

Electronic ballasts for T8 fluorescent lamps



18-58 W 220-240 V, 50-60 Hz

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- Energy saving
- Warm Start according to lamp standards
- Flickerless light
- Covers EMC requirements
- Low harmonics
- Low power losses
- Stabilized output



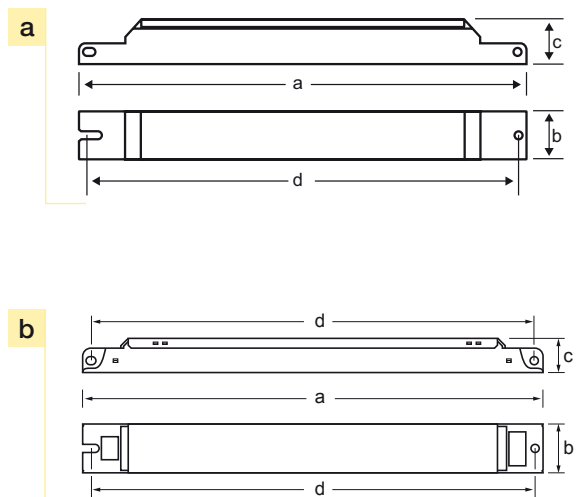
A2

Lamp type	Wattage	No. of lamps	Ballast	EEL	Dimensions	Connection	Weight	Circuit power	Mains current	Lamp power
						(p.18)	(g)	(W)	(A)	(W)
	18	1	EL1x18ngn	A2	1	1	190	19	0.09-0.08	16
	18	2	EL2x18ngn	A2	1	9	200	37	0.16-0.15	16
	18	3	EL3/4x18ngn	A2	2	7	210	52	0.25-0.23	16
	18	4	EL3/4x18ngn	A2	2	8	210	69	0.33-0.30	16
	18	4	EL4x18ngn	A2	1	10	200	72	0.33-0.30	16
	36	1	EL1x36ngn	A2	1	1	191	36	0.16-0.15	32
	36	2	EL2x36ngn	A2	1	9	205	71	0.32-0.29	32
	58	1	EL1x58ngn	A2	1	1	193	55	0.26-0.23	50
	58	2	EL2x58ngn	A2	1	9	218	108	0.50-0.45	50

Note: See pages 18-19 for connection diagrams and additional characteristics.

Dimensions	1	2
drawing	a	b
Length 'a' (mm)	280	280
Width 'b' (mm)	30	30
Height 'c' (mm)	28	21
'd' (mm)	270	270

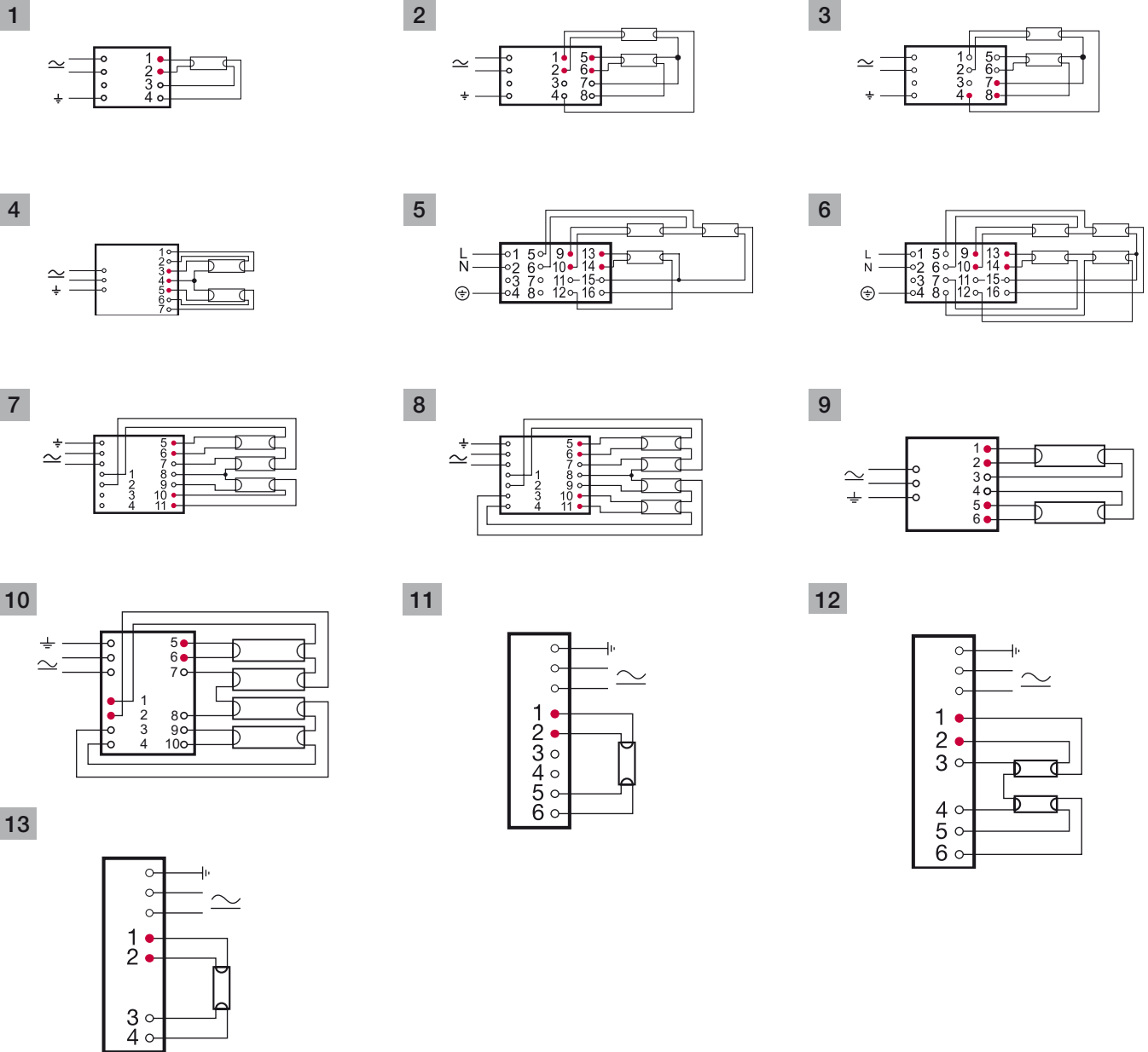
Delivery information					
Ballast	Unit package		Transportation package		
	Minimum delivery amount	Plastic binding strip	One-way pallet 1200 x 820 (pcs.)	Pallet weight (kg)	Pallet height (cm)
EL1 x ngn	10	●	1600	330	60
EL2 x ngn	10	●	1600	320-360	60
EL3/4x18ngn	10	●	1500	385	57
EL4 x ngn	10	●	1600	370	60



