



The most reliable solution in road lighting

MASTER SON-T PIA Plus

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

Benefits

- Initial investment saving options with "Plus" concept
- High lumen output, maintained over life
- Minimal maintenance cost

Features

- Clear tubular 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
- Dimmable

Application

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

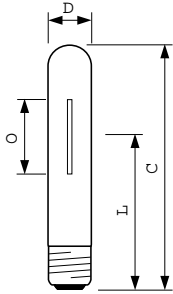
MASTER SON-T PIA Plus

Versions



MASTER SON-T PIA Plus

Dimensional drawing



Product	D	D	O	L	C
MASTER SON-T PIA Plus 250W E40 1SL/12	48 mm	1.75 in	64 mm	158 mm	257 mm
MASTER SON-T PIA Plus 250W E E40 1SL/12	48 mm	1.75 in	64 mm	158 mm	257 mm
MASTER SON-T PIA Plus 250W E E40 1SL/12	48 mm	1.75 in	64 mm	158 mm	257 mm
MASTER SON-T PIA Plus 250W E E40 1SL/12	48 mm	1.75 in	64 mm	158 mm	257 mm
MASTER SON-T PIA Plus 250W E E40 1SL/12	48 mm	1.75 in	64 mm	158 mm	257 mm
SON-T PIA PLUS 250W E E40 1SL/12	48 mm	1.75 in	64 mm	158 mm	257 mm
MASTER SON-T PIA Plus 250W E E40 1SL/12	48 mm	1.75 in	64 mm	158 mm	257 mm
MASTER SON-T PIA Plus 70W E E27	36 mm	42 mm	104 mm	156 mm	
MASTER SON-T PIA Plus 70W/220 E27 1SL/12	36 mm	42 mm	104 mm	156 mm	
SON-T PIA PLUS 150W E E40 1SL/12	47 mm	132 mm	209 mm		
MASTER SON-T PIA Plus 150W E E40 1SL/12	47 mm	132 mm	209 mm		
MASTER SON-T PIA Plus 150W E E40 1SL/12	47 mm	132 mm	209 mm		
MASTER SON-T PIA Plus 150W E40 1SL/12	47 mm	132 mm	209 mm		
SON-T PIA PLUS 150W E E40 1SL/12	47 mm	132 mm	209 mm		
SON-T PIA PLUS 150W E E40 1SL/12	47 mm	132 mm	209 mm		
MASTER SON-T PIA Plus 400W E E40 1SL/12	48 mm	83 mm	175 mm	283 mm	
MASTER SON-T PIA Plus 400W E E40 1SL/12	48 mm	83 mm	175 mm	283 mm	
MASTER SON-T PIA Plus 400W E40 1SL/12	48 mm	83 mm	175 mm	283 mm	
MASTER SON-T PIA Plus 400W E E40 1SL/12	48 mm	83 mm	175 mm	283 mm	
MASTER SON-T PIA Plus 400W E E40 1SL/12	48 mm	83 mm	175 mm	283 mm	
MASTER SON-T PIA Plus 400W E E40 1SL/12	48 mm	83 mm	175 mm	283 mm	
MASTER SON-T PIA Plus 400W E E40 1SL/12	48 mm	83 mm	175 mm	283 mm	
MASTER SON-T PIA Plus 400W E E40 1SL/12	48 mm	83 mm	175 mm	283 mm	
MASTER SON-T PIA Plus 50W/220 E27 1SL/12	36 mm	35 mm	104 mm	156 mm	
SON-T PIA PLUS 70W E E27 1SL/12	35.75 mm	102 mm	156 mm		
MSTSON-TPIA Plus 70W E27 1CT/12	35.75 mm	102 mm	156 mm		
SON-T PIA PLUS 70WE E27 1CT/12	35.75 mm	102 mm	156 mm		
MASTER SON-T PIA Plus 70W E E27 1SL/12	35.75 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 E E40 1SL/12	47 mm	132 mm	209 mm		
MASTER SON-T PIA Plus 100W E40 1SL/12	47 mm	132 mm	209 mm		
MASTER SON-T PIA Plus 600W/220 E40 1SL/12	47 mm	126 mm	174.2 mm	283 mm	

MASTER SON-T PIA Plus

Dimensional drawing

Product	D	D	O	L	C
MASTER SON-T PIA Plus 100W/220 E40 1SL/12	48 mm	47 mm	132 mm	210 mm	

