

INDEX

COMPANY PROFILE	2
PRODUCT INFORMATION	
– TERMINALS AND PLASTIC PARTS - EARTHING - LABELING	3
– TEMPERATURE FEATURES - QUALITY APPROVALS & MARKS	4
– QUALITY APPROVALS & MARKS	5
BALLASTS FOR COMPACT FLUORESCENT LAMPS L-32	6
BALLASTS FOR FLUORESCENT LAMPS L-32	7
BALLASTS FOR FLUORESCENT LAMPS L-32	8
BALLASTS FOR COMPACT FLUORESCENT LAMPS L-26	9
BALLASTS FOR FLUORESCENT LAMPS L-26	10
ELECTROMAGNETIC SAFETY TRANSFORMERS FOR HALOGEN LAMPS/CLASS I	12
BALLAST FOR HIGH PRESSURE MERCURY VAPOUR LAMPS Q-66	13
BALLAST FOR POWER REDUCTION Q-66	14
BALLAST FOR HIGH PRESSURE SODIUM VAPOUR AND METAL HALIDE LAMPS Q-66	15
BALLASTS FOR HIGH PRESSURE MERCURY LAMPS Q-102	16
BALLASTS FOR POWER REDUCTION Q-102	17
BALLASTS FOR HIGH PRESSURE SODIUM VAPOUR AND METAL HALIDE LAMPS Q-102	18
ELECTRONIC IGNITORS FOR DISCHARGE LAMPS	19
CAPACITORS	20
CLASSIFICATION OF BALLASTS-LAMP CIRCUITS FOR ENERGY EFFICIENCY IN LIGHTING	21
LAMPS TABLE	22
REPRESENTATIVES	24
MAP	24



COMPANY PROFILE



SCHWABE HELLAS Co Ltd was established in 1974 and is located in the industrial area of Koropi, 25 km south-east from the centre of Athens and 5 km from the new Athens International Airport.

The company was created as a Greek - German joint venture with regard to assets and technology and has been a licensee of Hermann Schwabe/Urbach (later Vossloh Schwabe) for 20 years. Today the Company, which is a major manufacturing concern, specialises in the production of Ballasts for Fluorescent Lamps, High Pressure Mercury, M. Halide and Sodium Vapour Lamps as well as Transformers for Low Voltage Halogen Lamps.

The guarantee of the Schwabe name in the high quality Ballast market and the continuous development of technology has resulted in reliable products, which has meant that the company has acquired a steady and growing share of the international market.

Our exporting capacity which accounts for 70-80% of our total production, has created repeat business in Europe, Middle East, Far East, South America and Africa.

The company constantly strives to improve both the technology and quality of its products with highly skilled and continuously trained personnel.

SCHWABE HELLAS applied its own quality management system which was firstly certified in 1996 according to **ISO 9002:1994**.

Since then the company has continuously evolved its quality management system and was again certified in 2003 according to **ISO 9001:2000**.



PRODUCT INFORMATION

The specifications described hereunder apply to all the standard products of Schwabe Hellas Co Ltd. Alterations or modifications can be effected at the customer's request, within International Standards according to which all our products are manufactured.

TERMINALS AND PLASTIC PARTS

Two types of terminals can be provided with Schwabe Hellas Ballasts:

Screw Terminals:

For connection to solid core or multi-stranded cable \varnothing 0.5mm² till 2.5mm².

Push-in (automatic/screwless) Terminals:

For connection to solid core cable \varnothing 0.5mm² till 1.5mm².

The terminals and all other plastic parts are constructed with non flammable material and have passed the needle flame and glow wire tests which apply to terminals used on Ballasts and transformers.

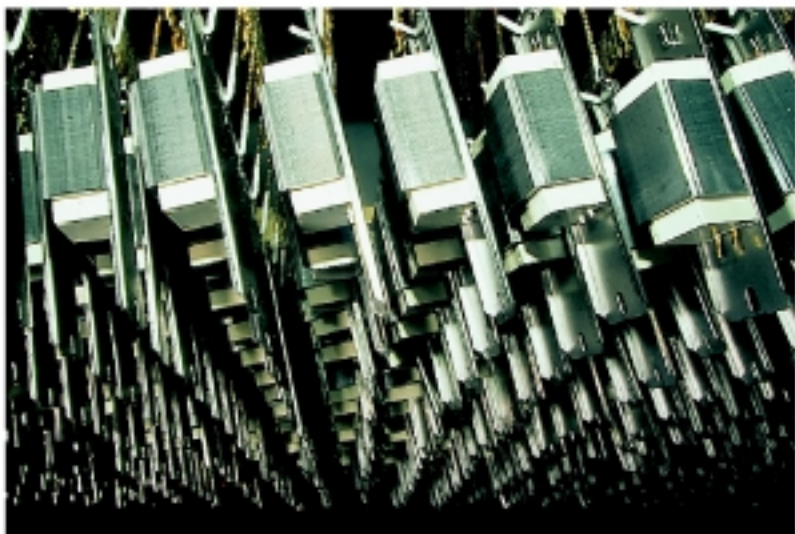
EARTHING

Depending on the requirements of the customer, earthing can be obtained on the Ballast fixing holes or, if requested, with an earth screw provided on the Ballast.

LABELING

The Schwabe Hellas logo is:





PRODUCT INFORMATION

TEMPERATURE FEATURES

tw

is the maximum tolerated temperature on the Ballast winding under constant operation.

Schwabe Hellas Ballasts indicate **tw** 130 which ensures a life span for more than 10 years under constant operation and under normal operating conditions.

Δt

Δt normal is the increase of the temperature on the Ballast winding under normal operating conditions.

ta

It is useful to estimate the maximum ambient temperature with the **Δt** and **tw** values.

The ambient temperature **ta** is determined with the equation $ta = tw - \Delta t$

For example: If $tw = 130$ and $\Delta t = 55$, then

$$ta = tw - \Delta t = 130 - 55 = 75$$

therefore the maximum tolerated ambient temperature under normal operating conditions in this case would be 75° C.

Δt abnormal is the increase of the temperature on the Ballast winding under abnormal operating conditions.

Δt cap is the increase of the temperature on the Ballast winding under normal operating conditions with capacitor in series connection (optional).

QUALITY APPROVALS & MARKS

CE **MARK** is applied by SCHWABE HELLAS on its products.

CE means European Conformance and represents the compliance of the product with European Directives.

Electric and Electronic appliances within the European Community follow the directives hereunder:

PRODUCT INFORMATION

Quality Marks

The following quality marks apply to the Schwabe Hellas standard Ballasts:



LV 73/23 E.E.C.

Low Voltage Directive applicable to all electrical appliances with rated voltage of 50 to 1.000 V a/c and 75 to 1.000V d/c.

EMC 89/336/E.E.C.

Electromagnetic Compatibility Directive applicable to all electric and electronic appliances which can generate radio-interference and can be effected by general disturbances from other appliances surrounding them.

With reference to the above directives with which **Schwabe Hellas** products fully comply, the corresponding International Standards mentioned in this catalogue and in the «**CE Declaration of Conformity**» are strictly followed.

The tests on the products are conducted at European Testing Institutes which certify the use of the Standard in **Schwabe Hellas** products. Moreover, the Company has established its own research and development department, fully equipped in order to provide testing services for the Company and its customers.

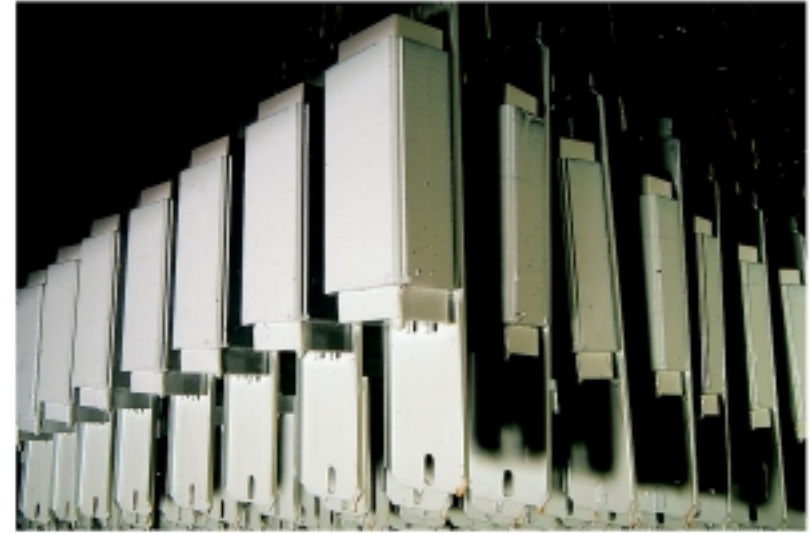
ENERGY EFFICIENCY INDEX (EEI)

DIRECTIVE 2000/55/EC

This directive applies to Ballasts for Fluorescent lamps and indicates which Ballasts will be excluded from the European market due to their high losses.

According to CELMA, the Fluorescent Ballasts are classified to 7 classes A1, A2, A3, B1, B2, C & D as indicated within a table attached.

SCHWABE HELLAS indicates the E.E.I. on the label of each Ballast. This is also referred for each item within this catalogue.



SERIES L - 32

BALLASTS FOR COMPACT FLUORESCENT LAMPS



Electromagnetic Ballasts for single ended compact fluorescent lamps.

Shape 32x40mm.

Vacuum impregnated with polyester resin.

Push in terminals: 0.5-1.5mm².

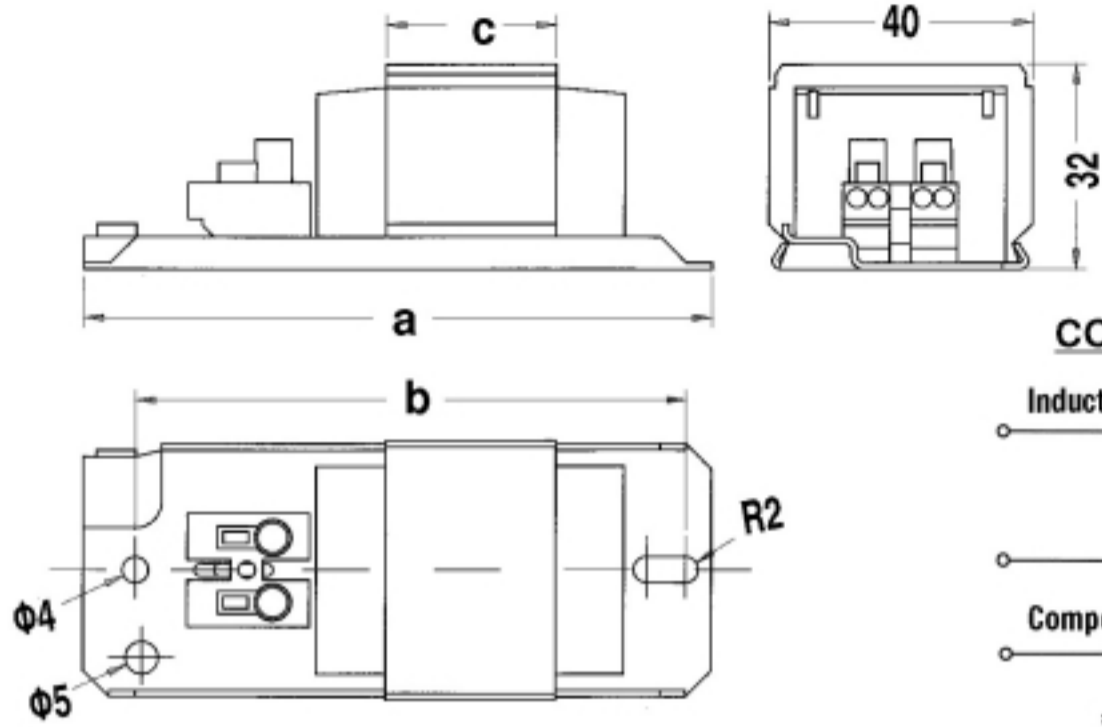
Screw terminals: 2.5 mm².

tw 130, Protection class I.

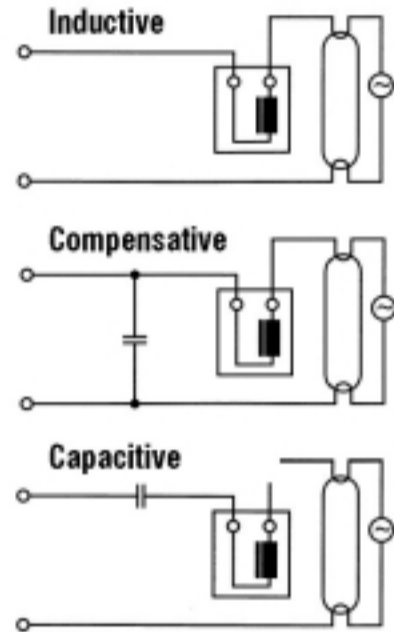
EN 61347-2-8 (Safety).

EN 60921 (Working Method).

Quality Control System: ISO 9001/2000.



CONNECTIONS:

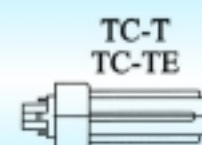


B A L L A S T								L A M P				CAPACITOR		EEL	APPROVALS MARKS
TYPE	V / HZ	a (mm)	b (mm)	c (mm)	WEIGHT (Kg)	$\Delta V / \Delta t_{20}$ (°C)	COS ϕ	POWER (W)	CURRENT (A)	TYPE	BASE	Cop $\mu F \pm 10\%$	Cap $\mu F \pm 2\%$		
L7/9-907HS	110/60	96	83	26	0,35	40/60	0,55	1X7/9	0,170	TC-S	G23	2,0	-	-	3
L7/9/11-911H	230/50	96	83	26	0,35	65/110	0,34	1X7/9/11	0,170	TC-S	G23	2,0	-	C	3
L7/9/11-909H	220/50	96	83	26	0,35	65/110	0,53	1X7/9/11	0,170	TC-S	G23	2,0	-	C	3
L7/9/11-904	240/50	96	83	26	0,35	70/110	0,38	1X7/9/11	0,170	TC-S	G23	2,0	-	C	3
L13-913H	230/50	96	83	26	0,35	55/155	0,53	1X13	0,165	TC-D/TC-T	GX23-2	2,0	-	C	3
L13-912HS	220/50	96	83	26	0,35	50/90	0,45	1X13	0,165	TC-D/TC-T	GX23-2	2,0	-	C	3
L13-935S	230/50	96	83	26	0,35	55/95	0,53	1X13	0,165	TC-D/TC-T	GX23-2	2,0	-	C	3
L13-914H	240/50	96	83	26	0,35	55/155	0,52	1X13	0,165	TC-D/TC-T	GX23-2	2,0	-	C	3
L18-937S	220/60	96	83	26	0,35	70/165	0,55	1X18	0,22	TC-D/TC-T	G24d-2	2,0	-	-	3
L18-917H	220/50	96	83	26	0,35	65/160	0,52	1X18	0,22	TC-D/TC-T	G24d-2	2,0	-	C	3
L18-903	230/50	155	140	50	0,52	40/65	0,52	1X18	0,22	TC-D/TC-T	G24d-2	2,0	-	B2	3
L18-902	240/50	155	140	50	0,52	40/70	0,50	1X18	0,22	TC-D/TC-T	G24d-2	2,0	-	B2	3
L18-918H	230/50	96	83	26	0,35	70/160	0,55	1X18	0,22	TC-D/TC-T	G24d-2	2,0	-	C	1/3
L26-926H	230/50	155	140	50	0,52	55/115	0,46	1X26	0,325	TC-D/TC-T	G24d-3	3,2	2,5	B2	1/3
L26-925H	220/50	155	140	50	0,52	55/110	0,45	1X26	0,325	TC-D/TC-T	G24d-3	3,2	2,5	C	3
L26-941S	220/60	155	140	50	0,52	55/110	0,45	1X26	0,325	TC-D/TC-T	G24d-3	3,2	2,5	-	3

• Other voltages and frequencies are available on request.

