

Magnetic ballasts for high pressure sodium lamps

 **tw 130 & 140 35-100 W 220, 220/230, 230, 240, 230/240 V, 50 Hz**

- Meets EN 61347-2-9 & EN 60923 requirements
- Very low magnetic field
- 100 % quality controlled
- Low power losses
- Low harmonics
- Low noise
- Long lifetime



Lamp			Ballast								Compensation	
Lamp type	Lamp wattage	Lamp current	Ballast type	Voltage	Power losses	Dimen-sions	Conne-ction	Net weight	Inductive	Temp. rise	ParallelCk 230/250V ±10 %	Mains current
(W)	(A)	(W) ¹⁾										
HS	50	0.75	NK 50 LU	230 240	12.0 12.5	1	13	1.22	0.38	70	8.0	0.33
	50	0.75	NK 50 LUP	230 240	12.0 12.5	1	15	1.22	0.38	70	8.0	0.33
	70	1.0	NK 70 LU	220 230	14.5 14.8	1	13	1.22	0.39	70	12.0	0.43
	70	1.0	NK 70 LU	230 240	14.8 15.0	1	13	1.22	0.39	70	12.0	0.43
	70	1.0	NK 70 LU	240	15.0	1	28	1.22	0.39	70	12.0	0.43
	70	1.0	NK 70 LUP	230 240	14.8 15.0	1	15	1.22	0.39	70	12.0	0.43
	70	1.0	NK 70 LUH	220	16.5	1	28	1.18	0.39	75	12.0	0.43
	70	1.0	NK 70 LUPK	240	14.0	1	29	1.22	0.39	65	12.0	0.43
	70	1.0	NK 70 LUPK	230 240	13.5 14.0	1	15	1.22	0.39	65	12.0	0.43
	70/50	1.0/0.75	NK 70/50 LU	230 240	14.5/11.0 15.0/11.5	1	14	1.22	0.39/0.38	75/60	12.0/8.0	0.43/0.33
	70/50	1.0/0.75	NK 70/50 LUP	230	14.5/11.0	1	15	1.22	0.39/0.38	75/60	12.0/8.0	0.43/0.33
	100	1.2	NK 100 LU	230 240	15.6 16.6	1	13	1.22	0.44	80	12.0	0.56
	100	1.2	NK 100 LUP	230 240	15.6 16.6	1	13	1.22	0.44	80	12.0	0.56
	100/70	1.2/1.0	NK 100/70 SEP	230	14.5/11.5	13	15	1.27	0.41/0.35	75/65	12.0/12.0	0.56/0.43
	150	1.8	NK 150 TL ²⁾	220 230	20 21	3	18	1.80	0.41	75	20	0.9
	150	1.8	NK 150 TL ²⁾	230 240	21 22	3	21	1.80	0.40	75	20	0.9
	150	1.8	NK 150 TLP ²⁾	230 240	21 22	3	22	1.80	0.40	75	20	0.9
	150	1.8	NK 150 SE	230 240	18.0 19.0	8	15	1.85	0.41	75	20	0.9
	150	1.8	NK 150 SEP ³⁾	230 240	18.0 19.0	8	15	1.85	0.41	75	20	0.9
	150	1.8	NK 150 SEPK	230 240	17.5 18.5	9	15	2.6	0.40	65	20	0.9

1) Winding at 25 °C

2) Product has tw140

3) Available also with bottom length 133 mm

Note: P in ballast type name means built-in thermal protector (eg. E400 TP or NK70LUPK)

Magnetic ballasts for high pressure sodium lamps



tw 130 & 140

150-1000 W 220/230, 230, 240, 230/240 V, 50 Hz

- Meets EN 61347-2-9 & EN 60923 requirements
- Very low magnetic field
- 100 % quality controlled
- Low power losses
- Low harmonics
- Low noise
- Long lifetime
- Multiple fixing point variations



