

MST

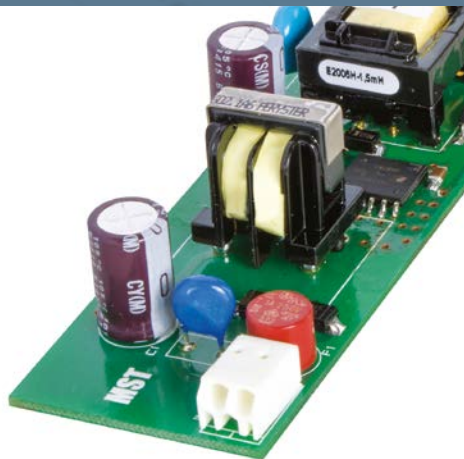
Your solutions

Catalogue 2016



MST

Your solutions



Our main
production
profile is:



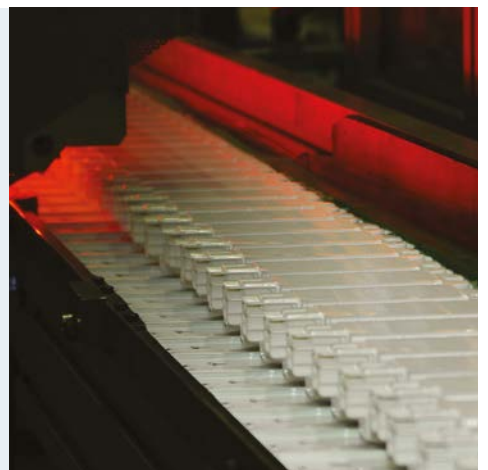
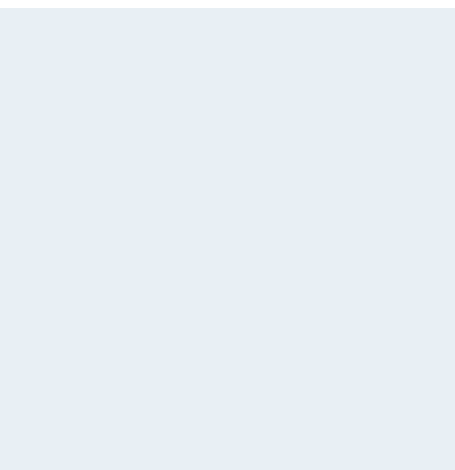
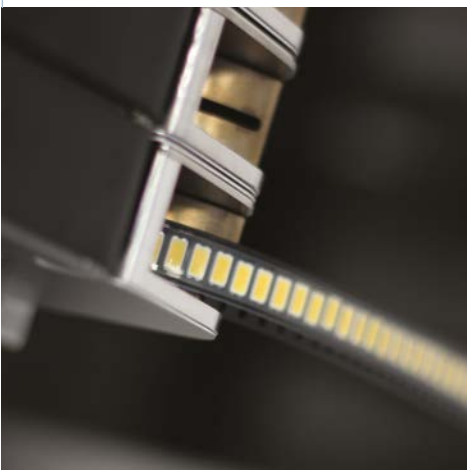
- LED modules
- LED drivers
- electromagnetic ballasts for HID and fluorescent lamps



- integrated HID systems
- ignitors for HID lamps
- filter and induction coils

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Magnetic Systems Technology



MST
Your solutions



Mission

We enable our customers to develop their business by providing competitive products, services and comprehensive solutions.



Vision

To maintain a profitable business in a competitive environment, we want to shape Magnetic Systems Technology as a highly competent, cost-effective organization. Strategic ambition is to anticipate market requirements by anticipating the changing business environment and the management of business risk with the use of alternative scenarios.



The Magnetic Systems Technology (MST) arose from a management buyout of the Philips Lighting Electromagnetic Ballasts factory in Kętrzyn, Poland.

In 1996, Philips made a strategic decision to locate electromagnetic ballasts production in Kętrzyn. Its first production of electromagnetic coils, as components of high intensity discharge ballasts (called HID) started in September that year.

In the following year, production of complete HID ballasts started. During the first years, efforts were made to improve both technical and quality competence. In 1998 and in 2001 the factory received ISO quality certificates. Over the years 2000 and 2003, the production of electromagnetic ballasts for fluorescent lamps and the remaining HID production was fully transferred from the Netherlands.

In 2003 the Development Department was formed and in the following year this was extended with SMT certified laboratory for electromagnetic ballasts for HID and fluorescent lamps. In 2008 laboratory capabilities were extended to the full release of HID systems including ignitors.

In 2004 implementation of the Lean Manufacturing Process began and it still exists today. In 2008-2009 the production of electromagnetic ballasts from the whole Europe was consolidated in Kętrzyn. Also in 2009 the factory became Philips Competence Center for electromagnetic systems throughout the European, Middle Eastern and African regions.



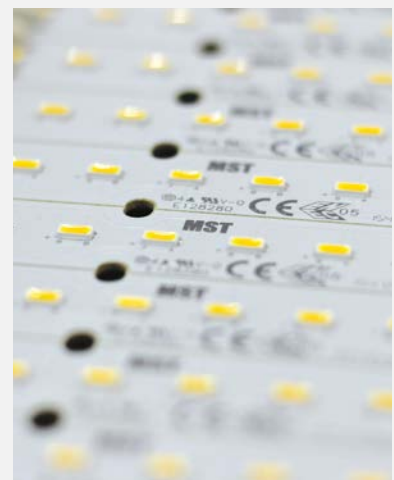
In May 2010 Philips made a strategic decision to stop production and sales of electromagnetic ballasts for fluorescent lamps with the Philips brand. The Management Team seized the opportunity and registered the MST brand as a Philips one and continued the sales of electromagnetic ballasts for fluorescent lamps under the MST brand.

In April 2011 the Management Team purchased the factory and the MST brand from Philips. MST became an exclusive Philips supplier of electromagnetic ballasts for HID lamps with Philips brand in European, Middle Eastern and African countries. Also, as a manufacturer it offered its own branded products: electromagnetic ballasts for fluorescent lamps, filter coils and integrated HID systems using Philips components.

MST, by ensuring Philips-type quality, also offers products on the basis of sub-contracting or joint development based on core competencies.

In 2014, MST started production of electronic devices for lighting applications (ignitors and LED modules) and extended existing factory space by 5000 square meters. Two thirds of that area were planned for the warehouse and one third for production of electronics.

During 2015, the accreditation of MST was extended by LED modules in terms of functional and safety requirements. Additional laboratory facilities are located in the new premises.



LED modules

Definitions

If – forward current, which flows across the LED module, so that the LED will receive sufficient energy to emit light. In MST module marked value of If should be divided by the amount of strings in a specific product to have a value of single LED current.

Uf – forward voltage, which must be applied across the LED module, in order to turn the LED on. In MST module marked value of Uf should be divided by the amount of diodes connected in series in a specific product to have a value of single LED voltage.

Imax – highest permissible current flowing through the LED module. Operating the LED beyond the listed maximum ratings may affect module reliability and cause permanent damage.

Tp – temperature at the Tp-point is maximum operated temperature to which the rated performance characteristics are declared by the manufacturer. Temperature at Tp is relevant to the light output and life time of a LED module. For the MST LED module product's Tp point is placed at the same point as Tc.

Tc – highest permissible temperature which may occur on the outer surface (at the indicated place) under normal operating conditions. Tc is measured at thermally stable condition.

CRI – Colour Rendering Index is a quantitative measure of the ability of a light source to reproduce the colours of illuminated objects accurately when compared to a reference light source.

CCT – Correlated Colour Temperature of a light source is the temperature of an ideal black-body radiator that radiates light of comparable hue to that of the light source. Colour temperature gives a numerical estimate of what reference light source best approximates particular artificial light .

SDCM – Standard Deviation of Colour Matching – has the same meaning as a "MacAdam" ellipse and refer to the size of an ellipse around the black body locus. Staying within this ellipse results in a consistency of light which ensures that no colour difference is perceivable between one LED line and another with the naked eye in most applications.

Zhaga – global consortium of the light industry. Its overall aim is to develop interface specifications that allow LED light sources from different suppliers to be used interchangeably, without changing the luminaire design. Zhaga standard specific cover physical dimensions as well as photometric, electrical and thermal parameters of LED light engines.

LED modules

Linear LED modules

Product description

- Long life-time: > 50,000 hours
- High colour rendering: CRI > 80
- Colour consistency of 3 SDCM
- Re-workable push-in terminals enabling easy connection
- Compliance and approval: CE, ENEC
- Mechanical design according to Zhaga
- Colour temperature: 3000K = warm white; 4000K = neutral white
- Case temperature $T_c = 85^\circ\text{C}$
- Tolerance range for optical and electrical data $\pm 10\%$



Typical values @ $I_f = 250\text{mA}$, $T_p = 65^\circ\text{C}$ (T_p : temperature measured at T_c point)

LinLED 140x16mm

Product name	Ordering code	Colour temperature	Luminous flux @ 250mA & T_p Φ [lm]	Colour rendering index [CRI]	SDCM	Efficiency @ 250mA & T_p [lm/W]	Power @ 250mA & T_p P [W]	Voltage @ 250mA & T_p V_f [V]	Max. current I_f [mA]	Dimensions [mm]		
										Length L	Width W	Height H
LinLED 140x16mm 350lm 830 Optimum	1010 117 10046	3000	358	80	3	169	2,12	8,5	600	140	16	6
LinLED 140x16mm 350lm 840 Optimum	1010 117 10146	4000	369	80	3	174	2,12	8,5	600	140	16	6

LinLED 280x20mm

Product name	Ordering code	Colour temperature	Luminous flux @ 250mA & T_p Φ [lm]	Colour rendering index [CRI]	SDCM	Efficiency @ 250mA & T_p [lm/W]	Power @ 250mA & T_p P [W]	Voltage @ 250mA & T_p V_f [V]	Max. current I_f [mA]	Dimensions [mm]		
										Length L	Width W	Height H
LinLED 280x20mm 700lm 830 Optimum	1010 117 10846	3000	661	80	3	149	4,4	17,7	400	280	20	6
LinLED 280x20mm 700lm 840 Optimum	1010 117 10946	4000	681	80	3	154	4,4	17,7	400	280	20	6
LinLED 280x20mm 1300lm 830 Optimum	1010 117 10246	3000	1211	80	3	149	8,1	32,5	400	280	20	6
LinLED 280x20mm 1300lm 840 Optimum	1010 117 10346	4000	1249	80	3	154	8,1	32,5	400	280	20	6

LinLED 560x20mm

Product name	Ordering code	Colour temperature	Luminous flux @ 250mA & T_p Φ [lm]	Colour rendering index [CRI]	SDCM	Efficiency @ 250mA & T_p [lm/W]	Power @ 250mA & T_p P [W]	Voltage @ 250mA & T_p V_f [V]	Max. current I_f [mA]	Dimensions [mm]		
										Length L	Width W	Height H
LinLED 560x20mm 1300lm 830 Optimum	1010 117 10446	3000	1211	80	3	149	8,1	32,5	400	560	20	6
LinLED 560x20mm 1300lm 840 Optimum	1010 117 10546	4000	1249	80	3	154	8,1	32,5	400	560	20	6
LinLED 560x20mm 2600lm 830 Optimum	1010 117 11146	3000	2423	80	3	149	16,2	64,9	400	560	20	6
LinLED 560x20mm 2600lm 840 Optimum	1010 117 11046	4000	2498	80	3	154	16,2	64,9	400	560	20	6

LinLED 140x16

Lifetime simulation based on LM80 LED data (12,000h)

Forward current	T_p temperature	L70 (time x 1000 hours)		L80 (time x 1000 hours)		L90 (time x 1000 hours)	
		B50	B10	B50	B10	B50	B10
250 mA	55°C	>72	>72	>72	72	41	36
	65°C	>72	>72	70	61	36	32
	75°C	>72	69	60	53	31	28
300 mA	55°C	>72	>72	>72	67	38	34
	65°C	>72	>72	65	57	33	30
	75°C	>72	65	56	49	29	26
350 mA	55°C	>72	>72	68	60	35	31
	65°C	>72	70	58	51	30	27
	75°C	>72	60	51	44	27	24
600 mA	55°C	>72	67	53	47	28	25
	65°C	70	57	46	40	24	22
	75°C	60	49	39	34	21	19

LinLED 280/560x20

Lifetime simulation based on LM80 LED data (12,000h)

Forward current	T_p temperature	L70 (time x 1000 hours)		L80 (time x 1000 hours)		L90 (time x 1000 hours)	
		B50	B10	B50	B10	B50	B10
250 mA	55°C	>72	>72	68	60	35	31
	65°C	>72	70	58	51	30	27
	75°C	>72	60	51	44	27	24
300 mA	55°C	>72	>72	63	55	33	29
	65°C	>72	65	54	47	29	25
	75°C	70	56	46	41	25	22
350 mA	55°C	>72	71	58	50	30	27
	65°C	>72	61	49	43	26	23
	75°C	65	53	43	37	23	20
400 mA	55°C	>72	67	53	47	28	25
	65°C	70	57	46	40	24	22
	75°C	60	49	39	34	21	19

LED modules

Rectangular LED modules

Product description

- Long life-time: > 50,000 hours
- High colour rendering: CRI > 80
- Colour consistency of 3 SDCM
- Re-workable push-in terminals enabling easy connection
- Compliance and approval: CE, ENEC
- Mechanical design according to Zhaga
- Colour temperature: 3000K = warm white; 4000K = neutral white
- Case temperature $T_c = 85^\circ\text{C}$
- Tolerance range for optical and electrical data $\pm 10\%$



Typical values @ $I_f = 250\text{mA}$, $T_p = 65^\circ\text{C}$ (T_p : temperature measured at T_c point)

RecLED 270x270mm

Product name	Ordering code	Colour temperature	Luminous flux @ 250mA & T_p Φ [lm]	Colour rendering index [CRI]	SDCM	Efficiency @ 250mA & T_p [lm/W]	Power @ 250mA & T_p P [W]	Voltage @ 250mA & T_p V_f [V]	Max. current I_f [mA]	Dimensions [mm]		
										Length L	Width W	Height H
RecLED 270x270mm 1400lm 830 Optimum	1010 117 10646	3000	1312	80	3	177	7,4	29,7	1200	270	270	6
RecLED 270x270mm 1400lm 840 Optimum	1010 117 10746	4000	1353	80	3	182	7,4	29,7	1200	270	270	6

Typical values @ $I_f = 350\text{mA}$, $T_p = 65^\circ\text{C}$ (T_p : temperature measured at T_c point)

RecLED 400x400mm

Product name	Ordering code	Colour temperature	Luminous flux @ 350mA & T_p Φ [lm]	Colour rendering index [CRI]	SDCM	Efficiency @ 350mA & T_p [lm/W]	Power @ 350mA & T_p P [W]	Voltage @ 350mA & T_p V_f [V]	Max. current I_f [mA]	Dimensions [mm]		
										Length L	Width W	Height H
RecLED 400x400mm 5000lm 830 Optimum	1010 117 11646	3000	4295	80	3	145	29,7	84,9	800	400	400	6
RecLED 400x400mm 5000lm 840 Optimum	1010 117 11746	4000	4462	80	3	150	29,7	84,9	800	400	400	6

RecLED 270x270

Lifetime simulation based on LM80 LED data (12,000h)

Forward current	T_p temperature	L70 (time x 1000 hours)		L80 (time x 1000 hours)		L90 (time x 1000 hours)	
		B50	B10	B50	B10	B50	B10
250 mA	55°C	>72	>72	>72	>72	51	45
	65°C	>72	>72	>72	>72	44	39
	75°C	>72	>72	>72	>72	39	34
350 mA	55°C	>72	>72	>72	>72	46	41
	65°C	>72	>72	>72	>72	40	36
	75°C	>72	>72	70	61	35	31
700 mA	55°C	>72	>72	68	60	35	31
	65°C	>72	70	58	51	30	27
	75°C	>72	60	51	44	27	24
900 mA	55°C	>72	>72	63	55	33	29
	65°C	>72	65	54	47	29	25
	75°C	70	56	46	41	25	22
1200 mA	55°C	>72	67	53	47	28	25
	65°C	70	57	46	40	24	22
	75°C	60	49	39	34	21	19