• • Automatic (push-in) terminals are available on request.

LAMPS



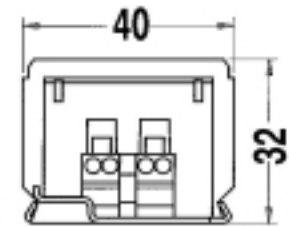
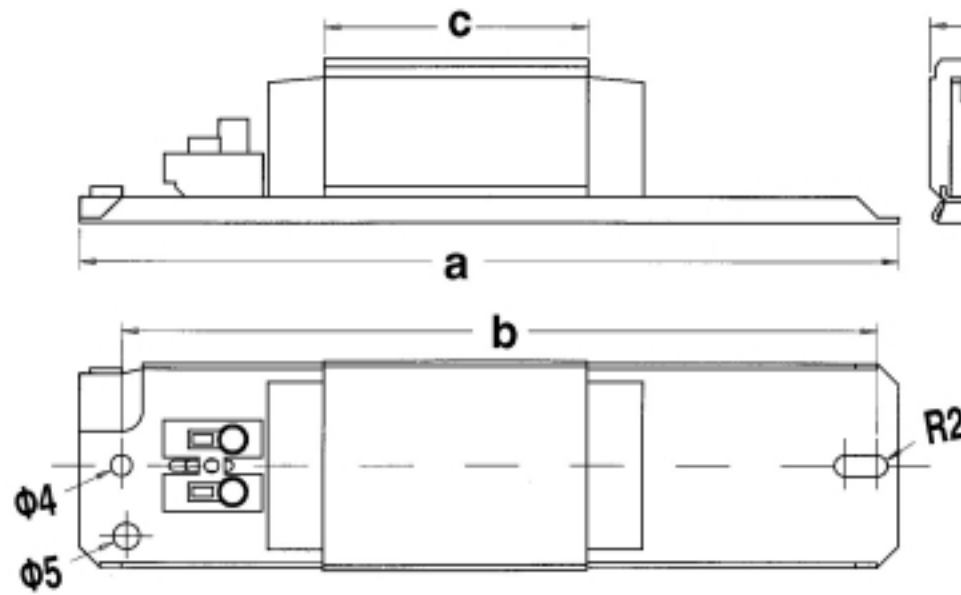
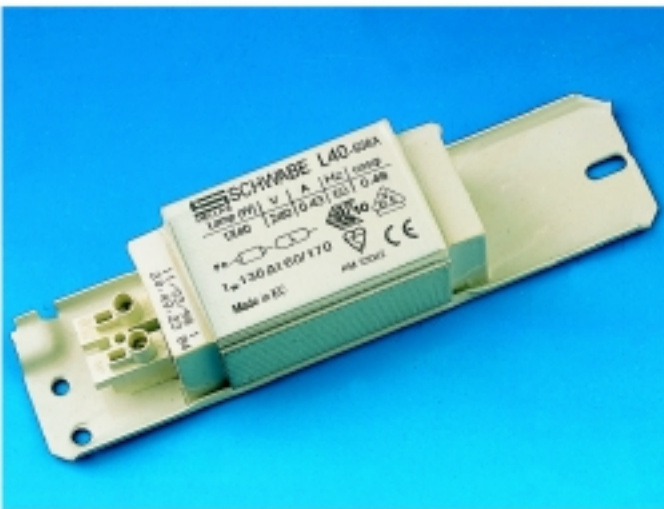
110V, 220V - 230V - 240V
50, 60HZ
4W - 20W

SERIES L - 32

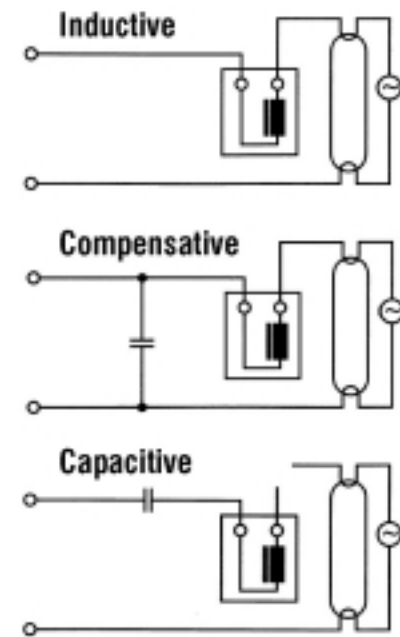


SCHWABE HELLAS Co. Ltd
MANUFACTURER OF ELECTROTECHNICAL DEVICES

BALLASTS FOR FLUORESCENT LAMPS



CONNECTIONS:



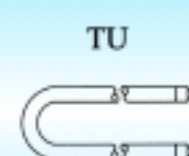
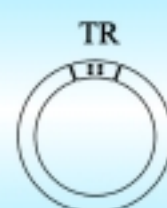
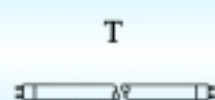
Electromagnetic Ballasts for fluorescent lamps.
Shape 32x40mm.
Vacuum impregnated with polyester resin.
Push in terminals: 0.5-1.5mm².
Screw terminals: 2.5 mm².
tw 130, Protection class I.
EN 61347-2-8 (Safety).
EN 60921 (Working Method).
Quality Control System: ISO 9001/2000.



B A L L A S T								L A M P				CAPACITOR		EEI	APPROVALS MARKS
TYPE	V / HZ	a (mm)	b (mm)	c (mm)	WEIGHT (Kg)	$\Delta t / \Delta t_{30}$ (°C)	COS ϕ	POWER (W)	CURRENT (A)	TYPE	BASE	Cop $\mu F \pm 10\%$	Cap $\mu F \pm 2\%$		
L4/6/8-908H	230/50	96	83	26	0,35	60/110	0,40	1X4/6/8	0,160	FL	G5	2	-	C	3
L4/6/8-906H	240/50	96	83	26	0,35	60/110	0,34	1X4/6/8	0,160	FL	G5	2	-	C	3
L4/6/8-929S	220/60	96	83	26	0,35	40/60	0,32	1X4/6/8	0,160	FL	G5	1,7	-	-	3
L4/6/8-905	230/50	155	140	50	0,52	40/80	0,40	1X4/6/8	0,160	FL	G5	2	-	B2	3
L10-915H	230/50	155	140	50	0,52	50/80	0,53	1X10	0,170	FL	G13	2	-	B2	3
L10-916H	240/50	155	140	50	0,52	50/80	0,50	1X10	0,170	FL	G13	2	-	B2	3
L15-953H	230/50	155	140	50	0,52	60/110	0,35	1X15	0,350	FL	G13	4,5	2,6	C	3
L15-952H	220/50	155	140	50	0,52	60/110	0,35	1X15	0,350	FL	G13	4,5	2,7	C	3
L15-936S	220/60	155	140	50	0,52	60/110	0,34	1X15	0,350	FL	G13	4,0	-	-	3
L18-501	230/50	155	140	50	0,52	60/110	0,34	1X18	0,37	FL	G13	4,5	2,7	C	1/2/3
L18-923H	230/50	155	140	55	0,55	55/95	0,35	1X20	0,37	FL	G13	4,5	2,7	C	1/2/3
L18-923H.B2	230/50	155	140	55	0,55	55/95	0,35	1X20	0,37	FL	G13	4,5	2,7	B2	1/2/3
L20-501	230/50	155	140	50	0,52	60/110	0,35	1X20	0,37	FL	G13	4,5	2,7	C	1/2/3
L20-922H	220/50	155	140	50	0,52	60/105	0,36	1X20	0,37	FL	G13	4,5	2,9	C	1/3
L20-923H	230/50	155	140	55	0,55	55/95	0,35	1X20	0,37	FL	G13	4,5	2,7	C	1/2/3
L20-919H	240/50	155	140	50	0,52	65/110	0,35	1X20	0,37	FL	G13	5,0	-	C	1/3
L20-919A	240/50	155	140	55	0,55	55/110	0,35	1X20	0,37	FL	G13	5,0	-	C	1/2/3
L18-919A	240/50	155	140	55	0,55	55/110	0,35	1X18	0,37	FL	G13	5,0	-	C	1/2/3
L20-939S	127/60	96	83	26	0,35	50/120	0,54	1X20	0,37	FL	G13	-	-	-	1/3
L20-920HS	220/50/60	155	140	50	0,52	55/95	0,36	1X20	0,37	FL	G13	4,0	2,4	-	3
L20-921H	110/50	155	140	50	0,52	45/80	0,59	1X20	0,37	FL	G13	-	-	-	3
L20-975S	220/60	155	140	50	0,50	55/130	0,36	1X20	0,37	FL	G13	-	-	-	1/3

• Other voltages and frequencies are available on request. • • Automatic (push-in) terminals are available on request.

LAMPS



SERIES L - 32

BALLASTS FOR FLUORESCENT LAMPS



Electromagnetic Ballasts for fluorescent lamps.
Shape 32x40mm.

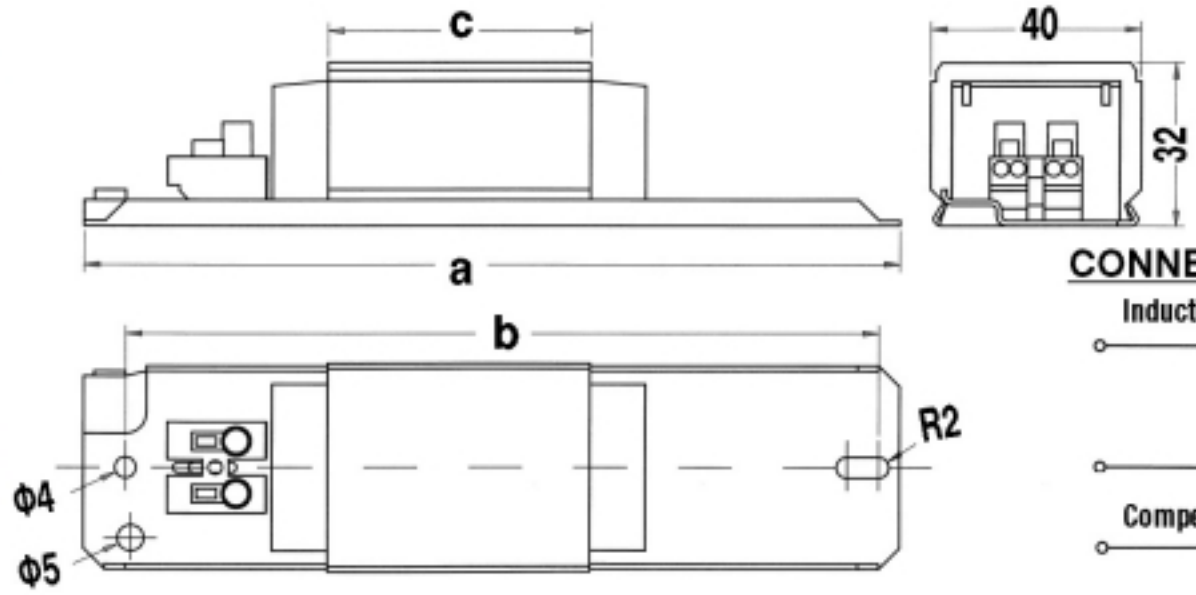
Vacuum impregnated with polyester resin.

Push in terminals: 0.5-1.5mm².

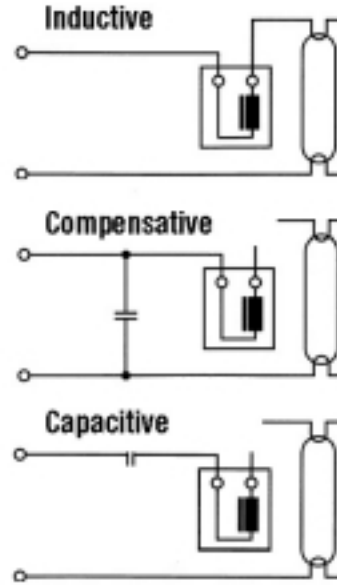
Screw terminals: 2.5 mm², **tw 130**, Protection class I.

EN 61347-28 (Safety). EN 60921 (Working Method).

Quality Control System: ISO 9001/2000.



CONNECTIONS:



