CHAPTER

FIVE

Fluorescent Lamps
Cold Cathode and Accessories

GENERAL SALES CONDITIONS

INTRODUCTION
All the hereunder conditions are intended and accepted for each order you send to us.
Prices do not include VAT and extra fees eventually needed. Any change in prices will be agreed before the delivery.

1. ORDERS
All orders are accepted and executed on the basis of the following conditions, which will govern future deliveries, even when not reproduced.
All orders should be sent to us by fax or e-mail. Except in case of different agreements, we will debt a fixed contribution of € 15,00.
= (as partial reimbursement for bank and customs fees).

2. DELIVERIES
Goods are delivered at the buyer's risk.
Quoted times for delivery are not binding. Buyers cannot refuse the goods or ask for a reimbursement in case of delayed delivery.

3. COMPLAINTS AND RETURN OF GOODS
The client must check the condition of the goods upon its arrival and, in case of damage, to take the proper actions.
Shortcomings in quantity and quality may be claimed in written form, within 8 days from the receipt of the goods.
If the claim is prompt and justified, Buyers have exclusively entitlement to replacement of the products.
Abatements as well as making good of direct or indirect loss shall not be possible.

4. PAYMENTS
If the customer defaults on the payment of an invoice or an installment, any and all other outstanding invoice amounts or installments shall immediately become due and payable. Consumers shall pay interest on the money debt during the time of default of € 25,00 plus a 7 points above the base rate. As far as Business Enterprises are concerned, we reserve the right to prove and claim a higher damage caused by the delay in payment.
In these cases, we will be unable to accept and execute any further orders until the settlement has been received.

5. TECHNICAL DATA
We reserve ourselves the right to modify the technical data stated, at any time and without notice.
On request, we will give assistance to the customers for the best use of the products, on the basis of available experience.

6. CONTROVERSIES
In case of lawsuits the competent court will be the one in Treviso.

7. PRIVACY
Our privacy policy updated in accordance with articles 13-14 of EU Regulations 2016/679 is available on our website www.cmngroup.eu, section "Conditions and Privacy".

SYLVANIA

FLUORESCENT LAMPS AND STARTERS

SYLVANIA Available colours : **840** Coolwhite Deluxe ; **865** Daylight Deluxe

Code	Description	Diam. mm.	Length mm.	Price € / Each Standard lamps **Running out**	Price € / Each Triphosphor
LF06T5_	Linear Lamp 6 W	16	220	**2,22**	
LF14T5_	Linear Lamp 14 W FHE	16	549		2,85
LF21T5_	Linear Lamp 21 W FHE	16	849		3,04
LF24T5_	Linear Lamp 24 W FHO	16	549		2,85
LF28T5_	Linear Lamp 28 W FHE	16	1149		3,61
LF35T5_	Linear Lamp 35 W FHE	16	1449		3,61
LF39T5_	Linear Lamp 39 W FHO	16	849		3,42
LF54T5_	Linear Lamp 54 W FHO	16	1149		3,71
LF80T5_	Linear Lamp 80 W FHO	16	1449		3,71
LF15T8_	Linear Lamp 15 W	26	450		3,61
LF18T8_	Linear Lamp 18 W	26	600		1,81
LF30T8_	Linear Lamp 30 W	26	900		3,42
LF36T8_	Linear Lamp 36 W	26	1200	**1,05**	2,09
LFC22T9_	Circular lamp 22 W	Diam.	216		5,13
LFC32T10_	Circular lamp 32 W	Diam.	305		5,32
LFC40T10_	Circular lamp 40 W	Diam.	406	**5,73**	8,84
SYLVANIA STARTERS					
LFS2	Starter 4 - 22 W for Double lamp				0,38
LFSU	Starter 4 - 65 W Universal				0,38

HIGH COLOUR RENDERING TRIPHOSPHOR LAMPS

ANY SYLVANIA LAMPS OR LIGHT FIXTURES ON REQUEST

APPLICATIONS AND LAMP COLOURS

827 = HOMELIGHT DELUXE	2700 °K	for houses, restaurants, hotels
830 = WARMWHITE DELUXE	3000 °K	for shops, schools, dep. stores
835 = WHITE DELUXE	3500 °K	for offices
840 = COOLWHITE DELUXE	**4000 °K**	**for signs and offices**
865 = DAYLIGHT DELUXE	**6500 °K**	**for signs and outdoor lighting**

