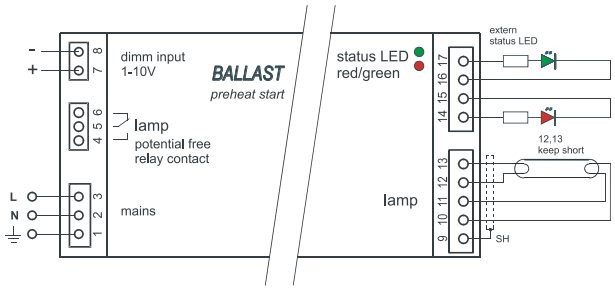
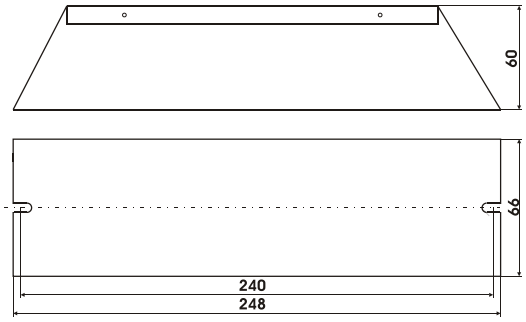
Electronic Ballast for UVC-Lamps with adjustable Lamp Current

Wiring



Dimensions



Features

- Controller based design (Cut-Off preheat start)
- Lamp current adjustable in steps
- Dimm input 1-10 V
- Inrush current limiter
- Potential free relay contact
- Opportunity of potential free LED status indication

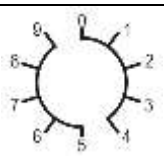
Technical Data

Type	LT-UVC 1x(40..150) W 0,35 A ..0,8 A
Supply	208/230 V AC ± 10 % 50/60 Hz
Input power min. / max.	45 W .. 165 W
Output power single lamp	40 W .. 150 W
Adjustable range of lamp current	(350 mA / 425 mA / 550 mA / 650 mA / 800 mA) ± 10 %
Powerfactor	> 0,95
Efficiency	> 0,9
Operating frequency	approx. 28..70 kHz
Inrush current	Î < 40 A to 30 µs / Î < 30 A to 300 µs
Relay Contact	1 changeover contact
Relay Contact – Maximum switching voltage	5 A 250 V AC / 5 A 24 V DC (resistive load)
Relay Contact – Minimum switching load	≥ 5 V DC / 10 mA
Dimm input	Analog 1..10 V DC
Dimm range	to minimal 60 % of lamp current
Standby power dissipation	approx. 2 W
CE-conformity	yes

Type coding

C	Preheat start ballast (Cut off Technology)
M	Potential free relay contact
D	Dimm input
B	Additional module – selection lamp current
F	Additional module – selection lamp current – connection external status LED (potential free)

Adjustment of lamp current

Adjustment by rotary switch on top of the ballast 	Pos. 0..4: preheat start Pos. 5..9: rapid start No warranty for damages caused by incompatible lamps or wrong adjustments!
Lamp typ	On request
Adjustment of lamp current parameters	Must be carried out before voltage application, switching during operation will not be detected

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Adjustment of lamp current

Switch	Lamp current	preheat current maximal
0	350 mA	350 mA
1	425 mA	425 mA
2	550 mA	550 mA
3	650 mA	650 mA
4	800 mA	800 mA
5	350 mA	Rapid start
6	425 mA	Rapid start
7	550 mA	Rapid start
8	650 mA	Rapid start
9	800 mA	Rapid start

Monitoring

Mains Control	Switch off at permanent under – or over voltage
Temperature	Switch off at permanent over temperature
Lamp presence	No start if no lamp is connected
Deactivated lamp, rectifier effect of lamps	Switch off
Shortage on the lamp line	Switch off
End of life lamp	Switch off

General indications

Operation	LED green – works normal
Failure	LED red – failure, no operation
Potential free contact (PFK)	Relay on – works normal Relay off – failure or ballast does not start (Standby)

State indications operation/failure

Ballast status	PFK	LED green	LED red	Description	Cause
No start condition	Off	Perma-nent blink	Perma-nent blink	Ballast waits for start	- Under- or over voltage mains - Over temperature - No lamp connected
Ballast start / preheating	Off	blinking	On	Lamp preheating	
Ballast start / procedure	Off	Off	On	Lamp starts	
Ballast works trouble free	On	On	Off	Normal mode	
Failure Temperature	Off	Off	1x blinking	Cut off at over temperature Ambient temperature too high Temperature at tc too high	- Wrong installation - No heat dissipation , surface of housing too small
Under voltage mains	Off	Off	2x blinking	Switch off at wrong mains	- Mains voltage under limit
Over voltage mains	Off	Off	3x blinking	Switch off at wrong mains	- Mains voltage over limit
Failure lamp voltage	Off	Off	4x blinking	- Switch off Lamp voltage out of tolerance	- Wrong lamp type in use - End of lamp life - Rectifier effect of lamp - Start with deactivated lamp
Failure over current half bridge	Off	Off	5x blinking	Switch off by over current half bridge (abnormal operation)	- Wrong lamp wiring - Shortage on lamp lines - Start without lamps
Failure Preheating over current half bridge	Off	Off	6x blinking	Switch off by over current half bridge (abnormal operation)	- Wrong lamp electrode - Shortage lamp electrode

Mounting instructions

Designed for	Installations in switch cabinet
International protection	IP20
Dimension of case	(248 x 66 x 60) mm
Spacing fixing holes	240 mm
Installation position	Vertical, mains terminal below
Ambient temperature	ta = 0..40 °C
Temperature at tc-point	tc = 55 °C maximum case temperature

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Cabling

Max. length of lamp cables	< 5 m
Max. capacitance of lamp cables	< 150 pF/m
Screened lamp cables permitted	yes

Terminal blocks

Mains	Cross section: 0,5–2,5 mm² (solid) Cross section: 0,5–1,5 mm² (fine-stranded with ferrule)
Lamp	Cross section: 0,5–2,5 mm² (solid) Cross section: 0,5–1,5 mm² (fine-stranded with ferrule)
Relay contact (PFK):	Cross section: 0,5–2,5 mm² (solid) Cross section: 0,5–1,5 mm² (fine-stranded with ferrule)
Dimm input:	Cross section: 0,2–1,5 mm² (solid) Cross section: 0,25–1,0 mm² (fine-stranded with ferrule)
external status LED	Cross section: 0,2–1,5 mm² (solid) Cross section: 0,25–1,0 mm² (fine-stranded with ferrule)

Alternative-External LED state indication (additional module F necessary)

LED state indication	for external installation in switch cabinet, potential free
Connection of 2 LED	LED green-operation / LED red-failure
Rated voltage for LED	12 V DC max. 20 mA (operation with external resistor)
LED driver	Short circuit protection

Connection Alternative-External LED state indication (additional module F necessary)

PIN	**Allocation**
14	Anode LED red (+12 V)
15	Cathode LED red (GND)
16	Cathode LED green (GND)
17	Anode LED green (+12 V)