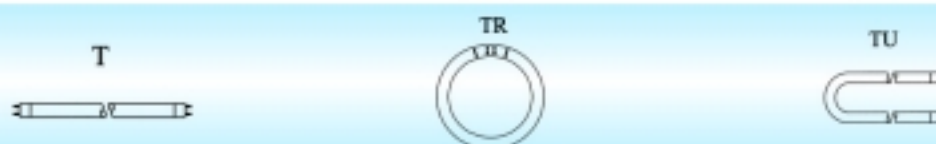
B A L L A S T								L A M P				CAPACITOR		EEI	APPROVALS MARKS
TYPE	V / HZ	a (mm)	b (mm)	c (mm)	WEIGHT (Kg)	Δt/ Δt _{gn} (°C)	COSΦ	POWER (W)	CURRENT (A)	TYPE	BASE	Cop μF±10%	Cap μF±2%		
L30-930H	230/50	155	140	50	0,52	55/110	0,46	1X30	0,365	FL	G13	-	-	C	3
L30-934H	240/50	155	140	50	0,52	55/110	0,45	1X30	0,365	FL	G13	4,0	-	C	3
L30-932H	220/50	155	140	50	0,52	55/110	0,46	1X30	0,365	FL	G13	4,5	3,0	C	3
L32-484	220/50	155	140	50	0,52	65/140	0,45	1X32	0,450	FL	G10q	4,5	3,6	C	1/3
L32-485	230/50	155	140	50	0,52	65/160	0,45	1X32	0,450	FL	G10q	4,5	3,4	C	1/3
L32-486	240/50	155	140	50	0,52	60/150	0,43	1X32	0,450	FL	G10q	4,5	-	C	3
L32-484S	220/60	155	140	50	0,52	60/140	0,45	1X32	0,450	FL	G10q	3,5	-	-	3
L36-502	230/50	155	140	50	0,52	60/160	0,49	1X36/2X18	0,430	FL	G13	4,5	3,4	C	1/2/3
L36-943H	230/50	155	140	55	0,55	55/155	0,48	1X40/2X20	0,430	FL	G13	4,5	3,4	C	1/2/3
L36-943H.B2	230/50	155	140	55	0,55	55/155	0,48	1X40/2X20	0,430	FL	G13	4,5	3,4	B2	1/2/3
L40-502	230/50	155	140	50	0,52	60/160	0,49	1X40/2X20	0,430	FL	G13	4,5	3,4	C	1/2/3
L40-942H	220/50	155	140	50	0,52	65/165	0,51	1X40/2X20	0,430	FL	G13	4,5	3,6	C	1/3
L40-938H	240/50	155	140	50	0,52	65/170	0,48	1X40/2X20	0,430	FL	G13	4,5	3,4	C	1/3
L40-938A	240/50	155	140	55	0,52	60/170	0,48	1X40/2X20	0,430	FL	G13	4,5	3,4	C	1/2/3
L36-938A	240/50	155	140	55	0,55	60/170	0,48	1X40/2X20	0,430	FL	G13	4,5	3,4	B2	1/2/3
L40-944S	220/60	155	140	50	0,52	60/150	0,48	1X40/2X20	0,430	FL	G13	3,5	3,0	-	1/3
L40-945S	230/60	155	140	50	0,52	55/155	0,49	1X40/2X20	0,430	FL	G13	3,5	3,0	-	3
L40-943H	230/50	155	140	55	0,55	55/155	0,48	1X40/2X20	0,430	FL	G13	4,5	3,4	C	1/2/3
L40-945	220/50/60	155	140	50	0,52	60/160	0,51	1X40/2X20	0,430	FL	G13	-	-	-	3
L58-503	230/50	155	140	92	0,85	60/170	0,49	1X58	0,670	FL	G13	7,0	5,3	C	1/2/3
L58-952H	220/50	155	140	82	0,85	60/170	0,50	1X58	0,670	FL	G13	7,0	5,7	C	3
L58-963H	230/50	195	180	105	1,1	55/140	0,47	1X58	0,67	FL	G13	7,0	5,3	C	1/2/3
L58-963H.B2	230/50	195*	180	105	1,1	55/140	0,47	1X58	0,67	FL	G13	7,0	5,3	B2	1/2/3
L58-954H	240/50	155*	140	82	0,85	60/170	0,48	1X58	0,670	FL	G13	7,0	-	C	3
L58-964H	240/50	195*	180	105	1,1	55/155	0,49	1X65	0,670	FL	G13	7,0	-	C	1/2/3
L58-964H.B2	240/50	195*	180	105	1,1	55/155	0,49	1X65	0,670	FL	G13	7,0	-	B2	1/2/3
L65-964H	240/50	195*	180	105	1,1	55/155	0,49	1X65	0,670	FL	G13	7,0	-	C	1/2/3
L58-963H	230/50	195*	180	105	1,1	55/140	0,47	1X58	0,67	FL	G13	7,0	5,3	C	1/2/3
L65-963H	230/50	195*	180	105	1,1	55/140	0,47	1X65	0,670	FL	G13	7,0	5,3	C	1/2/3
L65-980H	220/50	155*	140	105	1,1	60/170	0,48	1X65	0,670	FL	G13	7,0	5,7	C	3
L65-960HS	220/50/60	195*	180	82	0,85	60/170	0,50	1X65	0,670	FL	G13	-	-	-	3
L70-974H	240/50	195*	180	105	1,1	55/165	0,55	1X70	0,670	FL	G13	6,0	-	C	3

• Other voltages and frequencies are available on request.

• • Automatic (push-in) terminals are available on request.

* Also available with base length 235mm. Distance of holes 220mm.

LAMPS

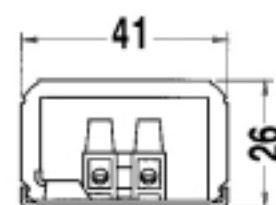
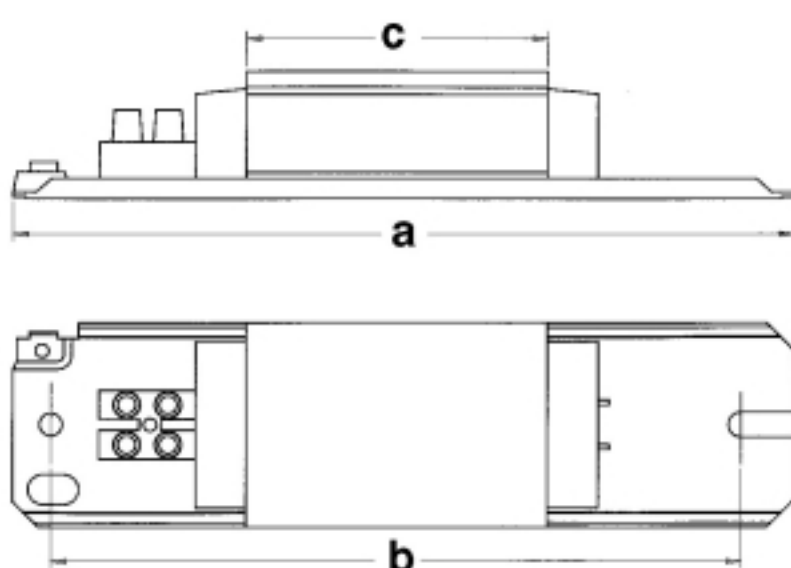


120V - 220V - 230V - 240V
50, 60HZ
4W - 65W

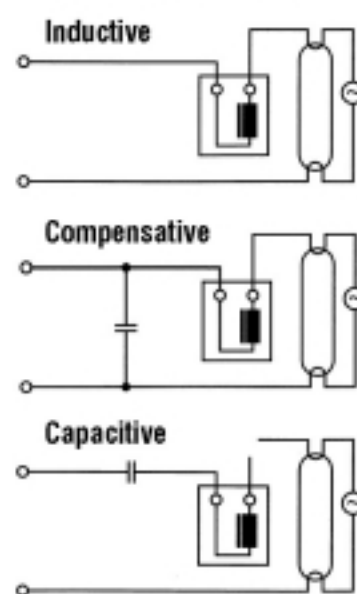
SERIES L - 26 BALLASTS FOR COMPACT FLUORESCENT LAMPS



SCHWABE HELLAS Co. Ltd
MANUFACTURER OF ELECTROTECHNICAL DEVICES



CONNECTIONS:



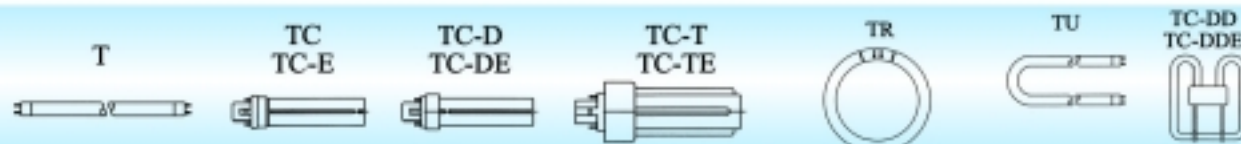
Electromagnetic Ballasts for tubular and compact fluorescent lamps. Shape 26x41mm.
Vacuum impregnated with polyester resin.
Push in terminals: 0.5-1.5mm². Screw terminals: 2.5 mm².
tw 130, Protection class I.
EN 61347-2-8 (Safety). EN 60921 (Working Method).
Quality Control System: ISO 9001/2000.



B A L L A S T								L A M P				CAPACITOR		EEI	APPROVALS MARKS
TYPE	V / HZ	a (mm)	b (mm)	c (mm)	WEIGHT (Kg)	Δt/ Δt _{an} (°C)	COSΦ	POWER (W)	CURRENT (A)	TYPE	BASE	Cop μF ± 10%	CURRENT mA		
L5/7/9/11-811H	230/50	100*	85	34	0,32	55/80	0,30	1X5	0,180	TC-S	G23	2,0	50	C	1/2/3
								1X7	0,180	TC-S	G23		50		
								1X9	0,170	TC-S	G23		60		
								1X11	0,155	TC-S	G23		80		
L13-813H	230/50	100*	85	34	0,32	55/95	0,42	1X13	0,165	TC-D/TC-T	G24d-1	2,0	80	B2	1//2/3
								1X10		TC-D	G24d-1		70		
								2X5		TC-S	G23		70		
								2X7		TC-S	G23		70		
								2X9		TC-S	G23		80		
L16-816H	230/50	100*	85	34	0,32	60/125	0,47	1X16	0,2	TC-DD	GR8/GR10q	2,0	110	B2	3
L18-803H	230/50	100*	85	34	0,32	65/140	0,48	1X18	0,22	TC-D/TC-T	G24d-2	2,0	110	B2	1/2/3
L24-893H	230/50	155	140	60	0,52	45/95	0,45	1X24	0,345	TC-F/TC-L	2G10/2G11	2,0	190	B2	3
L26-826H	230/50	155	140	60	0,52	55/115	0,44	1X26	0,325	TC-D/TC-T	G24d-3	2,0	160	B2	1/2/3
L5/7/9/11-804H	240/50	100*	85	34	0,32	55/80	0,30	1X5	0,180	TC-S	G23	2,0	50	C	3
								1X7	0,180	TC-S	G23		50		
								1X9	0,170	TC-S	G23		60		
								1X11	0,155	TC	G23		80		
L13-814H	240/50	100*	85	34	0,32	50/120	0,54	1X13	0,165	TC-D/TC-T	G24d-1	2,0	80	C	3
								1X10		TC-D/TC-DD	G24d-1		70		
								2X5		TC-S	G23		70		
								2X7		TC-S	G23		70		
L16-817H	240/50	100*	85	34	0,32	60/125	0,47	1X16	0,2	TC-DD	GR8/GR10q	2,0	110	B2	3
L18-878H	240/50	100*	85	34	0,32	60/155	0,43	1X18	0,22	TC-D/TC-T	G24d-2	2,0	110	C	3
L24-894H	240/50	155	140	60	0,52	45/95	0,45	1X24	0,345	TC-F/TC-L	2G10/2G11	2,0	190	B2	3
L26-827H	240/50	155	140	60	0,52	55/120	0,45	1X26	0,325	TC-D/TC-T	G24d-3	2,0	160	C	3
L5/7/9/11-809S	220/60	100*	85	34	0,32	50/75	0,35	1X5	0,180	TC-S	G23	1,7	50	-	3
								1X7	0,180	TC-S	G23		50		
								1X9	0,170	TC-S	G23		60		
								1X11	0,155	TC	G23		80		
L13-812S	220/60	100*	85	34	0,32	50/90	0,55	1X13	0,165	TC-D/TC-T	G24d-1	1,7	80	-	3
								1X10		TC-D/TC-DD	G24d-1		70		
								2X5		TC-S	G23		70		
								2X7		TC-S	G23		70		
L18-815S	220/60	100*	85	34	0,32	60/155	0,52	1X18	0,22	TC-D/TC-T	G24d-2	1,7	110	-	3
L26-825S	220/60	155	140	60	0,52	50/110	0,48	1X26	0,325	TC-D/TC-T	G24d-3	2,0	160	-	3
L7/9-807S	120/60	100*	85	34	0,32	40/80	0,51	1X7	0,175	TC-S	G23	3,0	50	-	3
								1X9	0,170	TC-S	G23		60		
L18-808S	120/60	100*	85	34	0,32	40/80	0,51	1X18	0,22	TC-D/TC-T	G24d-2			-	3

• Other voltages and frequencies are available on request. •• Automatic (push-in) terminals are available on request. * Also available with base 85mm.

LAMPS



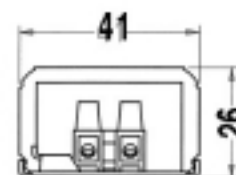
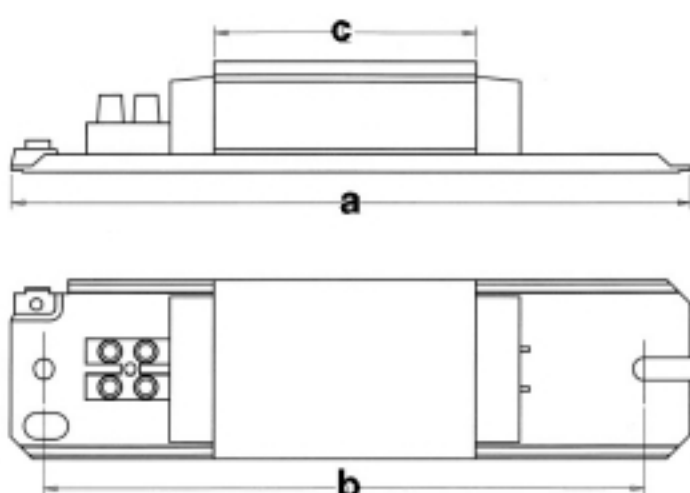
SERIES L - 26
BALLASTS FOR FLUORESCENT LAMPS


Electromagnetic Ballasts for tubular and compact fluorescent lamps. Shape 26x41mm.

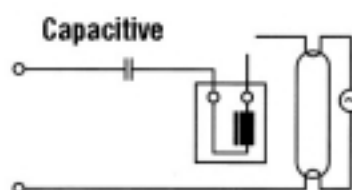
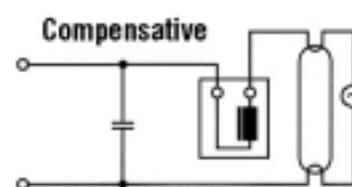
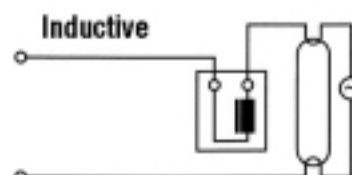
Vacuum impregnated with polyester resin.

Push in terminals: 0.5-1.5mm². Screw terminals: 2.5 mm².

tw 130, Protection class I.



EN 61347-2-8 (Safety). EN 60921 (Working Method).
Quality Control System: ISO 9001/2000.