RecLED 400x400

Lifetime simulation based on LM80 LED data (12,000h)

Forward current	T_p temperature	L70 (time x 1000 hours)		L80 (time x 1000 hours)		L90 (time x 1000 hours)	
		B50	B10	B50	B10	B50	B10
250 mA	55°C	>72	>72	>72	>72	46	41
	65°C	>72	>72	>72	71	40	36
	75°C	>72	>72	70	61	35	31
350 mA	55°C	>72	>72	>72	72	41	36
	65°C	>72	>72	70	61	36	32
	75°C	>72	69	60	53	31	28
700 mA	55°C	>72	71	58	50	30	27
	65°C	>72	61	49	43	26	23
	75°C	65	53	43	37	23	20
800 mA	55°C	>72	67	53	47	28	25
	65°C	70	57	46	40	24	22
	75°C	60	49	39	34	21	19

LED modules

Round LED modules

Product description

- Long life-time: > 50,000 hours
- High colour rendering: CRI > 80
- Colour consistency of 3 SDCM
- Re-workable push-in terminals enabling easy connection
- Compliance and approval: CE, ENEC
- Mechanical design according to Zhaga
- Colour temperature: 3000K = warm white; 4000K = neutral white
- Case temperature $T_c = 85^\circ\text{C}$
- Tolerance range for optical and electrical data $\pm 10\%$



Typical values @ $I_f = 350\text{mA}$, $T_p = 65^\circ\text{C}$ (T_p : temperature measured at T_c point)

RdLED 210mm

Product name	Ordering code	Colour temperature	Luminous flux @ 350mA & T_p Φ [lm]	Colour rendering index [CRI]	SDCM	Efficiency @ 350mA & T_p [lm/W]	Power @ 350mA & T_p P [W]	Voltage @ 350mA & T_p V_f [V]	Max. current I_f [mA]	Dimensions [mm]	
										Diameter	Height H
RdLED 210mm 1500lm 830 EMG Optimum	1010 117 11846	3000	1487	80	3	154	9,6	27,5	1200	210	6
Emergency light		3000	154	80	3	163	0,9	2,7	1600	210	6
RdLED 210mm 1500lm 840 EMG Optimum	1010 117 11946	4000	1533	80	3	159	9,6	27,5	1200	210	6
Emergency light		4000	159	80	3	168	0,9	2,7	1600	210	6

RdLED 1/2 440mm

Product name	Ordering code	Colour temperature	Luminous flux @ 350mA & T_p Φ [lm]	Colour rendering index [CRI]	SDCM	Efficiency @ 350mA & T_p [lm/W]	Power @ 350mA & T_p P [W]	Voltage @ 350mA & T_p V_f [V]	Max. current I_f [mA]	Dimensions [mm]	
										Diameter	Height H
RdLED 1/2 440mm 2600lm 830 Optimum	1010 117 11246	3000	1445	80	3	151	9,6	27,4	1400	440	6
RdLED 1/2 440mm 2600lm 840 Optimum	1010 117 11346	4000	1490	80	3	155	9,6	27,4	1400	440	6

RdLED 1/4 740mm

Product name	Ordering code	Colour temperature	Luminous flux @ 350mA & T_p Φ [lm]	Colour rendering index [CRI]	SDCM	Efficiency @ 350mA & T_p [lm/W]	Power @ 350mA & T_p P [W]	Voltage @ 350mA & T_p V_f [V]	Max. current I_f [mA]	Dimensions [mm]	
										Diameter	Height H
RdLED 1/4 740mm 5200lm 830 Optimum	1010 117 11446	3000	1487	80	3	159	9,3	26,7	1800	740	6
RdLED 1/4 740mm 5200lm 840 Optimum	1010 117 11546	4000	1533	80	3	164	9,3	26,7	1800	740	6

Customized parameters:

Mechanical design

- Shape
- Mounting holes
- Dimensions
- Type of connector
- Type of material PCB (for example FR4, CEM-3, MCPCB)
- Zhaga compatibility

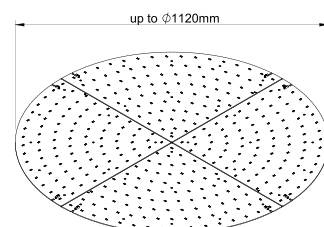
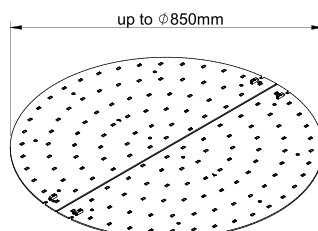
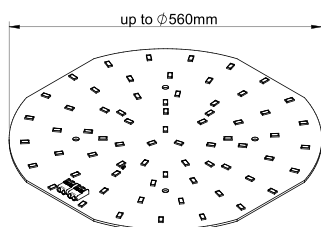
Electrical design

- Power supply

Light design

- Luminous flux
- Correlated colour temperature CCT
- Colour rendering index CRI
- Type of LEDs
- Possibility to design-in for specific optic
- Homogeneity of light – LED pitch

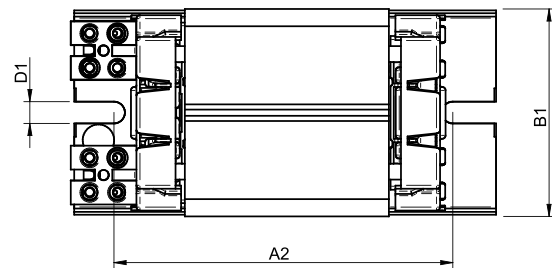
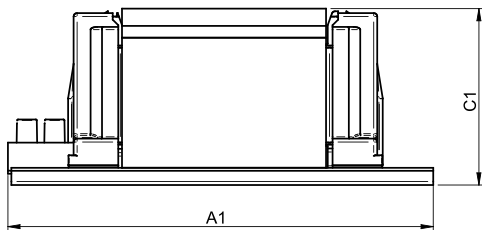
Full testing possibility in own accredited laboratory
Certification (ENEC, CE or others)



Basic ballasts

for high pressure sodium and metal halide lamps

- Impregnated electromagnetic ballasts
- Screw or insert terminal blocks
- For use in combination with semi-parallel or series ignitors
- Winding temperature $T_w = 140^\circ\text{C}$



220V 50Hz, copper windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BMH 35 K300-ITS 220V 50Hz BC1-118	9137 002 83846	35	MH	0,53	45	yes	140	0,95	6	A3	118	94	61	52	6,2
BMH 70 K300-ITS 220V 50Hz BC1-118	9137 002 83946	70	MH	0,98	85	yes	140	0,95	12	A3	118	94	61	52	6,2

220V 50Hz, copper windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 50 K300-I 220V 50Hz BC1-118	9137 002 84346	50	SON/MH	0,76	70	no	140	0,90	10	A3	118	94	61	52	6,2
BSN 70 K300-I 220V 50Hz BC1-118	9137 002 84546	70	SON/MH	0,98	75	no	140	0,95	12	A3	118	94	61	52	6,2
BSN 100 K300-I 220V 50Hz BC1-118	9137 002 84046	100	SON/MH	1,20	75	no	140	1,23	12	A3	118	94	61	52	6,2
BSN 150 K300-I 220V 50Hz BC2-126	9137 002 84146	150	SON/MH	1,80	75	no	140	1,96	18	A3	126	104	76	65	6,2
BSN 250 K300-I 220V 50Hz BC2-151	9137 002 84246	250	SON/MH	3,00	85	no	140	2,86	32	A3	151	129	76	65	6,2
BSN 400 K300-I 220V 50Hz BC3-166	9137 002 81846	400	SON/MH	4,45	85	no	140	3,60	45	A3	166	145	97	83	6,2
BSN 600 K300-I 220V 50Hz BC3-166	9137 002 84446	600	SON	5,80	80	no	140	5,00	60	A3	166	145	97	83	6,2

220V 50Hz, aluminium windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 50 K300-ITS-A 220V 50Hz BC1-118	1010 109 11746	50	SON/MH	0,76	75	yes	140	1,00	10	A3	118	94	61	52	6,2
BSN 70 K300-ITS-A 220V 50Hz BC1-123	1010 109 11846	70	SON/MH	0,98	75	yes	140	1,23	12	A3	123	98	61	52	6,2
BSN 100 K300-ITS-A 220V 50Hz BC2-126	1010 109 11946	100	SON/MH	1,20	75	yes	140	1,52	12	A3	126	104	76	65	6,2
BSN 150 K300-ITS-A 220V 50Hz BC2-151	1010 109 12046	150	SON/MH	1,80	75	yes	140	2,30	18	A3	151	129	76	65	6,2
BSN 250 K300-ITS-A 220V 50Hz BC3-143	1010 109 12146	250	SON/MH	3,00	85	yes	140	3,03	32	A3	143	121	97	83	6,2

220V 50Hz, aluminium windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 70 K300-I-A 220V 50Hz BC1-123	1010 109 20646	70	SON/MH	0,98	75	no	140	1,23	12	A3	123	98	61	52	6,2
BSN 100 K300-I-A 220V 50Hz BC2-126	1010 109 20746	100	SON/MH	1,20	75	no	140	1,52	12	A3	126	104	76	65	6,2
BSN 150 K300-I-A 220V 50Hz BC2-151	1010 109 16046	150	SON/MH	1,80	75	no	140	2,30	18	A3	151	129	76	65	6,2
BSN 250 K300-I-A 220V 50Hz BC3-143	1010 109 16146	250	SON/MH	3,00	85	no	140	3,03	32	A3	143	121	97	83	6,2
BSN 400 K300-I-A 220V 50Hz BC3-166	1010 109 16246	400	SON/MH	4,60	80	no	140	4,45	45	A3	166	145	97	83	6,2

220V 50Hz, aluminium windings, without thermal protection, series system

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 50 K200-A 220V 50Hz BC1-118	1010 109 24146	50	SON/MH	0,76	75	no	140	1,00	10	A3	118	94	61	52	6,2
BSN 70 K200-A 220V 50Hz BC1-118	1010 109 24246	70	SON/MH	0,98	75	no	140	1,23	12	A3	118	94	61	52	6,2
BSN 100 K200-A 220V 50Hz BC1-123	1010 109 24346	100	SON/MH	1,20	85	no	140	1,32	12	A3	123	98	61	52	6,2
BSN 150 K200-A 220V 50Hz BC2-151	1010 109 24446	150	SON/MH	1,80	75	no	140	2,60	18	A3	151	129	76	65	6,2
BSN 250 K200-A 220V 50Hz BC3-143	1010 109 24546	250	SON/MH	3,00	85	no	140	3,10	32	A3	143	121	97	83	6,2

230V 50Hz, copper windings, with thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 50 K302-A2-ITS 230V 50Hz BC1-118	1010 109 23146	50	SON/MH	0,76	55	yes	140	1,23	10	A2	118	94	61	52	6,2
BSN 70 K302-A2-ITS 230V 50Hz BC1-123	1010 109 23246	70	SON/MH	0,98	50	yes	140	1,39	12	A2	123	98	61	52	6,2
BSN 100 K302-A2-ITS 230V 50Hz BC2-126	1010 109 23346	100	SON/MH	1,20	55	yes	140	1,75	12	A2	126	104	76	65	6,2
BSN 150 K302-A2-ITS 230V 50Hz BC2-151	1010 109 23446	150	SON/MH	1,80	50	yes	140	2,91	18	A2	151	129	76	65	6,2
BSN 250 K302-A2-ITS 230V 50Hz BC3-143	1010 109 23546	250	SON/MH	3,00	70	yes	140	3,70	32	A2	143	121	97	83	6,2
BSN 400 K302-A2-ITS 230V 50Hz BC3-166	1010 109 17946	400	SON/MH	4,45/4,60	80	yes	140	4,95	45	A2	166	145	97	83	6,2
BSN 600 K302-A2-ITS 230V 50Hz BC3-166	9137 002 79046	600	SON	5,80	80	yes	140	5,50	60	A2	166	145	97	83	6,2

230V 50Hz, copper windings, without thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 50 K302-A2-I 230V 50Hz BC1-118	1010 109 23646	50	SON/MH	0,76	55	no	140	1,23	10	A2	118	94	61	52	6,2
BSN 70 K302-A2-I 230V 50Hz BC1-123	1010 109 23746	70	SON/MH	0,98	50	no	140	1,39	12	A2	123	98	61	52	6,2
BSN 100 K302-A2-I 230V 50Hz BC2-126	1010 109 23846	100	SON/MH	1,20	55	no	140	1,75	12	A2	126	104	76	65	6,2
BSN 150 K302-A2-I 230V 50Hz BC2-151	1010 109 23946	150	SON/MH	1,80	50	no	140	2,91	18	A2	151	129	76	65	6,2
BSN 250 K302-A2-I 230V 50Hz BC3-143	1010 109 24046	250	SON/MH	3,00	70	no	140	3,70	32	A2	143	121	97	83	6,2
BSN 400 K302-A2-I 230V 50Hz BC3-166	9137 002 81946	400	SON/MH	4,45/4,60	80	no	140	4,95	45	A2	166	145	97	83	6,2
BSN 600 K302-A2-I 230V 50Hz BC3-166	9137 002 82446	600	SON	5,80	80	no	140	5,50	60	A2	166	145	97	83	6,2

230V 50Hz, copper windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BMH 35 K302-ITS 230V 50Hz BC1-118	9137 002 80546	35	MH	0,53	50	yes	140	0,95	6	A3	118	94	61	52	6,2
BMH 70 K302-ITS 230V 50Hz BC1-118	9137 002 80846	70	MH	0,98	75	yes	140	1,23	12	A3	118	94	61	52	6,2
BSN 50 K302-ITS 230V 50Hz BC1-118	1010 109 17446	50	SON/MH	0,76	70	yes	140	0,93	10	A3	118	94	61	52	6,2
BSN 70 K302-ITS 230V 50Hz BC1-118	1010 109 17546	70	SON/MH	0,98	75	yes	140	1,23	12	A3	118	94	61	52	6,2
BSN 100 K302-ITS 230V 50Hz BC1-123	1010 109 17646	100	SON/MH	1,20	70	yes	140	1,38	12	A3	123	98	61	52	6,2
BSN 150 K302-ITS 230V 50Hz BC2-126	1010 109 17746	150	SON/MH	1,80	80	yes	140	2,03	18	A3	126	104	76	65	6,2
BSN 250 K302-ITS 230V 50Hz BC2-151	1010 109 17846	250	SON/MH	3,00	85	yes	140	2,93	32	A3	151	129	76	65	6,2

230V 50Hz, copper windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 50 K302-I 230V 50Hz BC1-118	9137 002 82146	50	SON/MH	0,76	70	no	140	0,93	10	A3	118	94	61	52	6,2
BSN 70 K302-I 230V 50Hz BC1-118	9137 002 82646	70	SON/MH	0,98	75	no	140	1,23	12	A3	118	94	61	52	6,2
BSN 100 K302-I 230V 50Hz BC1-123	9137 002 81746	100	SON/MH	1,20	70	no	140	1,38	12	A3	123	98	61	52	6,2
BSN 150 K302-I 230V 50Hz BC2-126	9137 002 83046	150	SON/MH	1,80	80	no	140	2,03	18	A3	126	104	76	65	6,2
BSN 250 K302-I 230V 50Hz BC2-151	9137 002 83146	250	SON/MH	3,00	85	no	140	2,93	32	A3	151	129	76	65	6,2