General Information	
Operating Position	UNIVERSAL
System Description	External Ignitor
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	Energy Consumption kWh/ 1000 h	Energy Efficiency Label (EEL)	Mercury (Hg) Content (Nom)
928144709230	275 kWh	A+	15 mg
928144709292	275 kWh	A+	15 mg
928144709293	275 kWh	A+	15 mg
928144709294	275 kWh	A+	15 mg
928144709295	275 kWh	A+	15 mg
928144709298	275 kWh	A+	15 mg
928144709299	275 kWh	A+	15 mg
928144809227	440 kWh	A++	20 mg
928144809292	440 kWh	A++	20 mg
928144809293	440 kWh	A++	20 mg
928144809294	440 kWh	A++	20 mg
928144809295	440 kWh	A++	20 mg
928144809296	440 kWh	A++	20 mg
928144809298	440 kWh	A++	20 mg
928150909230	169 kWh	A+	15 mg
928151709230	110 kWh	A+	16 mg

order code	Energy Consumption kWh/ 1000 h	Energy Efficiency Label (EEL)	Mercury (Hg) Content (Nom)
928158409227	665 kWh	A++	24 mg
928483300094	110 kWh	A+	16.3 mg
928483300095	110 kWh	A+	16.3 mg
928483400092	169 kWh	A+	20.4 mg
928483400093	169 kWh	A+	20.4 mg
928483400094	169 kWh	A+	20.4 mg
928483400095	169 kWh	A+	20.4 mg
928483400096	169 kWh	A+	20.4 mg
928483400097	169 kWh	A+	20.4 mg
928151900028	58 kWh	A	12 mg
928152700028	80 kWh	A+	12 mg
928152700091	80 kWh	A+	12 mg
928483200092	80 kWh	A+	12.2 mg
928483200093	80 kWh	A+	12.2 mg
928483200094	80 kWh	A+	12.2 mg
928483200096	80 kWh	A+	12.2 mg

Controls and Dimming

order code	Dimmable
928144709230	Yes
928144709292	Yes
928144709293	Yes
928144709294	Yes
928144709295	Yes
928144709298	Yes
928144709299	Yes
928144809227	Yes
928144809292	Yes

order code	Dimmable
928144809293	Yes
928144809294	Yes
928144809295	Yes
928144809296	Yes
928144809298	Yes
928150909230	Yes
928151709230	Yes
928158409227	No
928483300094	No

MASTER SON-T PIA Plus

order code	Dimmable
928483300095	No
928483400092	No
928483400093	No
928483400094	No
928483400095	No
928483400096	No
928483400097	No

order code	Dimmable
928151900028	Yes
928152700028	Yes
928152700091	Yes
928483200092	No
928483200093	No
928483200094	No
928483200096	No

Operating and Electrical

order code	Lamp Current (EM) (Nom)	Voltage (Max)	Voltage (Min)	Voltage (Nom)	Power (Rated) (Nom)	Re-ignition Time (Min) (Max)
928144709230	3 A	115 V	85 V	100 V	250.0 W	120 s
928144709292	3 A	115 V	85 V	100 V	250.0 W	120 s
928144709293	3 A	115 V	85 V	100 V	250.0 W	120 s
928144709294	3 A	115 V	85 V	100 V	250.0 W	120 s
928144709295	3 A	115 V	85 V	100 V	250.0 W	120 s
928144709298	3 A	115 V	85 V	100 V	250.0 W	120 s
928144709299	3 A	115 V	85 V	100 V	250.0 W	120 s
928144809227	4.5 A	115 V	85 V	100 V	400.0 W	120 s
928144809292	4.5 A	115 V	85 V	100 V	400.0 W	120 s
928144809293	4.5 A	115 V	85 V	100 V	400.0 W	120 s
928144809294	4.5 A	115 V	85 V	100 V	400.0 W	120 s
928144809295	4.5 A	115 V	85 V	100 V	400.0 W	120 s
928144809296	4.5 A	115 V	85 V	100 V	400.0 W	120 s
928144809298	4.5 A	115 V	85 V	100 V	400.0 W	120 s
928150909230	1.8 A	115 V	85 V	100 V	154.0 W	180 s
928151709230	1.2 A	115 V	85 V	100 V	100.0 W	120 s
928158409227	5.8 A	125 V	95 V	110 V	605.0 W	60 s
928483300094	1.2 A	115 V	85 V	100 V	100.0 W	120 s
928483300095	1.2 A	115 V	85 V	100 V	100.0 W	120 s
928483400092	1.8 A	115 V	85 V	100 V	154.0 W	180 s
928483400093	1.8 A	115 V	85 V	100 V	154.0 W	180 s
928483400094	1.8 A	115 V	85 V	100 V	154.0 W	180 s
928483400095	1.8 A	115 V	85 V	100 V	154.0 W	180 s
928483400096	1.8 A	115 V	85 V	100 V	154.0 W	180 s
928483400097	1.8 A	115 V	85 V	100 V	154.0 W	180 s
928151900028	0.75 A	100 V	70 V	85 V	53.0 W	30 s
928152700028	0.975 A	105 V	75 V	90 V	73.0 W	30 s
928152700091	0.975 A	105 V	75 V	90 V	73.0 W	30 s
928483200092	0.975 A	103 V	73 V	93 V	73.0 W	30 s
928483200093	0.975 A	103 V	73 V	93 V	73.0 W	30 s
928483200094	0.975 A	103 V	73 V	93 V	73.0 W	30 s
928483200096	0.975 A	103 V	73 V	93 V	73.0 W	30 s