FLUORESCENT LAMPS AND STARTERS

OSRAM	Available colours : 840 Cool White; **860** Cool Daylight				
Code	Description	Diam. mm.	Length mm.	Price € / Each Standard lamps Running out	Price € / Each Triphosphor
LO08T5__	Linear Lamp 8 W **840**	16	290	**1,78**	2,95
LO13T5__	Linear Lamp 13 W **840**	16	520	**1,78**	3,15
LO14T5__	Linear Lamp 14 W FH-HE	16	549		4,46
LO24T5__	Linear Lamp 24 W	16	549		PHASE OUT
LO21T5__	Linear Lamp 21 W FH-HE	16	849		4,46
LO39T5__	Linear Lamp 39 W	16	849		PHASE OUT
LO28T5__	Linear Lamp 28 W FH-HE	16	1149		4,46
LO54T5__	Linear Lamp 54 W	16	1149		PHASE OUT
LO35T5__	Linear Lamp 35 W FH-HE	16	1449		4,46
LO15T8__	Linear Lamp 15 W	26	450	**1,72**	2,82
LO18T8__	Linear Lamp 18 W	26	600	**1,28**	2,47
LO30T8__	Linear Lamp 30 W	26	900	**1,72**	3,31
LO36T8__	Linear Lamp 36 W	26	1200	**1,28**	3,05
LO58T8__	Linear Lamp 58 W	26	1500	**1,56**	3,52
LOC22T910	Circular lamp 22 W **840**	Diam.	216	**2,76**	5,99
LOC32T1010	Circular lamp 32 W **840**	Diam.	307	**2,76**	11,36
LOC40T1010	Circular lamp 40 W **840**	Diam.	409	**4,32**	15,87
OSRAM STARTERS					
LFST151	Starter 4 - 22 W FOR DOUBLE LAMP			0,46	0,53
LFST111	Starter 4 - 65 W UNIVERSAL			0,43	0,49

ANY OSRAM LAMPS ON REQUEST

APPLICATIONS AND LAMP COLOURS

827 = HOMELIGHT DELUXE	2700 °K	for houses, restaurants, hotels
830 = WARMWHITE DELUXE	3000 °K	for shops, schools, dep. stores
840 = COOLWHITE DELUXE	**4000 °K**	**for signs and offices**
865 = DAYLIGHT DELUXE	**6500 °K**	**for signs and outdoor lighting**

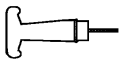
MADE IN ITALY

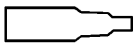
ACCESSORIES FOR ELECTRIC PLANTS

RoHS COMPLIANT

Drawing	Description		Pack.	€
	**ON DEMAND** STUCCHI Push-on lampholder T8	Art. 41	100	125,98
	**ON DEMAND** STUCCHI Automatic pad push-on lampholders	Art. 140	200	75,89
	STUCCHI Automatic pad push-on lampholders at double entry	Art. 142	200	80,75
	**ON DEMAND** STUCCHI Push-on lampholders + starterholder	Art. 140/C	200	115,35
	STUCCHI Push-on lampholder with terminal screws	Art. 146	200	183,52
	**ON DEMAND** STUCCHI Push-on lampholders for lamps dia. 16	Art. 263	500	236,78
	STUCCHI Starterholders, oval shaped	Art. 110/F	200	125,98
	STUCCHI Push-on lampholders, rigid conductor	Art. 184/D FR	200	221,60
	STUCCHI Connector + starterholder, rigid conductor	Art. 189	200	274,73
	STUCCHI Terminal blocks, 3 poles	Art. 676-F/A		0,61 /each
	White Gride Dia. 40			1,53 /each
	Cable gland with plug			2,16 /each
	Moduled enclosed IP55 240 x 190 x 90			20,33 /each
	Metallic halide lamp 150 W **PHASE OUT**			49,75 /each
	Plug 2P + T 10 A 250V with m. 1,2 cable		White	1,60 /each
	Plug 2P + T 10 A 250V with m. 1,5 cable		White or black	7,33 /each
	Plug 2P + T 10 A 250V with m. 3 cable		White or black	7,47 /each