230V 50Hz, aluminium windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BMH 35 K302-ITS-A 230V 50Hz BC1-118	1010 109 15146	35	MH	0,53	65	yes	140	1,00	6	A3	118	94	61	52	6,2
BMH 70 K302-ITS-A 230V 50Hz BC1-123	1010 109 15246	70	MH	0,98	85	yes	140	1,23	12	A3	123	98	61	52	6,2
BSN 50 K302-ITS-A 230V 50Hz BC1-118	1010 109 10046	50	SON/MH	0,76	80	yes	140	1,00	10	A3	118	94	61	52	6,2
BSN 70 K302-ITS-A 230V 50Hz BC1-123	1010 109 10146	70	SON/MH	0,98	85	yes	140	1,23	12	A3	123	98	61	52	6,2
BSN 100 K302-ITS-A 230V 50Hz BC2-126	1010 109 10246	100	SON/MH	1,20	75	yes	140	1,52	12	A3	126	104	76	65	6,2
BSN 150 K302-ITS-A 230V 50Hz BC2-151	1010 109 10346	150	SON/MH	1,80	75	yes	140	2,60	18	A3	151	129	76	65	6,2
BSN 250 K302-ITS-A 230V 50Hz BC3-143	1010 109 10446	250	SON/MH	3,00	80	yes	140	3,03	32	A3	143	121	97	83	6,2
BSN 400 K302-ITS-A 230V 50Hz BC3-166	1010 109 10546	400	SON/MH	4,60	80	yes	140	4,45	45	A3	166	145	97	83	6,2
BSN 600 K302-ITS-A 230V 50Hz BC3-193	1010 109 10646	600	SON	6,10	80	yes	140	5,95	60	A3	193	172	97	83	6,2

230/240V 50Hz, copper windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BMH 35 K407-ITS 230/240V 50Hz BC1-118	9137 002 80646	35	MH	0,53	50	yes	140	0,95	6	A3	118	94	61	52	6,2
BMH 70 K407-ITS 230/240V 50Hz BC1-118	9137 002 80946	70	MH	0,98	75/80	yes	140	1,23	12	A3	118	94	61	52	6,2
BSN 50 K407-ITS 230/240V 50Hz BC1-118	9137 002 76846	50	SON/MH	0,76	70/75	yes	140	0,94	10	A3	118	94	61	52	6,2
BSN 70 K407-ITS 230/240V 50Hz BC1-118	9137 002 77046	70	SON/MH	0,98	75/80	yes	140	1,23	12	A3	118	94	61	52	6,2
BSN 100 K407-ITS 230/240V 50Hz BC1-123	9137 002 77246	100	SON/MH	1,20	70/75	yes	140	1,39	12	A3	123	98	61	52	6,2
BSN 150 K407-ITS 230/240V 50Hz BC2-134	9137 002 77446	150	SON/MH	1,80	75/80	yes	140	2,24	18	A3	134	113	76	65	6,2
BSN 250 K407-ITS 230/240V 50Hz BC2-160	9137 002 77646	250	SON/MH	3,00	75/80	yes	140	3,20	32	A3	160	139	76	65	6,2
BSN 400 K407-ITS 230/240V 50Hz BC3-166	9137 002 77846	400	SON/MH	4,45/4,60	80	yes	140	4,95	45	A3	166	145	97	83	6,2
BSN 600 K307-TS 230/240V 50Hz BC3-166	9137 002 98146	600	SON	5,80	80	yes	140	5,20	60	A3	166	145	97	83	6,2

220V 60Hz, copper windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 50 K301-ITS 220V 60Hz BC1-118	9137 002 96046	50	SON/MH	0,76	70	yes	140	0,90	7	A3	118	94	61	52	6,2
BSN 70 K301-ITS 220V 60Hz BC1-118	9137 002 93046	70	SON/MH	0,98	80	yes	140	0,95	9	A3	118	94	61	52	6,2
BSN 100 K301-ITS 220V 60Hz BC1-123	9137 002 91946	100	SON/MH	1,20	80	yes	140	1,11	10	A3	123	98	61	52	6,2
BSN 150 K301-ITS 220V 60Hz BC2-134	9137 002 88146	150	SON/MH	1,80	80	yes	140	1,98	16	A3	134	113	76	65	6,2
BSN 250 K301-ITS 220V 60Hz BC2-160	9137 002 92446	250	SON/MH	3,00	80	yes	140	2,80	26	A3	160	139	76	65	6,2
BSN 400 K301-ITS 220V 60Hz BC3-166	9137 002 87646	400	SON/MH	4,45/4,60	75	yes	140	4,75	26	A3	166	145	97	83	6,2

220V 60Hz, copper windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 250 K301-I 220V 60Hz BC2-160	9137 002 87746	250	SON/MH	3,00	80	no	140	2,80	26	A3	160	139	76	65	6,2
BSN 600 K301-I 220V 60Hz BC3-166	9137 002 88246	600	SON	5,80	80	no	140	5,00	43	A3	166	145	97	83	6,2

220V 60Hz, aluminium windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 70 K301-ITS-A 220V 60Hz BC1-118	1010 109 12546	70	SON/MH	0,98	80	yes	140	1,00	9	A3	118	94	61	52	6,2

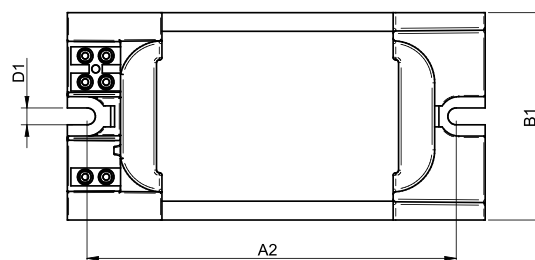
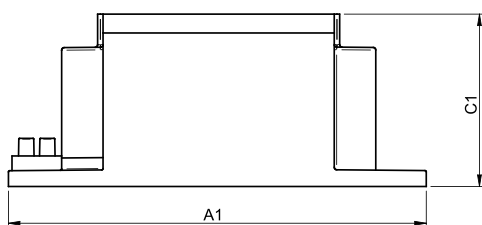
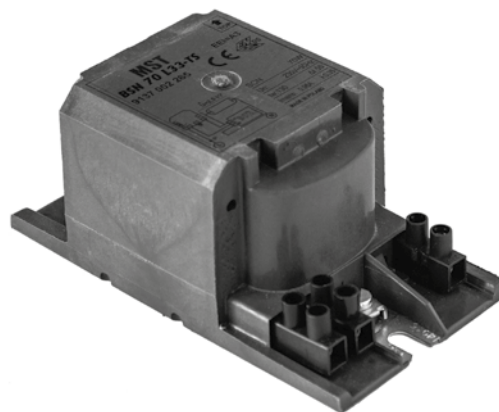
220V 60Hz, aluminium windings, without thermal protections

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 150 K301-I-A 220V 60Hz BC2-126	1010 109 18046	150	SON/MH	1,80	85	no	140	1,60	18	A3	126	104	76	65	6,2
BSN 250 K301-I-A 220V 60Hz BC3-143	1010 109 18146	250	SON/MH	3,00	80	no	140	2,57	26	A3	143	121	97	83	6,2
BSN 400 K301-I-A 220V 60Hz BC3-166	1010 109 18246	400	SON/MH	4,60	80	no	140	4,75	38	A3	166	145	97	83	6,2
BSN 600 K301-I-A 220V 60Hz BC3-193	1010 109 18346	600	SON	6,10	85	no	140	5,00	43	A3	193	172	97	83	6,2

Heavy Duty ballasts

for high pressure sodium and metal halide lamps

- Encapsulated electromagnetic ballasts, dedicated especially for harsh and corrosive environments
- Screw terminal blocks
- For use in combination with semi-parallel or series ignitors
- Winding temperature $T_w = 130^\circ\text{C}$



230V 50Hz, copper windings, with thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 70 L33-A2-TS 230V 50Hz HD1-118	9137 002 26546	70	SON/MH	0,98	55	yes	130	1,28	12	A2	118	103	65	53	6,2
BSN 100 L33-A2-TS 230V 50Hz HD2-126	1010 110 10146	100	SON/MH	1,20	55	yes	130	1,80	12	A2	126	107	81	66	6,2
BSN 150 L33-A2-TS 230V 50Hz HD2-160	1010 110 10246	150	SON/MH	1,80	55	yes	130	3,05	18	A2	160	141	81	66	6,2
BSN 250 L33-A2-TS 230V 50Hz HD3-166	1010 110 10346	250	SON/MH	3,00	70	yes	130	4,55	32	A2	166	147	102	84	6,2
BSN 400 L33-A2-TS 230V 50Hz HD3-166	9137 002 26946	400	SON/MH	4,45/4,60	70	yes	130	4,55	45	A2	166	147	102	84	6,2

230V 50Hz, copper windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 50 L33-TS 230V 50Hz HD1-118	9137 002 53646	50	SON/MH	0,76	60	yes	130	1,00	10	A3	118	103	65	53	6,2
BSN 100 L33-TS 230V 50Hz HD1-123	9137 002 26746	100	SON/MH	1,20	70	yes	130	1,30	12	A3	123	108	65	53	6,2
BSN 150 L33-TS 230V 50Hz HD2-126	9137 002 26146	150	SON/MH	1,80	75	yes	130	1,80	18	A3	126	107	81	66	6,2
BSN 250 L33-TS 230V 50Hz HD2-151	9137 002 26346	250	SON/MH	3,00	80	yes	130	2,70	32	A3	151	132	81	66	6,2

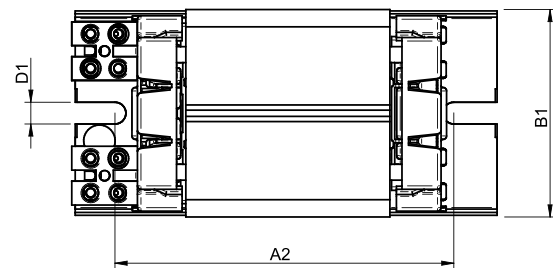
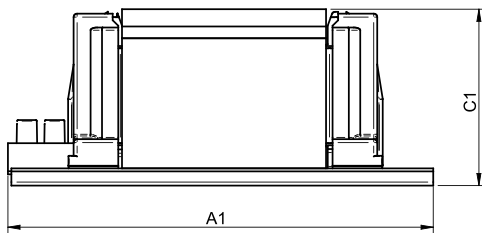
240V 50Hz, copper windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 70 L34-TS 240V 50Hz HD1-118	9137 002 26646	70	SON/MH	0,98	55	yes	130	1,28	12	A3	118	103	65	53	6,2
BSN 100 L34-TS 240V 50Hz HD1-123	9137 002 26846	100	SON/MH	1,20	75	yes	130	1,30	12	A3	123	108	65	53	6,2
BSN 150 L34-TS 240V 50Hz HD2-134	9137 002 26246	150	SON/MH	1,80	70	yes	130	1,80	18	A3	134	115	81	66	6,2
BSN 250 L34-TS 240V 50Hz HD2-160	9137 002 26446	250	SON/MH	3,00	80	yes	130	3,05	32	A3	160	141	81	66	6,2
BSN 400 L34-TS 240V 50Hz HD3-166	9137 002 27046	400	SON/MH	4,45/4,60	70	yes	130	4,55	45	A3	166	147	102	84	6,2

Reinforced ballasts

for high pressure sodium and metal halide lamps

- Impregnated electromagnetic ballasts
- Dedicated for class II luminaires
- Screw or insert terminal blocks
- For use in combination with series ignitors
- Winding temperature $T_w = 140^\circ\text{C}$



230V 50Hz, copper windings, with thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	T_w [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 70 K202-A2-TS-R 230V 50Hz BC1-123	1010 109 24646	70	SON/MH	0,98	50	yes	140	1,39	12	A2	123	98	61	52	6,2
BSN 100 K202-A2-TS-R 230V 50Hz BC2-126	1010 109 24746	100	SON/MH	1,20	55	yes	140	1,75	12	A2	126	104	76	65	6,2
BSN 150 K202-A2-TS-R 230V 50Hz BC2-151	1010 109 24846	150	SON/MH	1,80	50	yes	140	2,91	18	A2	151	129	76	65	6,2
BSN 250 K202-A2-TS-R 230V 50Hz BC3-143	1010 109 24946	250	SON/MH	3,00	70	yes	140	3,70	32	A2	143	121	97	83	6,2
BSN 400 K202-A2-TS-R 230V 50Hz BC3-166	1010 109 25046	400	SON/MH	4,45/4,60	80	yes	140	4,95	45	A2	166	145	97	83	6,2

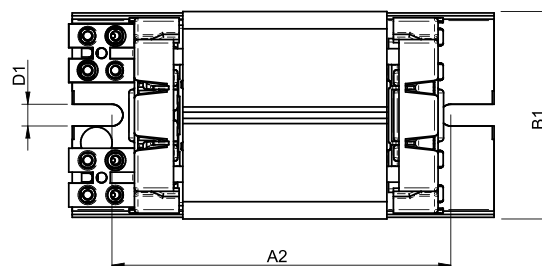
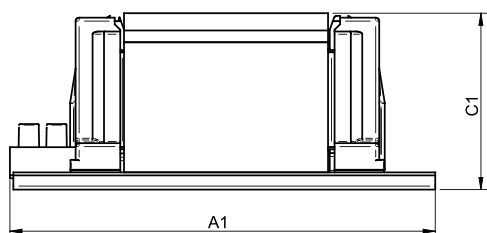
230/240V 50Hz, copper windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	T_w [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 70 K307-TS-R 230/240V 50Hz BC1-118	9137 002 93146	70	SON/MH	0,98	75/80	yes	140	1,23	12	A3	118	94	61	52	6,2
BSN 100 K307-TS-R 230/240V 50Hz BC1-123	9137 002 92046	100	SON/MH	1,20	70/75	yes	140	1,39	12	A3	123	98	61	52	6,2
BSN 150 K307-TS-R 230/240V 50Hz BC2-134	9137 002 92146	150	SON/MH	1,80	75/80	yes	140	2,24	18	A3	134	113	76	65	6,2
BSN 250 K307-TS-R 230/240V 50Hz BC2-160	9137 002 92546	250	SON/MH	3,00	75/80	yes	140	3,20	32	A3	160	139	76	65	6,2
BSN 400 K307-TS-R 230/240V 50Hz BC3-166	9137 002 93446	400	SON/MH	4,45/4,60	80	yes	140	4,95	45	A3	166	145	97	83	6,2

Basic step dimming ballasts

for high pressure sodium lamps

- Impregnated electromagnetic ballasts
- Dedicated for applications with power reduction (additional controller or power switch is required)
- Screw or insert terminal blocks
- For use in combination with series ignitors
- Winding temperature $T_w = 140^\circ\text{C}$



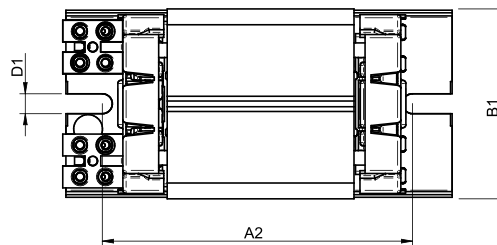
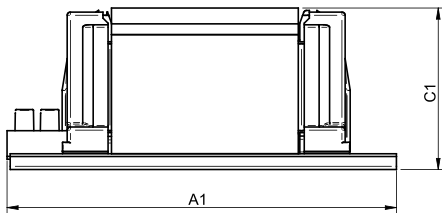
Copper windings, with thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BSN 70/50 K407-TS 230/240V 50Hz BC1-118	9137 002 87246	70/50	SON	0,98/0,76	55/80	yes	140	1,27	10/12	A3	118	94	61	52	6,2
BSN 100/70 K407-TS 230/240V 50Hz BC1-123	9137 002 87446	100/70	SON	1,20/0,98	55/75	yes	140	1,39	12	A3	123	98	61	52	6,2
BSN 150/100 K407-TS 230/240V 50Hz	9137 002 86746	150/100	SON	1,80/1,20	45/80	yes	140	2,25	12/18	A3	134	113	76	83	6,2
BSN 250/150 K407-TS 230/240V 50Hz	9137 002 86246	250/150	SON	3,00/1,80	80	yes	140	3,20	32	A3	160	139	76	65	6,2
BSN 400/250 K407-TS 230/240V 50Hz	9137 002 86446	400/250	SON	4,60/3,00	80	yes	140	5,50	45	A3	166	145	97	83	6,2

Basic ballasts

for high pressure mercury and metal halide lamps

- Impregnated electromagnetic ballasts
- Screw or insert terminal blocks
- For use in combination with parallel ignitors for HPI lamps
- Winding temperature $T_w = 140^\circ\text{C}$



