

Digital **DALI** electronic ballasts for T8 and TC-L fluorescent lamps

freedom in lighting

- Digital DALI control
- Switch-Control *
- Stand-by consumption 0.3 W
- Dimming range 1-100 %
- Only 21 mm high
- Microprocessor controlled
- Standard & sidemount possibilities
- User friendly, quick release connectors

24 - 80 W 220-240 V, 50-60 Hz**A1 BAT**

Lamp type	Wattage	No. of lamps	Ballast	EEL	Dimensions	Connection	Weight	Circuit power	Mains current	Lamp power
						(p.14)	(g)	(W)	(A)	(W)
T8	36	1	EL1x36iDim	A1 BAT	1	1	250	35.5	0.17-0.15	32
	36	2	EL2x36iDim	A1 BAT	2	2	330	70.5	0.32-0.30	32
	24	1	EL1x24iDim	A1 BAT	1	1	250	25.5	0.12-0.10	22.5
	24	2	EL2x24iDim	A1 BAT	2	2	330	50.5	0.23-0.21	22.5
TC-L	26	1	EL1x14-35iDim ¹⁾	A1 BAT	1	1	250	29.3	0.13	26
	26	2	EL2x14-35iDim ¹⁾	A1 BAT	2	2	330	56	0.25	26
	28	1	EL1x14-35iDim ¹⁾	A1 BAT	1	1	250	29.3	0.13	26
	28	2	EL2x14-35iDim ¹⁾	A1 BAT	2	2	330	56	0.25	26
	36	1	EL1x36iDim	A1 BAT	1	1	250	35.5	0.17-0.15	32
	36	2	EL2x36iDim	A1 BAT	2	2	330	70.5	0.32-0.30	32
	55	1	EL1x55iDim	A1 BAT	1	1	250	59.5	0.27-0.25	55
	55	2	EL2x55iDim	A1 BAT	2	2	330	119.5	0.55-0.50	55
	80	1	EL1x80iDim	A1 BAT	1	1	250	86	0.39-0.36	80
	80	2	EL2x80iDim *	A1 BAT	2	2	365	170	0.78-0.70	80

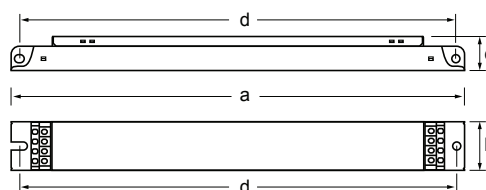
Note: See pages 14-17 for connection diagrams and additional characteristics.

* No Switch-Control in EL2x80iDim

¹⁾ To ensure stable operation of the lamp it is not recommended to dim the light level below 3 %

For information on compatibility with amalgam lamps, please contact your local Helvar representative.

Dimensions	1	2
Length 'a' (mm)	360	430
Width 'b' (mm)	30	30
Height 'c' (mm)	21	21
'd' (mm)	350	420

