

Aura supplies Long Life light sources and lighting solutions. With a lifetime that is at least three times longer, you can reduce your maintenance and environmental impact to a third. With our Eco Saver and Eco solutions you can also reduce your energy consumption dramatically, thus reducing your energy costs and carbon footprint even further.

Aura Elmetec Constant Light

LONG LIFE



50% energy saving and maintenance free with optimized light distribution

This lighting solution is in principle maintenance free. With optimized light distribution, it can reduce your energy consumption with 50 percent, thus saving both money and the environment, and providing you a pay-back in less than two years.

Based on its construction and high resistance against disturbances this heavy-duty solution is particularly suitable for outdoor signage applications where high reliability and long-term operation is required.

Additionally, the Aura Elmetec Constant Light system offers a unique solution to ensure optimized light distribution in various weather conditions and temperatures.

The Aura Elmetec Constant Light system consists of the controller EBC 1001 and the electronic dimming ballasts EBH 2000.

Outdoor applications

- Illuminated Outdoor
- Signs & Billboards
- City Light Posters and Boards
- Gasoline Stations
- Heavy Industry

AURA ELMETEC CONTROLLER (EBC 1001)

The controller is developed and designed specifically for the energy-saving operation in combination with the electronic dimming ballast range EBH 2000. As a system they work perfectly together to achieve constant light distribution in application segments like outdoor sign lighting and high demanding industry.

The controller measures the light level with a sensor placed at a fluorescent lamp and maintains the light output at a pre-defined constant level. It can control several electronic ballasts. It is possible to combine them e.g. with on-off switches or daylight controls.

The main characteristics of the controller

- Heavy duty construction
- IP65
- Full encapsulation protects against high humidity, vibrations, corrosion and aggressive atmospheres

Flexibility

To obtain the highest degree of application flexibility the controller design allows the mounting in two different positions:

- sensor directly pointing to and measuring on the lamp (direct measuring) - main and preferred position (see picture on right)
- sensor positioned to measure along the lamp (indirect measuring).

Standards

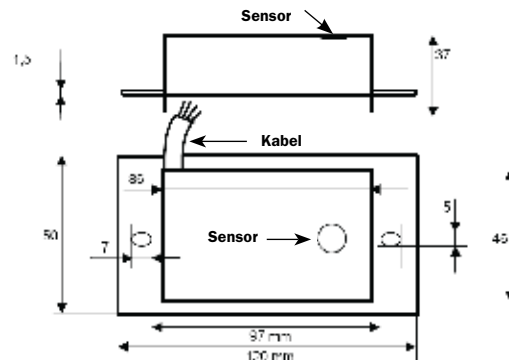
The controller is in line with following international standards:

- EN 50081-1 - EMC emission
- EN 50082-1 - EMC immunity
- EN 61547 - Equipment for general lighting purposes – EMC immunity requirements
- EN 55015 - Equipment for general lighting purposes – EMC emission requirements
- EN 60730-1 - Automatic controls for household and similar use - general requirements

Specification

| | |
|-------------------|---------------------|
| Supply voltage | 230V a.c. 50/60 Hz |
| Max consumption | 3 W |
| Protection | IP65 |
| Control signal | 0 - 20 mA d.c. |
| Temperature range | Ta -25 °C to +55 °C |

Dimensions of controller EBC 1001

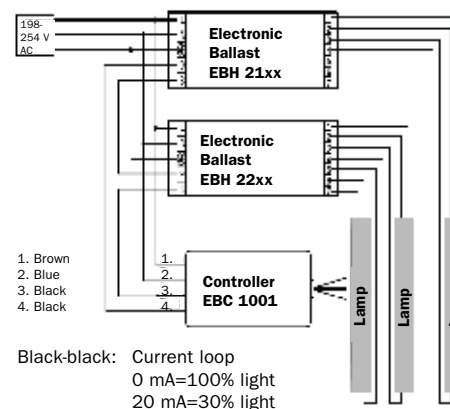


Distance between controller's sensor and fluorescent lamp



By adjusting the distance between the controller's sensor and the lamp the dimming level is regulated. At 3 cm the maximum level and at 10 cm the minimum level is provided.