220V 50Hz, copper windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	T_w [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 80 K200 220V 50Hz BC1-118	9137 002 83746	80	HPL	0,80	70	no	140	0,96	7	A3	118	94	61	52	6,2
BHL 125 K200 220V 50Hz BC1-118	9137 002 83446	125	HPL	1,15	85	no	140	1,15	10	A3	118	94	61	52	6,2
BHL 250 K200 220V 50Hz BC2-126	9137 002 83546	250	HPL/HPI	2,13/2,15	85	no	140	2,02	18	A3	126	104	76	65	6,2
BHL 400 K200 220V 50Hz BC2-151	9137 002 83646	400	HPL/HPI	3,25/3,40	80/85	no	140	2,98	25/28	A3	151	129	76	65	6,2

220V 50Hz, aluminium windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	T_w [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 125 K200-A 220V 50Hz BC2-126	1010 109 14346	125	HPL	1,15	65	no	140	1,51	10	A3	126	104	76	65	6,2
BHL 400 K200-A 220V 50Hz BC3-143	1010 109 14546	400	HPL/HPI	3,25/3,40	85	no	140	3,00	25/28	A3	143	121	97	83	6,2

230V 50Hz, copper windings, with thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	T_w [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 250 K202-A2-TS 230V 50Hz BC2-126	1010 109 19046	250	HPL/HPI	2,13/2,15	85	yes	140	2,02	18	A2	126	104	76	65	6,2
BHL 400 K202-A2-TS 230V 50Hz BC2-151	1010 109 19446	400	HPL/HPI	3,25/3,40	80/85	yes	140	3,98	25/28	A2	151	129	76	65	6,2

230V 50Hz, copper windings, without thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	T_w [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 250 K202-A2 230V 50Hz BC2-126	9137 002 83246	250	HPL/HPI	2,13/2,15	85	no	140	2,02	18	A2	126	104	76	65	6,2
BHL 400 K202-A2 230V 50Hz BC2-151	9137 002 84646	400	HPL/HPI	3,25/3,40	80/85	no	140	3,00	25/28	A2	151	129	76	65	6,2

230V 50Hz, copper windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 125 K202 230V 50Hz BC1-118	9137 002 85946	125	HPL	1,15	85	no	140	1,15	10	A3	118	94	61	52	6,2

230V 50Hz, aluminium windings, with thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 250 K202-A2-TS-A 230V 50Hz BC2-151	1010 109 19246	250	HPL/HPI	2,13/2,15	85	yes	140	2,25	18	A2	151	129	76	65	6,2
BHL 400 K202-A2-TS-A 230V 50Hz BC3-166	1010 109 19646	400	HPL/HPI	3,25/3,40	75/80	yes	140	4,34	25/28	A2	166	145	97	83	6,2

230V 50Hz, aluminium windings, without thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 250 K202-A2-A 230V 50Hz BC2-151	1010 109 13446	250	HPL/HPI	2,13/2,15	85	no	140	2,55	18	A2	151	129	76	65	6,2
BHL 400 K202-A2-A 230V 50Hz BC3-166	1010 109 13546	400	HPL/HPI	3,25/3,40	75/80	no	140	4,34	25/28	A2	166	145	97	83	6,2

230V 50Hz, aluminium windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 50 K202-A 230V 50Hz BC1-118	1010 109 13146	50	HPL	0,61	80	no	140	1,00	7	A3	118	94	61	52	6,2
BHL 80 K202-A 230V 50Hz BC1-118	1010 109 13246	80	HPL	0,80	85	no	140	1,00	7	A3	118	94	61	52	6,2
BHL 125 K202-A 230V 50Hz BC1-123	1010 109 13346	125	HPL	1,15	85	no	140	1,22	10	A3	123	98	61	52	6,2

230/240V 50Hz, copper windings, with thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 250 K307-A2-TS 230/240V 50Hz BC2-134	1010 109 19146	250	HPL/HPI	2,13/2,15	80/85	yes	140	2,25	18	A2	134	113	76	65	6,2
BHL 400 K307-A2-TS 230/240V 50Hz BC2-160	1010 109 19546	400	HPL/HPI	3,25/3,40	80/85	yes	140	3,24	25/28	A2	160	139	76	65	6,2

230/240V 50Hz, copper windings, without thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 250 K307-A2 230/240V 50Hz BC2-134	9137 002 78046	250	HPL/HPI	2,13/2,15	80/85	no	140	2,25	18	A2	134	113	76	65	6,2
BHL 400 K307-A2 230/240V 50Hz BC2-160	9137 002 78246	400	HPL/HPI	3,25/3,40	80/85	no	140	3,24	25/28	A2	160	139	76	65	6,2

230/240V 50Hz, copper windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 50/80 K407 230/240V 50Hz BC1-118	9137 002 86146	50/80	HPL	0,61/0,80	55/80	no	140	0,96	7	A3	118	94	61	52	6,2
BHL 80/125 K407 230/240V 50Hz BC1-118	9137 002 80246	80/125	HPL	0,80/1,15	50/80	no	140	1,23	7/10	A3	118	94	61	52	6,2
BHL 125 K307 230/240V 50Hz BC1-118	9137 002 86046	125	HPL	1,15	85	no	140	1,15	10	A3	118	94	61	52	6,2

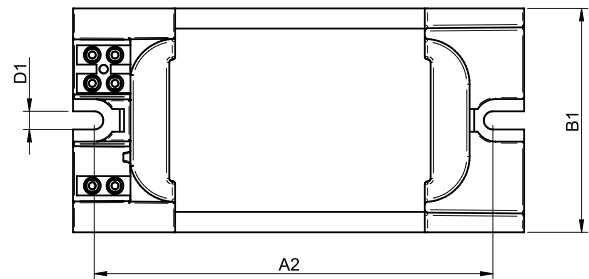
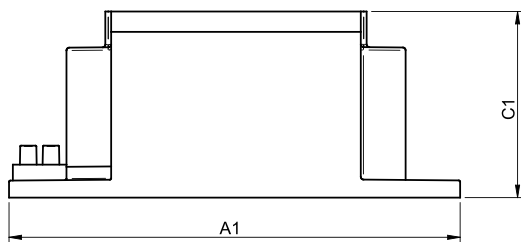
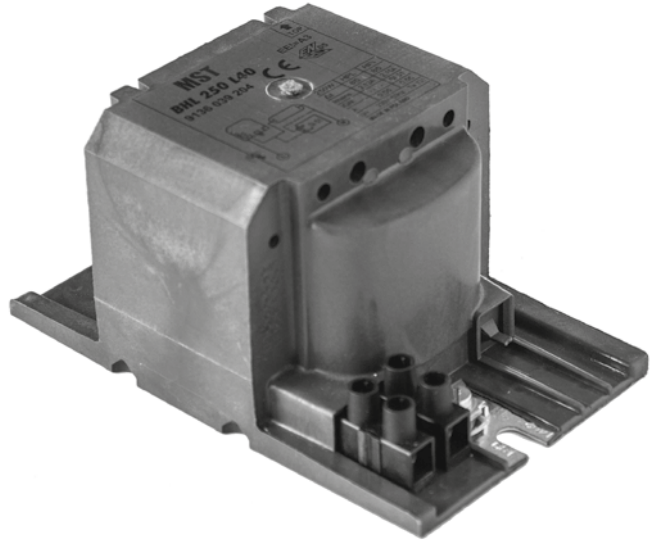
220V 60Hz, copper windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 125 K201 220V 60Hz BC1-118	9137 002 87946	125	HPL	1,15	85	no	140	0,93	9	A3	118	94	61	52	6,2
BHL 250 K201 220V 60Hz BC2-126	9137 002 98046	250	HPL/HPI	2,13/2,15	85	no	140	1,95	15	A3	126	104	76	65	6,2
BHL 400 K201 220V 60Hz BC2-151	9137 002 87846	400	HPL/HPI	3,25/3,40	80/85	no	140	2,85	20/23	A3	151	129	76	65	6,2

Heavy Duty ballasts

for high pressure mercury and metal halide lamps

- Encapsulated electromagnetic ballasts, dedicated especially for harsh and corrosive environments
- Screw terminal blocks
- For use in combination with parallel ignitors for HPI lamps
- Winding temperature $T_w = 130^\circ\text{C}$



230V 50Hz, copper windings, without thermal protection, EEI A2 class

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 250 L40-A2 230V 50Hz HD2-126	9136 039 20446	250	HPL/HPI	2,13/2,15	85	no	130	1,84	18	A2	126	107	81	66	6,2
BHL 400 L40-A2 230V 50Hz HD2-151	9136 049 20446	400	HPL/HPI	3,25/3,40	75/80	no	130	2,75	25/28	A2	151	132	81	66	6,2

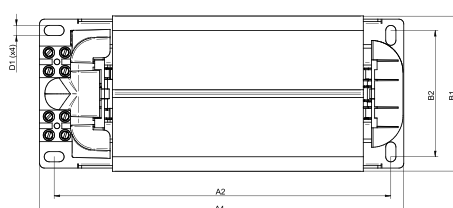
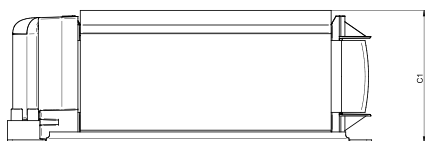
230V 50Hz, copper windings, without thermal protection

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
											A1	A2	B1	C1	D1
BHL 80 L40 230V 50Hz HD1-118	9136 017 10446	80	HPL	0,80	60	no	130	1,00	7	A3	118	103	65	53	6,2
BHL 125 L40 230V 50Hz HD1-118	9136 029 50446	125	HPL	1,15	70	no	130	1,26	10	A3	118	103	65	53	6,2

Basic horticulture ballasts

for high pressure sodium lamps

- Impregnated electromagnetic ballasts
- Horticulture applications
- Screw terminal blocks
- For use in combination with semi-parallel or series ignitors
- Winding temperature $T_w = 140^\circ\text{C}$



Copper windings

Product name	Ordering code	Power [W]	Mains voltage [V]	Mains frequency [Hz]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]				
													A1	A2	B1	C1	D1
BSN 250 K300-I 220V 50Hz BC2-151	9137 002 84246	250	220	50	SON/MH	3,00	85	no	140	2,86	32	A3	151	129	76	65	6,2
BSN 250 K302-A2-ITS 230V 50Hz BC3-143	1010 109 23546	250	230	50	SON/MH	3,00	70	yes	140	3,70	32	A2	143	121	97	83	6,2
BSN 250 K302-A2-I 230V 50Hz BC3-143	1010 109 24046	250	230	50	SON/MH	3,00	70	no	140	3,70	32	A2	143	121	97	83	6,2
BSN 250 K302-ITS 230V 50Hz BC2-151	1010 109 17846	250	230	50	SON/MH	3,00	85	yes	140	2,93	32	A3	151	129	76	65	6,2
BSN 250 K302-I 230V 50Hz BC2-151	9137 002 83146	250	230	50	SON/MH	3,00	85	no	140	2,93	32	A3	151	129	76	65	6,2
BSN 250 K407-ITS 230/240V 50Hz BC2-160	9137 002 77646	250	230/240	50	SON/MH	3,00	75/80	yes	140	3,20	32	A3	160	139	76	65	6,2
BSN 250 K301-ITS 220V 60Hz BC2-160	9137 002 92446	250	220	60	SON/MH	3,00	80	yes	140	2,80	26	A3	160	139	76	65	6,2
BSN 250 K301-I 220V 60Hz BC2-160	9137 002 87746	250	220	60	SON/MH	3,00	80	no	140	2,80	26	A3	160	139	76	65	6,2
BSN 400 K300-I 220V 50Hz BC3-166	9137 002 81846	400	220	50	SON/MH	4,45	85	no	140	3,60	45	A3	166	145	97	83	6,2
BSN 400 K302-A2-ITS 230V 50Hz BC3-166	1010 109 17946	400	230	50	SON/MH	4,45/4,60	80	yes	140	4,95	45	A2	166	145	97	83	6,2
BSN 400 K302-A2-I 230V 50Hz BC3-166	9137 002 81946	400	230	50	SON/MH	4,45/4,60	80	no	140	4,95	45	A2	166	145	97	83	6,2
BSN 400 K407-ITS 230/240V 50Hz BC3-166	9137 002 77846	400	230/240	50	SON/MH	4,45/4,60	80	yes	140	4,95	45	A3	166	145	97	83	6,2
BSN 400 K407-I 230/240V 50Hz BC3-166	9137 002 88046	400	230/240	50	SON/MH	4,45/4,60	80	no	140	5,50	45	A3	166	145	97	83	6,2
BSN 400 K301-ITS 220V 60Hz BC3-166	9137 002 87646	400	220	60	SON/MH	4,45/4,60	75	yes	140	4,75	26	A3	166	145	97	83	6,2
BSN 600 K300-I 220V 50Hz BC3-166	9137 002 84446	600	220	50	SON	5,80	80	no	140	5,00	60	A3	166	145	97	83	6,2
BSN 600 K302-A2-ITS 230V 50Hz BC3-166	9137 002 79046	600	230	50	SON	5,80	80	yes	140	5,50	60	A2	166	145	97	83	6,2
BSN 600 K302-A2-I 230V 50Hz BC3-166	9137 002 82446	600	230	50	SON	5,80	80	no	140	5,50	60	A2	166	145	97	83	6,2
BSN 600 K304-ITS 240V 50Hz BC3-166	9137 002 94046	600	240	50	SON	5,80	80	yes	140	5,50	60	A3	166	145	97	83	6,2
BSN 600 K307-ITS 230/240V 50Hz BC3-166	9137 002 98146	600	230/240	50	SON	5,80	80	yes	140	5,20	60	A3	166	145	97	83	6,2
BSN 600 K301-I 220V 60Hz BC3-166	9137 002 88246	600	220	60	SON	5,80	80	no	140	5,00	43	A3	166	145	97	83	6,2
BSN 600 K3014-I 380V 50Hz BC3-166	9137 002 88546	600	380	50	SON	3,62	85	no	140	5,10	22,5 μF /450V	A3	166	145	97	83	6,2
BSN 600 K309-ITS 400V 50Hz BC3-166	9137 002 88346	600	400	50	SON	3,62	85	yes	140	5,50	22,5 μF /450V	A3	166	145	97	83	6,2
BSN 600 K3030-ITS 480V 60Hz BC3-166	9137 002 92946	600	480	60	SON	3,26	85	yes	140	5,50	15 μF /480V	A3	166	145	97	83	6,2

Aluminium windings

Product name	Ordering code	Power [W]	Mains voltage [V]	Mains frequency [Hz]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	Thermal protection	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]					
													A1	A2	B1	B2	C1	D1
BSN 250 K300-ITS-A 220V 50Hz BC3-143	1010 109 12146	250	220	50	SON/MH	3,00	85	yes	140	3,03	32	A3	143	121	97	-	83	6,2
BSN 250 K300-I-A 220V 50Hz BC3-143	1010 109 16146	250	220	50	SON/MH	3,00	85	no	140	3,03	32	A3	143	121	97	-	83	6,2
BSN 250 K302-ITS-A 230V 50Hz BC3-143	1010 109 10446	250	230	50	SON/MH	3,00	80	yes	140	3,03	32	A3	143	121	97	-	83	6,2
BSN 250 K301-I-A 220V 60Hz BC3-143	1010 109 18146	250	220	60	SON/MH	3,00	80	no	140	2,57	26	A3	143	121	97	-	83	6,2
BSN 400 K300-I-A 220V 50Hz BC3-166	1010 109 16246	400	220	50	SON/MH	4,60	80	no	140	4,45	45	A3	166	145	97	-	83	6,2
BSN 400 K302-ITS-A 230V 50Hz BC3-166	1010 109 10546	400	230	50	SON/MH	4,60	80	yes	140	4,45	45	A3	166	145	97	-	83	6,2
BSN 400 K301-I-A 220V 60Hz BC3-166	1010 109 18246	400	220	60	SON/MH	4,60	80	no	140	4,75	38	A3	166	145	97	-	83	6,2
BSN 600 K302-ITS-A 230V 50Hz BC3-193	1010 109 10646	600	230	50	SON	6,10	80	yes	140	5,95	60	A3	193	172	97	78	83	6,2
BSN 600 K301-I-A 220V 60Hz BC3-193	1010 109 18346	600	220	60	SON	6,10	85	no	140	5,00	43	A3	193	172	97	78	83	6,2
BSN 600 K309-ITS-A 400V 50Hz BC3-193	1010 109 10746	600	400	50	SON	3,62	85	yes	140	5,95	22,5 μF /450V	A3	193	172	97	78	83	6,2
BSN 600 K3030-ITS-A 480V 60Hz BC3-193	1010 109 10846	600	480	60	SON	3,26	85	yes	140	5,95	15 μF /480V	A3	193	172	97	78	83	6,2

