

Product Brochure

ELECTRONIC LAMP CONTROL – ELC



ELC - HIGH PERFORMANCE ELECTRONICS FOR UV LAMPS AND UV LEDs

ELC electronic lamp controls have been specifically developed for operating medium-pressure UV discharge lamps and UV LEDs. eta plus offers two different series for the electronic control of UV lamps from 4 kW up to 35 kW. The different models offer most flexible and reliable power system integration.

Special versions are designed for marine applications such as ballast water treatment. ELC electronic lamp controls allow for a simple PLC connection and optimise process reliability while reducing operating costs

Technology

All ELC are based on a high frequency resonant power converter to precisely power the medium pressure lamps. This topology combines highest efficiency at lowest electromagnetic interference. The fully insulated lamp output allows perfect lamp matching as well as short circuit and earth fault resistant operation.

Our MP lamps and cabinets

Customer-specific in-house lamp development permits the optimum component match for your UV system. Our perfectly matched ELC product line ensures the longest possible operating life of the MP lamp.

By using eta plus' power cabinet series ELCC you will get the full benefit of an overall system. The ELCC series fulfils industrial as well as marine standards and makes a simple switch from magnetic to electronic ballast devices easy and possible.

We supply you with most reliable and efficient UV components and you can concentrate your resources on the development of your application specific UV equipment.

✓ System reliability

- smart soft ignition
- highest lamp lifetime

✓ Efficiency

- low heat exhaust
- highest ambient temperature
- smallest space requirements
- energy savings

✓ Stepless lamp control

- dimming range 20% to 100%
- precisely controlled and monitored lamp status

✓ Mains compliance

- high power factor
- low harmonic distortion
- symmetric load
- no inrush current

✓ Safety features

- insulated lamp output
- integrated insulation measurement and earth fault detection
- short circuit proof



POWERFUL AND COMPACT - TO DRIVE YOUR UV APPLICATION



PE series

ELC PE series

Modular system for maximum cost-effectiveness

- ✓ rated output: 12 kW to 35 kW
- ✓ Fieldbus control
- ✓ superior power density
- ✓ protection class to IP20
- ✓ air-cooled



X series

ELC X series

Pioneering technology in a compact design

- ✓ rated output: 4 kW, 6 kW, 8 kW, 12 kW, 16 kW, 24 kW, (36 kW under development)
- ✓ wide input voltage range from 360V to 528V
- ✓ significantly reduced harmonic distortion of the mains power THDi
- ✓ up to 97% electrical efficiency
- ✓ innovative air-cooling system
- ✓ protection class IP 54
- ✓ Fieldbus control (Modbus and Profibus)
- ✓ operation of lamps and LED modules possible

ELC X_B series

ELC X series for harshest environments

- ✓ special PCB board protection for marine application
- ✓ max. ambient temperature 55°C
- ✓ DNV GL type approval for all power levels
- ✓ complete power cabinets with DNV GL / USCG approval available

ELC PE SERIES

Based on the proven switching concepts of our original N series, the PE series provides digital control via Fieldbus at superior power density in a compact and efficient design. The Fieldbus controller facilitates extensive on-site diagnostics and significantly reduces wiring.

Type	Lamp Power	Lamp Voltage	Dimensions (H x W x D)	Weight
ELC PE12-400-110	12 kW	1100V	650 x 261 x 263.5 mm	22.0 kg
ELC PE16-400-140	16 kW	1400V	650 x 261 x 263.5 mm	22.0 kg
ELC PE22-400-210	22 kW	2100V	650 x 261 x 484 mm	29.0 kg
ELC PE32-400-280	32 kW	2800V	650 x 261 x 484 mm	37.0 kg

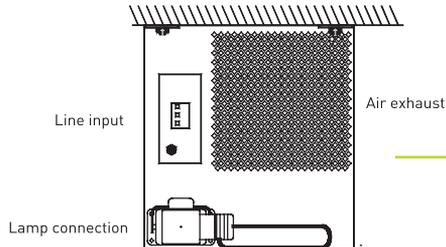
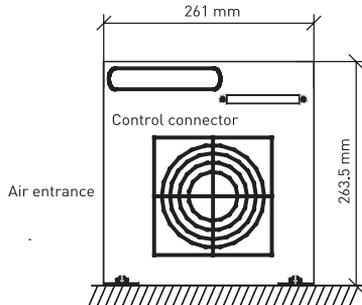