CONNECTIONS:


B A L L A S T								L A M P				CAPACITOR		EEL	APPROVALS MARKS
TYPE	V / HZ	a (mm)	b (mm)	c (mm)	WEIGHT (Kg)	$\Delta V / \Delta t_{min}$ (°C)	COS ϕ	POWER (W)	CURRENT (A)	TYPE	BASE	Cop $\mu F \pm 10\%$	CURRENT mA		
L4/6/8-808H	230/50	100*	85	34	0,32	55/85	0,26	1X4	0,170	FL	G5	2,0	40	B2	1/2/3
							0,34	1X6	0,160	FL	G5		50	B2	
							0,34	1X8	0,155	FL	G5		60	B2	
								2X4		FL	G5		50	-	
L13-813H	230/50	100*	85	34	0,32	55/95	0,42	2X6	0,165	FL	G5	2,0	65	-	1/2/3
								2X8		FL	G5		85	-	
L15-815H	230/50	155	140	60	0,52	55/110	0,31	1X15	0,31	FL	G13	2,5	90	C	3
L15-815H.B2	230/50	155	140	60	0,52	55/110	0,31	1X15	0,31	FL	G13	2,5	90	B2	3
L18-801H	230/50	155	140	60	0,52	65/120	0,34	1X18	0,37	FL	G13	4,5	190		1/2/3
L18-823H	230/50	155	140	60	0,52	60/110	0,34	1X18	0,37	FL	G13	4,5	190	C	1/2/3
L18-823H.B2	230/50	155	140	70	0,6	55/110	0,34	1X18	0,37	FL	G13	4,5	190	B2	1/2/3
L20-823H	230/50	155	140	60	0,52	60/110	0,34	1X20	0,37	FL	G13	4,5	190	C	1/2/3
L25-825H	230/50	155	140	60	0,52	45/95	0,47	1X25	0,29	FL	G13	3,5	130	C	3
L30-830H	230/50	155	140	60	0,52	55/115	0,46	1X30	0,365	FL	G13	4,5	180	C	3
L30-830H.B2	230/50	155	140	60	0,52	55/115	0,46	1X30	0,365	FL	G13	4,5	180	B2	3
								2X15		FL	G13	4,5	185		
L32-831	230/50	155	140	60	0,52	65/160	0,5	1X32	0,45	FL	G10q	16,0	370	C	3
L36-802H	230/50	155	140	60	0,52	65/170	0,5	1X36	0,43	FL	G13	4,5	220		1/2/3
L36-843H	230/50	155	140	60	0,52	55/155	0,5	1X36	0,43	FL	G13	4,5	220	C	1/2/3
L36-843H.B1	230/50	175	160	90	0,75	35/110	0,5	1X36	0,43	FL	G13	4,5	220	B1	3
								2X18		FL	G13	4,0	220		
L36-843H.B2	230/50	155	140	70	0,6	55/155	0,5	1X36	0,43	FL	G13	4,5	220	B2	1/2/3
								2X18		FL	G13	4,0	220		
L40-843H	230/50	155	140	60	0,52	55/155	0,5	1X40	0,43	FL	G13	4,5	220	C	1/2/3
								1X38		FL	G13	4,5	230		
								2X20		FL	G13	4,0	220		
L58-803H	230/50	195**	180	103	0,85	65/170	0,49	1X58	0,670	FL	G13	7,0	320		1/2/3
L58-863H	230/50	195**	180	103	0,85	55/145	0,49	1X58	0,670	FL	G13	7,0	320	C	1/2/3
L58-863H.B2	230/50	195**	180	130	1,08	45/140	0,49	1X58	0,670	FL	G13	7,0	320	B2	3
L58-863H.B1	230/50	235	220	170	1,45	25/110	0,49	1X58	0,670	FL	G13	7,0	320	B1	3
L65-863H	230/50	195**	180	103	0,85	55/145	0,49	1X65	0,670	FL	G13	7,0	320	C	1/2/3
L4/6/8-806H	240/50	100*	85	34	0,32	50/80	0,32	1X4	0,170	FL	G5	2,0	40	C	3
								0,34	1X6	0,160	FL	G5	50	C	
							0,40	1X8	0,155	FL	G5		60	C	
								2X4		FL	G5		50	-	
L13-814H	240/50	100*	85	34	0,32	50/120	0,54	2X6	0,165	FL	G5	2,0	65	-	3
								2X8		FL	G5		85	-	
L15-854H	240/50	155	140	60	0,52	55/95	0,32	1X15	0,31	FL	G13	3,5	120	C	3
L18-824H	240/50	155	140	60	0,52	60/110	0,35	1X18	0,37	FL	G13	5,0	190	C	3
L18-824H.B2	240/50	155	140	70	0,6	55/110	0,35	1X18	0,37	FL	G13	5,0	190	B2	1/2/3
L20-824H	240/50	155	140	60	0,52	60/110	0,35	1X20	0,37	FL	G13	5,0	190	C	3
L25-855H	240/50	155	140	60	0,52	55/110	0,5	1X25	0,29	FL	G13	4,0	130	C	3
L30-834H	240/50	155	140	60	0,52	55/110	0,46	1X30	0,365	FL	G13	4,0	180	C	3
								2X15		FL	G13	4,0	185		
L32-886	240/50	155	140	60	0,52	60/160	0,45	1X32	0,45	FL	G10q	16,0	370	C	3
L36-844H	240/50	155	140	60	0,52	60/155	0,5	1X36	0,43	FL	G13	4,5	220	C	3
								2X18		FL	G13	4,5	220		
L36-844H.B2	240/50	155	140	70	0,6	55/155	0,5	1X36	0,43	FL	G13	4,5	220	B2	1/2/3

120V - 220V - 230V - 240V

50, 60HZ

4W - 65W

SERIES L - 26



SCHWABE HELLAS Co. Ltd

MANUFACTURER OF ELECTROTECHNICAL DEVICES

BALLASTS FOR FLUORESCENT LAMPS

B A L L A S T								L A M P				CAPACITOR		EEI	APPROVALS MARKS
TYPE	V / HZ	a (mm)	b (mm)	c (mm)	WEIGHT (Kg)	$\Delta V / \Delta t_{90}$ (°C)	COS ϕ	POWER (W)	CURRENT (A)	TYPE	BASE	Cap $\mu F \pm 10\%$	CURRENT mA		
L40-844H	240/50	155	140	60	0,52	55/155	0,5	2X18 1X40	0,43	FL	G13	4,5	220	C	1/2/3
L58-864H	240/50	195**	180	103	0,85	60/170	0,49	1X38 2X20 1X58	0,670	FL	G13	4,5	230	C	1/2/3
L65-864H	240/50	195**	180	103	0,85	60/170	0,49	1X65	0,670	FL	G13	4,0	220	C	1/2/3
L4/6/8-804H	220/50	100	85	34	0,32	50/80	0,32	1X4	0,170	FL	G5	7,0	320	C	3
							0,34	1X6	0,160	FL	G5	2,0	40	C	
							0,40	1X8	0,155	FL	G5		50	C	
L13-812H	220/50	100*	85	34	0,32	50/120	0,54	2X4 2X6	0,165	FL	G5		60	C	
								2X8		FL	G5	2,0	65	-	3
L15-852H	220/50	155	140	60	0,52	60/110	0,32	1X15	0,31	FL	G13		85	-	
L18-822H	220/50	155	140	60	0,52	60/110	0,35	1X18	0,37	FL	G13	2,5	90	C	3
L20-822H	220/50	155	140	60	0,52	60/110	0,35	1X20	0,37	FL	G13	4,5	190	C	1/2/3
L30-832H	220/50	155	140	60	0,52	55/110	0,46	1X30	0,365	FL	G13	4,5	190	C	1/2/3
								2X15		FL	G13	4,0	180	C	3
L32-884	220/50	155	140	60	0,52	65/140	0,45	1X32	0,45	FL	G10q	4,0	185	C	3
L36-842H	220/50	155	140	60	0,52	60/160	0,55	1X36	0,43	FL	G13	16,0	370	C	3
								2X18		FL	G13	4,5	220	C	1/2/3
L40-844H	220/50	155	140	60	0,52	60/160	0,55	1X40	0,43	FL	G13	4,5	220	C	1/2/3
								1X38		FL	G13	4,5	220	C	1/2/3
								2X20		FL	G13	4,5	230	C	1/2/3
L58-862H	220/50	195**	180	103	0,85	60/170	0,49	1X58	0,670	FL	G13	4,0	220	C	1/2/3
L65-862H	220/50	195**	180	103	0,85	60/170	0,49	1X65	0,670	FL	G13	7,0	320	C	1/2/3
L13-812S	220/60	100*	85	34	0,32	50/120	0,54	2X6	0,165	FL	G5	7,0	320	C	1/2/3
								2X8		FL	G5	1,7	65	-	3
L15-825S	220/60	155	140	60	0,52	60/110	0,32	1X15	0,31	FL	G13		85	-	
L18-820S	220/60	155	140	60	0,52	60/110	0,35	1X18	0,37	FL	G13	3,0	120	-	3
L20-820S	220/60	155	140	60	0,52	60/110	0,35	1X20	0,37	FL	G13	4,0	190	-	3
L30-832S	220/60	155	140	60	0,52	55/110	0,46	1X30	0,365	FL	G13	4,0	190	-	3
								2X15		FL	G13	4,0	180	-	3
L36-845S	220/60	155	140	60	0,52	60/160	0,55	1X36	0,43	FL	G13	4,0	185	-	3
								2X18		FL	G13	3,5	220	-	3
L40-845S	220/60	155	140	60	0,52	60/160	0,55	1X40	0,43	FL	G13	3,5	220	-	3
								1X38		FL	G13	3,5	220	-	3
								2X20		FL	G13	3,5	230	-	3
L58-862S	220/60	195**	180	103	0,85	60/170	0,49	1X58	0,670	FL	G13	4,0	220	-	3
L65-862S	220/60	195**	180	103	0,85	60/170	0,49	1X65	0,670	FL	G13	6,0	320	-	3
L20-839S	120/60	100*	85	34	0,32	45/95	0,55	1X20	0,37	FL	G13	6,0	320	-	3
										FL	G13	5,0	190	-	3

- Other voltages and frequencies are available on request.
- • Automatic (push-in) terminals are available on request.

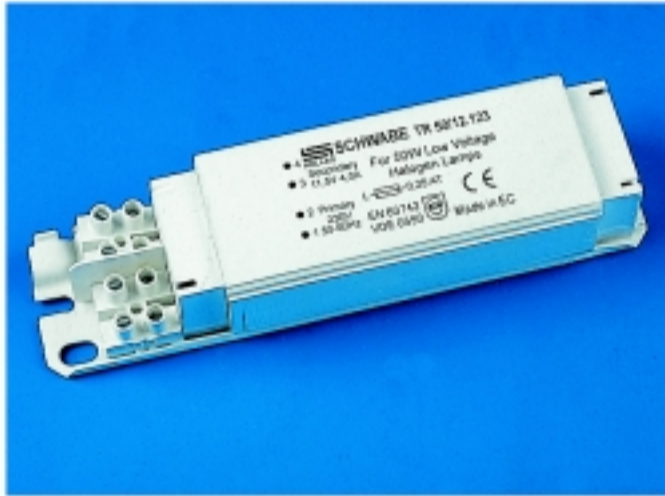
* Also available with base 85mm.
Distance between holes 75mm.

** Also available with base length 235mm.
Distance of holes 220mm.

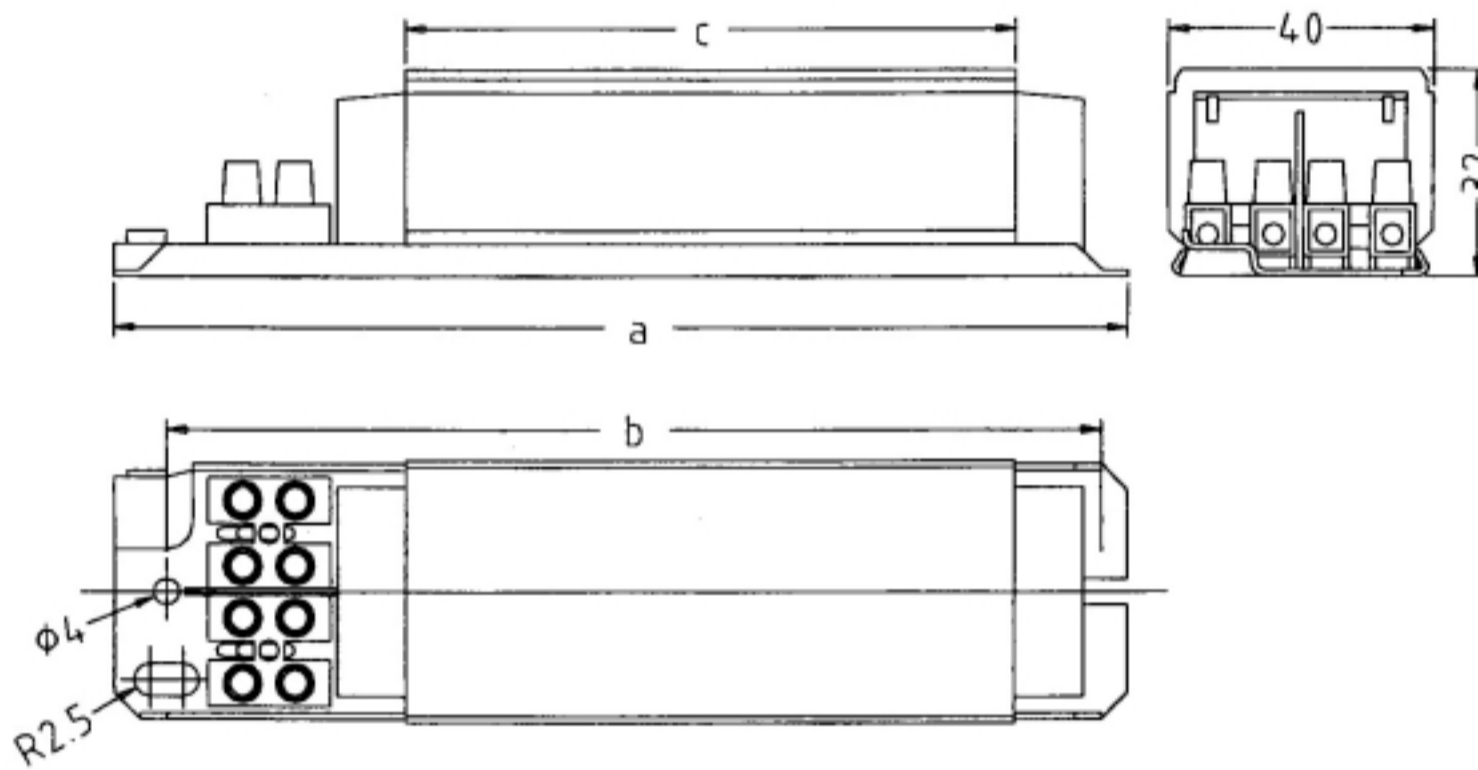
LAMPS



ELECTROMAGNETIC SAFETY TRANSFORMERS FOR HALOGEN LAMPS/CLASS I



Electromagnetic Safety
Transformers for Low
Voltage Halogen Lamps 12V
Vacuum impregnated with
polyester resin.
Screw terminals: 0,5 - 2,5mm²
Tw 130, Protection class I.
EN 61558
Quality Control System: ISO 9001/2000.



T R A N S F O R M E R								FUSE PROTECTION
TYPE	POWER	50, 60 Hz	ta °C V prim/sec.	a	b	c	WEIGHT	AT
TR 50/12.230	50	230 / 11,5	50	155	145	77	0,75	0,25
TR 50/12.220	50	220 / 11,5	50	155	145	77	0,75	0,25
TR 50/12.127	50	127 / 11,5	50	155	145	77	0,75	0,25
TR50/12.240	50	240/11,5	50	155	145	77	0,75	0,25

- Other voltages and frequencies are available on request.
- • Automatic (push-in) terminals are available on request.