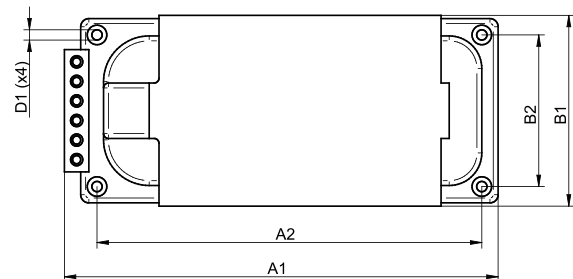
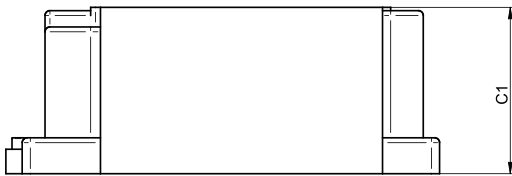
High Power ballasts

for high pressure sodium, mercury and metal halide lamps

Heavy Duty, copper windings, EEI A2 class

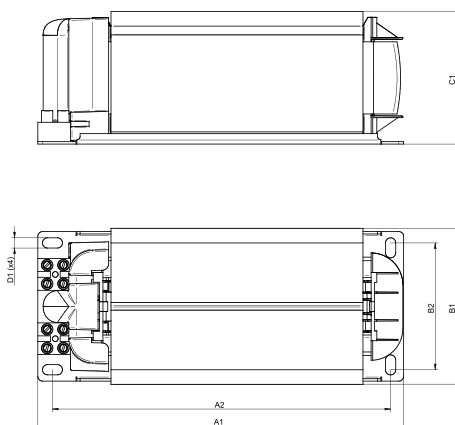


- Encapsulated ballasts for use with high power lamps
- A2 energy efficiency index
- For use in combination in series, semi-parallel (1000W), or parallel ignitor (HPI lamps)
- Encapsulated dedicated especially for harsh and corrosive environments
- Screw terminal blocks
- Copper windings



Product name	Ordering code	Power [W]	Mains voltage [V]	Mains freq. [Hz]	Lamps	Lamp current [A]	ΔT [°C]	Tw [°C]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]					
												A1	A2	B1	B2	C1	D1
BHL 1000 L78 230/240V 50Hz HP-207	9137 002 17346	1000	230/240	50	HPL	7,50/8,25	65	130	8,60	60 μF 250V	A2	206	172	117	88	102	7
BSN 1000 L78 230/240V 50Hz HP-257	9137 002 17546	1000	230/240	50	MHN-LA/SON	9,30/10,30/10,60	70	130	11,50	100 μF 280V	A2	256	222	117	88	102	7
BSN 1000 L43 220V 60Hz HP-257	9137 002 17646	1000	220	60	MHN-LA/SON	9,30/10,30/10,60	70	130	11,50	100 μF 280V	A2	256	222	117	88	102	7
BMH 1800 L78 230/240V 50Hz HP-317	9137 002 17746	1800	230/240	50	MHN-SA	17,30	80	130	17,50	200 μF 280V	A2	317	282	117	88	102	7
BMH 1800 L43 220V 60Hz HP-317	9137 002 17846	1800	220	60	MHN-SA	17,30	80	130	17,50	200 μF 280V	A2	317	282	117	88	102	7
BHL 2000 L76 380/400/415V 50Hz HP-317	9137 002 17946	2000	380/400/415	50	HPI	8,60/9,10	70	130	17,50	40 μF 450V	A2	317	282	117	88	102	7
BHL 2000 L78 230/240V 50Hz HP-317	9137 002 18046	2000	230/240	50	HPI	16,50	75	130	17,50	100 μF 280V	A2	317	282	117	88	102	7
BSN 1000 L02 220V 50Hz HP-257	9137 002 18146	1000	220	50	MHN-LA/SON	9,30/10,30/10,60	70	130	11,50	100 μF 280V	A2	256	222	117	88	102	7
BMH 2000 L76 380/400/415V 50Hz HP-317	9137 002 18246	1800/2000	380/400/415	50	MHN-LA/SA	10,50/9,60/10,30	65	130	17,50	60 μF 450V	A2	317	282	117	88	102	7
BHL 2000 L50 360/380/400V 50Hz HP-257	9137 002 18346	2000	360/380/400	50	HPI	8,60/9,10	70	130	11,50	40 μF 450V	A2	256	222	117	88	102	7
BHL 1000 L02 220V 50Hz HP-207	9137 002 18446	1000	220	50	HPL	8,25	65	130	8,60	60 μF 250V	A2	206	172	117	88	102	7
BHD 2000 L76 380/400/415V 50Hz HP-317	9137 002 32146	2000	380/400/415	50	MHN-LA/SA/FC	11,30/9,60/10,30/11,00	70/75	130	17,50	60 μF 450V	A2	317	282	117	88	102	7
BHD 2000 L77 400/415/430V 50Hz HP-317	9137 002 48746	2000	400/415/430	50	MHN-LA/SA	9,60/10,30/11,30	70/75	130	17,50	60 μF 450V	A2	317	282	117	88	102	7

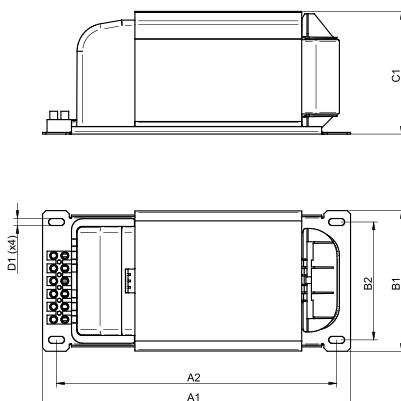
Basic, copper windings, EEI A2 class



- Basic ballasts for use with high power lamps
- A2 energy efficiency index
- For use in combination with semi-parallel ignitors or series ignitors
- Winding temperature $T_w = 140^\circ\text{C}$
- Narrow cross-section is ideal for pole mounting situation
- Screw terminal blocks
- Copper windings

Product name	Ordering code	Power [W]	Mains voltage [V]	Mains freq. [Hz]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]					
												A1	A2	B1	B2	C1	D1
BSN 1000 K300-I 220V 50Hz BC3-285	1010 109 21246	1000	220	50	SON/MHN	10,30	80	140	9,50	100uF 280V	A2	285	268	97	78	83	62
BSN 1000 K302-I 230V 50Hz BC3-285	1010 109 21346	1000	230	50	SON/MHN-LA	10,30	75	140	11,00	100uF 280V	A2	285	268	97	78	83	62
BSN 1000 K304-I 240V 50Hz BC3-285	1010 109 21446	1000	240	50	SON/MHN-LA	10,30	65	140	11,00	100uF 280V	A2	285	268	97	78	83	62
BSN 1000 K301-I 220V 60Hz BC3-225	1010 109 25146	1000	220	60	SON/MHN-LA	10,30	85	140	8,50	100uF 280V	A2	225	208	97	78	83	62
BHL 1000 K200 220V 50Hz BC3-193	1010 109 20446	1000	220	50	HPL/HPI	7,50/8,25	80/85	140	6,70	60/65uF 250V	A2	193	172	97	78	83	62
BHL 1000 K202 230V 50Hz BC3-225	1010 109 21746	1000	230	50	HPL/HPI	7,50/8,25	70	140	8,50	60/65uF 250V	A2	225	208	97	78	83	62

Basic, aluminium windings, EEI A2 class



- Basic ballasts for use with high power lamps
- A2 energy efficiency index
- For use in combination in series, semi-parallel (1000W), or parallel ignitor (HPI lamps)
- Winding temperature $T_w = 140^\circ\text{C}$
- Impregnated electromagnetic ballast
- Screw terminal blocks
- Aluminium winding

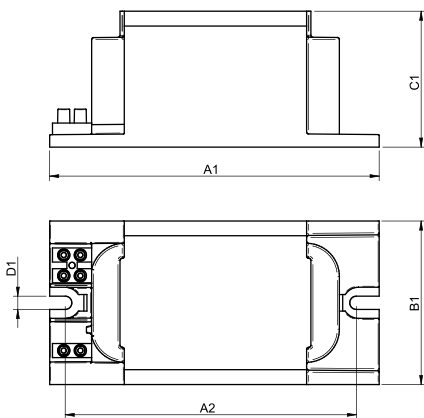
Product name	Ordering code	Power [W]	Mains voltage [V]	Mains freq. [Hz]	Lamps	Lamp current [A]	ΔT [$^\circ\text{C}$]	T_w [$^\circ\text{C}$]	Weight [kg]	Capacitor [μF]	EEI	Dimensions [mm]					
												A1	A2	B1	B2	C1	D1
BMH 2000 L5018-A 380/400/415V 50Hz	9137 002 75346	2000	380/400/415	50	MHNLA/SA/SB/FC	9,60/10,00/10,30/11,30/11,60	60/80	140	17,75	60uF 450V	A2	317	292	126	106	112	7
BSN 1000 L307-A 230/240V 50Hz	9137 002 75446	1000	230/240	50	SON/MHN-LA	9,30/10,00/10,30/10,60	70	140	10,30	100uF 280V	A2	228	204	126	106	112	7
BMH 2000 L5019-A LA/FC 360/380/400/415V 50Hz	9137 002 98246	2000	360/380/400/415	50	MHNLA/FC	9,60/10,00/10,30	85	140	16,00	60uF 450V	A2	317	292	126	106	112	7
BMH 2000 L5030-A 380/400/415V 60Hz	9137 002 98346	2000	380/400/415	60	MHNLA/SA/SB/FC	9,60/10,00/10,30/11,30/11,60	60/80	140	17,75	60uF 450V	A2	317	292	126	106	112	7
BHL 2000 L4018-A 380/400/415V 50Hz	9137 002 98446	2000	380/400/415	50	HPI	8,60/9,10	80	140	13,70	40uF 450V	A2	277	244	126	106	112	7
BHL 1000 L307-A 230/240V 50Hz	9137 002 98546	1000	230/240	50	HPL/HPI	7,50/8,25	75	140	7,65	60uF 250V	A2	228	204	126	106	112	7
BSN 1000 L407-I-A 230/240V 50Hz	9137 002 98646	1000	230/240	50	SON/MHN-LA	9,30/10,00/10,30/10,60	85	140	10,00	100uF 280V	A2	228	204	126	106	112	7
BSN 1000 L201-A 220V 60Hz	9137 007 50646	1000	220	60	SON/MHN-LA	9,30/10,00/10,30/10,60	75	140	10,00	100uF 280V	A2	228	204	126	106	112	7
BHL 1000 L201-A 220V 60Hz	9137 007 50846	1000	220	60	HPL/HPI	7,50/8,25	75	140	7,65	60uF 250V	A2	228	204	126	106	112	7
BHL 2000 L4030-A 380/400/415V 60Hz	9137 007 51046	2000	380/400/415	60	HPI	8,60/9,10	80	140	13,70	40uF 450V	A2	277	244	126	106	112	7

Basic and Heavy Duty ballasts

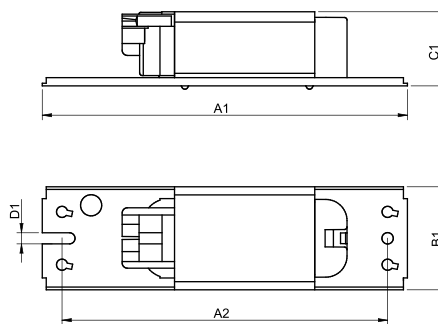
for low pressure sodium lamps - SOX

- Impregnated or encapsulated electromagnetic ballasts
- Screw or insert terminal blocks
- For use in combination with Philips SX 26 or SX 76 parallel ignitors

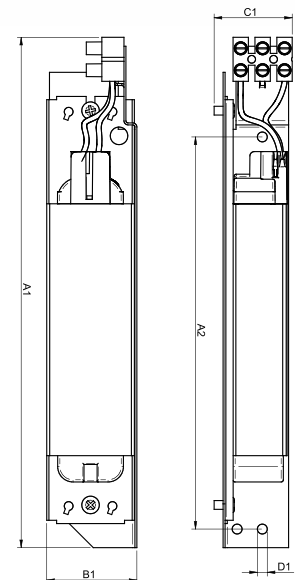
BSX 35 L40, BSX 90 L40



BSX 18 L82, BSX 26 L81,
BSX 26 L82



BSX 26 L82 240V 50Hz
WITH BRACKET



Copper windings

Product name	Ordering code	Power [W]	Mains voltage [V]	Mains freq. [Hz]	Lamps	Lamp current [A]	ΔT [°C]	Thermal protection	Tw [°C]	Weight [kg]	Capacitor [μF]	Dimensions [mm]				
												A1	A2	B1	C1	D1
BSX 18 L82 240V 50Hz BC0-155	9137 002 00746	18	240	50	SOX	0,35	60	no	130	0,55	4,50	155	140	39	28	4,2
BSX 26 L81 230V 50Hz BC0-196	9137 002 00546	26	230	50	SOX	0,45	55	no	130	0,77	4,50	195	180	39	28	4,2
BSX 26 L82 240V 50Hz BC0-196	9137 002 00846	26	240	50	SOX	0,45	55	no	130	0,77	4,50	195	180	39	28	4,2
BSX 26 L82 240V 50Hz WITH BRACKET	9137 002 79846	26	240	50	SOX	0,45	55	no	130	0,89	4,50	233	179	41	37	4,2
BSX 35 L40 230V 50Hz HD1-118	9136 537 30446	35	230	50	SOX	0,80	55	no	130	0,90	8,00	118	103	65	53	6,2
BSX 90 L40 230V 50Hz HD1-118	9136 500 80446	90	230	50	SOX	0,94	65	no	130	1,26	10,00	118	103	65	53	6,2

Filter Coils

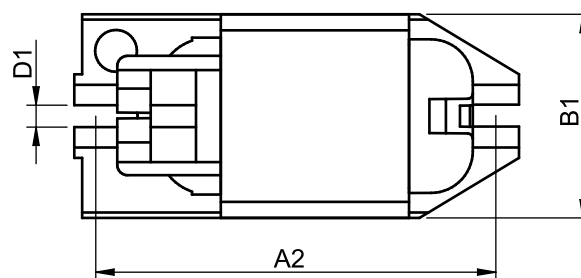
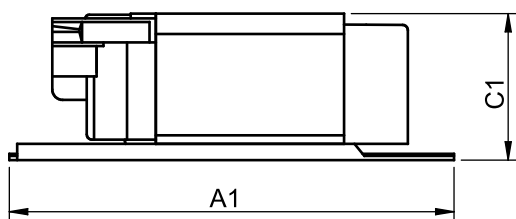
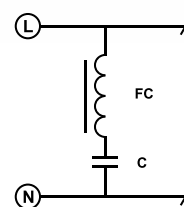
Coils for filtering signals for power factor capacitors. The coil reactance is chosen as to balance out the reactance of the capacitor and is effective to work with audio signals of 300Hz and higher.

The type of filter coil needed depends on the value of the capacitor used.

The value of filter coil is printed as the value of capacitor with which this coil should be connected in series. For example in the FC 10/230, suitable capacitor is 10 μ F and 230V.