Connection diagrams

1 EL-s, EL-su, EL-ngn, EL-TCs

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 ...s, EL1x...ngn |
| 2 | EL2x18s, EL2x24s, EL2x36/40s, EL2x39/36s, EL2x54s, EL2x55s, EL2x58s, EL2x70s |
| 3 | EL2x14-35s, EL2x49s |
| 4 | EL2x14-35s-u, EL2x36/40s-u, EL2x49s-u, EL2x58s-u, EL2x80s-u |
| 5 | EL3/4x14s, EL3/4x18s (three lamp connection) |
| 6 | EL3/4x14s, EL3/4x18s (four lamp connection) |
| 7 | EL3/4x14s-u, EL3/4x18s-u, EL3/4x24s-u, EL3/4x18ngn (three lamp connection) |
| 8 | EL3/4x14s-u, EL3/4x18s-u, EL3/4x24s-u, EL3/4x18ngn (four lamp connection) |
| 9 | EL2x18ngn, EL2x36ngn, EL2x58ngn |
| 10 | EL4x18ngn |
| 11 | EL1/2x14/17TCs , EL1/2x18-42TCs, EL1/2x18TCs, EL1/2x9-13TCs, EL1/2x36/38TCs |
| 12 | EL1/2x14/17TCs , EL1/2x18-42TCs, EL1/2x18TCs, EL1/2x9-13TCs, EL2x32/42TCs, EL1/2x36/38TCs |
| 13 | EL1x14/17TCs , EL1x18-42TCs, EL1x18TCs, EL1x9-13TCs |

Characteristics

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	EL-s / EL-su	EL-ngn	EL-TCs
Max.temperature at t _c point	75 °C ^{3) 4)}	75 °C	75 °C
Ambient temperature range	-20...+50 °C ⁷⁾	-20...+50 °C	-20...+50 °C
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 ⁵⁾⁶⁾	198-264 VAC	198-264 VAC
DC range (starting voltage >190VDC)	176-280 VDC ⁶⁾	176-280 VDC	176-280 VDC ¹⁾
Over voltage duration	320 VAC, 1 h	320 VAC, 1 h	320 V / 1 h
Power factor (at maximum), typical	0.98	0.98	> 0.95
Earth leakage current	< 0.4 mA	< 0.4 mA	< 0.4 mA
Maximum working voltage (U _{out})	400 V	350 V ⁸⁾	250 V ²⁾
Lifetime (90 % survival)	50 000 h, at t _c	50 000 h, at t _c	50 000 h, at t _c
Max length of ballast to lamp wiring	2 m	1.5 m	1 m / 2 m (hot / cold)
Ignition time, typical	~1.0 s	< 1 s	~1 s

1) For 2 x 42 W lamp, DC range is 190-280 V

2) EL2x32/42TCs 300 V

3) For EL 3/4x14s and EL 3/4x18s, t_c = 80 °C

4) For EL 2x70s, t_c = 70 °C

5) For EL2x70s and EL2x80s-u AC range is 204-264 V

6) EL2x70s, EL2x55s and EL2x80s-u max 6 hours at 176-190 VDC

7) For 3/4x24W TC-F lamps, T_a = >18°C

8) 3/4x18ngn, U_{out} = 400 V

Standards

	EL-s / EL-su	EL-ngn	EL-TCs
General and safety requirements EN61347-2-3	●	●	●
Additional safety requirements for AC/DC supplied ballasts acc. to EN61347-2-3 Annex J	●	●	●
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	●	●	●

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