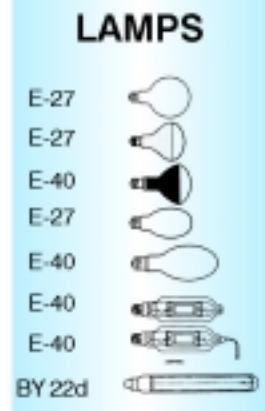
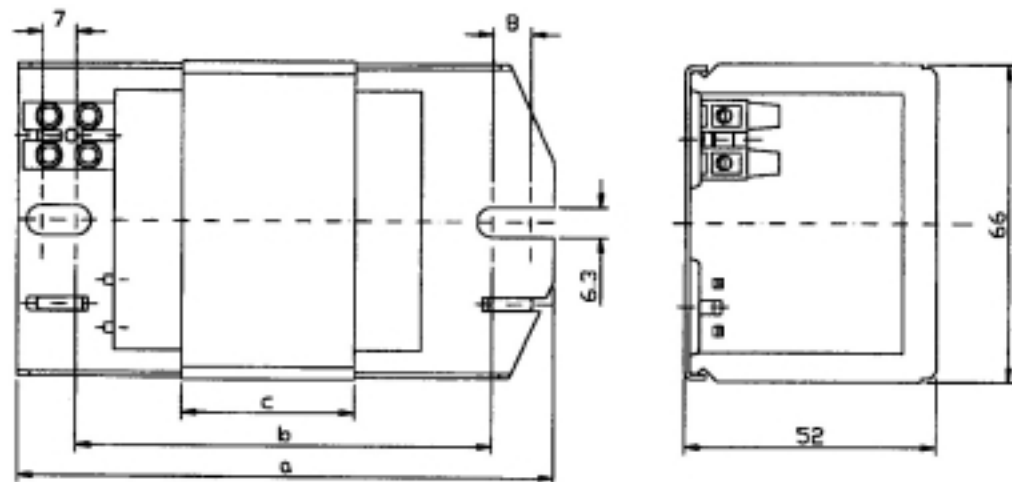
220V - 230V - 240V
50, 60Hz
50W - 400W

SERIES Q-66

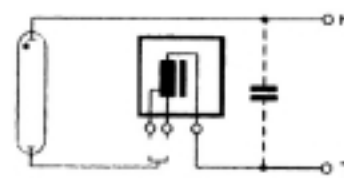
BALLAST FOR HIGH PRESSURE MERCURY VAPOUR LAMPS



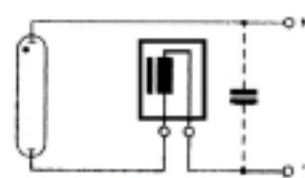
SCHWABE HELLAS Co. Ltd
MANUFACTURER OF ELECTROTECHNICAL DEVICES



Electromagnetic ballasts for high pressure mercury vapour lamps. Vacuum impregnated with polyester resin.
Screw terminals: 2.5 mm².
tw 130, Protection class I.
EN 61347 - 2 - 9 (Safety). EN 60923 (Working Method).
Quality Control System: ISO 9001/2000.



CONNECTIONS:



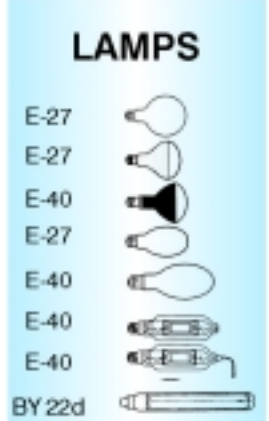
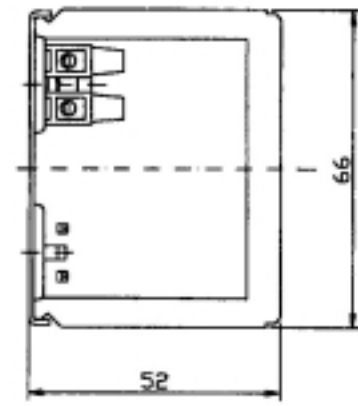
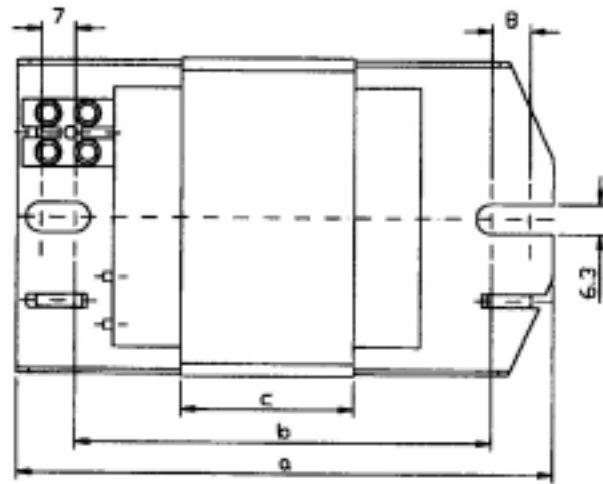
B A L L A S T								L A M P				CAPACITOR	APPROVALS MARKS
SCHW. TYPE	V / HZ	a (mm)	b (mm)	c (mm)	Δt °C	cosφ	WEIGHT (Kg)	POWER (W)	CURRENT (A)	TYPE	CAP	CP μF ± 10%	
Q50-601.1	220 / 50	95	68	28	55	0,44	0,9	50	0,61	MERC	E27	7	1/2/3
Q50-601.1	220 / 50	112	86	28	55	0,44	0,9	50	0,61	MERC	E27	7	1/2/3
Q50-611.1	230 / 50	95	68	28	65	0,44	0,9	50	0,61	MERC	E27	7	1/2/3
Q50-611.1	230 / 50	112	86	28	65	0,44	0,9	50	0,61	MERC	E27	7	1/2/3
Q50-621.1	240 / 50	95	68	28	65	0,42	0,9	50	0,61	MERC	E27	7	1/2/3
Q50-621.1	240 / 50	112	86	28	65	0,42	0,9	50	0,61	MERC	E27	7	1/2/3
Q50-631.1	220 / 60	95	68	28	55	0,44	0,9	50	0,61	MERC	E27	6	1/2/3
Q50-631.1	220 / 60	112	86	28	55	0,44	0,9	50	0,61	MERC	E27	6	1/2/3
Q50-641.1	230-240 / 50	95	68	28	65	0,42	0,9	50	0,61	MERC	E27	7	1/2/3
Q50-641.1	230-240 / 50	112	86	28	65	0,42	0,9	50	0,61	MERC	E27	7	1/2/3
Q80-602.2	220 / 50	95	68	36	65	0,52	1,1	80	0,8	MERC	E27	8	1/2/3
Q80-642.2	230-240 / 50	95	68	36	65	0,50	1,1	80	0,8	MERC	E27	8	1/2/3
Q80-642.2	230-240 / 50	112	86	36	65	0,50	1,1	80	0,8	MERC	E27	8	1/2/3
Q80-612.2	230 / 50	95	68	36	70	0,51	1,1	80	0,8	MERC	E27	8	1/2/3
Q80-612.2	230 / 50	112	86	36	70	0,51	1,1	80	0,8	MERC	E27	8	1/2/3
Q80-612.2	230 / 50	112	86	36	65	0,51	1,1	80	0,8	MERC	E27	8	1/2/3
Q80-622.2	240 / 50	95	68	36	65	0,48	1,1	80	0,8	MERC	E27	8	1/2/3
Q80-622.2	240 / 50	112	86	36	65	0,48	1,1	80	0,8	MERC	E27	8	1/2/3
Q80-632.2	220 / 60	95	68	36	55	0,51	1,1	80	0,8	MERC	E27	7	1/2/3
Q80-632.2	220 / 60	112	86	36	55	0,51	1,1	80	0,8	MERC	E27	7	1/2/3
Q80/50-616.2	230/50	95	68	36	60/50	0,51/0,43	1,1	80/50	0,8/0,6	MERC	E27	8/6	1/2/3
Q80/50-616.2	230/50	112	86	36	60/50	0,51/0,43	1,1	80/50	0,8/0,6	MERC	E27	8/6	1/2/3
Q125-603.2	220 / 50	95	68	36	70	0,56	1,1	125	1,15	MERC	E22/E40	12	1/2/3
Q125-603.2	220 / 50	112	68	36	70	0,56	1,1	125	1,15	MERC	E22/E40	12	1/2/3
Q125-643.4	230-240 / 50	112	86	48	70	0,51	1,4	125	1,15	MERC	E22/E40	12	1/2/3
Q125-613.4	230 / 50	112	86	48	60	0,52	1,4	125	1,15	MERC	E22/E40	12	1/2/3
Q125-623.4	240 / 50	112	86	48	70	0,51	1,4	125	1,15	MERC	E22/E40	12	1/2/3
Q125-633.2	220 / 60	95	68	36	70	0,57	0,9	125	1,15	MERC	E22/E40	10	1/2/3
Q125-633.2	220 / 60	112	86	36	70	0,57	0,9	125	1,15	MERC	E22/E40	10	1/2/3
Q125/80-617.4	230 / 50	112	86	48	65/45	0,53/0,5	1,4	125/80	1,15	MERC	E22/E40	12/10	1/2/3
Q250-604.6	220 / 50	145	120	75	75	0,58	2	250	2,13	MERC	E40	18	1/2/3
Q250-644.6	230-240 / 50	145	120	75	75	0,54	2	250	2,13	MERC	E40	18	1/2/3
Q250-614.6	230 / 50	145	120	75	70	0,51	2	250	2,13	MERC	E40	18	1/2/3
Q250-614.6	230 / 50	145	120	75	75	0,56	2	250	2,13	MERC	E40	18	1/2/3
Q250-624.6	240 / 50	145	120	75	75	0,54	2	250	2,13	MERC	E40	18	1/2/3
Q250-634.6	220 / 60	145	120	75	70	0,58	2	250	2,13	MERC	E40	15	1/2/3
Q400-605.8	220 / 50	180	155	110	70	0,56	2,9	400	3,25	MERC	E40	30	1/2/3
Q400-645.8	230-240 / 50	180	155	110	75	0,56	2,9	400	3,25	MERC	E40	30	1/2/3
Q400-615.8	230 / 50	180	155	110	75	0,56	2,9	400	3,25	MERC	E40	30	1/2/3
Q400-615.8	230 / 50	180	155	110	70	0,56	2,9	400	3,25	MERC	E40	30	1/2/3
Q400-625.8	240 / 50	180	155	110	80	0,56	2,9	400	3,25	MERC	E40	30	1/2/3
Q400-635.8	220 / 60	180	155	110	75	0,6	2,9	400	3,25	MERC	E40	30	1/2/3

• Other voltages and frequencies are available on request. •• Automatic (push-in) terminals are available on request. ••• Available also with thermal cut-out with automatic reset.

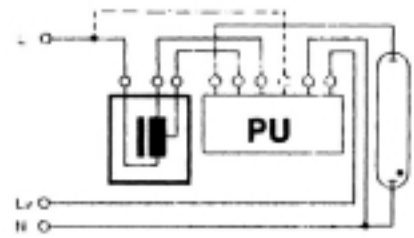
SERIES Q-66

BALLAST FOR POWER REDUCTION

A. FOR HIGH PRESSURE MERCURY VAPOUR LAMPS / 220V - 230V - 240V / 50,60 Hz / 80W - 125W



CONNECTIONS:

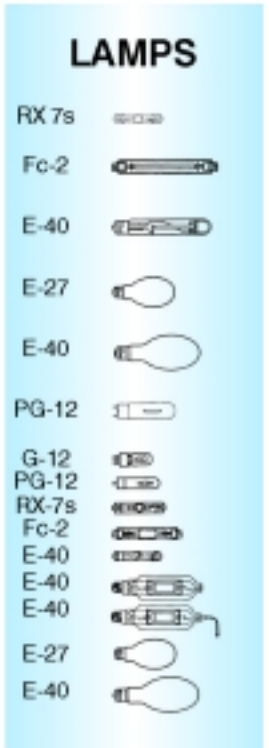
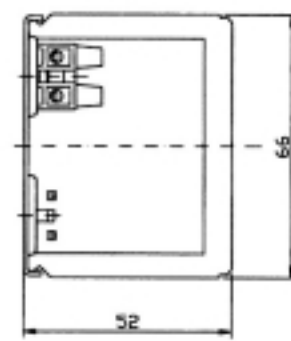
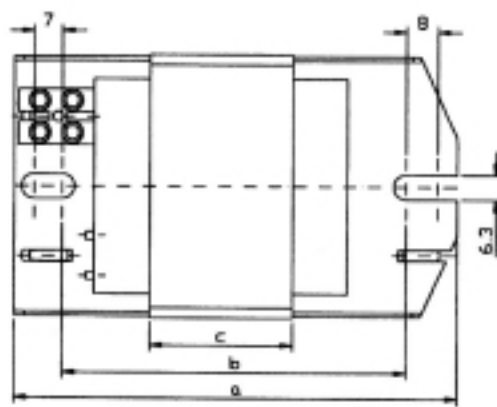


Electromagnetic ballasts for high pressure mercury vapour lamps. Vacuum impregnated with polyester resin. Screw terminals: 2.5 mm². **tw 130**, Protection class I. EN 61347-2-9 (Safety). EN 60923 (Working Method). Quality Control System: **ISO 9002**.

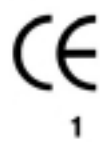


B A L L A S T								L A M P				CAPACITOR	APPROVALS MARKS
SCHW. TYPE	V / HZ	a (mm)	b (mm)	c (mm)	Δt °C	cosφ	WEIGHT (Kg)	POWER (W)	CURRENT (A)	TYPE	CAP	CP μF ± 10%	
Q80/50-616.2	230 / 50	95	68	36	60/50	0,51/0,43	1,1	80/50	0,8/0,6	MERC	E27	8/6	1/2/3
Q80/50-616.2	230 / 50	112	86	36	60/50	0,51/0,43	1,1	80/50	0,8/0,6	MERC	E27	8/6	1/2/3
Q125/80-617.4	230 / 50	112	86	48	65/45	0,53/0,5	1,4	125/80	1,15	MERC	E22/E40	12/10	1/2/3

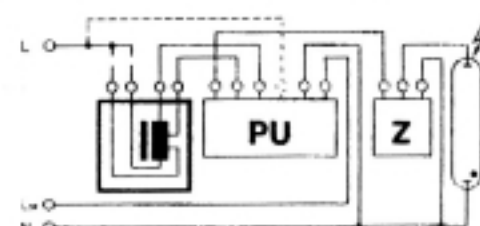
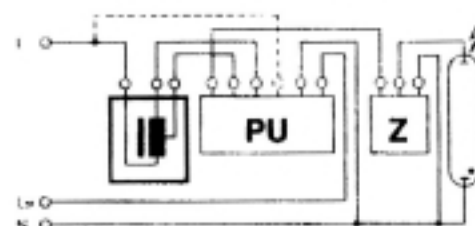
B. FOR HIGH PRESSURE SODIUM VAPOUR LAMPS / 220V - 230V - 240V / 50,60 Hz / 70W - 150W



Electromagnetic ballasts for power reduction of high pressure sodium vapour. Vacuum impregnated with polyester resin. Screw terminals: 2.5 mm². **tw 130**, Protection class I. EN 61347-2-9 (Safety). EN 60923 (Working Method). Quality Control System: **ISO 9001/2000**.



B A L L A S T								L A M P				CAPACITOR	APPROVALS MARKS
SCHW. TYPE	V / HZ	a (mm)	b (mm)	c (mm)	Δt °C	cosφ	WEIGHT (Kg)	POWER (W)	CURRENT (A)	TYPE	CAP	CP μF ± 10%	
NAHJ70-50 718.4	230 / 50	112	86	48	70/55	0,37	1,4	70/50	1,00/0,76	SOD/M.HAL	E27/G12	12	1/2/3
NAHJ100/70-729.5	230 / 50	145	120	55	70/60	0,42	1,6	100/70	1,20/1,00	SOD/M.HAL	E27/G12	12	1/2/3
PRNAHJ150/100-765.6	230 / 50	145	120	75	75/55	0,41	2	150(101)	1,80	SOD/M.HAL	E40/G12	20	1/2/3



- Other voltages and frequencies are available on request.
- • Automatic (push-in) terminals are available on request.
- • • Available also with thermal cut-out with automatic reset.