General Information (1/2)

order code	Bulb Shape	Cap-Base	Life To 10% Failures				LSF 12000 h Rated	LSF 16000 h Rated
			(Nom)	Life To 20% Failures (Nom)	Life To 50% Failures (Nom)	Life To 5% Failures (Nom)		
928144709230	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %
928144709292	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %
928144709293	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %

MASTER SON-T PIA Plus

order code	Bulb Shape	Cap-Base	Life To 10% Failures					LSF 12000 h Rated	LSF 16000 h Rated
			(Nom)	Life To 20% Failures (Nom)	Life To 50% Failures (Nom)	Life To 5% Failures (Nom)			
928144709294	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928144709295	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928144709298	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928144709299	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928144809227	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928144809292	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928144809293	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928144809294	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928144809295	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928144809296	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928144809298	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928150909230	T46	E40	24000 h	28000 h	36000 h	20500 h	99 %	98 %	
928151709230	T46	E40	21000 h	26000 h	36000 h	17000 h	98 %	96 %	
928158409227	T46	E40	15000 h	20000 h	30000 h	12000 h	-	-	
928483300094	T46	E40	-	23500 h	28000 h	17000 h	-	-	
928483300095	T46	E40	-	23500 h	28000 h	17000 h	-	-	
928483400092	T46	E40	24000 h	28000 h	32000 h	20500 h	-	-	
928483400093	T46	E40	24000 h	28000 h	32000 h	20500 h	-	-	
928483400094	T46	E40	24000 h	28000 h	32000 h	20500 h	-	-	
928483400095	T46	E40	24000 h	28000 h	32000 h	20500 h	-	-	
928483400096	T46	E40	24000 h	28000 h	32000 h	20500 h	-	-	
928483400097	T46	E40	24000 h	28000 h	32000 h	20500 h	-	-	
928151900028	T35	E27	17000 h	22000 h	30000 h	14000 h	96 %	92 %	
928152700028	T35	E27	20000 h	23500 h	30000 h	17000 h	99 %	96 %	
928152700091	T35	E27	20000 h	23500 h	30000 h	17000 h	99 %	96 %	
928483200092	T35	E27	20000 h	23500 h	28000 h	17000 h	-	-	
928483200093	T35	E27	20000 h	23500 h	28000 h	17000 h	-	-	
928483200094	T35	E27	20000 h	23500 h	28000 h	17000 h	-	-	
928483200096	T35	E27	20000 h	23500 h	28000 h	17000 h	-	-	

General Information (2/2)

order code	LSF 2000 h	LSF 20000 h	LSF 4000 h	LSF 6000 h	LSF 8000 h	order code	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
928144709230	100 %	95 %	99 %	99 %	99 %	928158409227	-	-	-	-	-
928144709292	100 %	95 %	99 %	99 %	99 %	928483300094	-	-	-	-	-
928144709293	100 %	95 %	99 %	99 %	99 %	928483300095	-	-	-	-	-
928144709294	100 %	95 %	99 %	99 %	99 %	928483400092	-	-	-	-	-
928144709295	100 %	95 %	99 %	99 %	99 %	928483400093	-	-	-	-	-
928144709298	100 %	95 %	99 %	99 %	99 %	928483400094	-	-	-	-	-
928144709299	100 %	95 %	99 %	99 %	99 %	928483400095	-	-	-	-	-
928144809227	100 %	95 %	99 %	99 %	99 %	928483400096	-	-	-	-	-
928144809292	100 %	95 %	99 %	99 %	99 %	928483400097	-	-	-	-	-
928144809293	100 %	95 %	99 %	99 %	99 %	928151900028	99 %	83 %	99 %	99 %	99 %
928144809294	100 %	95 %	99 %	99 %	99 %	928152700028	99 %	90 %	99 %	99 %	99 %
928144809295	100 %	95 %	99 %	99 %	99 %	928152700091	99 %	90 %	99 %	99 %	99 %
928144809296	100 %	95 %	99 %	99 %	99 %	928483200092	-	-	-	-	-
928144809298	100 %	95 %	99 %	99 %	99 %	928483200093	-	-	-	-	-
928150909230	100 %	95 %	99 %	99 %	99 %	928483200094	-	-	-	-	-
928151709230	100 %	91 %	99 %	99 %	99 %	928483200096	-	-	-	-	-

