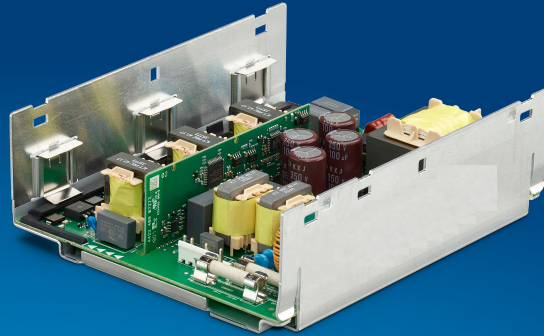




PILA

Horti Driver



## Datasheet

# PILA Horti Driver 1000W 400V

## Full-electronic driver for PILA 1000W lamps

### Benefits

- Very high efficiency for maximum energy savings
- Long lifetime and high reliability
- Constant output power regulation across wide input voltage range for constant growth light
- Enables the control of the light period by extending the natural day length with artificial light.
- Replaces daylight with artificial light for ultimate climate control (cultivation without daylight).
- Supplements daylight in greenhouses with growth light

### Features

- Full-electronic state-of-the-art driver technology
- Robust electronic and mechanical design for enhanced reliability and longer life
- High and constant lumen control safeguards a constant crop quality and quantity over life
- Easy to design-in; single luminaire component

### Application

- Ideal for growing vegetables and flowers
- Designed for delta connection in 3-phase 230/400V grid

## Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	368 ... 424	V <sub>ac</sub>	Performance range
Rated input voltage	400	V <sub>ac</sub>	
Rated input frequency range	47...63	Hz	Performance range
Rated input current	2.6	A	@ rated output power @ rated input voltage
Max. input current	2.9	A	@ max. output power @ 380V input voltage
Rated input power	1042	W	@ rated output power @ rated input voltage
Maximum input power	1083	W	@ maximum output power @ 380V input voltage
Power factor (typ)	0.99		@ rated output power @ rated input voltage
Total harmonic distortion (typ)	8	%	@ rated output power @ rated input voltage
Efficiency (typ)	96	%	@ rated output power @ rated input voltage
Input voltage AC range	360 ... 440	V <sub>ac</sub>	Safety operational range
Input frequency AC range	45...66	Hz	Safety operational range
Insulation input/output to bracket	Basic		
Max. rated voltage between input and bracket	240	V <sub>ac</sub>	
Grid configuration	L - L		Wye connection in 400/690V grid not supported.

## Electrical output data

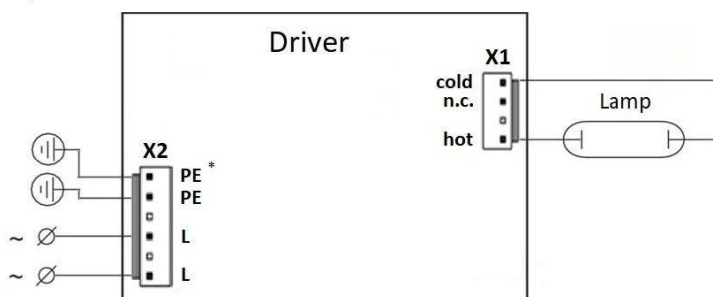
Specification item	Value	Unit	Condition
Regulation method	Constant Power		
Lamp voltage range	232 ... 315	V	Output power regulation within +/- 5% of rated power
Lamp voltage shutdown	<50 or > 330	V	After 60s. No automatic restart; mains cycle required after re-lamping
Rated output power	1000	W	+/- 5%
Ignition voltage range	2.3 ... 2.5	kV	Max. capacitive loading < 100pF (< 0.5 m)
Max. ignition voltage towards earth	3.2	kV	Max. capacitive loading < 100pF (< 0.5 m)
Ignition frequency (max.)	400	kHz	
Steady-state operating frequency range	100 ... 220	kHz	
Max. cable length between driver and lamp	0.5	m	Shielded output cables not supported.