Installation and connection of controller EBC 1001



| PROGRAMME EBC 1001 | TYPE | DIMENSIONS | | | OPERATION | DISTANCE | POWER | SUPPLY | FREQUENCY | TEMP. | PACK. | ART. |
|-----------------------|------------------------------|------------|-------|--------|-----------|----------|-------------|---------|-----------|-----------|-------|--------|
| | DESCRIPTION | length | width | height | AREA | TO LAMP | CONSUMPTION | VOLTAGE | (Hz) | RANGE | UNITS | NO. |
| | | (mm) | (mm) | (mm) | (mA) | (direct) | (W) | (V) | | (Ta °C) | (pcs) | |
| | Ballast controller IP65 | | | | | | | | | | | |
| | Controller EBC1001 - 3-10 cm | 120 | 46 | 37 | 0 - 20 | 3 - 10 | 3 | 230 V | 50/60 | -25 - +55 | 20 | 690109 |

AURA ELMETEC ELECTRONIC BALLAST (EBH 2000)

Aura Elmetec EBH 2000 is a range of electronic, high-frequency ballasts for operation of fluorescent lamps which replace conventional magnetic ballasts and starters. They are designed for use with standard T8 26 mm fluorescent lamps. They combine the highest available quality with an efficient operation.

The Aura Elmetec ballast range has been introduced mainly for use in outdoor lighting installations, e.g. signs, in difficult industrial applications, and all other light installations designed for long-term operation in demanding environments.

Dimming operations

The ballast is only available with a dimming function. All the benefits of dimming are provided in particular energy savings up to 50%.

Characteristics that ensure reliable operation

- Heavy duty design
- Protection against high humidity, vibration, corrosion, and aggressive atmospheres
- Fully encapsulated
- Protection against overload
- Connectors protected against short-circuiting
- Reliable start from - 25° C up to + 55 ° C

Specifications

- Instant start
- Automatic switch-off of defective lamps
- Automatic restart after replacement of a defective lamp
- Active harmonic filter
- Light output independent of variations in mains supply
- Starting must be without dimming

| | |
|----------------------|-----------------------|
| Supply voltage a.c. | 198-254 V a.c. |
| Supply voltage d.c. | 200-310 V d.c |
| Mains frequency | 50 / 60 Hz |
| Power factor | 0,98 cap. |
| Temperature range Ta | - 25 °C up to + 55 °C |
| Max housing temp. Tc | + 75°C |

| | |
|------------------------------------|--|
| Inrush current (arbitrary variant) | <ul style="list-style-type: none"> • Sine 0° max 3.9 A peak, pulse duration 5 ms • Sine 90° max 28.0 A peak, pulse duration 1 ms • Real mains impedance ~ 0 ohm |
| Earth leakage, mA | < 0,5 |
| Enclosure with terminals | IP 30 |
| Operating frequency | 40 - 100 kHz |
| Control signal | 0 - 20 mA |
| Control input resistance | < 2 ohm |
| Dimming control range | 100-30% light |
| Connections | Screwless terminals |
| Dimensions (l x w x h) | 263 x 42 x 29 mm |

Approvals and marking

The EBH 2000 range is CE-marked and ENEC-certified (Kema). According to the requirements the EBH 2000 ballasts are complying with the following standards:

| | |
|--------------------|--|
| EMC | • EN 55015 (Emission) |
| | • EN 61547 (Immunity) |
| | • EN 61000-3-2 (Supply harmonics) |
| | • 3rd harmonic at 100% light: Max 1/3 of requirement according to standard |
| SAFETY | • EN 61347-1 / -2 - 3 (a.c.) |
| | • EN 61347-1 / -2 - 4 (d.c.) |
| PERFORMANCE | • EN 60929 (a.c.) |
| | • EN 60925 (d.c.) |