Main characteristic:

- For use in series with power factor correction capacitors
- Small, compact and light weight design
- Low energy losses and therefore low ΔT
- Push-in terminals enabling easy connection



Product name	Ordering code	Capacitor [μ F/V]	Dimensions [mm]				
			A1	A2	B1	C1	D1
FC 08/230	1010 105 10246	8 μ F/250V	85	75	39	28	4,2
FC 12/230	1010 105 10446	12 μ F/250V	85	75	39	28	4,2
FC 20/230	1010 105 10746	20 μ F/250V	85	75	39	28	4,2
FC 32/230	1010 105 10946	32 μ F/250V	85	75	39	28	4,2
FC 45/230	1010 105 11146	45 μ F/250V	130	109	39	28	4,2
FC 60/230	1010 105 11246	60 μ F/250V	130	109	39	28	4,2
FC 20/400	1010 105 11446	20 μ F/450V	130	109	39	28	4,2

Ignitors

for high intensity discharge lamps

Digital ignitors main features

- Long life performance
- Lamp state check
- Lamp end-of-life recognition
- Automatic switch off
- Automatic counter reset
- Strongly recommended for use with MH lamps due to the end of life effects

Semi-parallel ignitors

- Compact dimensions
- Operating with wide range of lamps, 35-1000W
- Available in digital and analog version
- To be used only with semi-parallel ballasts
- Available with screw and click mounting
- Screw terminal blocks



Product name	Ordering code	Power [W]	Lamps	Mains voltage [V]	Mains frequency [Hz]	Ignition voltage [kV]		Tc [°C]	Ta [°C]	Cable length [m]	Housing	Dimensions [mm]			
						Min.	Max.					A1	A2	B1	C1
SK 578 220-240V 50/60Hz	1010 111 10146	35 ... 1000	SON/MH	220-240	50/60	1,80	5,00	90	-30 ... +85	10*	Click	64	57	40	28
SK 578-S 220-240V 50/60Hz	1010 111 10246	35 ... 1000	SON/MH	220-240	50/60	1,80	5,00	90	-30 ... +85	10*	Screw	68	58	40	28
SK 578 Digital 220-240V 50/60Hz	1010 111 10346	35 ... 1000	SON/MH	220-240	50/60	1,80	5,00	90	-30 ... +85	10*	Click	64	57	40	28
SK 578-S Digital 220-240V 50/60Hz	1010 111 10446	35 ... 1000	SON/MH	220-240	50/60	1,80	5,00	90	-35 ... +85	10*	Screw	68	58	40	28

* with typical cable of 100pF per meter

Semi-parallel horti ignitors

- Compact dimensions
- Operating with 600W SON Green Power lamps
- Available in digital and analog versions
- To be used only with semi-parallel ballasts
- Available with click mounting
- Screw terminal blocks



Product name	Ordering code	Power [W]	Lamps	Mains voltage [V]	Mains frequency [Hz]	Ignition voltage [kV]		Tc [°C]	Ta [°C]	Cable length [m]	Housing	Dimensions [mm]			
						Min.	Max.					A1	A2	B1	C1
SK 97 380-400V 50/60Hz	1010 111 10646	600	SON Green Power	380-400	50/60	3,70	5,00	90	-30 ... +85	10*	Click	84	77	40	35
SK 98 Digital 380-480V 50/60Hz	1010 111 10746	600	SON Green Power	380-480	50/60	3,70	5,00	90	-30 ... +85	10*	Click	113	106	40	35

* with typical cable of 100pF per meter

Parallel ignitors

- Compact dimensions
- Operating with 250 and 400W HPI lamps
- To be used only with parallel ballasts
- Available with screw and click mounting
- Screw terminal blocks



Product name	Ordering code	Power [W]	Lamps	Mains voltage [V]	Mains frequency [Hz]	Ignition voltage [kV]		Tc [°C]	Ta [°C]	Cable length [m]	Housing	Dimensions [mm]			
						Min.	Max.					A1	A2	B1	C1
SI 51 220-240V 50/60Hz	1010 111 10846	250 ... 400	HPI	220-240	50/60	0,75	0,58	85	-20 ... +75	1500*	Click	84	77	40	35
SI 51-S 220-240V 50/60Hz	1010 111 10946	250 ... 400	HPI	220-240	50/60	0,75	0,58	85	-20 ... +75	1500*	Screw	88	78	40	35
SI 52 220-240V 50/60Hz	1010 111 11246	1000 ... 2000	HPI	220-240	50/60	0,75	0,58	85	-20 ... +75	350*	Click	84	77	40	35
SI 52-S 220-240V 50/60Hz	1010 111 11346	1000 ... 2000	HPI	220-240	50/60	0,75	0,58	85	-20 ... +75	350*	Screw	88	78	40	35

* with typical cable of 100pF per meter

Series ignitors

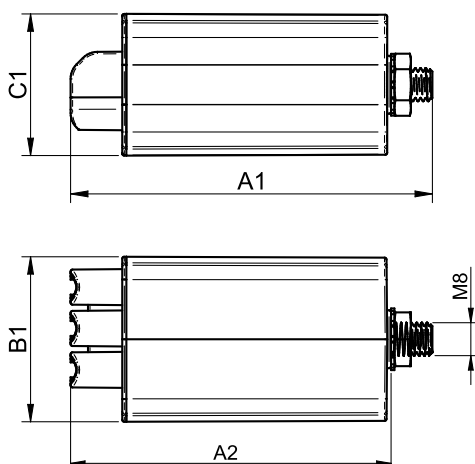
- Compact dimensions
- Available in digital and analog versions
- To be used with series or semi-parallel ballasts
- Available with screw and click mounting
- Screw terminal blocks



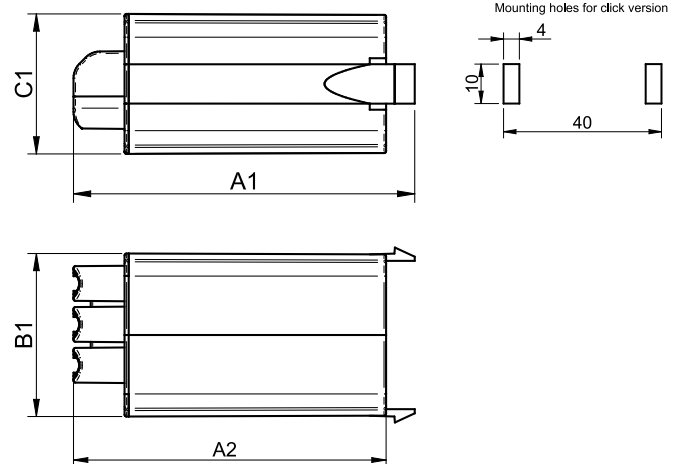
Product name	Ordering code	Power [W]	Lamps	Mains voltage [V]	Mains frequency [Hz]	Ignition voltage [kV]		Tc [°C]	Ta [°C]	Cable length [m]	Housing	Dimensions [mm]			
						Min.	Max.					A1	A2	B1	C1
SU 10-S 220-240V 50/60Hz	8010 111 10646	50 ... 70	SON	220-240	50/60	1,90	2,30	105	-30 ... +90	2*	Screw	84	74	36	32
SUD 10-S 220-240V 50/60Hz	8010 111 10046	50 ... 70	SON	220-240	50/60	1,90	2,30	105	-20 ... +90	2*	Screw	84	74	36	32
SU 38-S 220-240V 50/60Hz	8010 111 10246	35 ... 400	SON/MH	220-240	50/60	4,00	5,00	105	-30 ... +70	2*	Screw	84	74	36	32
SUD 40-S 220-240V 50/60Hz	8010 111 10146	35 ... 400	SON/MH	220-240	50/60	4,00	5,00	105	-30 ... +70	1*	Screw	84	74	36	32

* with typical cable of 100pF per meter

SCREW HOUSING



CLICK HOUSING



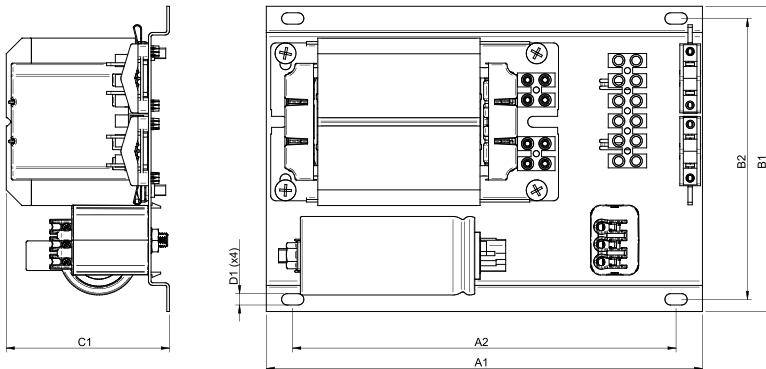
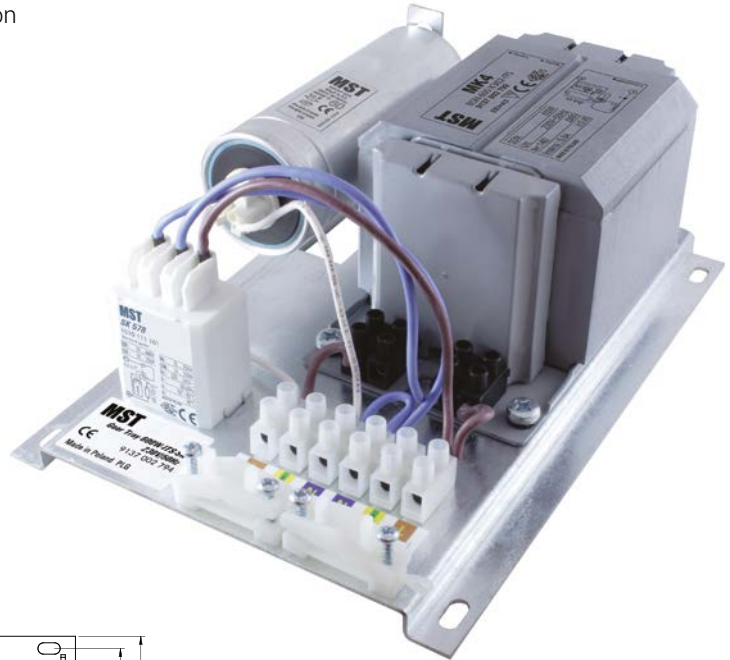
Gear Trays

for high pressure sodium and metal halide lamps

Integrated HID system with ballast, ignitor and compensation capacitor, for sodium and metal halide lamps.

All components are wired which gives savings on time and costs.

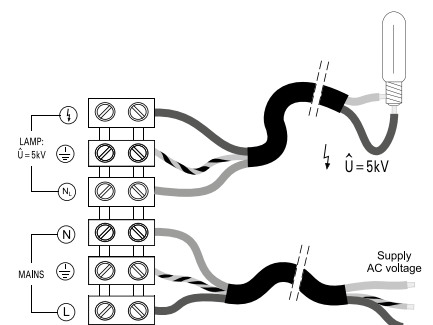
- With screw terminal 0,75–2,5 mm²
- With earth terminal
- Other versions available on request



230V 50Hz, copper windings

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]		ΔT [°C]	Thermal protection	Tw [°C]	Cable length [m]	Weight [kg]	EEI	Dimensions [mm]					
				Lamp current	Inrush current							A1	A2	B1	B2	C1	D1
GEAR TRAY 600W-ITS-SK 230V 50Hz	9137 002 79426	600	SON	5,80	6,00	80	yes	140	10*	6,50	A2	250	226	175	161	94	6,3
GEAR TRAY 400W-ITS-SK 230V 50Hz	9137 002 82926	400	SON	4,40/4,60	4,50	80	yes	140	10*	5,50	A2	250	226	175	161	94	6,3

* with typical cable of 100pF per meter



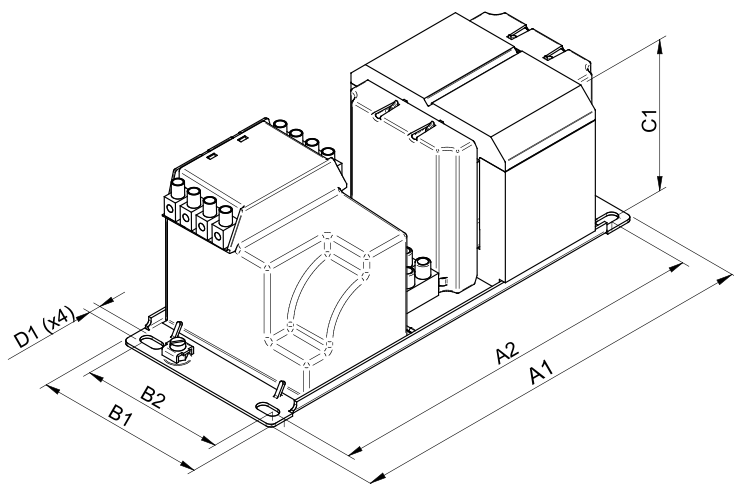
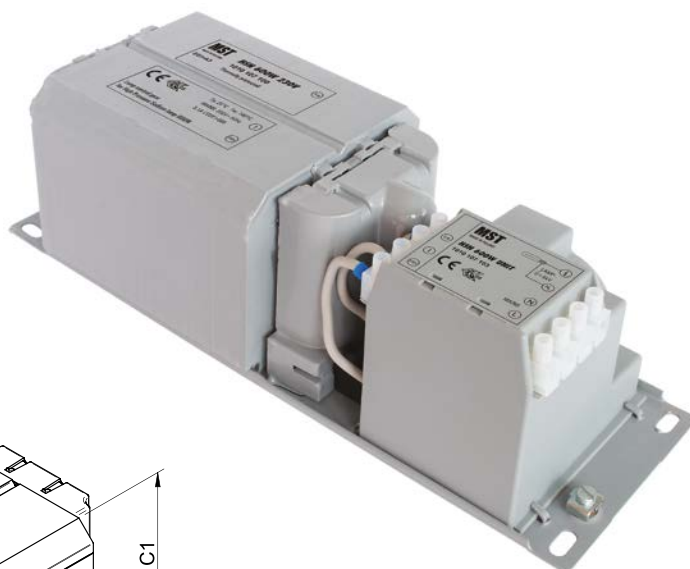
Hybrids

for high pressure sodium and metal halide lamps

Integrated HID system with ballast, ignitor and compensation capacitor, for sodium and metal halide lamps.

All components are wired which gives savings on time and costs. Compact dimensions for easy installation.

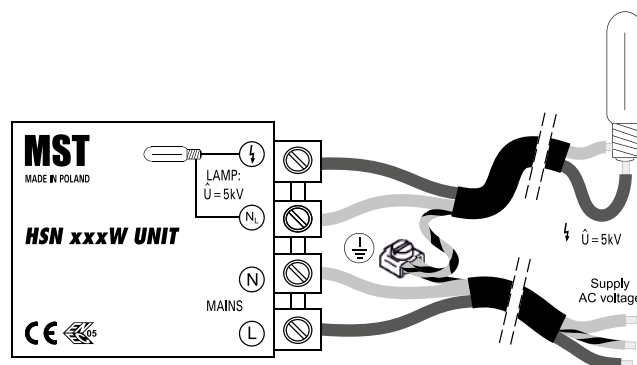
- With screw terminal 0,75–2,5 mm²
- With earth terminal
- Other versions available on request



230V 50Hz, aluminium windings

Product name	Ordering code	Power [W]	Lamps	Lamp current [A]		ΔT [°C]	Thermal protection	Tw [°C]	Cable length [m]	Weight [kg]	EEI	Dimensions [mm]				
				Lamp current	Inrush current							A1	A2	B1	B2	C1
HSN 250W 230V	1010 107 10246	250	SON	2,30	2,30	70	yes	140	10*	3,80	A3	225	208	97	78	83
HSN 400W 230V	1010 107 10146	400	SON	4,40/4,60	4,50	80	yes	140	10*	5,50	A3	285	268	97	80	83
HSN 600W 230V	1010 107 10046	600	SON	5,80/6,00	6,00	80	yes	140	10*	6,80	A3	285	268	97	80	83

* with typical cable of 100pF per meter

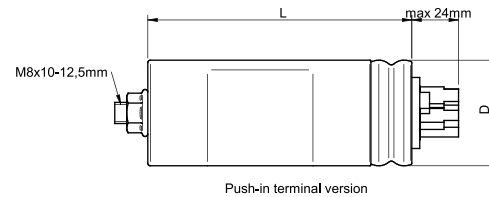
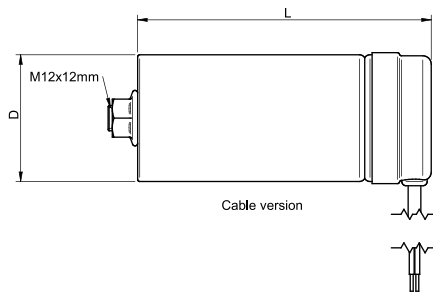


Capacitors

Power factor capacitors for use in discharge lamp circuits.

