SCHIEDERWERK

Electronic Lamp Power Supply

ELD 8 – 120

Technical Specifications

CHARACTERISTICS

- Flicker-free operation
- Enhanced service time of lamp
- Constant lamp power during service time by power regulation
- Increased light output
- Dim function
- Lamp on/off via opto coupler
- Lamp ok feedback signal via opto coupler

ORDER NUMBERS

Type	Order No.	Output Power / W	Lamps	Remarks
ELD 8 - 120	32 563 1200	1470	HTI	With coated PCB

LIMITS

Generally all discharge lamps can be supplied within following limits:

ILmax = 18A **Pmax = 1470W**

TECHNICAL DATA

Input DC voltage	400V VDC (+/-5%)
Max input DC ripple voltage	20Vpp
Open circuit output voltage	Approx 400V
Lamp voltage range	85V – 120V square wave 250Hz
Shut-down voltages	50V ≥ Vsd ≥ 150V
Lamp power	1470W ± 10W @ 25°C, w/ resistor load @ 100V 1470W ± 5% @ -20°C/+80°C, w/ end-of-life lamp
Min. dim level	1060W ± 15W @ 25°C, w/ resistor load @ 100V 1060W ± 5% @ -20°C/+80°C, w/ end-of-life lamp
Lamp current	≤ 18A
Efficiency	≥ 92% @ 85V lamp voltage
XS2 Dimmer / ON OFF input via opto-coupler	ON/OFF: Pin3 +5V, Pin4 GND (5V ON / 0V OFF) Dimming: Pin5 to GND (1060W)
Protection	Overtemperature protection Short circuit protection Open circuit protection Ignition time limitation
Thermal sensor	47k NTC placed on solder side of the PCB
Lifetime	Product 5 year (43.000h); Lamp on: 8.500h, Mains on: 10.000h
Relative Humidity	10….85% non-condensing
Operating temperature	[-10 to +55ºC]; fully operational **).
NPF*) temperature	[-20 to +80ºC]; self-protection such as shut down is allowed.
Safety approvals Ballast	UL 1029
Safety approvals Igniter	UL 1029
Maximum dimensions	LxWxH 214.6 mm x 82.1 mm x 50.6 mm
Weight	655 g
Approvals	UL 1029, Fifth Edition / UL 935 Tenth Edition / CSA C22.2, No. 74

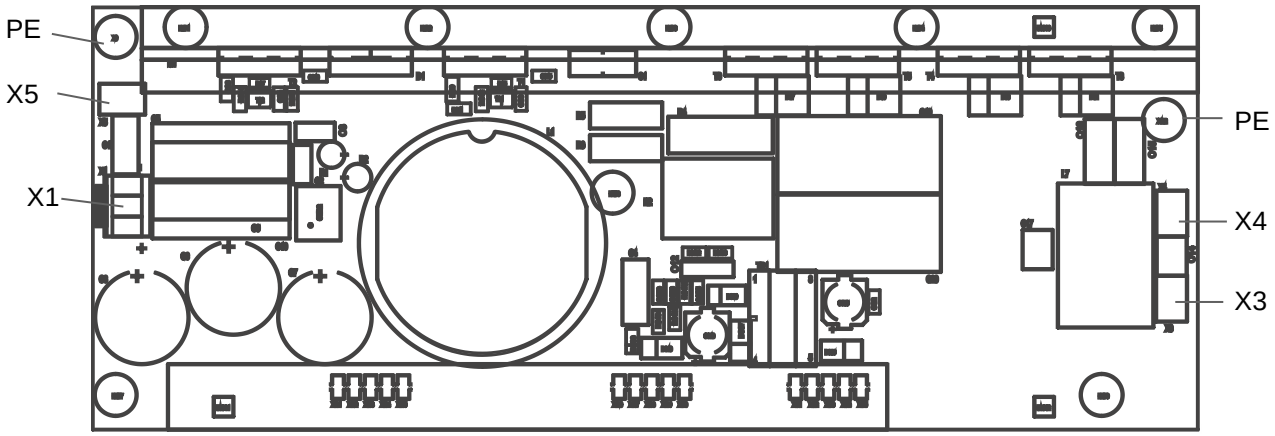
If not noted the test conditions are: T_{amb}=25ºC, V_{in}=400VDC, P_O=1470W and V_{Lamp}=85V.
*) No Permanent Failure.