PE series

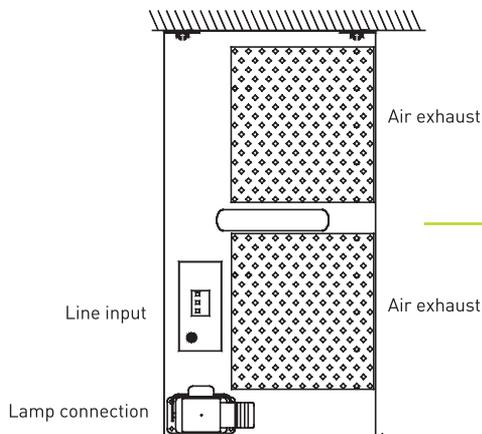
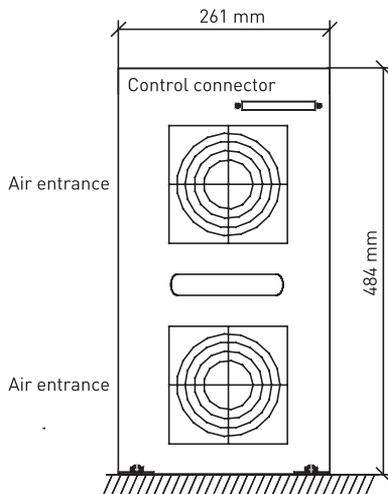
Technical Data PE series	
Mains voltage	400 V ± 10 %, 3 phase, 50/60 Hz
Power factor	typ. 0.88 at Uk = 4 % of the upstream power choke
Efficiency	typ. 94 %
Control port	Profibus
Safety interrupt	yes
Lamp dimming range	20 % to 100%
Lamp monitoring	voltage, current, power
Earth fault detection	standard
Max. distance ELC to lamp	5 to 40m
Protection	IP20
Max. ambient temperature	0 °C to +40 °C / +45 °C / +50 °C (depending on ELC type)
Cooling	forced air cooling
Weight and dimensions	see table above
Compliances	CE, EN 50178

Data subject to technical alterations

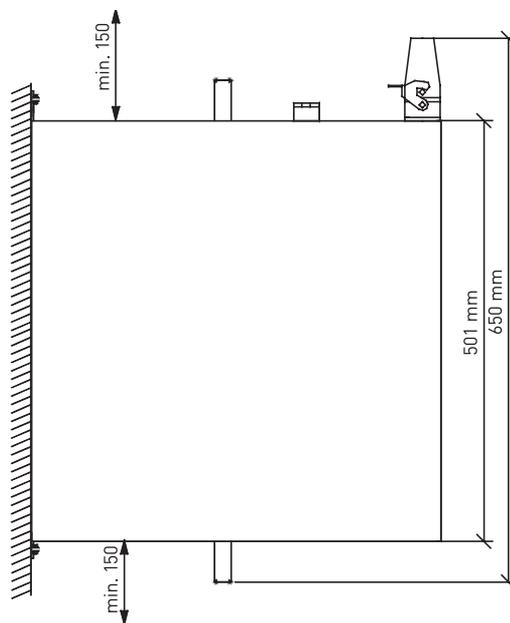
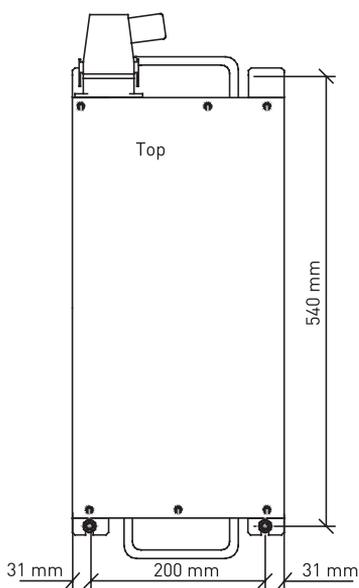
DIMENSIONS ELC PE SERIES



PE 12, PE 16



PE 22, PE 32



**PE 12, PE 16,
PE 22, PE 32**

ELC X SERIES

The result of intensive research, development and many years of market experience. Developed for minimum space requirements and demanding environments. The X series combines excellent mains compatibility with a highly innovative cooling concept for reliability and flexible installation independent of the control cabinet. The X series is completed by comprehensive diagnostic capabilities via Fieldbus and the eta plus safety concept.