Main characteristics:

- Type B, aluminium housing
- Low inductance
- Push-in terminal (Wago 214 terminal) or cable (2 x 0,75 mm²)
- Self-healing ability
- Overpressure safety break-action mechanism
- Discharge resistor
- Requirement a clearance of at least 10 mm above the terminals to ensure proper activation break action mechanism



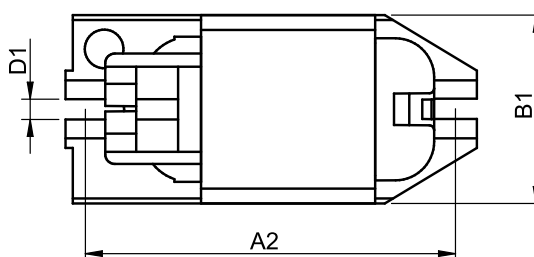
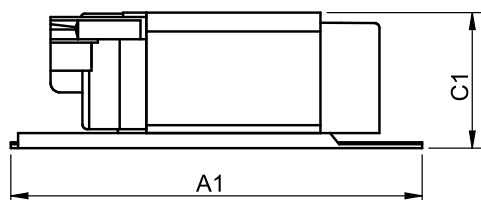
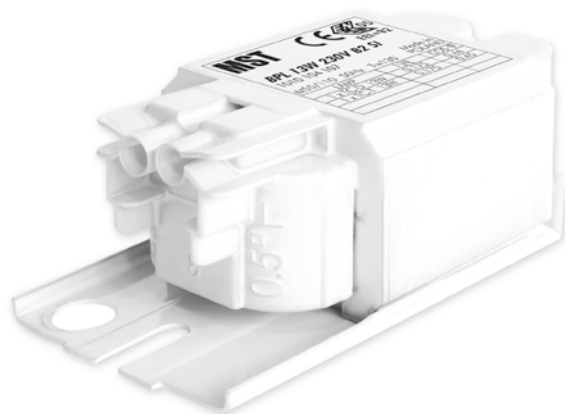
Technical data	
Parameter	Value
Tolerance of capacitance	±5%
Rated frequency	50/60Hz
Relative humidity in capacitor environment at 20±25°C	75% (annual average) 95% (max value within 30 days)
Service life	30000h
Condensation	Not permitted
Dissipation factor (tgδ)	≤0,0015 at 50Hz/250V
Dielectric strength between terminals: between terminals connected together and case:	2U _v /50Hz-2sec 2kV / 50Hz – 2sec

Product name	Ordering code	Capacitor [µF]	Mains voltage [V]	Ambient temp. [°C]	Terminal	Diameter D [mm]	Length L [mm]
CAP 4.5µF 250V MST I60	4010 401 13410	4,50	250	-40 ... +100	Push-in	25	62
CAP 6.5µF 250V MST I60	4010 401 13510	6,50	250	-40 ... +100	Push-in	25	62
CAP 8µF 250V MST I60	4010 401 13610	8,00	250	-40 ... +100	Push-in	25	74
CAP 9µF 250V MST I60	4010 401 13710	9,00	250	-40 ... +100	Push-in	30	62
CAP 10µF 250V MST I60	4010 401 12810	10,00	250	-40 ... +100	Push-in	30	74
CAP 12µF 250V MST I60	4010 401 12910	12,00	250	-40 ... +100	Push-in	30	74
CAP 12.5µF 250V MST I60	4010 401 13810	12,50	250	-40 ... +100	Push-in	30	74
CAP 14µF 250V MST I60	4010 401 13910	14,00	250	-40 ... +100	Push-in	30	74
CAP 16µF 250V MST I60	4010 401 14010	16,00	250	-40 ... +100	Push-in	30	87
CAP 18µF 250V MST I60	4010 401 13010	18,00	250	-40 ... +100	Push-in	40	74
CAP 20µF 250V MST I60	4010 401 13110	20,00	250	-40 ... +100	Push-in	40	74
CAP 25µF 250V MST I60	4010 401 13210	25,00	250	-40 ... +100	Push-in	40	74
CAP 32µF 250V MST I60	4010 401 10311	32,00	250	-40 ... +100	Push-in	40	87
CAP 45µF 250V MST I60	4010 401 10411	45,00	250	-40 ... +100	Push-in	40	100
CAP 50µF 250V MST I60	4010 401 14410	50,00	250	-40 ... +100	Push-in	45	100
CAP 60µF 250V MST I60	4010 401 10511	60,00	250	-40 ... +100	Push-in	45	100
CAP 100µF 280V MST 025	4010 401 11610	100,00	280	-40 ... +85	Cable	60	140
CAP 20µF 450V MST 025	4010 401 11711	20,00	450	-40 ... +85	Push-in	40	87
CAP 22.5µF 450V MST 025	4010 401 14310	22,50	450	-40 ... +85	Push-in	45	87
CAP 25µF 450V MST 025	4010 401 14210	25,00	450	-40 ... +85	Push-in	45	87
CAP 28µF 450V MST 025	4010 401 10610	28,00	450	-40 ... +85	Push-in	45	87
CAP 40µF 450V MST 025	4010 401 11410	40,00	450	-40 ... +85	Cable	60	90
CAP 60µF 450V MST 025	4010 401 11510	60,00	450	-40 ... +85	Cable	60	140
CAP 15µF 480V MST 025	4010 401 11211	15,00	480	-40 ... +85	Push-in	45	74

Ballasts

for compact fluorescent lamps

- Reliable electrical and mechanical performance
- Long life
- Compact dimensions
- Impregnated with polyester lacquer
- Quick and easy wiring
- Optimum lamp performance under optimum temperature conditions



220V 50Hz, copper windings

Product name	Ordering code	EEI	Lamp current [A]	Tw [°C]	$\Delta T/\Delta T_{abn.}$ [°C]	Weight [kg]	Dimensions [mm]				
							A1	A2	B1	C1	D1
BPL 8W 220V B2 SI	1010 104 10046	B2	0,15	130	50/85	0,31	85	77	39	28	4,2
BPL 11W 220V B2 SI	1010 104 10346	B2	0,16	130	55/80	0,31	85	77	39	28	4,2
BPL 13W 220V B2 SI	1010 104 10646	B2	0,18	130	55/105	0,31	85	77	39	28	4,2
BPL 18W 220V B2 SI	1010 104 10946	B2	0,23	130	60/130	0,31	85	77	39	28	4,2
BPL 26W 220V B2 SI	1010 104 11246	B2	0,33	130	55/130	0,45	110	96	39	28	4,2

230V 50Hz, copper windings

Product name	Ordering code	EEI	Lamp current [A]	Tw [°C]	$\Delta T/\Delta T_{abn.}$ [°C]	Weight [kg]	Dimensions [mm]				
							A1	A2	B1	C1	D1
BPL 8W 230V B2 SI	1010 104 10146	B2	0,15	130	50/85	0,31	85	77	39	28	4,2
BPL 11W 230V B2 SI	1010 104 10446	B2	0,16	130	55/85	0,31	85	77	39	28	4,2
BPL 13W 230V B2 SI	1010 104 10746	B2	0,18	130	55/110	0,31	85	77	39	28	4,2
BPL 18W 230V B2 SI	1010 104 11046	B2	0,23	130	60/140	0,31	85	77	39	28	4,2
BPL 26W 230V B2 SI	1010 104 11346	B2	0,33	130	55/145	0,45	110	96	39	28	4,2

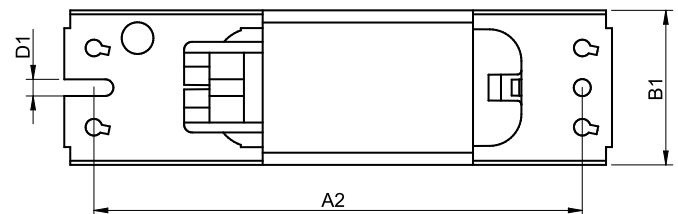
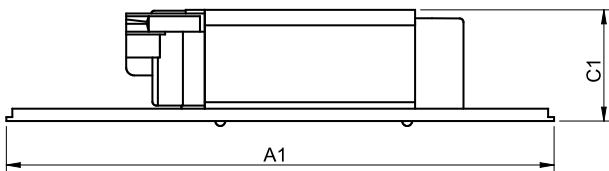
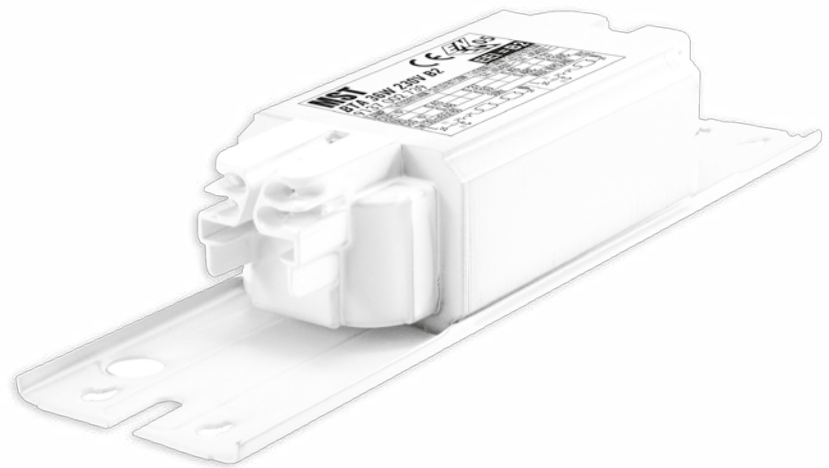
240V 50Hz, copper windings

Product name	Ordering code	EEI	Lamp current [A]	Tw [°C]	$\Delta T/\Delta T_{abn.}$ [°C]	Weight [kg]	Dimensions [mm]				
							A1	A2	B1	C1	D1
BPL 8W 240V B2 SI	1010 104 10246	B2	0,15	130	50/85	0,31	85	77	39	28	4,2
BPL 11W 240V B2 SI	1010 104 10546	B2	0,16	130	55/95	0,31	85	77	39	28	4,2
BPL 13W 240V B2 SI	1010 104 10846	B2	0,18	130	55/110	0,31	85	77	39	28	4,2
BPL 18W 240V B2 SI	1010 104 11146	B2	0,23	130	65/145	0,31	85	77	39	28	4,2
BPL 26W 240V B2 SI	1010 104 11446	B2	0,33	130	55/160	0,45	110	96	39	28	4,2

Ballasts

for standard fluorescent lamps

- Reliable electrical and mechanical performance
- Long life
- Compact dimensions
- Impregnated with polyester lacquer
- Optimum lamp performance under optimum temperature conditions
- Quick and easy wiring
- Copper or aluminium windings



220V 50Hz, copper windings

Product name	Ordering code	EEI	Lamp current [A]	Tw [°C]	$\Delta T/\Delta T_{\text{Tabn.}}$ [°C]	Weight [kg]	Dimensions [mm]				
							A1	A2	B1	C1	D1
BTA 18W 220V C	9130 154 30346	C	0,37	130	65/100	0,48	155	140	39	28	4,2
BTA 36W 220V C	9137 002 02846	C	0,43	130	65	0,47	155	140	39	28	4,2
BTA 36W 220V	9137 002 76746	C	0,39	140	70/175	0,46	155	130	39	28	4,2
BTA 58W 220V C	9137 002 65746	C	0,67	130	55/125	0,78	195	180	39	28	4,2

220V 50Hz, aluminium windings

Product name	Ordering code	EEI	Lamp current [A]	Tw [°C]	$\Delta T/\Delta T_{\text{Tabn.}}$ [°C]	Weight [kg]	Dimensions [mm]				
							A1	A2	B1	C1	D1
BTA 18W 220V C A SI	9137 002 84846	C	0,37	140	60/105	0,58	155	140	39	28	4,2
BTA 2x18W 220V C A SI	9137 002 85446	C	0,37	140	65	0,53	155	140	39	28	4,2
BTA 36W 220V C A SI	9137 002 85346	C	0,43	140	60/175	0,58	155	140	39	28	4,2
BTA 36W 220V C A LC SI	9137 002 84746	C	0,43	140	50	0,55	155	140	39	28	4,2

230V 50Hz, copper windings

Product name	Ordering code	EEI	Lamp current [A]	Tw [°C]	$\Delta T/\Delta T_{abn.}$ [°C]	Weight [kg]	Dimensions [mm]				
							A1	A2	B1	C1	D1
BTA 15W 230V B2	9130 121 20446	B2	0,31	130	55/95	0,48	155	140	39	28	4,2
BTA 18W 230V B2	9137 002 73546	B2	0,37	130	50/90	0,55	155	140	39	28	4,2
BTA 18W 230V C	9130 154 30446	C	0,37	130	65/110	0,48	155	140	39	28	4,2
BTA 2x18W 230V B1	9137 002 74746	B1	0,37	130	65/130	0,48	155	140	39	28	4,2
BTA 30W 230V B2	9137 002 74046	B2	0,36	130	55/115	0,55	155	140	39	28	4,2
BTA 30W 230V C	9130 241 20446	C	0,36	130	60/145	0,48	155	140	39	28	4,2
BTA 36W 230V B1	9130 321 20446	B1	0,43	130	35/95	0,78	195	180	39	28	4,2
BTA 36W 230V B2	9137 002 73946	B2	0,43	130	55/160	0,55	155	140	39	28	4,2
BTA 36W 230V C	9137 002 73846	C	0,43	130	50/125	0,55	155	140	39	28	4,2
BTA 36W 230V C65	9137 002 73746	C	0,43	130	65/155	0,55	155	140	39	28	4,2
BTA 58W 230V B2	9130 370 30446	B2	0,67	130	50/125	0,94	195	180	39	28	4,2
BTA 58W 230V C	9137 002 51546	C	0,67	130	55/125	0,77	195	180	39	28	4,2

230V 50Hz, aluminium windings

Product name	Ordering code	EEI	Lamp current [A]	Tw [°C]	$\Delta T/\Delta T_{abn.}$ [°C]	Weight [kg]	Dimensions [mm]				
							A1	A2	B1	C1	D1
BTA 18W 230V B2 A SI	9137 002 74846	B2	0,37	140	45/80	0,68	155	140	39	28	4,2
BTA 18W 230V C A SI	1010 102 10746	C	0,37	140	60/110	0,49	155	140	39	28	4,2
BTA 2x18W 230V B1 A SI	9137 002 85246	B1	0,37	140	60/125	0,58	155	140	39	28	4,2
BTA 30W 230V B2 A SI	1010 102 10546	B2	0,36	140	55/135	0,58	155	140	39	28	4,2
BTA 36W 230V B2 A SI	9137 002 85146	B2	0,43	140	45/150	0,68	155	140	39	28	4,2
BTA 36W 230V C A SI	1010 102 10446	C	0,37	140	50/175	0,58	155	140	39	28	4,2

240V 50Hz, copper windings

Product name	Ordering code	EEI	Lamp current [A]	Tw [°C]	$\Delta T/\Delta T_{abn.}$ [°C]	Weight [kg]	Dimensions [mm]				
							A1	A2	B1	C1	D1
BTA 18W 240V B2	9137 002 71846	B2	0,37	130	50/95	0,55	155	140	39	28	4,2
BTA 36W 240V B2	9137 002 71946	B2	0,43	130	40/105	0,78	195	180	39	28	4,2
BTA 58W 240V B2	9130 370 30546	B2	0,67	130	50/140	0,94	195	180	39	28	4,2

240V 50Hz, aluminium windings

Product name	Ordering code	EEI	Lamp current [A]	Tw [°C]	$\Delta T/\Delta T_{abn.}$ [°C]	Weight [kg]	Dimensions [mm]				
							A1	A2	B1	C1	D1
BTA 18W 240V B2 A SI	9137 002 90946	B2	0,37	140	55/95	0,68	155	140	39	28	4,2
BTA 2x18W 240V B1 A SI	9137 002 88846	B1	0,37	140	60/125	0,58	155	140	39	28	4,2
BTA 2x18W 240V C A SI	1010 102 10646	C	0,37	140	55	0,53	155	140	39	28	4,2
BTA 36W 240V B2 A SI	9137 002 91046	B2	0,43	140	55/165	0,68	155	140	39	28	4,2