CONNECTOR WIRING

Name connection	Connector name	Pin configuration
Power input	X1 (main board)	pin 1 DC Input voltage pin 3 GND
Protective Earth	X5 (main board)	
Control input	XS2 (control board)	pin 1 Flag/TxD (collector) pin 2 Flag/TxD (emitter) pin 3 Common+ (anodes) pin 4 SCI=Lamp ON/OFF (cath.) pin 5 Stepdim/RxD (cath.)
Optional control input	XS3 (control board)	pin 1 AuxIn (anode) pin 2 AuxIn (cathode) without function
Connection to igniter	X3 (main board) X4 (main board)	To igniter To igniter

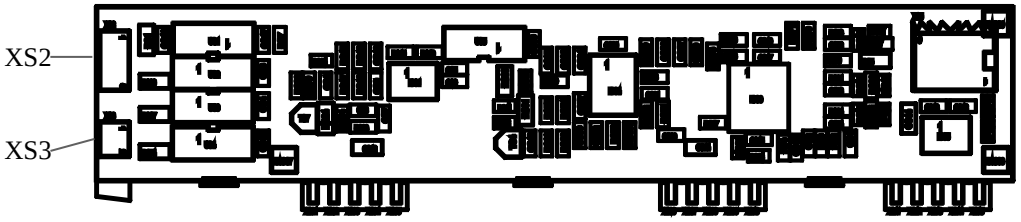
CONNECTORS

MAINBOARD

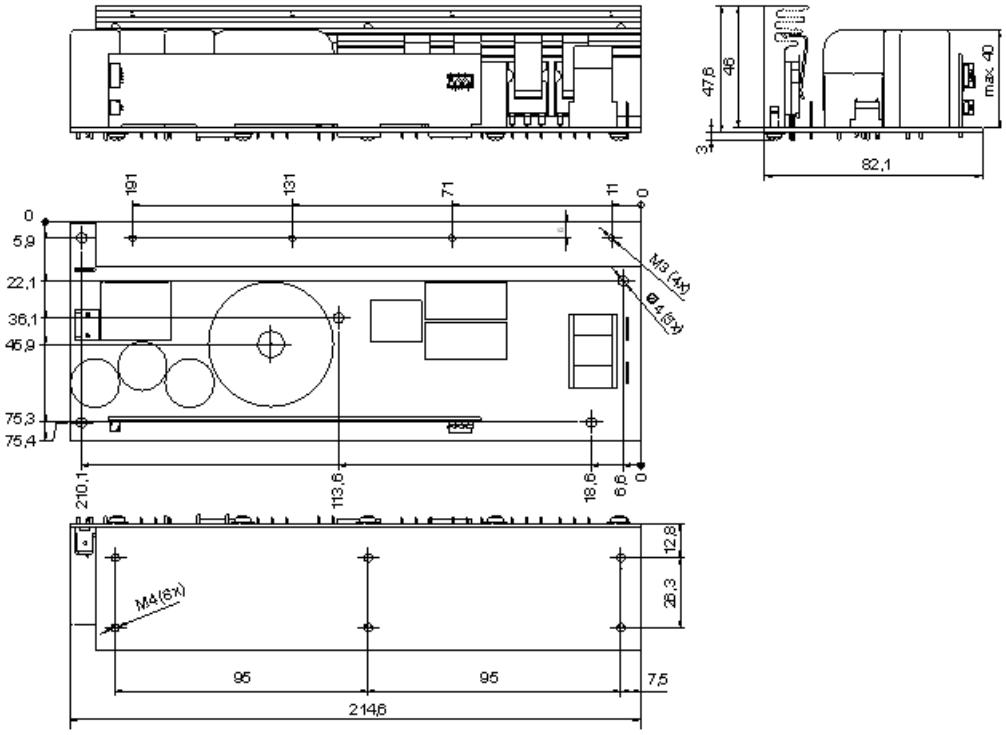


All points in the drawing marked with PE must be connected to protective ground

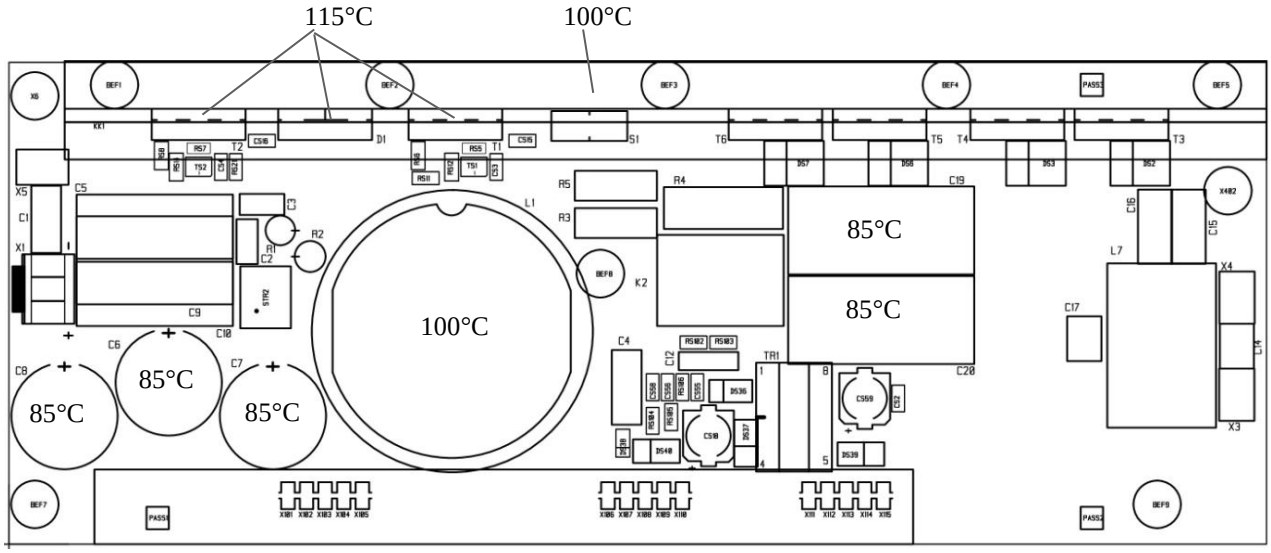
CONTROL BOARD



MOUNTING DETAILS



PERMITTED MAXIMAL OPERATION TEMPERATURES ON COMPONENT SURFACES



The temperatures specified above are maximal values. Exceeding the stated temperature values for capacitors leads to reducing the service life.

85°C

85°C

90°C

85°C

Additional devices needed for operation

PFC: **SMPS 28/9** **400-2 M 10 U**	35 143 1011	1000W/1400W Output Power
Ignitor: **KZG 18-7 E** **KZG 20-5**	32 572 1100 32 572 1020	Cold restrike Cold restrike
EMV Filter 13A	32 313 1010	

WARNING NOTICE

Do not attempt to handle or operate an electronic power supply (EPS) and ignitor before completely reading and understanding this notice. Contact Schiederwerk if you are uncertain of hazards associated with these devices.

The ignitor produces starting voltages of up to 6 kV and electromagnetic radiation interference which are hazardous to personnel and sensitive instrumentation. Exercise appropriate care in the handling of high voltages. Do not touch any conductive parts during operation.

Ensure the units are disconnected from the mains before exchanging the lamp connected to the PSU / ignitor resp. to the end application. The residual charge left on the capacitors is a danger to life if the units are still connected to mains!