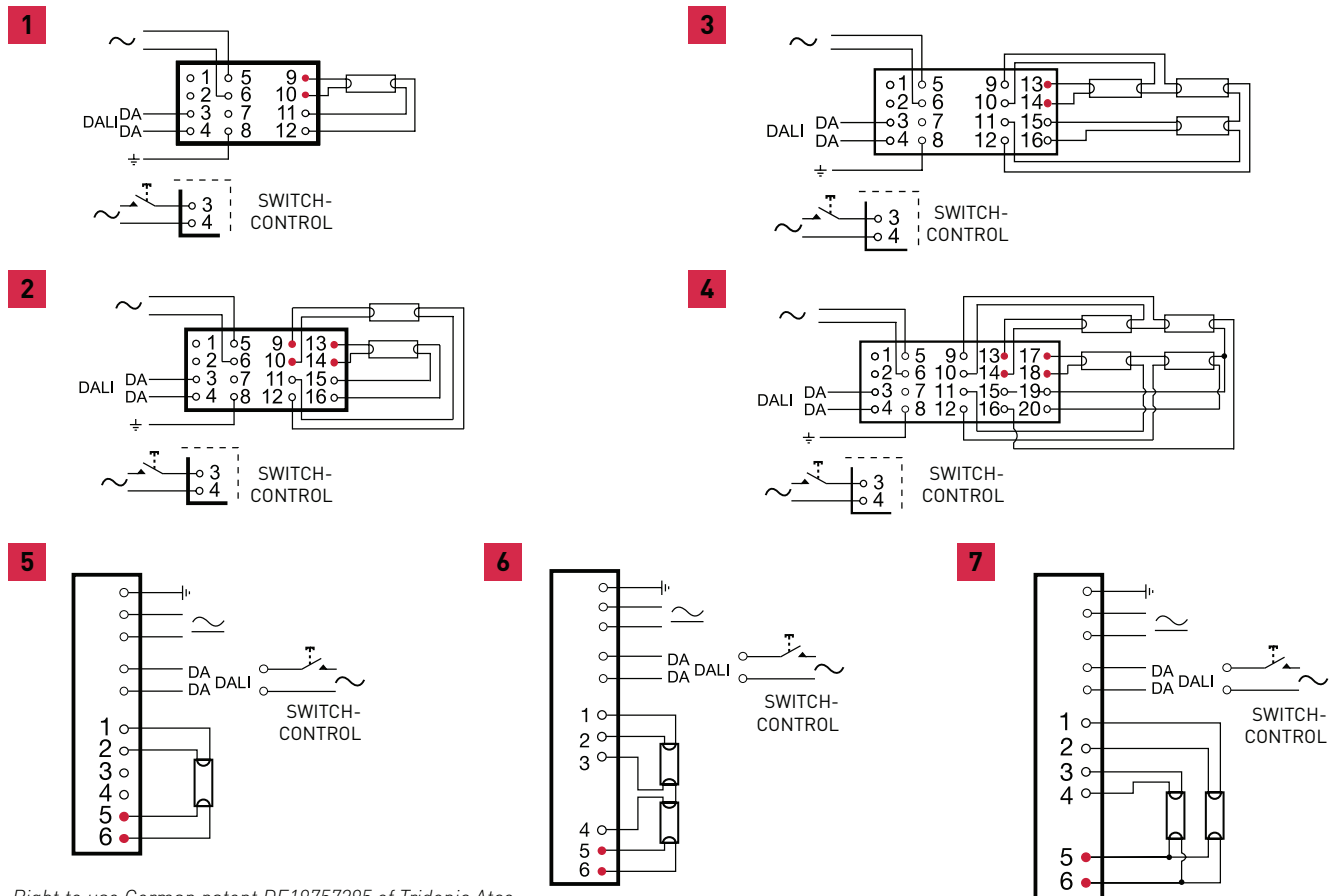
**Delivery information**

Ballast	Unit package		Transportation package		
	Minimum delivery amount	Plastic binding strip	EUR pallet 1200 x 800 (pcs.)	Pallet weight (kg)	Pallet height (cm)
EL1 x iDim	10	●	980	300	40
EL2 x iDim	10	●	840	325	43

Right to use German patent DE19757295 of Tridonic Atco

EL-iDim

NOTE: All wiring to the connectors marked with a red dot (hot wires) should be as short as possible.

