom)	(Nom)	(Min)	(Max)
928483300095	MASTER SON-T PIA Plus 100W E40 1SL/12	1.2 A	115 V	85 V	100 V	101.0 W	120 s		
928483400095	MASTER SON-T PIA Plus 150W E40 1SL/12	1.8 A	115 V	85 V	100 V	155.0 W	180 s		
928151900028	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	0.74 A	100 V	70 V	91 V	54.5 W	30 s		
928152700028	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	0.96 A	105 V	75 V	92 V	73.0 W	30 s		
928483200094	MSTSON-TPIA Plus 70W E27 1CT/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
928144709293	MASTER SON-T PIA Plus 250W E40 1SL/12	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %
928144809227	MASTER SON-T PIA Plus 400W E E40 1SL/12	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %
928144809293	MASTER SON-T PIA Plus 400W E40 1SL/12	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %
928150909230	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %
928151709230	MASTER SON-T PIA Plus 100W/220 E40 1SL/12	E40	21000 h	25000 h	29000 h	17000 h	99 %	97 %
928158409227	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	E40	15000 h	20000 h	30000 h	12000 h	-	-
928483300095	MASTER SON-T PIA Plus 100W E40 1SL/12	E40	-	23500 h	28000 h	17000 h	-	-
928483400095	MASTER SON-T PIA Plus 150W E40 1SL/12	E40	24000 h	28000 h	32000 h	20500 h	-	-
928151900028	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	E27	17000 h	22000 h	30000 h	14000 h	96 %	92 %
928152700028	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	E27	20000 h	23500 h	30000 h	17000 h	99 %	96 %
928483200094	MSTSON-TPIA Plus 70W E27 1CT/12	E27	20000 h	23500 h	28000 h	17000 h	-	-

General Information (2/2)

Order Code	Full Product Name	LSF	LSF	LSF	LSF	LSF	Order Code	Full Product Name	LSF	LSF	LSF	LSF	LSF
		2000 h Rated	20000 h Rated	4000 h Rated	6000 h Rated	8000 h Rated			2000 h Rated	20000 h Rated	4000 h Rated	6000 h Rated	8000 h Rated
928144709230	MASTER SON-T PIA Plus 250W E E40 1SL/12	100 %	95 %	99 %	99 %	99 %	928158409227	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	-	-	-	-	-
928144709293	MASTER SON-T PIA Plus 250W E40 1SL/12	100 %	95 %	99 %	99 %	99 %	928483300095	MASTER SON-T PIA Plus 100W E40 1SL/12	-	-	-	-	-
928144809227	MASTER SON-T PIA Plus 400W E E40 1SL/12	100 %	95 %	99 %	99 %	99 %	928483400095	MASTER SON-T PIA Plus 150W E40 1SL/12	-	-	-	-	-
928144809293	MASTER SON-T PIA Plus 400W E40 1SL/12	100 %	95 %	99 %	99 %	99 %	928151900028	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	99 %	83 %	99 %	99 %	99 %
928150909230	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	100 %	95 %	99 %	99 %	99 %	928152700028	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	99 %	90 %	99 %	99 %	99 %
928151709230	MASTER SON-T PIA Plus 100W/220 E40 1SL/12	100 %	91 %	99 %	99 %	99 %	928483200094	MSTSON-TPIA Plus 70W E27 1CT/12	-	-	-	-	-

Luminaire Design Requirements

MASTER SON-T PIA Plus

Order Code	Full Product Name	Bulb Temperature (Max)	Order Code	Full Product Name	Bulb Temperature (Max)
928144709230	MASTER SON-T PIA Plus 250W E E40 1SL/12	450 °C	928158409227	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	450 °C
928144709293	MASTER SON-T PIA Plus 250W E40 1SL/12	450 °C	928483300095	MASTER SON-T PIA Plus 100W E40 1SL/12	450 °C
928144809227	MASTER SON-T PIA Plus 400W E E40 1SL/12	450 °C	928483400095	MASTER SON-T PIA Plus 150W E40 1SL/12	450 °C
928144809293	MASTER SON-T PIA Plus 400W E40 1SL/12	450 °C	928151900028	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	350 °C
928150909230	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	450 °C	928152700028	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	350 °C
928151709230	MASTER SON-T PIA Plus 100W/220 E40 1SL/12	450 °C	928483200094	MSTSON-TPIA Plus 70W E27 1CT/12	350 °C

Light Technical (1/3)

Order Code	Full Product Name	Chromaticity	Chromaticity	Colour				
		Coordinate X (Nom)	Coordinate Y (Nom)	Correlated Colour Temperature (Nom)	Rendering Index (Nom)	LLMF 12000 h Rated	LLMF 16000 h Rated	LLMF 2000 h Rated
928144709230	MASTER SON-T PIA Plus 250W E E40 1SL/12	0.535	0.420	2000 K	-	96 %	95 %	99 %
928144709293	MASTER SON-T PIA Plus 250W E40 1SL/12	0.535	0.420	2000 K	-	96 %	95 %	99 %
928144809227	MASTER SON-T PIA Plus 400W E E40 1SL/12	0.535	0.42	2000 K	-	92 %	90 %	99 %
928144809293	MASTER SON-T PIA Plus 400W E40 1SL/12	0.535	0.42	2000 K	-	92 %	90 %	99 %
928150909230	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	0.535	0.42	2000 K	-	96 %	95 %	99 %
928151709230	MASTER SON-T PIA Plus 100W/220 E40 1SL/12	0.535	0.42	2000 K	-	92 %	90 %	98 %
928158409227	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	0.526	0.424	2000 K	-	-	-	-
928483300095	MASTER SON-T PIA Plus 100W E40 1SL/12	0.535	0.42	2000 K	-	-	-	-
928483400095	MASTER SON-T PIA Plus 150W E40 1SL/12	0.535	0.42	2000 K	-	-	-	-
928151900028	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	0.54	0.42	1900 K	-	87 %	86 %	92 %
928152700028	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	0.54	0.42	1900 K	-	78 %	77 %	86 %
928483200094	MSTSON-TPIA Plus 70W E27 1CT/12	0.54	0.42	1900 K	-	-	-	-

