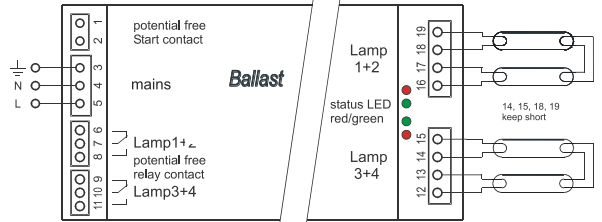


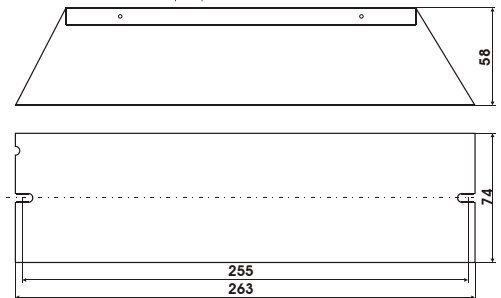
Electronic Ballast for UVC-Lamps with adjustable Lamp Current



Wiring



Dimensions



Features

- Controller based design (rapid start)
- Lamp current adjustable in steps
- 2 separate working lamp channels
- External/internal start alternatively
- Inrush current limiter
- 2 potential free relay contacts
- Opportunity of external potential free LED status indication

Technical Data

Type	LT-UVC 4x (40..60) W 0,8 A .. 1,5 A
Supply	230 V AC ± 10 % 50/60 Hz
Input power min. / max.	176 W .. 275 W
Output power two lamp application	4x40 W .. 4x60 W
Adjustable range of lamp current	(0,8 A / 1,0 A / 1,2 A / 1,4 A / 1,5 A) ± 10 %
Powerfactor	> 0,95
Efficiency	> 0,9
Operating frequency	approx. 28..60 kHz
Inrush current	$\hat{I} < 40 \text{ A to } 30 \mu\text{s} / \hat{I} < 30 \text{ A to } 300 \mu\text{s}$
Relay Contact	1 changeover contact
Relay Contact – Maximum switching voltage	5A 250 V AC / 5 A 24 V DC (resistive load)
Relay Contact – Recommended range	≥ 12 V / 10 mA
External start input	10..230 V AC / DC (potential free)
Number of starts	1 start / day recommended
Internal / external start	Adjustable by rotating switch
Independent	1 channel fails, other channel keeps in operation
Standby power dissipation	approx. 1 W
CE-conformity	yes

Type coding

R	Rapid start ballast
M	Potential free relay contact
E	External start 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: internal start (local start) – ballast starts automatically after mains turn on Pos. 5..9: external start (remote start) – ballast starts by external start signal at the start input 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	

Adjustment of lamp current

Switch	Lamp current
0/5	0,8 A
1/6	1,0 A
2/7	1,2 A
3/8	1,4 A
4/9	1,5 A

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	Switch off
Shortage on the lamp line	Switch off
End of life lamp	Switch off

General indications

Operation	LED green – trouble free operation
Failure	LED red – failure, no operation
Potential free contact PFK	Relay on – trouble free operation 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	Permanent blink	Permanent blink	Ballast waits for start	- Under- or over voltage mains - Over temperature - no lamp connected - No HI level at the external start input
Ballast start/ procedure	Off	On	On	Lamp starts	
Ballast works trouble free	On	On	Off	Electronic ballast / lamp – 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 - Deactivated lamp under operation - 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

Mounting instructions

Designed for	Installations in switch cabinet
International protection	IP20
Dimension of case	263 x 74 x 57 mm
Installation position	Vertical, mains terminal below
Ambient temperature	ta = 0..40 °C
Temperature at tc-point	tc = 50 °C max. maximum case temperature

Cabling

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

Terminal blocks

Mains Wago 231-303 3 pole Spacing 5,08 mm	Cross section: 0,75–2,5 mm ² (solid) Cross section: 0,75–1,5 mm ² (fine-stranded with ferrule)
Lamp Wago 231-304 4 pole Spacing 5,08 mm	Cross section: 0,75–2,5 mm ² (solid) Cross section: 0,75–1,5 mm ² (fine-stranded with ferrule)
potential free relay contacts Wago 734-203 3 pole Spacing 3,81 mm	Cross section: 0,2–1,5 mm ² (solid) Cross section: 0,25–1,0 mm ² (fine-stranded with ferrule)
external start input Wago 734-202 2 pole Spacing 3,81 mm	Cross section: 0,2–1,5 mm ² (solid) Cross section: 0,25–1,0 mm ² (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

Alternative - Mounting external LED state indication (additional module F necessary)

PIN	Allocation
1	+12 V
2	+12 V
3	GND LED red channel 1
4	GND LED red channel 2
5	GND LED green channel 2
6	GND LED green channel 1