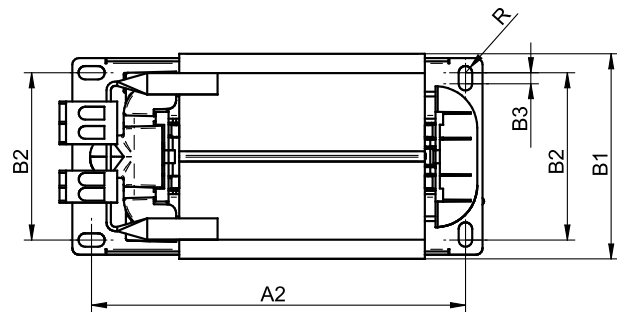
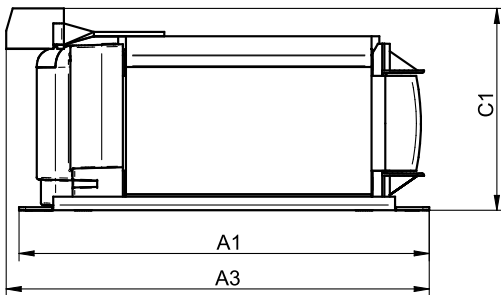
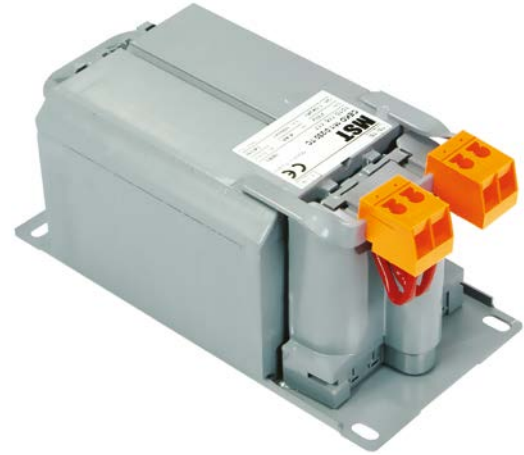
220V 60Hz, aluminium windings

Product name	Ordering code	EEI	Lamp current [A]	Tw [°C]	$\Delta T/\Delta T_{abn.}$ [°C]	Weight [kg]	Dimensions [mm]				
							A1	A2	B1	C1	D1
BTA 18W 220V 60Hz C A SI	1010 102 11041	C	0,37	140	55/100	0,49	155	140	39	28	4,2
BTA 2x18W 220V 60Hz C A SI	1010 102 11241	C	0,37	140	50/130	0,42	155	140	39	28	4,2
BTA 36W 220V 60Hz C A SI	1010 102 11141	C	0,37	140	55/135	0,49	155	140	39	28	4,2

Reactors

Monophase shunt reactors

- Intended to consume capacitive VARs
- Product according to EN/IEC 60076-6
- Thermal protection integrated
- Additional ratings on request
- Copper windings
- Ambient temperature $T_a = 40^\circ\text{C}$
- 3 phase reactor possible – star connection



Product name	Ordering code	Reactive power [kVar]	Inductance [mH]	Current [A]	Weight [kg]	Dimensions [mm]								Losses [W]	Insulation class
						A1	A2	A3	B1	B2	B3	C1	R1		
CEKO 1f/0,1/230	1010 116 13442	0,10	1684	0,44	3,50	142	121	-	96	78	6	82	3	8,00	B
CEKO 1f/0,2/230	1010 116 13042	0,20	842	0,87	3,70	142	121	-	96	78	6	82	3	10,00	B
CEKO 1f/0,25/230	1010 116 10142	0,25	673	1,09	3,70	142	121	-	96	78	6	82	3	11,00	B
CEKO 1f/0,3/230	1010 116 10242	0,30	560	1,30	3,70	142	121	-	96	78	6	82	3	14,00	B
CEKO 1f/0,4/230	1010 116 12642	0,40	280	2,61	4,00	142	121	-	96	78	6	82	3	17,00	B
CEKO 1f/0,45/230	1010 116 13542	0,45	374	1,96	4,00	142	121	-	96	78	6	82	3	17,00	B
CEKO 1f/0,5/230	1010 116 10342	0,50	337	2,17	4,00	142	121	-	96	78	6	82	3	22,00	B
CEKO 1f/0,55/230	1010 116 13142	0,55	306	2,39	4,00	165	144	-	96	78	6	82	3	22,50	B
CEKO 1f/0,6/230	1010 116 10442	0,60	280	2,61	5,30	165	144	-	96	78	6	82	3	23,00	B
CEKO 1f/0,75/230	1010 116 10542	0,75	225	3,26	5,50	165	144	-	96	78	6	82	3	29,00	B
CEKO 1f/1/230	1010 116 11742	1,00	168	4,35	7,00	192	175	198	96	78	6	97	3	36,00	B
CEKO 1f/1,25/230	1010 116 12842	1,25	135	5,43	8,50	189	170	189	108	88	6	106	4	42,50	B
CEKO 1f/1,33/230	1010 116 11842	1,33	127	5,78	9,50	189	170	189	108	88	6	106	4	46,00	B
CEKO 1f/1,5/230	1010 116 11942	1,50	112	6,52	12,00	239	222	236	108	88	6	106	4	58,00	B
CEKO 1f/1,67/230	1010 116 13742	1,67	100	7,26	13,00	239	222	236	108	88	6	106	4	65,00	B
CEKO 1f/2/230	1010 116 12042	2,00	84	8,70	13,00	239	222	236	108	88	6	106	4	76,00	B
CEKO 1f/2,5/230	1010 116 12142	2,50	67	10,87	16,50	299	222	298	108	88	6	106	4	92,00	B
CEKO 1f/3/230	1010 116 12442	3,00	56	13,05	17,00	239	222	212	108	88	6	175	4	119,00	B
CEKO 1f/3,33/230	1010 116 12242	3,33	51	14,48	19,00	239	222	212	108	88	6	175	4	125,00	B
CEKO 1f/4/230	1010 116 12542	4,00	42	17,40	23,00	265	252	270	108	88	6	175	4	145,00	B
CEKO 1f/5/230	1010 116 12342	5,00	34	21,74	27,00	300	282	302	108	88	6	175	4	208,00	B

Technical information

Definitions

1. ΔT (delta T) - it is the difference of temperature of the coil windings within an operating electromagnetic ballast compared to when it is in an off status.

2. ΔT_{abn} (ΔT in abnormal situation) - it is the increase of winding temperature at 110% mains voltage when the starter is short circuited.

3. T_w (T windings) - it is the maximum temperature allowed for the windings in an electromagnetic ballast. When the temperature higher then T_w (130 or 140 degrees, depending on the ballast type), the isolation around the wire can be damaged.

4. T_a (ambient temperature) - it is the temperature specified for the product as maximum allowed surrounding temperature in the luminaire. The T_a (ambient temperature) of electromagnetic ballast is therefore approx. $T_w - \Delta T$.

5. Thermo switch (TS) - it is for thermal protection against overheating. This prevents the ballast damage when the lamp reaches end of life.

6. PF (power factor) - it determines the amount of current that is consumed by a system. When the PF is low the current consumption is high. The PF can be improved by a PF capacitor or reactor (depend on PF character).

7. Reinforced ballasts (letter R in the naming) - these ballasts are designed to be used in class II luminaires.

8. Advantages of semi-parallel systems

- Ignitor is not self-heating
- Ballast generates high-energy ignition pulse that ignites lamps under all conditions
- Current does not flow through ignitor when lamp is operating therefore lifetime of digital semi-parallel ignitor can reach more than 10 years of operation
- High-energy ignition pulse, enabling remote gearing
- Silent system operation
- Semi-parallel ballasts can be used both with semi-parallel and series ignitors
- Semi-parallel system has lower energy consumption compared to series one

Features and benefits of aluminium wire

Raw material prices are growing, manufacturers of luminaires are looking for cheaper alternatives to improve their own competitiveness. Alternatives having equal or better performance. Because that MST decided to develop the new product platform based on aluminum wire. Years of experience in this field and positive users feedback unequivocally confirm the correctness of technological solutions adopted in the most critical elements of aluminium wire ballast design. Main facts:

- aluminium wire has the same kind of insulation as copper wire (temperature index 200°C),

- experience with Fluo and HID ballasts with aluminium show that production process (winding etc.) has no negative influence on insulation quality,
- if during ballasts lifetime any insulation damages or cracks will appear, they will be quickly covered by oxide layer – due to this phenomenon overall insulation of aluminium wire is even better than copper wire,
- all ballasts with aluminium wire have $T_w=140$ (market standard is $T_w=130$),
- ballasts are tested (acc. IEC 61347) 30 days at 238°C (most of the copper wire ballasts are tested at 222°C)

High intensity discharge lamps naming applied by leading producers in lighting

	High-pressure sodium vapour lamps	Metal Halide lamps	High-pressure mercury vapour lamps	Low-pressure sodium vapour lamps
ELT	Na	HgI	Hg	
Electrostart	HSI	MHI	MVI	
Helvar	HS	HI	HM	
MST	SON	MH, HPI	HPL	SOX
OSRAM	Vialox NAV, Plantastar-T	Powerball HCI, Powerstar HQI	HQL	SOX
PHILIPS	SON	MHN, CDM, CDO, HPI	HPL	SOX
Tridonic	HS	HI	HM	
Venture	HPS	MH	Mercury lamps	SOX
VosslohSchwabe	HS	HI	HM	

Cross reference table - lamp, ballast, ignitor and capacitor combination

Lamp type	Mains	Lamp power	Ballast type	SK 578 (-S)	SK 578 (+S) Digital	SU 10-S	SUD 10-S	SUD 40-S	SU 38-S	Series 2000W/400V	SK 98 Digital	SK 97	SI 51 (-S)	SI 52 (-S)	SI 54 (-S)	SN 56	SN 59	Philips SN(D) 57	Philips SN(D) 58	Philips SX 26	Philips SX 76	Capacitor		
SON	220 - 240V 50/60Hz	50W	Basic	x	x	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10uF/250V		
			Dual wattage	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Heavy Duty	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	
		70W	Basic	x	x	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12uF/250V
			Dual wattage	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Heavy Duty	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	
		100W	Reinforced	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Basic	x	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12uF/250V
			Dual wattage	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		150W	Heavy Duty	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	x	-	-	
			Reinforced	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Basic	x	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18uF/250V
250W	Dual wattage	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32uF/250V		
	Heavy Duty	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	x	-	-			
	Reinforced	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
400W	Basic	x	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45uF/250V		
	Dual wattage	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Heavy Duty	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	x	-	-			
600W	Reinforced	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Basic	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60uF/250V		
	Basic aluminium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-	-			
1000W	Basic copper	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100uF/250V		
	Heavy Duty	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-	-			
	Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SON Horticulture	220 - 240V 50/60Hz	250W	Basic	x	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	32uF/250V		
		400W	Basic	x	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	45uF/250V	
		600W	Basic	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60uF/250V	
	380 - 400V 50Hz 480V 60Hz	600W	Basic	-	-	-	-	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	22.5uF/450V	
		600W	Basic	-	-	-	-	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	15uF/480V	
MH	220 - 240V 50/60Hz	35W	Basic	x	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	6uF/250V	
			Basic	x	x	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
		50W	Heavy Duty	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	10uF/250V
			Basic	x	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		70W	Heavy Duty	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12uF/250V
			Reinforced	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		100W	Basic	x	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12uF/250V
			Heavy Duty	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	x	-	-	
		150W	Reinforced	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Basic	x	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18uF/250V
		250W	Heavy Duty	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	x	-	-	32uF/250V
			Reinforced	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400W	Basic	x	x	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45uF/250V		
	Heavy Duty	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	x	-	-			
1000W	Reinforced	-	-	-	-	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
	Basic aluminium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-	100uF/250V		
MH	360 - 430V 50/60Hz	2000W	Basic	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-	-	60uF/450V		
			Heavy Duty	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-	-		
HPI	220 - 240V 50/60Hz	250W	Basic	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-	-	18uF/250V	
			Heavy Duty	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-		
400W		Basic	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-	25uF/250V	
		Heavy Duty	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	-	-		
HPI	360 - 415V 50/60Hz	2000W	Basic	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-	40uF/450V	
			Heavy Duty	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	-		
HPL	220 - 240V 50/60Hz	50W	Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7uF/250V	
			Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8uF/250V
		80W	Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10uF/250V
			Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		125W	Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18uF/250V
			Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
250W	Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25uF/250V		
	Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
400W	Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60uF/250V		
	Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
SOX	220 - 240V 50/60Hz	18W	Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5uF/250V	
			Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6uF/250V	
		26W	Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8uF/250V
			Basic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10uF/250V

LED MODULES

RdLED 210mm 1500lm 830 EMG Optimum

Linear shape	LinLED
Rectangular shape	RecLED
Round shape - one piece	RdLED
1/2 part of round shape	RdLED 1/2
1/4 part of round shape	RdLED 1/4

Dimensions: length x width or diameter [mm]

Luminous flux

Product family

EMG Emergency circuit

CCT Colerated colour temperature

7	CRI > 70
8	CRI > 80
9	CRI > 90

HID HEAVY DUTY BALLASTS

BSN 150 L33-A2-TS

High Pressure Sodium (SON)	BSN
Low Pressure Sodium (SOX)	BSX
High Pressure Mercury (HPL)	BHL
Metal Halide (MH)	BMH
Metal Halide (MH)	BHD

Lamp power

Low PF **L**

A2	A2 Energy Efficiency Index
TS	Termo Switch

02	220V 50Hz
33	230V 50Hz
34	240V 50Hz
40	230V 50Hz
43	220V 60Hz
50	360/380/400V 50Hz
76	380/400/415V 50Hz
77	400/415/430V 50Hz
78	230/240V 50Hz

HID BASIC BALLASTS

BSN 150 K407-A2-ITS-A

High Pressure Sodium (SON)	BSN
Low Pressure Sodium (SOX)	BSX
Metal Halide (MH)	BMH
High Pressure Mercury (HPL)	BHL

Lamp power

Semi-parallel types compatible with SK/SK Digital ignitors
Low PF **L**

Number of terminals

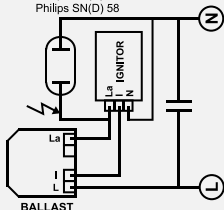
Screw terminal **0**
Insert (poke-in) terminal **2**

A2	A2 Energy Efficiency Index
I	Ignitor tap
TS	Thermal protection
R	Reinforced
A	Aluminium wire

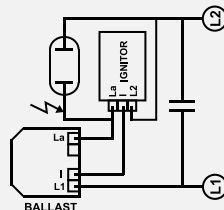
0	220V 50Hz
1	220V 60Hz
2	230V 50Hz
3	230V 60Hz
4	240V 50Hz
5	240V 60Hz
6	220/230V 50Hz
7	230/240V 50Hz
9	400V 50Hz
14	380V 50Hz
18	380/400/415V 50Hz
19	360/380/400/415V 50Hz
30	480V 60Hz or 380/400/415V 60Hz
80	220V 50Hz low profile
81	230V 50Hz low profile
82	240V 50Hz low profile

HID wiring diagrams

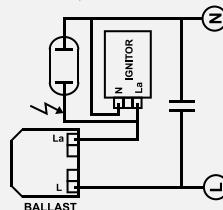
SEMI-PARALLEL 220...240V
SK 578 (-S)
SK 578 (-S) Digital
SN 56
SN 59
Philips SN(D) 57
Philips SN(D) 58



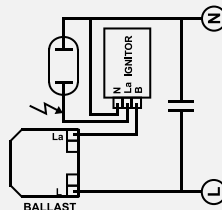
SEMI-PARALLEL 380...480V
SK 98 Digital
SK 97



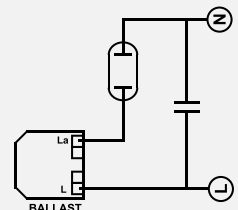
PARALLEL
SI 51 (-S)
SI 52 (-S)
SI 54 (-S)
Philips SX 26
Philips SX 76



SERIES
SU 10-S
SUD 10-S
SUD 40-S
SU 38-S



NO IGNITOR





MST

Your solutions

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