220V - 230V - 240V

50, 60Hz

35W - 400W

SERIES Q-66

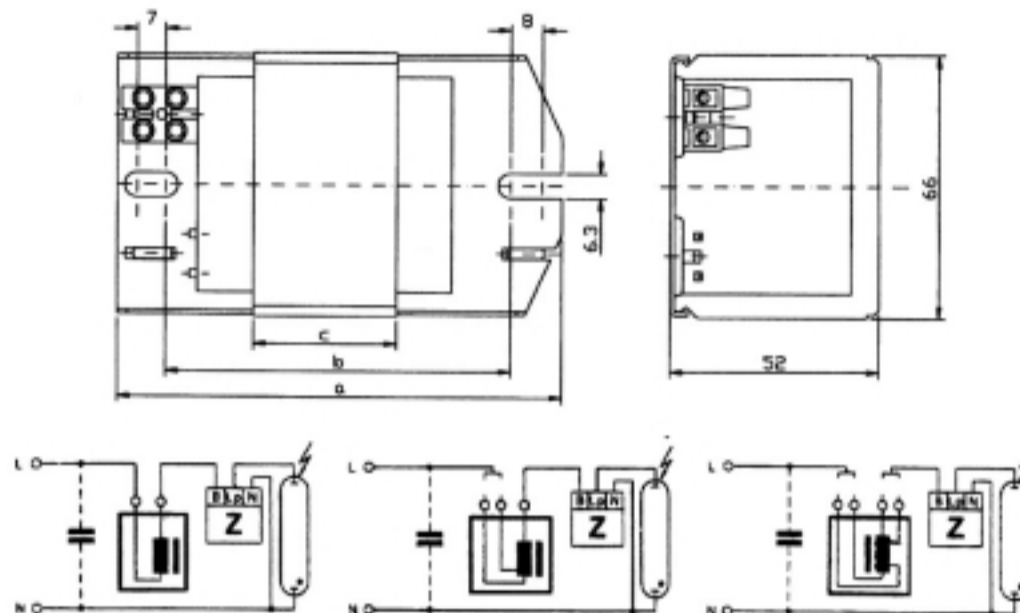
BALLAST FOR HIGH PRESSURE

SODIUM VAPOUR & METAL HALIDE LAMPS



SCHWABE HELLAS Co. Ltd

MANUFACTURER OF ELECTROTECHNICAL DEVICES



LAMPS table listing various lamp types and their symbols

Electromagnetic ballasts for high pressure sodium vapour and metal halide lamps. Vacuum impregnated with polyester resin. Screw terminals: 2.5 mm².

tw 130, Protection class I.

EN 61347-2-9 (Safety). EN 60923 (Working Method).

Quality Control System: ISO 9001/2000.



Main ballast specification table with columns for SCHW. TYPE, V / HZ, dimensions (a, b, c), Δt, cosφ, WEIGHT, POWER, CURRENT, LAMP TYPE, CAPACITOR, and APPROVALS MARKS.

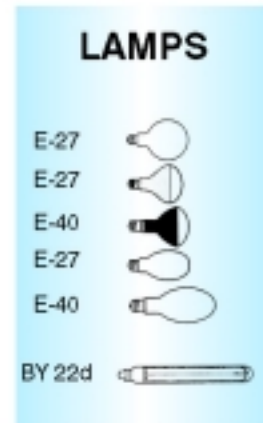
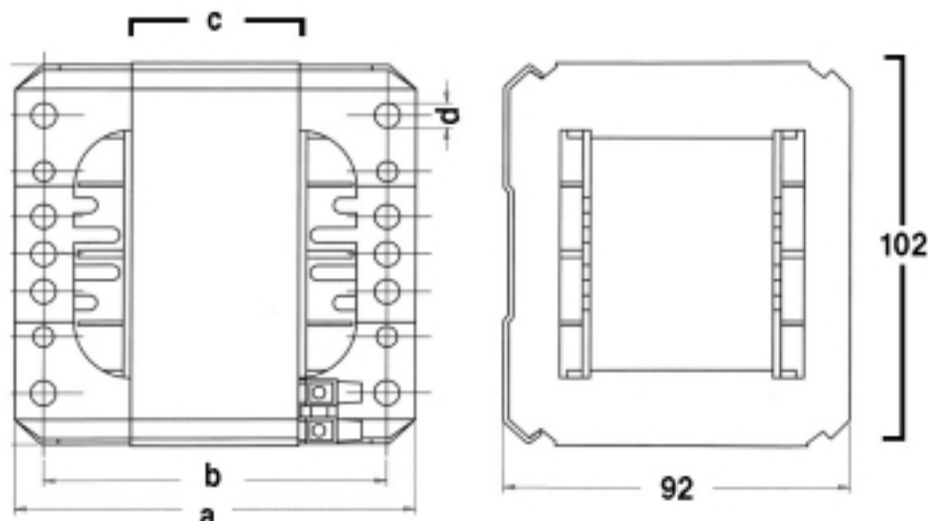
• Other voltages and frequencies are available on request. •• Automatic (push-in) terminals are available on request. ••• Available also with thermal cut-out with automatic reset.

SERIES Q-102 BALLASTS FOR HIGH PRESSURE MERCURY LAMPS

220V - 230V - 240V
50, 60 Hz
250W - 1000W

SCHWABE HELLAS Co. Ltd

MANUFACTURER OF ELECTROTECHNICAL DEVICES



Electromagnetic ballasts for high pressure mercury vapour lamps.

Vacuum impregnated with polyester resin.

Screw terminals: 2.5 mm².

tw 130, Protection class I.

EN 61347-2-9 (Safety).

EN 60923 (Working Method).

Quality Control System: ISO 9002.



1



2

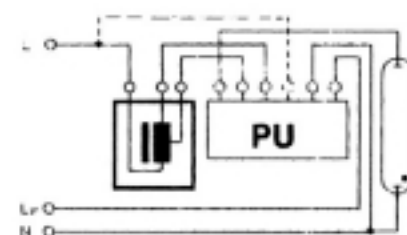


3

B A L L A S T								L A M P				CAPACITOR	APPROVALS MARKS
SCHW. TYPE	V / HZ	a (mm)	b (mm)	c (mm)	Δt °C	cosφ	WEIGHT (Kg)	POWER (W)	CURRENT (A)	TYPE	CAP	CP μF ±10%	
Q250-434.1	220 / 60	105	70	33	65	0,57	2,8	250	2,13	MERC	E40	15	1/2/3
Q250-404.1	220 / 50	105	70	33	65	0,57	2,8	250	2,13	MERC	E40	18	1/2/3
Q250-414.1	230 / 50	105	70	33	65	0,54	2,8	250	2,13	MERC	E40	18	1/2/3
Q250-424.1	240 / 50	105	70	33	65	0,54	2,8	250	2,13	MERC	E40	18	1/2/3
Q250-444.1	230-240 / 50	105	70	33	65	0,54	2,8	250	2,13	MERC	E40	18	1/2/3
Q400-415.3	230 / 50	113	100	50	65	0,56	3,9	400	3,25	MERC	E40	30	1/2/3
Q400-445.3	230-240 / 50	133	120	50	65	0,56	3,9	400	3,25	MERC	E40	30	1/2/3
Q400-435.3	220 / 60	133	120	50	60	0,59	3,9	400	3,25	MERC	E40	25	1/2/3
Q1000-407.7	220 / 50	173	160	135	70	0,64	9,7	1000	7,5	MERC	E40	60	1/2/3
Q1000-417.7	230 / 50	173	160	135	70	0,59	9,7	1000	7,5	MERC	E40	60	1/2/3
Q1000-427.7	240 / 50	173	160	135	75	0,58	9,7	1000	7,5	MERC	E40	60	1/2/3
Q1000-437.7	220 / 60	173	160	135	70	0,63	9,7	1000	7,5	MERC	E40	50	1/2/3
Q1000-447.7	230-240 / 50	173	160	135	75	0,58	9,7	1000	7,5	MERC	E40	60	1/2/3

- Other voltages and frequencies are available on request.
- Automatic (push-in) terminals are available on request.
- Available also with thermal cut-out with automatic reset.

CONNECTIONS:

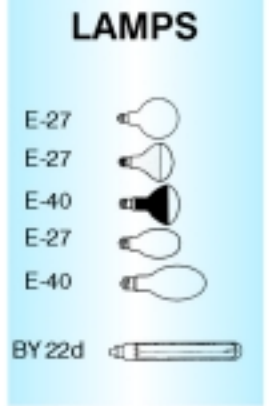
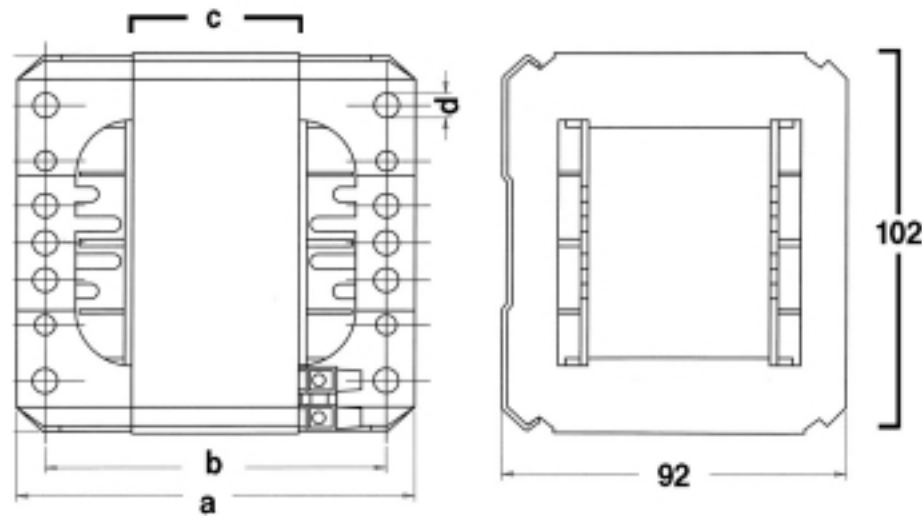


SERIES Q-102

BALLASTS FOR POWER REDUCTION

SCHWABE HELLAS Co. Ltd
MANUFACTURER OF ELECTROTECHNICAL DEVICES

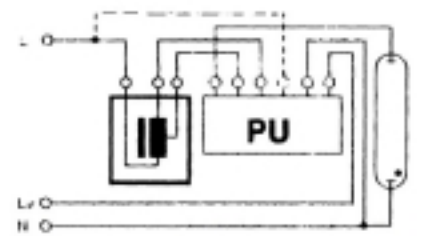
A. FOR HIGH PRESSURE MERCURY VAPOUR LAMPS / 220V - 230V - 240V / 50,60 Hz / 250W - 400W



Electromagnetic ballasts for high pressure mercury vapour lamps. Vacuum impregnated with polyester resin.
Screw terminals: 2.5 mm². **tw 130**, Protection class I.
EN 61347-2-9 (Safety). EN 60923 (Working Method).
Quality Control System: **ISO 9001/2000**.

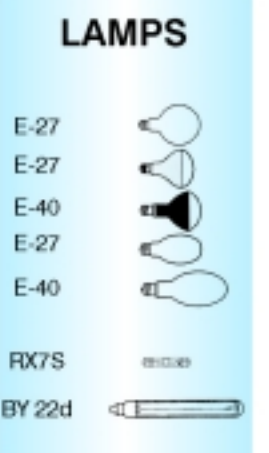
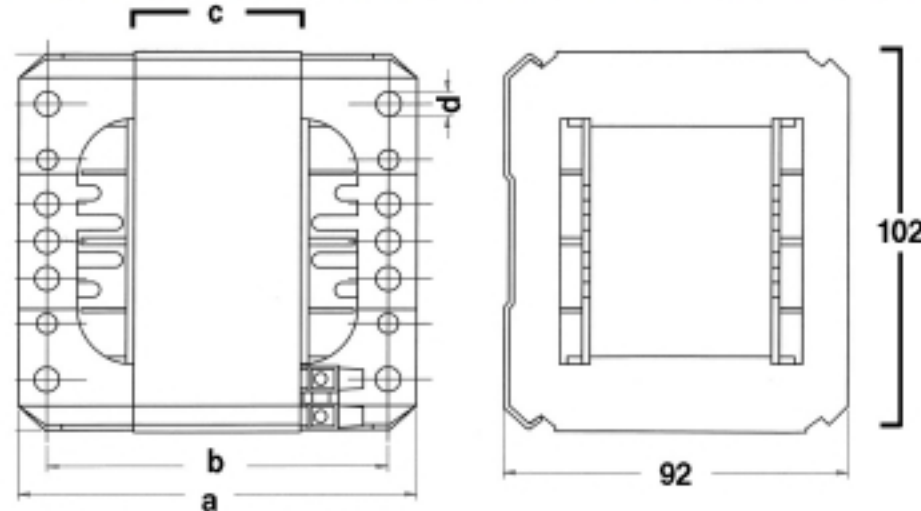


CONNECTIONS:



B A L L A S T								L A M P				CAPACITOR	APPROVALS MARKS
SCHW. TYPE	V / HZ	a (mm)	b (mm)	c (mm)	Δt °C	cosφ	WEIGHT (Kg)	POWER (W)	CURRENT (A)	TYPE	CAP	CP μF±10%	
PRQ250/150-454.1	230 / 50	133	120	33	70	0,54	2,8	250(152)	2,13	MERC	E40	18	1/2/3
PRQ250/150-464.2	230-240 / 50	113	100	39	55	0,53	3,3	250(152)	2,13	MERC	E40	18	1/2/3
PRQ400/250-455.3	230 / 50	133	120	50	70	0,56	3,9	400(248)	3,25	MERC	E40	30	1/2/3
PRQ400/250-465.4	230-240 / 50	133	120	60	65	0,56	4,7	400(248)	3,25	MERC	E40	30	1/2/3

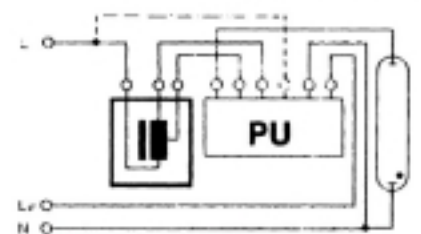
B. FOR HIGH PRESSURE SODIUM VAPOUR LAMPS / 220V - 230V - 240V / 50,60 Hz / 150W - 400W



Electromagnetic ballasts for high pressure sodium vapour and metal halide lamps. Vacuum impregnated with polyester resin. Screw terminals: 2.5 mm².
tw 130, Protection class I.
EN 61347-2-9 (Safety). EN 60923 (Working Method).
Quality Control System: **ISO 9001/2000**.