## Logistical data

Specification item	Value
Product name	PILA Horti Driver 1000W / 400V
EOC	871951426354300
Logistic code 12NC	9137 120 10261
Pieces per box	144

## Connections

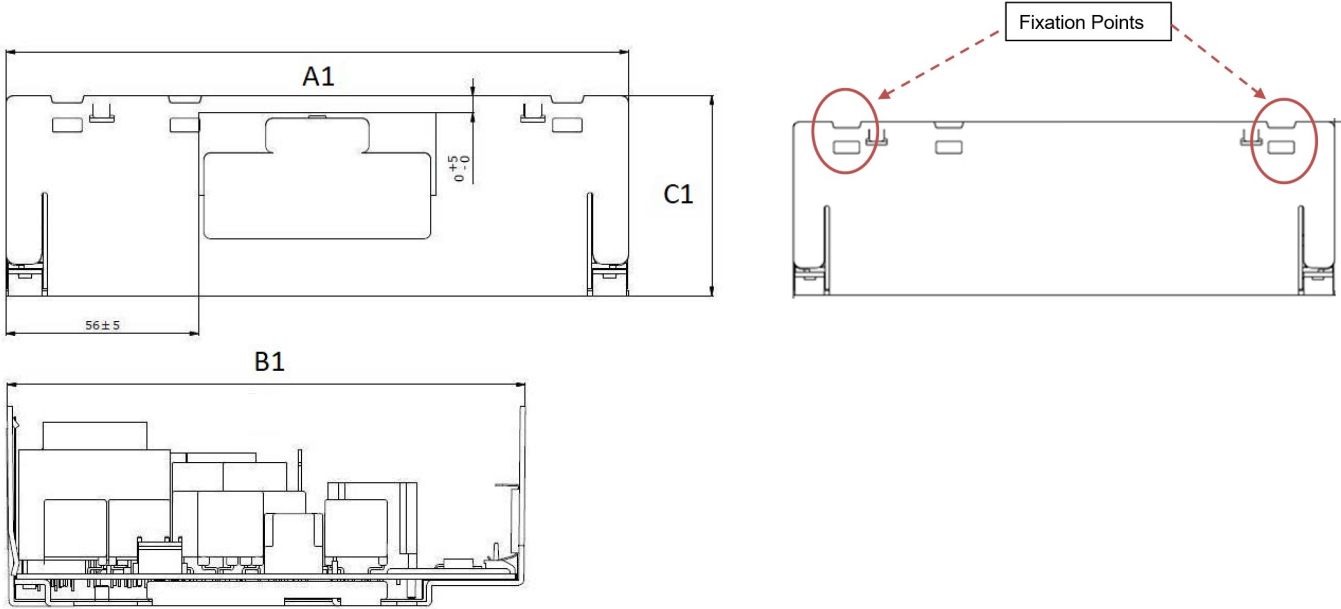
Specification item	P/N	Brand	Condition
Input connector X2	B4P(6-2.4)-VH (LF)(SN)	JST	Counterpart P/N: JST VHR-6N SVH-21T-P1.1/SVH-41T-P1.1
Output connector X1	B3P4-VH (LF)(SN)	JST	Counterpart P/N: JST VHR-4N SVH-21T-P1.1/SVH-41T-P1.1



\* Note: driver PE connector not intended for PE loop-through from one luminaire to the next luminaire.  
Driver bracket must be connected to Protective Earth.