Lamp			Ballast								Compensation	
Lamp type	Lamp wattage	Lamp current	Ballast type	Voltage	Power losses	Dimen- sions	Connec- tion	Net weight	Inductive	Temp. rise	ParallelCk 230/250V ±10 %	Mains current
	(W)	(A)			(W) ¹⁾	(p.65)	(p.64)	(kg)	λ	Δt (°C)	(μF)	(A)
	250	3.0	NK 250 SE	230	29	10	23	3.00	0.40	70	32	1.4
	250	3.0	NK 250 SE	240	30	10	23	3.00	0.38	80	32	1.4
	250	3.0	NK 250 SEP	230 240	29 30	10	15	3.00	0.38	75 80	32	1.4
	250	3.0	NK 250 T ^{2) 3)}	230	28	3,6	16	3.15	0.42	70	32	1.4
	250	3.0	NK 250 T,F ^{2) 3)}	230 240	28 29	3,6	18	3.15	0.42	70 75	32	1.4
	250	3.0	NK 250 TP,FP ^{2) 3)}	230 240	28 29	3,6	19	3.15	0.42	70 75	32	1.4
	250	3.0	NK 250 TLK ³⁾	220 230	29 30	3	21	2.75	0.43	75	32	1.4
	250	3.0	NK 250 TLK ³⁾	230 240	30 32	3	18	2.75	0.43	75 80	32	1.4
HS	250	3.0	NK 250 TLPK ³⁾	230 240	30 32	3	19	2.75	0.43	75 80	32	1.4
	400	4.4	NK 400 T,F ^{2) 3)}	230	32	4,7	16	4.4	0.40	70	50	2.2
	400	4.4	NK 400 T,F ^{2) 3)}	230 240	32 33	4,7	18	4.4	0.40	70 75	50	2.2
	400	4.4	NK 400 TP,FP ^{2) 3)}	230 240	32 33	4,7	19	4.4	0.40	70 75	50	2.2
	400	4.4	NK 400 TE, FE ^{2) 3)}	230 240	35 36	4,7	21	3.6	0.41	75	50	2.2
	400	4.4	NK 400 TEP, FEP ^{2) 3)}	230 240	35 36	4,7	22	3.6	0.41	75	50	2.2
	600	6.2	NK 600 T/2 ^{2) 3) 4)}	230 240	60 62	6	20	6.3	0.44	75 80	65	3.0
	600	6.2	NK 600 SE	230	43	14	23	6.9	0.47	75	65	3.0
	1000	10.3	NK 1000 F/2 ^{2) 3) 4)}	230 240	75 80	7	20	8.8	0.45	80	100	5.3 5.0

1) Winding at 25 °C

2) T-type = two and four point fixing F-type = four point fixing

3) Product has tw140

4) Supplied as 2 identical ballasts both with the dimensions indicated.

All other technical values are stated for the combined product operating one lamp.

Note: P in ballast type name means built-in thermal protector (eg. NK400 TP or NK600 SEP)

Power reduction ballasts for high pressure sodium lamps



50 - 400 W 230 V, 50 Hz

- Meets EN 61347-2-9 & EN 60923 requirements
- Very low magnetic field
- 100 % quality controlled
- Low power losses
- Low harmonics
- Low noise
- Long lifetime



Lamp			Ballast type	Circuit power ³⁾		Luminous flux (Φ) reduction	Circuit power reduction	Dimen- sions (p.65)	Connec- tion (p.64)	Net weight (kg)	Inductive λ	Temp. rise Δt (°C)	Compensation	
Lamp type	Lamp wattage (W)	Lamp current (A)		Full (W)	Reduced (W)								Parallel 230/250V ±10 % (μF)	Mains current (A)
HS	50	0.75	NK50/35LUP ¹⁾	63	40	~50%	37%	1	24	1.22	0.38	70	8.0	0.33
	70	1.0	NK70/50LUP ²⁾	84	59	~50%	29%	1	24	1.22	0.39	75	12.0	0.43
	100	1.2	NK100/70SEP ²⁾	115	79	~50%	32%	13	24	1.27	0.41	75	12.0	0.56
	150	1.8	NK150/50% SEP	166	107	~50%	36%	8	24	1.85	0.43	75	20	0.90
	250	3.0	NK250/50% SEP ¹⁾	274	171	~50%	38%	12	24	3.4	0.41	75	32	1.4
	400	4.4	NK400/50% TP ⁴⁾	434	288	~50%	34%	4	24	4.4	0.40	75	50	2.2

1) Not ENEC approved

2) Can also be used as a bi-power ballast, see page 58

3) Measured with a certain operating lamp openly mounted. Measurement results may vary from lamp to lamp