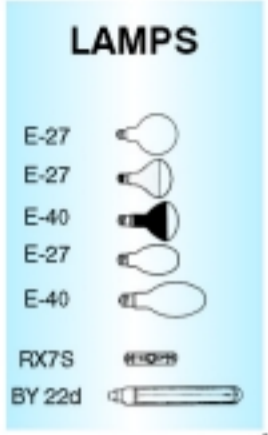
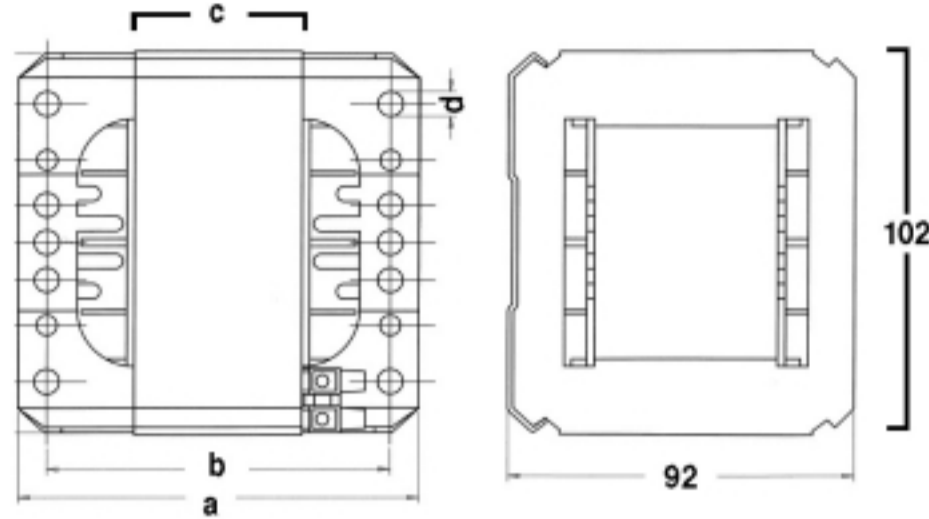


CONNECTIONS:



B A L L A S T								L A M P				CAPACITOR	APPROVALS MARKS
SCHW. TYPE	V / HZ	a (mm)	b (mm)	c (mm)	Δt °C	cosφ	WEIGHT (Kg)	POWER (W)	CURRENT (A)	TYPE	CAP	CP μF±10%	
PRNAH150/100-512.1	230 / 50	83	70	33	70	0,42	2,8	150(101)	1,8	SOD	E27/E40	20	1/2/3
PRNAH250/150-525.5	230 / 50	148	135	60	65	0,40	4,7	250(141)	3	SOD	E40	32	1/2/3
PRNAH250/150-545.5	230-240 / 50	148	135	60	65	0,39	4,7	250(141)	3	SOD	E40	32	1/2/3
PRNAH400/250-517.7	230 / 50	148	135	75	70	0,41	5,75	400(246)	4,45	SOD	E40	50	1/2/3
PRNAH400/250-547.10	230-240 / 50	160	137	100	70	0,41	7,1	400(246)	4,45	SOD	E40	50	1/2/3
PRNAH400/250-507.5	220 / 60	133	120	60	70	0,45	4,7	400(246)	4,45	SOD	E40	40	1/2/3

• Other voltages and frequencies are available on request. •• Automatic (push-in) terminals are available on request. ••• Available also with thermal cut-out with automatic reset.

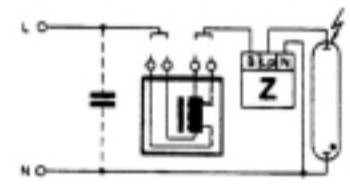
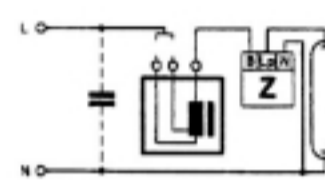
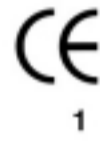


Electromagnetic ballasts for high pressure sodium vapour and metal halide lamps. Vacuum impregnated with polyester resin. Screw terminals: 2.5 mm².

tw 130, Protection class I.

EN 61347-2-9 (Safety). EN 60923 (Working Method).

Quality Control System: ISO 9001/2000.



B A L L A S T								L A M P				CAPACITOR	APPROVALS MARKS
SCHW. TYPE	V / HZ	a (mm)	b (mm)	c (mm)	Δt °C	$\cos\phi$	WEIGHT (Kg)	POWER (W)	CURRENT (A)	TYPE	CAP	CP $\mu F \pm 10\%$	
NAHJ250-505.3	220 / 50	133	120	44	70	0,42	3,56	250	3,00	SOD/M.HAL	E40	32	1/2/3
NAHJ250-515.3	230 / 50	133	120	44	70	0,39	3,56	250	3,00	SOD/M.HAL	E40	32	1/2/3
NAHJ250-525.3	240 / 50	133	120	44	75	0,39	3,56	250	3,00	SOD/M.HAL	E40	32	1/2/3
NAHJ250-535.2	220 / 60	133	120	39	70	0,41	3,3	250	3,00	SOD/M.HAL	E40	25	1/2/3
NAHJ250-535.3	220 / 60	133	120	44	70	0,39	3,56	250	3,00	SOD/M.HAL	E40	25	1/2/3
NAHJ250-545.3	220-230 / 50	133	120	44	70	0,39	3,56	250	3,00	SOD/M.HAL	E40	32	1/2/3
NAHJ250-555.4	230-240 / 50	133	120	50	65	0,39	3,9	250	3,00	SOD/M.HAL	E40	32	1/2/3
NAHJ400-507.5	220 / 50	133	120	60	75	0,43	4,7	400	4,20	SOD/M.HAL	E40	50	1/2/3
NAHJ400-507.6	220 / 50	148	135	68	70	0,43	5,2	400	4,20	SOD/M.HAL	E40	50	1/2/3
NAHJ400-567.6	220 / 50	148	135	68	70	0,43	5,2	400	4,45	SOD/M.HAL	E40	50	1/2/3
NAHJ400-517.6	230 / 50	148	135	68	70	0,43	5,2	400	4,20	SOD/M.HAL	E40	50	1/2/3
NAHJ400-557.6	230 / 50	148	135	68	70	0,43	5,2	400	4,45	SOD/M.HAL	E40	50	1/2/3
NAHJ400-547.6	230-240 / 50	148	135	68	70	0,43	5,2	400	4,20	SOD/M.HAL	E40	50	1/2/3
NAHJ400-547.7	230-240 / 50	148	135	75	65	0,43	5,75	400	4,20	SOD/M.HAL	E40	50	1/2/3
NAHJ400-577.6	230-240 / 50	148	135	68	70	0,43	5,2	400	4,45	SOD/M.HAL	E40	50	1/2/3
NAHJ400-527.6	240 / 50	148	135	68	75	0,43	5,2	400	4,20	SOD/M.HAL	E40	50	1/2/3
NAHJ400-587.6	240 / 50	148	135	68	75	0,43	5,2	400	4,45	SOD/M.HAL	E40	50	1/2/3
NAHJ400-537.5	220 / 60	148	135	60	70	0,44	4,7	400	4,20	SOD/M.HAL	E40	40	1/2/3
NAHJ400-597.6	220 / 60	148	135	68	70	0,43	5,2	400	4,45	SOD/M.HAL	E40	40	1/2/3
J400-558.5	220-230 / 50	133	120	60	65	0,49	4,7	360	3,50	M.HAL	E40	35	1/2/3
J400-578.5	220-230-240/50	148	135	60	65	0,48	4,7	360	3,50	M.HAL	E40	35	1/2/3
J400-588.5	230-240 / 50	133	120	60	65	0,48	4,7	360	3,50	M.HAL	E40	35	1/2/3
J400-538.5	220 / 60	133	120	60	70	0,49	4,7	360	3,50	M.HAL	E40	30	1/2/3
NAHJ600-509.9	220 / 50	173	160	96	70	0,44	6,8	600	6,20	SOD	E40	65	1/2/3
NAHJ600-549.11	220-230 / 50	203	190	96	70	0,46	6,8	600	6,20	SOD	E40	65	1/2/3
NAHJ600-519.9	230 / 50	173	160	96	70	0,44	6,8	600	6,20	SOD	E40	65	1/2/3
NAHJ600-559.12	230-240 / 50	203	190	96	75	0,44	6,8	600	6,20	SOD	E40	65	1/2/3
NAHJ600-559.12	230-240 / 50	173	160	96	75	0,44	6,8	600	6,20	SOD	E40	65	1/2/3
NAHJ600-529.9	240 / 50	173	160	96	75	0,44	6,8	600	6,20	SOD	E40	65	1/2/3
NAHJ600-539.9	220 / 60	173	160	96	70	0,44	6,8	600	6,20	SOD	E40	55	1/2/3
NAHJ600-539.9	220 / 60	203	190	96	65	0,44	6,8	600	6,20	SOD	E40	55	1/2/3
NAHJ600-569.11	220-230 / 60	203	190	120	70	0,46	8,5	600	6,20	SOD	E40	55	1/2/3
NAH1000-544.13	220-230 / 50	248	237	165	70	0,44	11,2	1000	10,30	SOD	E40	100	1/2/3
NAH1000-504.13	220 / 50	248	233	165	70	0,44	11,2	1000	10,30	SOD	E40	100	1/2/3
NAHJ1000-554.13	230-240 / 50	248	233	165	75	0,42	11,2	1000	9,50	SOD/M.HAL	E40	90	1/2/3
NAHJ1000-564.13	230-240 / 50	248	233	165	75	0,42	11,2	1000	10,30	SOD/M.HAL	E40	100	1/2/3
NAH1000-534.13	220 / 60	173	160	135	70	0,45	9,7	1000	10,30	SOD	E40	85	1/2/3
J1000-543.13	220-230 / 50	248	233	165	70	0,47	11,2	1000	9,50	M.HAL	E40	90	1/2/3
J1000-553.13	230-240 / 50	248	233	165	75	0,47	11,2	1000	9,50	M.HAL	E40	90	1/2/3
J1000-533.12	220 / 60	173	160	135	75	0,50	9,7	1000	9,50	M.HAL	E40	75	1/2/3
NAH1000-514.13	230 / 50	248	233	165	75	0,42	11,2	1000	10,3	SOD/M.HAL	E40	100	1/2/3
J2000-592.14	380-400/50	248	233	185	80	0,52	13,5	2000	10,3	M.HAL	E40	60	1

• Other voltages and frequencies are available on request. •• Automatic (push-in) terminals are available on request. ••• Available also with thermal cut-out with automatic reset.

400 4K

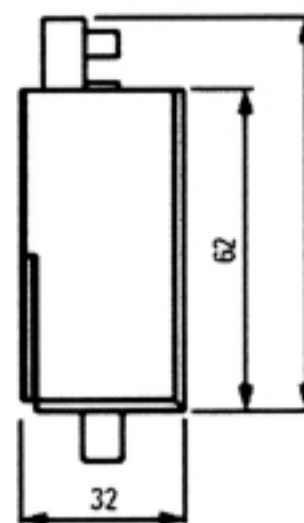
ELECTRONIC IGNITORS FOR DISCHARGE LAMPS



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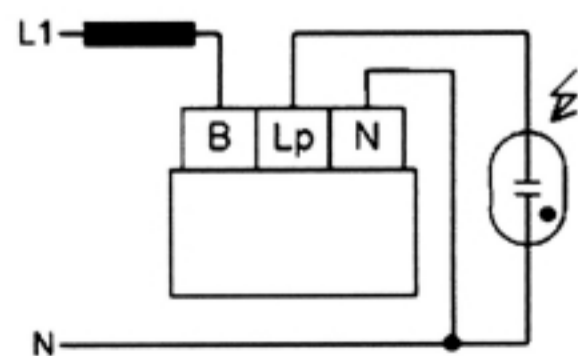
Electronic superimposed ignitors for discharge lamps
HS 100 - 400W
HJ 70 - 400W
CDM-T 35 - 150W
According to EN 60926



TECHNICAL DATA	
Approved mains voltage [V]	198...264
Approved mains frequency [Hz]	50/60
Max. continuous lamp current [A]	4.6
Connecting terminal [mm ²]	2.5
Response / cut out voltage [V]	≤198/≥170
Ignition voltage [kV]	4,0...5,0
Timer ignition time [s]	
Phase position [°el]	60...90/240...270
Pulses per cycle	≥60
Approved load capacity [pF]	20...100
Internal losses at 25 °C ambient temperature [W]	<3,0 (4,6A)
Temperature rise at 25 °C ambient temperature [K]	<32 (4,6A)
Max. housing temperature [°C]	105
Approved ambient temp. t(u) [°C]	-30...+70
Weight [kg]	0.15

LAMPS

- HST-DE 70 W Super
- HS 100 W
- HS 150 W
- HS 250 W
- HS 400 W
- HI 70 W
- HI 150 W
- HI 250 W
- HI 400 W
- CDM-T 35 W (PHILIPS)
- CDM-T 70 W (PHILIPS)
- CDM-T 150 W (PHILIPS)



Designed to improve the power factor in fluorescent, mercury and sodium lighting installations. These self healing M.P.P. capacitors are available from 1 μ F to 50 μ F.

CONSTRUCTION

Housing:

- Round, self extinguishing plastic (polypropylene or polycarbonate) containers.
- Hermetically sealed with a plastic cover on which terminals or insulated leads are fixed. For insulated leads, capacitor is equipped with an additional top cover ultrasonically welded.

Fixing:

- MB stud.
- Cip in.

Terminations:

- Terminals for soldering or cable lugs.
- Single (A) or dual (B) blade tags 1/4" wide, 12.5 mm long.
- Flexible insulated leads (C).
- Rigid leads (D).
 - Up to 18 μ F - 150 mm length.
 - Over 18 μ F - 200 mm length.
 - (other lengths available).
- Double insulated flexible wire (E).
- Push wire connector.

Discharge Resistor:

Internal discharge resistor can be supplied upon request.

TECHNICAL FEATURES

Operating Temperature Range: -25°C to 85°C.

Capacitance Tolerance: $\pm 10\%$ (other tolerances available).

Operating Voltages:

- Parallel capacitors - Un-250V A.C.
- Series capacitors - Un-400V, Un-450V A.C.

Frequency: 50-60 Hz.

A.C. Test voltage: 2.15 Un - 2 sec.

Loss Angle: $1g\delta \leq 10 \times 10^{-4}$ at 25°C.

$I_{max} = 1.3 I_n$

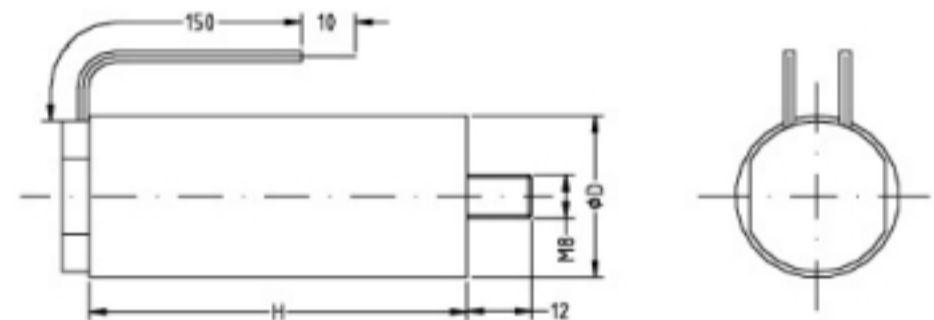
$U_{max} = 1.1 U_n$

Approvals: KEMA, SABS.

All our products are marked with CE and are accompanied by a declaration of conformity.