Technical Data X and X_B series	
Mains voltage	wide input range 360V – 528V, 2 phase
Power factor	typ. > 97 %
Efficiency	typ. > 94 %
Harmonic current distortion THDi	typ. 5 % to 7 % (depending on ELC type)
Control port	Profibus and Modbus
Safety interrupt	built-in safety relay for emergency stop
Lamp dimming range	typ. 20 % to 100 %
Lamp monitoring	voltage, current, power, status
Earth fault detection	standard
Max. distance to lamp	standard up to 40 m, up to 100 m with special lamp cable (cannot be connected directly, due to diameter of cable)
Protection	IP54
Max. ambient temperature	45°C (X_B series 55°C)
Cooling	forced air cooling, no air filter required
Weight and dimensions	see table at right
Compliances	CE, EN 50178, UL Recognized component E349667 for X series and DNV GL type approval for B series

Special feature	stacking option allows cabinet-free installation in one tower: X4 to X12 up to 12 ELC, X16 and X24 up to 6 ELC and X36 up to 4 ELC
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Type	Lamp Power	Lamp Voltage	Dimensions (H x W x D)	Weight
ELC X4-40	4 kW	400 V	125 x 470 x 260 mm	11.0 kg
ELC X6-60	6 kW	600 V	125 x 470 x 320 mm	14.0 kg
ELC X8-80	8 kW	800 V	125 x 470 x 420 mm	18.5 kg
ELC X12-110	12 kW	1100 V	125 x 470 x 420 mm	20.5 kg
ELC X16-140	16 kW	1400 V	250 x 470 x 420 mm	37.0 kg
ELC X24-210	24 kW	2100 V	250 x 470 x 420 mm	41.0 kg
ELC X36-300*	36 kW	3000 V	375 x 470 x 420 mm	61.5 kg

*under development



ELC X_B SERIES



Specific for marine application like ballast water treatment systems. The X_B series offers marine specific properties for harsh ship environment. This includes 55 °C operation as well as 100 m cable length for most flexible installation opportunities. X_B series is designed in compliance with IMO and USCG regulations.

- ✓ max. temperature 55 °C
- ✓ vibration proof
- ✓ humidity proof (IP54 rated design)
- ✓ built-in heat exchange
- ✓ included harmonic filter optimized for generator supply
- ✓ wide supply input 360V to 528V, fully covers 440V ± 20%
- ✓ advanced lamp ignition for low temperatures
- ✓ lamp distance up to 100m
- ✓ highest power density
- ✓ designed in compliance with IMO and USCG regulations
- ✓ DNV GL type approved

Type	Lamp Power	Lamp Voltage	Dimensions (H x W x D)	Weight
ELC X6B-60	6 kW	600 V	125 x 470 x 320 mm	15.0 kg
ELC X8B-80	8 kW	800 V	125 x 470 x 420 mm	19.5 kg
ELC X12B-110	12 kW	1100 V	125 x 470 x 420 mm	21.1 kg
ELC X16B-140	16 kW	1400 V	250 x 470 x 420 mm	38.2 kg
ELC X24B-210	24 kW	2100 V	250 x 470 x 420 mm	42.2 kg
ELC X36B-300*	36 kW	3000 V	375 x 470 x 420 mm	63.3 kg

*under development

DIMENSIONS ELC X SERIES



ELC
X4, X6, X6B X8, X8B, X12, X12B

D = 260–420 mm
W = 470 mm
H = 125 mm



ELC
X16, X16B, X24, X24B

D = 420 mm
W = 470 mm
H = 250 mm



ELC
X36, X36B

D = 420 mm
W = 470 mm
H = 375 mm

eta plus electronic gmbh

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