MASTER SON-T PIA Plus

Luminaire Design Requirements

order code	Bulb Temperature (Max)
928144709230	450 °C
928144709292	450 °C
928144709293	450 °C
928144709294	450 °C
928144709295	450 °C
928144709298	450 °C
928144709299	450 °C
928144809227	450 °C
928144809292	450 °C
928144809293	450 °C
928144809294	450 °C
928144809295	450 °C
928144809296	450 °C
928144809298	450 °C
928150909230	450 °C
928151709230	450 °C

order code	Bulb Temperature (Max)
928158409227	450 °C
928483300094	450 °C
928483300095	450 °C
928483400092	450 °C
928483400093	450 °C
928483400094	450 °C
928483400095	450 °C
928483400096	450 °C
928483400097	450 °C
928151900028	350 °C
928152700028	350 °C
928152700091	350 °C
928483200092	350 °C
928483200093	350 °C
928483200094	350 °C
928483200096	350 °C

Light Technical (1/3)

order code	Chromaticity	Chromaticity	Color Rendering	LLMF 12000 h Rated	LLMF 16000 h Rated	LLMF 2000 h Rated	LLMF 20000 h Rated	LLMF 4000 h Rated
	Coordinate X (Nom)	Coordinate Y (Nom)	Index (Nom)					
928144709230	530	420	-	96 %	95 %	99 %	94 %	98 %
928144709292	530	420	-	96 %	95 %	99 %	94 %	98 %
928144709293	530	420	-	96 %	95 %	99 %	94 %	98 %
928144709294	530	420	-	96 %	95 %	99 %	94 %	98 %
928144709295	530	420	-	96 %	95 %	99 %	94 %	98 %
928144709298	530	420	-	96 %	95 %	99 %	94 %	98 %
928144709299	530	420	-	96 %	95 %	99 %	94 %	98 %
928144809227	525	425	-	92 %	90 %	99 %	88 %	97 %
928144809292	525	425	-	92 %	90 %	99 %	88 %	97 %
928144809293	525	425	-	92 %	90 %	99 %	88 %	97 %
928144809294	525	425	-	92 %	90 %	99 %	88 %	97 %
928144809295	525	425	-	92 %	90 %	99 %	88 %	97 %
928144809296	525	425	-	92 %	90 %	99 %	88 %	97 %
928144809298	525	425	-	92 %	90 %	99 %	88 %	97 %
928150909230	535	420	-	96 %	95 %	99 %	94 %	98 %
928151709230	535	420	-	92 %	90 %	98 %	89 %	96 %
928158409227	526	424	-	-	-	-	-	-
928483300094	525	420	-	-	-	-	-	-
928483300095	525	420	-	-	-	-	-	-
928483400092	535	420	-	-	-	-	-	-
928483400093	535	420	-	-	-	-	-	-
928483400094	535	420	-	-	-	-	-	-
928483400095	535	420	-	-	-	-	-	-
928483400096	535	420	-	-	-	-	-	-
928483400097	535	420	-	-	-	-	-	-
928151900028	540	420	-	87 %	86 %	92 %	86 %	90 %
928152700028	540	420	-	83 %	82 %	90 %	81 %	87 %
928152700091	540	420	-	83 %	82 %	90 %	81 %	87 %
928483200092	540	420	-	-	-	-	-	-

MASTER SON-T PIA Plus

order code	Chromaticity		Color Rendering		LLMF 12000 h Rated	LLMF 16000 h Rated	LLMF 2000 h Rated	LLMF 20000 h Rated	LLMF 4000 h Rated
	Coordinate X (Nom)	Coordinate Y (Nom)	Index (Nom)	Index (Nom)					
928483200093	540	420	-	-	-	-	-	-	-
928483200094	540	420	-	-	-	-	-	-	-
928483200096	540	420	-	-	-	-	-	-	-