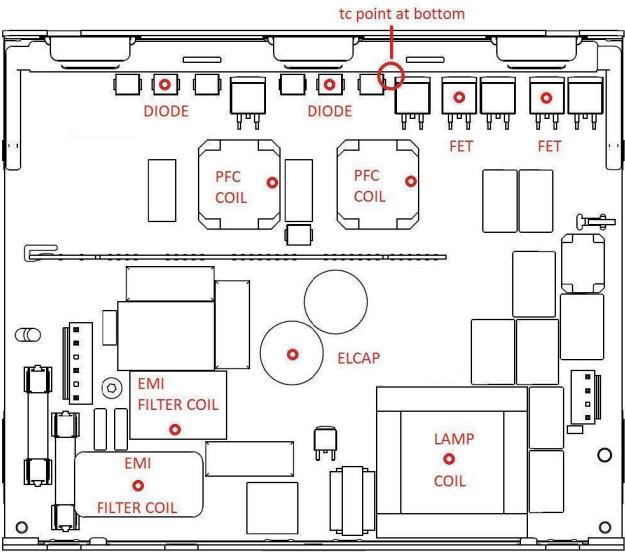
Dimensions and weight

Specification item	Value	Unit	Condition
Length (A1)	181	mm	
Width (B1)	151	mm	
Height (C1)	58	mm	
Weight	875	gram	



Operational temperatures and humidity

Specification item	Value	Unit	Condition
Typical luminaire temperature	0...+30	°C	Max. luminaire ambient temperature depending on driver component temperatures. See design-in guide for details
Relative humidity	10...90	%	Non-condensing
Driver Ingress Protection rating (IP)	00		Recommended luminaire IP rating ≥ 65. See design-in guide



Maximum component temperatures

Specification item	Maximum temperature	°C	Remark
EMI FILTER COIL	100		Measured on wire
PFC COIL	105		Measured on wire
ELCAP	93		Measured on top (use insulation!)
LAMP COIL	105		Measured on wire
FET	100		Measured on top
DIODE	100		Measured on top

Component temperatures above must be verified in worst-case conditions with  $U_{\text{mains}}=380\text{V}$  and  $U_{\text{lamp}}=300\text{V}$  at components indicated with a red dot.

### Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-20...+85	°C	
Relative humidity	5...95	%	Non-condensing

### Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	20,000	hours	Number of survivors $\geq$ 90%. Driver lifetime defined by critical driver components. See previous page.

### Features

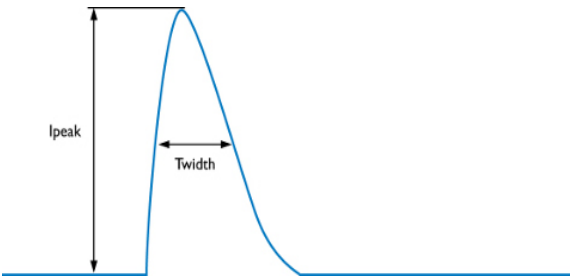
Specification item	Value	Remark	Condition
Open load protection	Yes		Automatic driver shutdown
Short circuit protection	Yes		Automatic driver shutdown
Over power protection	Yes		Automatic driver shutdown
Remote gearing	No		Max. output cable lenght 0.5m
Suitable for luminaire Insulation Class	I		Acc. IEC60598-1
Overtemperature protection driver	Yes		Driver shutdown if $T_c$ temperature > 115°C. Driver restart < 95°C.

### Certificates and standards

Specification item	Value
Approval marks	CE / EAC / UA / CELMA A2
Electrical standards	CISPR15, EN60298, EN61547, EN90926, IEC61000-3-2
Environmental standards	ISO 14001, RoHS
Mechanical standards: vibration & bumps	IEC 60068-2-6 Fc (10-150Hz, 2g); IEC60029-2-29 Eb (10g/16ms)
Approved PILA lamp types:	HPS PILA 1000W EL DE UNP/50

### Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	30	A	Input voltage 424VAC
Inrush current $T_{width}$	1.6	ms	Input voltage 424VAC, measured at 50% $I_{peak}$



MCB type	Rating	Max. recommended number of drivers
B	10A	1
B	16A	2
B	20A	3
B	25A	4
B	32A	5
C	10A	2
C	16A	4
C	20A	5
C	25A	6
C	32A	8

## Protective conductor current

Specification item	Value	Unit	Condition
Protective conductor current (max)	1.0	mA rms	Acc. IEC61347-1

## Surge immunity

Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	2	kV	L - L acc. EN61547, 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	L - PE acc. EN61547, 12 Ohm 1.2/50us, 8/20us



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