4) Product has tw140

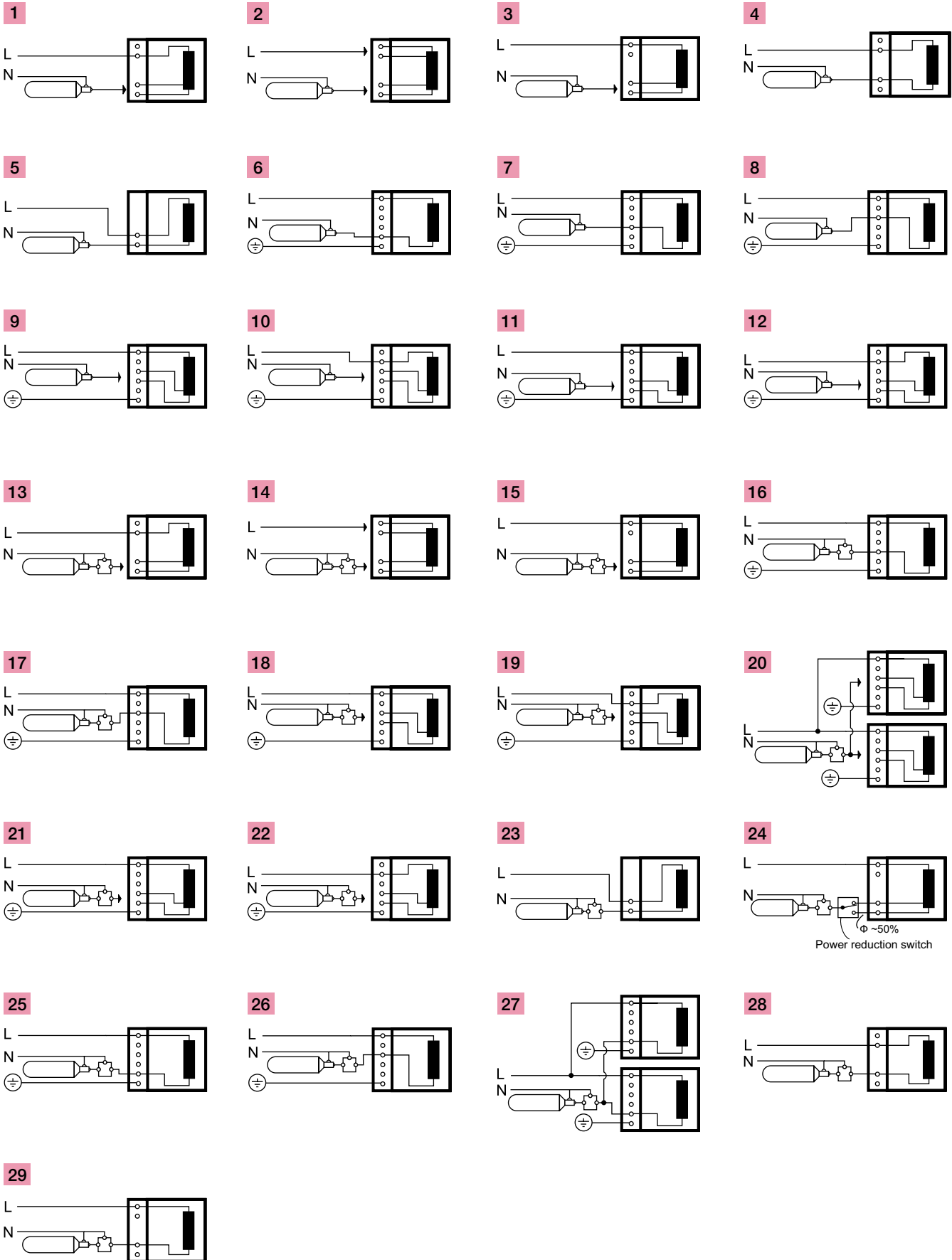
Note: P in ballast type name means built-in thermal protector (eg. NK100/70SEP)

Operating instructions

- The circuit power can be reduced by using a power reduction ballast with extra tapping for higher impedance, together with a power reduction switch.
- Lamps must always be ignited with the higher rated wattage of a ballast and not switched down to reduced wattage before 10 minutes of normal operation after the ignition of a lamp.