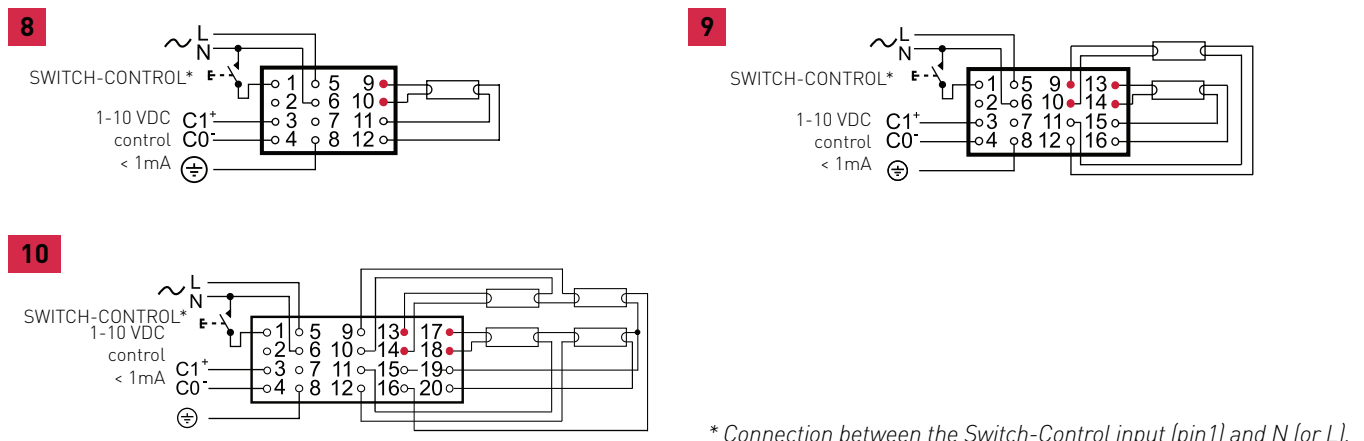


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- 1 EL1x ...iDim
- 2 EL2x ...iDim
- 3 EL3x ...iDim
- 4 EL4x ...iDim
- 5 EL1/2x...iDim-c
- 6 EL1/2x...iDim-c
- 7 EL2x...iDim-c

EL-sc

NOTE: All wiring to the connectors marked with a red dot (hot wires) should be as short as possible.



* Connection between the Switch-Control input (pin1) and N (or L).

- 1 EL1x ...sc
- 2 EL2x ...sc
- 3 EL4x ...sc

	EL-iDim	EL-iDim-c	EL-sc
Max.temperature at t_c point	75 °C ³⁾	75 °C	80 °C
Ambient temperature range	+10...+50 °C ^{1) 5) 6)}	+10...+50 °C ⁵⁾	+10...+50 °C ¹⁾
Storage temperature range	-40...+80 °C	-40...+80 °C	-40...+80 °C
Maximum relative humidity	no condensation	no condensation	no condensation
Number of starts per lamp	> 50 000	> 50 000	> 50 000
AC Range	198-264 VAC	198-264 VAC	198-264 VAC
DC range (starting voltage >198VDC)	176-280 VDC	176-280 VDC	176-280 VDC
Over voltage duration	320 VAC, 1h	320 VAC, 1h	320 VAC, 1 h
EBLF (Emergency Ballast Lumen Factor)	N/A	> 0.5 ⁷⁾	N/A
BLF (Ballast Lumen Factor), steady state	~1	~1	~1
Programmable light output for DC operation	yes	yes	N/A
Power factor (at maximum), typical	0.96	0.96	0.98
Earth leakage current	< 0.4 mA	< 0.4 mA	< 0.4 mA
Maximum working voltage (Uout)	400 V	400 V	400 V
Lifetime (90 % survival)	50 000 h, at t_c	50 000 h, at t_c	50 000 h, at 70 °C t_c
Max length of ballast to lamp wiring	1.5 m / 2 m (hot / cold) ^{2) 4)}	1 m / 1 m (hot / cold) ⁴⁾	1.5 m/2 m (hot/cold) ²⁾
Max length of DALI control wires	300 m ⁹⁾	300 m ⁹⁾	N/A
Ignition time, typical	1.0 s	1.0 s ⁸⁾	<1.3 s
Type of starting	Preheat (warm start)	Preheat (warm start)	Preheat (warm start)

1) To ensure stable operation of TC-L lamps in ambient temperatures below 18 °C it is not recommended to dim the light level below 3 %

2) For TC-L lamps 1 m / 2 m (hot/cold lamp wires)

3) For EL 3x14iDim, $t_c = 65$ °C

4) Minimise lamp wire length variations in order to avoid imbalance in light output.

5) When using EL3x14iDim, EL4x14iDim and EL1/2x18/24iDim-c ballasts in ambient temperatures below 15 °C it is not recommended to dim the light level below 10 % to ensure stable lamp operation.