Light Technical (2/3)

Order Code	Full Product Name	LLMF	LLMF	LLMF	LLMF	Lumen	Lumen	Lumen	Lumen	Lumen
		20000 h Rated	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)
928144709230	MASTER SON-T PIA Plus 250W E E40 1SL/12	94 %	98 %	97 %	96 %	-	-	-	-	-
928144709293	MASTER SON-T PIA Plus 250W E40 1SL/12	94 %	98 %	97 %	96 %	-	-	-	-	-
928144809227	MASTER SON-T PIA Plus 400W E E40 1SL/12	88 %	97 %	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %
928144809293	MASTER SON-T PIA Plus 400W E40 1SL/12	88 %	97 %	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %
928150909230	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	94 %	98 %	97 %	96 %	-	-	-	-	-
928151709230	MASTER SON-T PIA Plus 100W/220 E40 1SL/12	89 %	96 %	95 %	94 %	-	-	-	-	-

MASTER SON-T PIA Plus

Order Code	Full Product Name	LLMF	LLMF	LLMF	LLMF	Lumen	Lumen	Lumen	Lumen	Lumen
		20000 h Rated	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)
928158409227	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	-	-	-	-	85 %	96 %	77 %	80 %	90 %
928483300095	MASTER SON-T PIA Plus 100W E40 1SL/12	-	-	-	-	94 %	97 %	-	90 %	95 %
928483400095	MASTER SON-T PIA Plus 150W E40 1SL/12	-	-	-	-	94 %	97 %	-	88 %	95 %
928151900028	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	86 %	90 %	89 %	88 %	-	-	-	-	-
928152700028	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	76 %	83 %	81 %	80 %	-	90 %	81 %	-	86.5 %
928483200094	MSTSON-TPIA Plus 70W E27 1CT/12	-	-	-	-	90 %	95 %	-	85 %	92 %

Light Technical (3/3)

Order Code	Full Product Name	Luminous	Luminous	Luminous	Ratio	
		Efficacy (rated) (Nom)	Luminous Flux (Nom)	Flux (Rated) (Min)	Flux (Rated) (Nom)	Scotopic/ Photopic Lumens
928144709230	MASTER SON-T PIA Plus 250W E40 1SL/12	125 lm/W	32100 lm	-	32100 lm	0.60
928144709293	MASTER SON-T PIA Plus 250W E40 1SL/12	125 lm/W	32100 lm	-	32100 lm	0.60
928144809227	MASTER SON-T PIA Plus 400W E40 1SL/12	137 lm/W	55900 lm	-	55900 lm	0.60
928144809293	MASTER SON-T PIA Plus 400W E40 1SL/12	137 lm/W	55900 lm	-	55900 lm	0.60
928150909230	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	115.16 lm/W	17800 lm	-	17800 lm	0.55
928151709230	MASTER SON-T PIA Plus	105 lm/W	10600 lm	-	10600 lm	0.55

Order Code	Full Product Name	Luminous	Luminous	Luminous	Luminous	Ratio
		Efficacy (rated) (Nom)	Luminous Flux (Nom)	Flux (Rated) (Min)	Flux (Rated) (Nom)	Scotopic/ Photopic Lumens
	100W/220 E40 1SL/12					
928158409227	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	143.5 lm/W	-	-	86500 lm	0.60
928483300095	MASTER SON-T PIA Plus 100W E40 1SL/12	107 lm/W	10600 lm	8700 lm	10700 lm	-
928483400095	MASTER SON-T PIA Plus 150W E40 1SL/12	117 lm/W	17800 lm	14500 lm	18000 lm	-
928151900028	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	83 lm/W	4500 lm	-	4500 lm	0.50
928152700028	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	90.41 lm/W	6600 lm	-	6600 lm	0.50
928483200094	MSTSON-TPIA Plus 70W E27 1CT/12	91 lm/W	6600 lm	5940 lm	6600 lm	-

Mechanical and Housing

MASTER SON-T PIA Plus

Order Code	Full Product Name	Bulb Shape
928144709230	MASTER SON-T PIA Plus 250W E E40 1SL/12	T46
928144709293	MASTER SON-T PIA Plus 250W E40 1SL/12	T46
928144809227	MASTER SON-T PIA Plus 400W E E40 1SL/12	T46
928144809293	MASTER SON-T PIA Plus 400W E40 1SL/12	T46
928150909230	MASTER SON-T PIA Plus 150W/220 E40 - 1SL/12	T46
928151709230	MASTER SON-T PIA Plus 100W/220 E40 1SL/12	T46

Order Code	Full Product Name	Bulb Shape
928158409227	MASTER SON-T PIA Plus 600W/220 E40 1SL/12	T46
928483300095	MASTER SON-T PIA Plus 100W E40 1SL/12	T46
928483400095	MASTER SON-T PIA Plus 150W E40 1SL/12	T46
928151900028	MASTER SON-T PIA Plus 50W/220 E27 1SL/12	T35
928152700028	MASTER SON-T PIA Plus 70W/220 E27 1SL/12	T35
928483200094	MSTSON-TPIA Plus 70W E27 1CT/12	T35