SELECTION TABLE

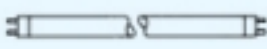

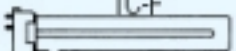

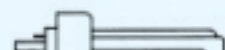
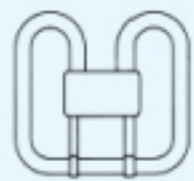
Type	Type P O	Type S 10	Type S 11
Operation voltages	230 V 250 V	400 V	450 V
Capacitance in μ F	DIMENSIONS \varnothing D x H (mm)		
1	30x70	28x57	
1,5	30x70	28x57	
2	30x70	28x57	
2,5	30x70	28x57	
3	30x70	28x57	
4	30x70	32x57	
5	30x70	35x57	
6	30x70	35x57	
7	30x70	35x72	
8	30x70	35x72	
9	30x70	35x72	
10	30x70	35x72	
12	30x70	40x72	
14	30x70	40x72	
15	35x72	45x72	
16	35x72	45x72	
18	35x72	45x72	
20	36x72	45x95	
25	40x72	45x95	
30	40x72	45x121	
35	40x95	45x121	
40	45x95	50x121	
45	45x95	50x121	
50	45x95	55x121	




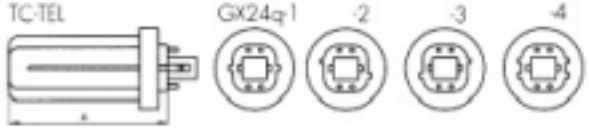


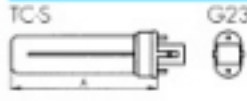
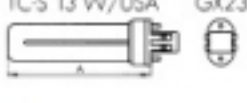

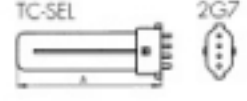
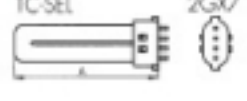
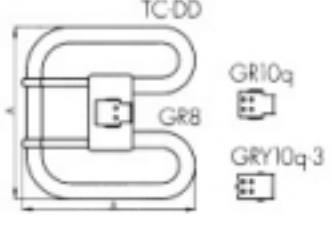
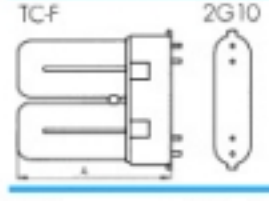

CLASSIFICATION OF BALLASTS-LAMP CIRCUITS FOR ENERGY EFFICIENCY IN LIGHTING

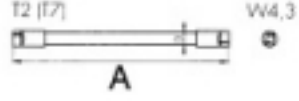

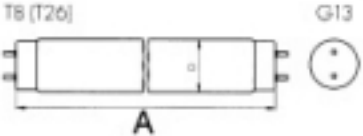
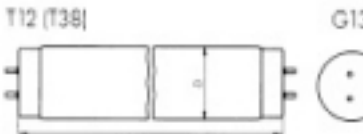
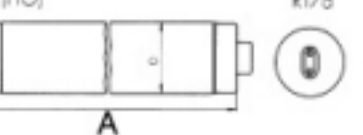
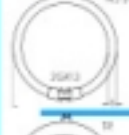
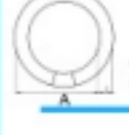



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Lamp type	Lamp power 50Hz HF		Iicos code	CLASS						
				A1	A2	A3	B1	B2	C	D
LINEAR										
 T	15W	13.5	FD-15-E-G13-26/450	under consideration	≤16W	≤18W	≤21W	≤23W	≤25W	>25W
	18W	16W	FD-18-E-G13-26/600	under consideration	≤19W	≤21W	≤24W	≤26W	≤28W	>28W
	30W	32W	FD-30-E-G13-26/895	under consideration	≤31W	≤33W	≤35W	≤38W	≤40W	>40W
	36W	32W	FD-36-E-G13-26/1200	under consideration	≤36W	≤38W	≤41W	≤43W	≤45W	>45W
	38W	32W	FD-38-E-G13-26/1047	under consideration	≤38W	≤40W	≤43W	≤45W	≤47W	>47W
	58W	50W	FD-58-E-G13-26/1500	under consideration	≤55W	≤59W	≤64W	≤67W	≤70W	>70W
	70W	60W	FD-70-E-G13-26/1800	under consideration	≤68W	≤72W	≤77W	≤80W	≤83W	>83W
COMPACT 2 TUBES										
 TC-L	18W	16W	FSD-18-E-2G11	under consideration	≤19W	≤21W	≤24W	≤26W	≤28W	>28W
	24W	22W	FSD-24-E-2G11	under consideration	≤25W	≤27W	≤30W	≤32W	≤34W	>34W
	36W	32W	FSD-36-E-2G11	under consideration	≤36W	≤38W	≤41W	≤43W	≤45W	>45W
	–	40W	FSDH-40-L/P-2G11	under consideration	≤44W	≤46W				
	–	55W	FSDH-55-L/P-2G11	under consideration	≤59W	≤63W				
COMPACT 4 TUBES FLAT										
 TC-F	18W	16W	FSS-18-E-2G10	under consideration	≤19W	≤21W	≤24W	≤26W	≤28W	>28W
	24W	22W	FSS-24-E-2G10	under consideration	≤25W	≤27W	≤30W	≤32W	≤34W	>34W
	36W	32W	FSS-36-E-2G10	under consideration	≤36W	≤38W	≤41W	≤43W	≤45W	>45W
COMPACT 4 TUBES										
 TC-D TC-DE	10W	9.5W	FSQ-10-E-G24q=1 FSQ-10+G24d=1	under consideration	≤11W	≤13W	≤14W	≤16W	≤18W	>18W
	13W	12.5W	FSQ-13-E-G24q=1 FSQ-13+G24d=1	under consideration	≤14W	≤16W	≤17W	≤19W	≤21W	>21W
	18W	16.5W	FSQ-18-E-G24q=2 FSQ-18+G24d=2	under consideration	≤19W	≤21W	≤24W	≤26W	≤28W	>28W
	26W	24W	FSQ-26-E-G24q=3 FSQ-26+G24d=3	under consideration	≤27W	≤29W	≤32W	≤34W	≤36W	>36W
COMPACT 6 TUBES										
 TC-T TC-TE	18W	16W	FSM-18-I-GX24d=2 FSM-18-E-GX24q=2	under consideration	≤19W	≤21W	≤24W	≤26W	≤28W	>28W
	26W	24W	FSM-26-I-GX24d=3 FSM-26-E-GX24q=3	under consideration	≤27W	≤29W	≤32W	≤34W	≤36W	>36W
	–	32W	FSMH-32-L/P-GX24q=4	under consideration	≤36W	≤39W				
	–	42W	FSMH-42-L/P-GX24q=4	under consideration	≤46W	≤49W				
COMPACT 2 D										
 TC-DD TC-DDE	10W	9W	FSS-10-E-GR10q FSS-10-L/P/H-GR10q	under consideration	≤11W	≤13W	≤14W	≤16W	≤18W	>18W
	16W	14W	FSS-16-I-GR8 FSS-16-E-GR10q FSS-16-L/P/H-GR10q	under consideration	≤17W	≤19W	≤21W	≤23W	≤25W	>25W
	21W	19W	FSS-21-E-GR10q FSS-21-L/P/H-GR10q	under consideration	≤22W	≤24W	≤27W	≤29W	≤31W	>31W
	28W	25W	FSS-28-I-GR8 FSS-28-E-GR10q FSS-28-L/P/L-GR10q	under consideration	≤29W	≤7W	≤34W	≤36W	≤38W	>38W
	38W	34W	FSS-38-E-GR10q FSS-38-L/BL-GR10q	under consideration	≤38W	≤40W	≤43W	≤45W	≤47W	>47W
	–	55W	FSS-55-E-GRY10q=3 FSS-55-L/P/L-GRY10q=3	under consideration	≤59W	≤63W				

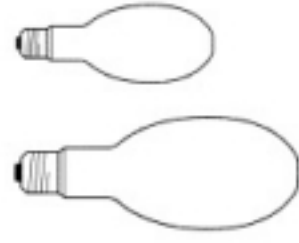
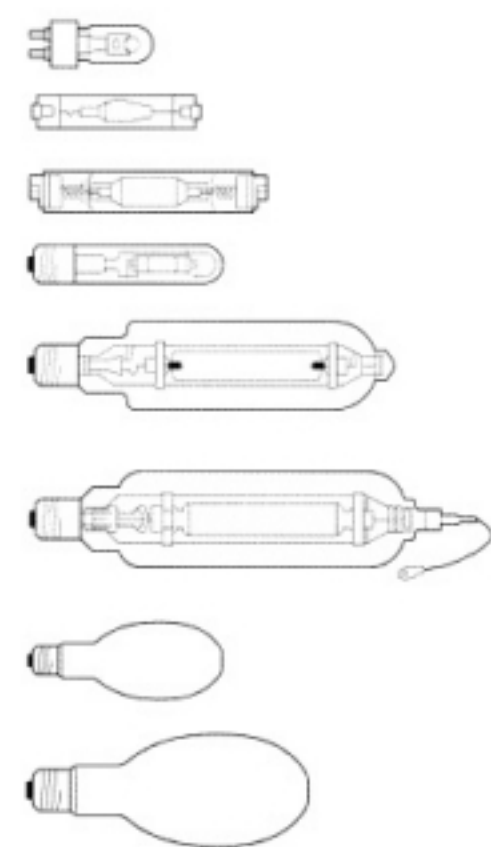
LAMPS TABLE

Lamp type / base	Base	Power (W)	Max. length A (mm) to IEC	
	G24q-1	10	95	
		13	130	
		18	150	
	G24q-3	26	170	
	GX24q-1	13	90	
		18	105	
		26	125	
		32	140	
	GX24q-4	42	155	
	G24d-1	8	73	
		10	95	
		13	130	
		18	150	
	G24d-3	26	125	
	G23	5	85	
		7	115	
		9	145	
		11	215	
	GX23	13	170	
	G23-2	9	95	
	GX23-2	13	170	
	2G7	5	85	
		7	115	
		9	145	
		11	215	
	2GX7	13	130	
	GR8	16	142	
		28	207	
		GR10q	10	98
			16	142
			21	142
			28	207
	GRY10q-3	38	207	
		55	207	
	2G10	18	122	
		24	165	
		36	217	
	2G11	18	225	
		24	320	
		34	533	
		36	415	
		40	535	
		55	535	

Lamp type / base	Base	Power (W)	ØD (mm)	Max. length A (mm) **	
	W4,3	6	7	218,5	
		8	7	320,0	
		11	7	421,6	
		13	7	523,0	
	G5	4	16	136,0	
		6	16	212,0	
		8	16	288,0	
		13	16	517,0	
		14	16	549,0	
		21	16	849,0	
		24	16	549,0	
		28	16	1149,0	
35	16	1449,0			
	G13	10	26	470,0	
		14	26	360,0	
		15	26	438,0	
		16	26	590,0	
		16	26	720,0	
		18	26	590,0	
		20*	26	438,0	
		20	26	590,0	
		25*	26	358,0	
		30	26	895,0	
		36	26	1200,0	
		36-1	26	970,0	
		38	26	1047,0	
		58	26	1500,0	
	G13	20	38	590,0	
		25	38	970,0	
		40	38	1200,0	
		65	38	1500,0	
		80*	38	1500,0	
		85*	38	1800,0	
		100*	38	1800,0	
		115	38	1200,0	
		125	38	2400,0	
		140	38	1500,0	
		140*	38	1800,0	
160*	38	1800,0			
	R17d	60	38	900,0	
		87	38	1800,0	
		112	38	2400,0	
		110	38	2400,0	
		195	38	2385,0	
		215	38	2400,0	
		110	54	1200,0	
		165	54	1800,0	
		215	54	2400,0	
	2GX13	24	16	225,0	
		39	16	300,0	
		54	16	300,0	
	G10q	22	29	216,0	
		32	30	307,0	
		40	30	409,0	
	2G13	20	38	310,0	
		40	38	570,0	
		40	38	607,0	
		65	38	570,0	
		65	38	765,0	

*UV Solarium Lamps ** Diametre for circular lamps

LAMPS TABLE

Description	Power (W)	Cap Type	Current (A)	Ballast	
HM	50	E27	0.61	Q50	
	80	E27	0.8	Q80	
MERCURY VAPOUR LAMP	125	E27	1.15	Q125	
	250	E27	2.15	Q250	
	400	E40	3.25	Q400	
HI METAL HALIDE	35	G12 PG12-2	0.53	Na35	
	70	E27, G12, RX7s	1.00	Na70	
	100	E27	1.20	Na100	
	150	G12, RX7s PGX12-2	1.80	Na150	
	250	E40, Fc2	3.00	Na250	
	250	E40	2.10	Q250	
HPI METAL HALIDE	400	E40	3.40	J400 Q400	
	400	E40, Fc2	3.60 4.20	J400 Na400	
HQITS 400/ND METAL	400	E40, Fc2	4.20	Na400	
HS HIGH PRESSURE SODIUM	35	E27	0.50	Na35	
	50	E27	0.76	Na50	
	70	E27	1.00	Na70	
	70	RX7s	1.00	Na70	
	100	E40	1.20	Na100	
	150	E40, RX7s	1.80	Na150	
	250	E40, Fc2	3.00	Na250	
	400	E40, Fc2	4.40	Na400	

REPRESENTATIVES

BULGARIA

ELSIM P.G. LTD
c/o Mr N. Tanev/Mr G. Fratev
25 MILIN KAMAK STR.
SOFIA 1421
Tel. +359 2 663957
Fax. +359 29 633969
BULGARIA

MALAYSIA

INTERMART
c/o Mr B. Durant
11D, Jalan P. Ramlee
50250 Kuala Lumpur
Tel. +603 2480027
Fax. +603 2424933
WEST MALAYSIA

SINGAPORE, INDONESIA

COMMENG ENTERPRISE
CORPORATION PTE LTD
c/o Mr David Yeo
152 Paya Lebar Road # 03-03
Citipoint Industrial Complex
Tel: +65 7462911 / 7432633
Fax: +65 7489314
SINGAPORE 409020

PAKISTAN

DEUTSCHE ELECTROTRADE (PVT) LTD
24/1 Nawab Estate,
1st floor
M. A. Jinnah Road
KARATSI-PAKISTAN
Fax. 0092212420267
e-mail: <deutsche@sat.met.pik>

JORDAN

AL Wafa FOR ELECTRICAL INDUSTRIAL
AND TRADING EST.
Al-Misdar Street
Parto Junction
P.O. Box 510430
AMMAN-JORDAN
Tel. 4778361
Fax. 4749663
e-mail: <al.wafa@go.com.jo>

SAUDI ARABIA

SAFIR DAKHEL ELOFI EST
c/o Mr Abubakar A. Ali
139, Bamahrez Center, 4th Floor
Souq Al-Janobiah
P.O. Box No. 6711
Jeddah
Tel. +966 2 6484060
Fax. +966 2 6481152
SAUDI ARABIA

U.A.E.

TOCA
ELECTRIC HANDELS GES. M.B.H.
c/o Mr C. Sander / Mr M. Knobelt
Winsener str. 1
21271 Hanstedt
Tel. +49 4184 8421/22
Fax. +49 4184 1853
GERMANY




HELLAS
SCHWABE HELLAS Co. Ltd
MANUFACTURER OF ELECTROTECHNICAL DEVICES
 Koropliou-Varis, Av. 77 - P.O. Box 4 - 194 00 KOROPHI - GREECE
 Tel.: ++30-210-66 23 890-1, Fax: ++30 - 210 - 66 24 861
 http: //www.schwabe.gr, e-mail: schwabe@otenet.gr