6) For EL2x80iDim, it is not recommended to dim the light below 5 % in temperatures below 15 °C

7) EL2x26-42iDim-c; EBLF > 0,3

8) EL1/2x18/24iDim-c ignition time = 1.4 s

9) Maximum allowed voltage drop is 2 V in 250 m wire

Standards

	EL-iDim	EL-iDim-c	EL-sc
General and safety requirements EN61347-2-3	●	●	●
Additional safety requirements for AC/DC supplied ballasts acc. to EN61347-2-3 Annex J	●	●	N/A
Performance requirements EN60929	●	●	●
Preheat starting	●	●	●
Lamp life acc. to EN60081 / EN60901 *)	●	●	●
Mains current harmonics, acc. to EN61000-3-2	●	●	●
Radio Frequency Interference, acc. to EN55015	●	●	●
Immunity standard, acc.to EN61547	●	●	●
Vibration test EN60068-2-64 test Fh	●	●	●
Bump test EN60068-2-29 test Eb	●	●	●
Thermal protection class EN61347, C5e	●	●	●
Tested and proven compatible with DALI V1 (IEC62386, 2009)	●	●	N/A

*) EN 60081 for T5 & T8 fluorescent lamps, EN 60901 for compact fluorescent lamps

Switch-Control provides ON/OFF switching and UP/DOWN dimming functionality from one or more simple switches. Switch-Control and DALI can not be connected to the iDim ballast at the same time.

Suitable switch:

- Automatic return type
- Mains rated

Connection:

- EL-iDim ballasts: To the DALI input
- Wire length: 25 m maximum, diagram A
25 - 200 m, use a capacitor (1 μ F, 275 V), diagram B
- Ballasts per switch: 50 (observe above)
- Ensure all ballasts and associated switches are connected to the same mains phase

Operation:

- Switch off: Short push of the switch (< 0.4 second)
- Switch on: Short push of the switch (< 0.4 second)
- EL-iDim ballasts will switch on to the last set level
- Dimming: Long push of the switch (> 0.5 second)
 - If lamps are off, the ballast dims up from minimum
 - If lamps are on, the ballast dims in the opposite direction to previously
 - The first dimming direction is dimming down

Correction of out of sequence operation:

- Switch the mains supply off and on, or...
- Long push (until all lamps are on), then a short push (all lamps off), then switch on

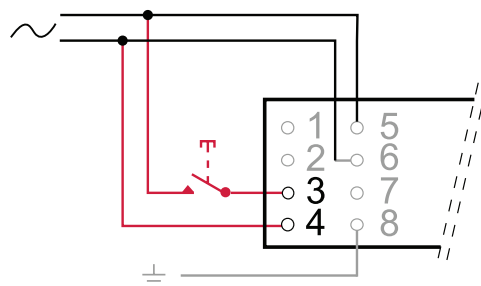
Compatibility:

Some ballasts manufacturers have functionality similar to Helvar Switch-Control. These methods are NOT COMPATIBLE with each other.

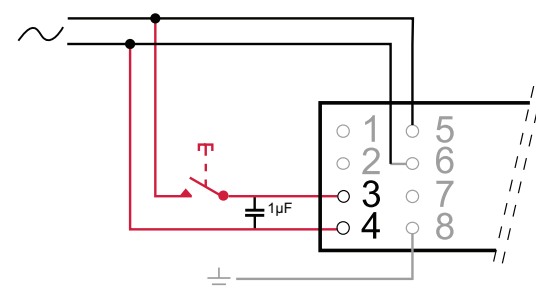
Connection

- To the DALI input

A) 0-25 m



B) 25-200 m



Power On to last level function from Switch-Control

Power On to last level function recalls the light level after mains break.

Power On to last level operation sequence:

Activation

- Activation is started with the light switched ON using the following sequence.
 - 1 x long switch (20 - 25 s)
 - 3 x short switch (90 - 360 ms)
 - 1 x long switch (20 - 25 s)
 Between the switches, approximately 2 seconds of delay is allowed.

Deactivation

- Deactivation is started with the light switched OFF (standby) using the following sequence.
 - 1 x long switch (20 - 25 s)
 - 3 x short switch (90 - 360 ms)
 - 1 x long switch (20 - 25 s)
 Between the switches, approximately 2 seconds of delay is allowed.