Quality

The robustness of the EBH ballasts has been measured and documented through the following environmental tests:

| TEST | DESCRIPTION | STANDARD |
|--------------------|---|-----------------------|
| Vibration | 2.52 GRMS, 18 - 1000 Hz, in 3 directions for 2 hours - Effect 0.001 – 0.02 g ² / Hz | - |
| Shock | 15 G / 11 ms, 6 directions, 3 shocks in each | EN 60068-2-27 test Ea |
| Bump | 10 G / 16 ms, 3 directions, 1000 ± 10 bumps in each | EN 60068-2-29 test Eb |
| Static humidity | 40 ± 2 °C at 93 ± 3 % RH for 56 days | EN 60068-2-3 test Ca |
| Cyclic humidity | 12 hours at + 25 °C, 12 hours at + 55 °C, 90 - 100 % RH | EN 60068-2-30 test Db |
| Max storage temp. | 72 hours at + 70 °C | EN 60068-2-2 test Bp |
| Min. Storage temp. | 72 hours at - 40 °C | EN 60068-2-1 test Ab |

Lifetime

The Aura Elmetec electronic ballasts have an outstanding lifetime. They are able to operate between 25.000 h and up to 200.000 h - based on the defined failure rate.

The ballast temperature (Tc) has a very important impact both on lifetime and operation. It is therefore recommended to optimise the installation to ensure best results.

Ballast Lifetime relative to Ballast Temperature (Tc)

| | "RELIABILITY: MAX FAILURES AS % PER 1000 OPERATING HOURS" | MAX 10 % FAILURES BY NUMBER OF OPERATING HOURS | "MEAN LIFE: OPERATING HOURS" |
|----------|--|--|------------------------------------|
| Tc= 80°C | 0,4 | 25 000 | 62 000 |
| Tc= 70°C | 0,2 | 50 000 | 130 000 |
| Tc= 60°C | 0,1 | 100 000 | > 200 000 |
| Tc= 50°C | 0,05 | 200 000 | > 200 000 |

| PROGRAMME EBH 2000 | TYPE DESCRIPTION | RATED LAMP POWER (W) | SUPPLY CURRENT at 230 V a.c. (A) | SUPPLY POWER (W) | OUTPUT POWER (W) | POWER LOSSES (W) | POWER CONSUMPTION at full dimming | | PACK. UNITS (pcs) | ART. NO. |
|---|-------------------------|-------------------------------|---|------------------------|------------------------|------------------------|--------------------------------------|--------------|-------------------------|-------------|
| | | | | | | | SUPPLY POWER | OUTPUT POWER | | |
| | | | | | | | (W) | (W) | | |
| Electronic ballast - dimming operation IP30 | | | | | | | | | | |
| | EBH 2118 DIM 1X18W IP30 | 1 x 18 | 0,08 | 19 | 16 | 3 | 7,8 | 4,8 | 20 | 621183 |
| | EBH 2218 DIM 2X18W IP30 | 2 x 18 | 0,15 | 36 | 2 x 16 | 4 | 13,6 | 2 x 4,8 | 20 | 622183 |
| | EBH 2136 DIM 1X36W IP30 | 1 x 36 | 0,15 | 36 | 32 | 4 | 13,6 | 9,6 | 20 | 621363 |
| | EBH 2236 DIM 2X36W IP30 | 2 x 36 | 0,30 | 70 | 2 x 32 | 6 | 25,2 | 2 x 9,6 | 20 | 622363 |
| | EBH 2158 DIM 1X58W IP30 | 1 x 58 | 0,24 | 55 | 50 | 5 | 20,0 | 15,0 | 20 | 621583 |
| | EBH 2258 DIM 2X58W IP30 | 2 x 58 | 0,47 | 107 | 2 x 50 | 7 | 37,0 | 2 x 15,0 | 20 | 622583 |

GUARANTEE

The Aura Elmetec electronic ballasts (EBH 2000) and controller (EBC 1001) are characterised by their high quality for lighting applications. In combination with the outstanding quality of the Aura Long Life fluorescent lamps, Aura is offering a specific system guarantee from date of installation.



YOUR BENEFITS

Aura Elmetec Constant Light gives you:

- Elimination of over-illumination and waste of energy (light green area).
- Elimination of poor illumination quality as temperature drops (dark green area) without increasing your energy expenses.
- Reduction of energy consumption and related CO₂ emissions while protecting the environment.