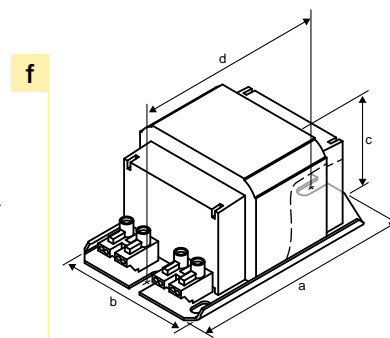
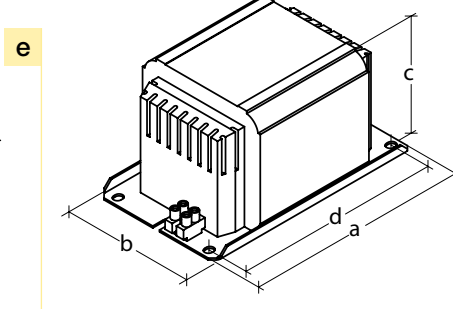
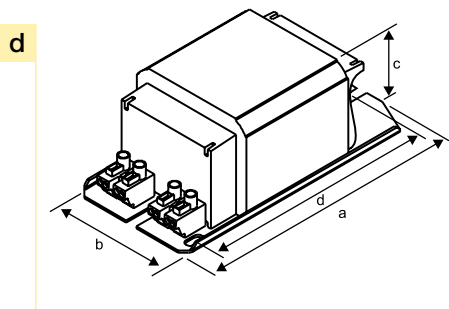
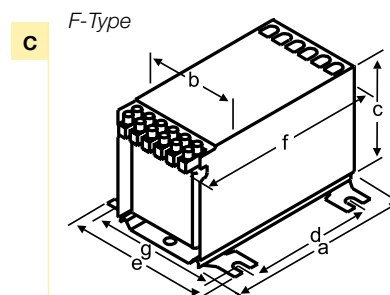
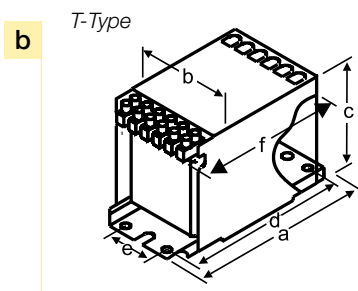
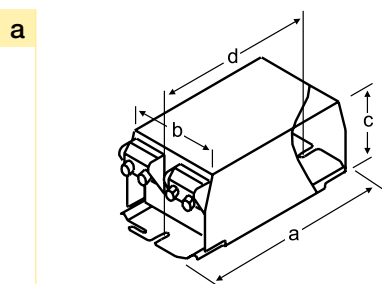
Connection diagrams

HID-ballasts



Dimensions

NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DRAWING	a	b	b	b	c	c	c	d	d	d	d	e	f	e
LENGTH 'a' (mm)	114	135	135	165	104	104	135	145	160	180	133	133	112	173
WIDTH 'b' (mm)	54	70	70	70	70	70	70	69	69	69	69	104	69	104
HEIGHT 'c' (mm)	45.5	85	85	85	85	85	85	53	53	53	53	90.5	53	90.5
'd' (mm)	95	120	120	150	90	90	100	120	140	155	120	120	95	160
'e' (mm)		35	35	35	90	90	100							
'f' (mm)		85	108	138	85	108	138							
'g' (mm)					80	80	90							



Delivery information

Ballast	Unit package			Transportation package				
	Minimum delivery amount	Plastic binding strip	Carton box	EURO pallet 1200 x 800	One-way pallet 730 x 650 (pcs.)	One-way pallet 730 x 1120 (pcs.)	Pallet weight (kg)	Pallet height (cm)
E-LU, E-LUP	4	●		432	960	527 - 1170	50	
E...LU/LUP/LUS	4	●			432	960	527-1170	50
NK ...LU/LUP/LUS								
E250 - 400T								
H400T	5		●			300	530-750	48
NK250T								
E250 - 400F								
H400F	4		●			240	530-1060	48
NK250F								
NK400T/F, NK400/50% TP								
E...SE/SEP								
NK100/70SEP	3	●		360-450-630			820-910	50-55
NK150-250SE/SEP								
NK250/50% SEP	2	●		200			710	54
NK600 T,F/2								
NK1000 T,F/2	2*		●			120 (240)	760-1060	48
H1000 F/2								