Light Technical (2/3)

order code	LLMF 6000 h		Lumen Maintenance		Lumen Maintenance		Lumen Maintenance		Luminous Efficacy (rated) (Nom)	Luminous Flux (Rated) (Min)
	Rated	Rated	2000 h (Min)	2000 h (Nom)	Maintenance 20000 h	5000 h (Min)	5000 h (Nom)			
928144709230	97 %	96 %	-	-	-	-	-	-	127 lm/W	-
928144709292	97 %	96 %	-	-	-	-	-	-	127 lm/W	-
928144709293	97 %	96 %	-	-	-	-	-	-	127 lm/W	-
928144709294	97 %	96 %	-	-	-	-	-	-	127 lm/W	-
928144709295	97 %	96 %	-	-	-	-	-	-	127 lm/W	-
928144709298	97 %	96 %	-	-	-	-	-	-	127 lm/W	-
928144709299	97 %	96 %	-	-	-	-	-	-	127 lm/W	-
928144809227	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %	-	137 lm/W	-
928144809292	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %	-	137 lm/W	-
928144809293	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %	-	137 lm/W	-
928144809294	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %	-	137 lm/W	-
928144809295	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %	-	137 lm/W	-
928144809296	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %	-	137 lm/W	-
928144809298	96 %	94 %	95 %	99 %	88 %	90.5 %	96.5 %	-	137 lm/W	-
928150909230	97 %	96 %	-	-	-	-	-	-	116 lm/W	-
928151709230	95 %	94 %	-	-	-	-	-	-	106 lm/W	-
928158409227	-	-	85 %	96 %	77 %	80 %	90 %	-	148 lm/W	-
928483300094	-	-	94 %	97 %	-	90 %	95 %	-	107 lm/W	8700 lm
928483300095	-	-	94 %	97 %	-	90 %	95 %	-	107 lm/W	8700 lm
928483400092	-	-	94 %	97 %	-	88 %	95 %	-	117 lm/W	14500 lm
928483400093	-	-	94 %	97 %	-	88 %	95 %	-	117 lm/W	14500 lm
928483400094	-	-	94 %	97 %	-	88 %	95 %	-	117 lm/W	14500 lm
928483400095	-	-	94 %	97 %	-	88 %	95 %	-	117 lm/W	14500 lm
928483400096	-	-	94 %	97 %	-	88 %	95 %	-	117 lm/W	14500 lm
928483400097	-	-	94 %	97 %	-	88 %	95 %	-	117 lm/W	14500 lm
928151900028	89 %	88 %	-	-	-	-	-	-	81 lm/W	-
928152700028	86 %	85 %	-	90 %	81 %	-	86.5 %	-	91 lm/W	-
928152700091	86 %	85 %	-	90 %	81 %	-	86.5 %	-	91 lm/W	-
928483200092	-	-	90 %	95 %	-	85 %	92 %	-	91 lm/W	5940 lm
928483200093	-	-	90 %	95 %	-	85 %	92 %	-	91 lm/W	5940 lm
928483200094	-	-	90 %	95 %	-	85 %	92 %	-	91 lm/W	5940 lm
928483200096	-	-	90 %	95 %	-	85 %	92 %	-	91 lm/W	5940 lm

Light Technical (3/3)

order code	Luminous Flux (Rated) (Nom)	order code	Luminous Flux (Rated) (Nom)
928144709230	33000 lm	928144709298	33000 lm
928144709292	33000 lm	928144709299	33000 lm
928144709293	33000 lm	928144809227	55800 lm
928144709294	33000 lm	928144809292	55800 lm
928144709295	33000 lm	928144809293	55800 lm

MASTER SON-T PIA Plus

order code	Luminous Flux (Rated) (Nom)
928144809294	55800 lm
928144809295	55800 lm
928144809296	55800 lm
928144809298	55800 lm
928150909230	17700 lm
928151709230	10700 lm
928158409227	90000 lm
928483300094	10700 lm
928483300095	10700 lm
928483400092	18000 lm
928483400093	18000 lm

order code	Luminous Flux (Rated) (Nom)
928483400094	18000 lm
928483400095	18000 lm
928483400096	18000 lm
928483400097	18000 lm
928151900028	4400 lm
928152700028	6600 lm
928152700091	6600 lm
928483200092	6600 lm
928483200093	6600 lm
928483200094	6600 lm
928483200096	6600 lm

Light Distribution Diagrams