Caution: The residual charge on the capacitors can be a danger to life even if the units are disconnected from the mains. Please handle with care!

Both electronic lamp ballast and ignitor must never be installed or operated in an explosive or volatile atmosphere. Never use the ballast or ignitor near flammable gases or liquids. See that there will be no moisture, dust or similar which could lead to short circuits or fire.

Before using the ballast or ignitor in any kind of outdoor application you have to take additional measures and observe special requirements. If you are uncertain, contact Schiederwerk.

No potential isolation is provided between line input and output. Accidentally grounding of an output terminal by direct contact or arcing to GND can damage the unit (no warranty replacement).

The unit is designed for case mounting. Due observation of electrical safety and RFI suppression code requirements is mandatory in all applications. See that sufficient cooling of EPS and ignitor is provided.

All installation and repair work on this unit is only permitted by qualified personnel. Always comply with local safety requirements when operating the unit uncased.

Extreme care must be taken when testing the unit live. The use of an isolating transformer is mandatory. On no account may grounded test instruments / meters be used for this purpose!

Schiederwerk does not assume liability for disregarding of this notice, incorrect use of the EPS and ignitor or dis-regarding of any legal requirements. This product is subject to technical changes without prior notice.

CAUTION:

Mains supply must be fused according to local safety regulations.
Schiederwerk recommends 2 pole fuse (L+N). The appropriate fuse value can be calculated as:

$$1{,}5 * \frac{P_{Lamp}}{U_{Line}} \geq I_{Fuse} \geq 1{,}3 * \frac{P_{Lamp}}{U_{Line}}$$

Last Update: 19.12.2017