MOUNTING ACCESSORIES FOR NEON SIGNS

Drawing	Description MADE IN ITALY	Package quantity	Price/Pack. € White and Black	Price €/Pack. Transparent
	Self-tapping supports mm. 25	300	57,98	88,07
	Self-tapping supports mm. 35	300	66,98	98,60
PHASE OUT	Self-tapping supports mm. 50	300	90,55	
	Supports with screw 3 MA mm. 25	300	57,98	88,07
	Supports with screw 3 MA mm. 35	300	66,98	98,60
	Supports with screw 3 MA mm. 50	300	90,55	
	3 MA nut for supports	1000	35,14	
PHASE OUT	PC Support with pivoting head and hole H 10 mm	100		39,20
	PC Support with pivoting head and hole H 20 mm	100		41,67
	PC Support with pivoting head and hole H 30 mm	100		52,86
	PC Support with pivoting head and hole H 50 mm	100		55,94
	PC Support with pivoting head and hole H 60 mm	100		59,85
	PC Support with pivoting head and hole H 70 mm	100		67,67

Operating instructions for plastic accessories* **Pls. Avoid:** UV overexposure, high temperatures, continuous mechanical stress, excessive screwing up of the screws					
	PC Support with spring H20 mm, for tube diam. 08 - 10 - 12 - 16 - 20 mm.	100	PHASE OUT		34,94
	(only indoor) Transp. Polycarbonate steel clamps for tube Diam. 20/26	200			41,31
	Steel clamps for tube Diam. 15	200	41,40		
	Steel clamps for tube Diam. 20/26	200	41,40		
	Delrin spacers mm. 20	500	74,43		
	PVC grommets - universal hole (colours white, black)	1.000	124,04		
SILICONE CAPS FOR NEON TUBES		**Pcs. per Package**	**Price €/Pack.**		
			White/Black	**Black**	**Transparent**
	Silicone Caps Diam. 12	200	113,16		125,12
	Silicone Caps Diam. 16	200	138,46		149,50
	Silicone Caps Diam. 12 Length mm. 100	100		49,06	
	Silicone Caps Diam. 15 Length mm. 100	100		51,29	
	Silicone Caps Diam. 20 Length mm. 85	200	159,62	174,34	174,34
	Silicone Caps Diam. 20 Length mm. 100	200	207,92	225,86	225,86
	Silicone END CAPS Diam. 10 White or Black	100	44,04	44,04	
	Silicone END CAPS Diam. 13 White or Black	100	69,00	44,04	
	Silicone END CAPS Diam. 16 White or Black	100	63,14	44,04	
	Silicone END CAPS Diam. 18 White or Black	100	74,87	44,04	

ELECTRIC CABLES

HIGH VOLTAGE CABLES EN 50 143

MADE IN ITALY

Type	Cable composition	Outer diam. mm.	Copper section mm.	Max. temp. °C	Insulation Uo KV	Insulation U KV	Use	Colours	Price € 100 meters
B	Silicone	6,3	1	180	5,0	10	Indoor	White, Grey, Black, Transparent	227,54
B	Silicone	6,3	1	180	5,0	10	Indoor		227,54
B	Silicone	6,3	1	180	5,0	10	Indoor		227,54
C	Silicone with PVC sheath	8,0	1	90	5,0	10	In./Out.	Grey	274,42
K	Polyethylene with PVC sheath	4,5	1	70	2,5	5	In./Out.	White, grey, black	73,78

HIGH VOLTAGE CABLES - ONLY FOR EXTRA EEC APPLIC.

MADE IN ITALY

H	Polyethylene with PVC sheath	7,0	1	60	5,0	10	In./Out.	White, grey, black	113,81

MADE IN ITALY

FIRE-PROOF HIGH VOLTAGE CABLES CEI 20-22 20-32 - ONLY FOR EXTRA EEC APPLIC.

Cable composition	Diam. mm.	Section mm.	Layers	Insulation KV	Insulation KV	Colours	Price € 100 meters
PVC insulated with	4,5	1	2	2,5	5	White, grey, black	56,85
PVC sheath	5,5	1	2	5,0	10		62,20

TIN PLATED COPPER WIRE

Description	Section mm.	Price €	
Tin plated copper wire rolls **PHASE OUT**	0,40	per Kg.	64,46
Tin plated copper wire, trasparent covering	5/10	Reel 300 m.	161,45

LOW TENSION CABLES

MADE IN ITALY

Description	Temp.	Type	Section mm.	Colours	Pack. m.	Price € Package
Flexible wire	(300 - 450 °C)	H05VV-F	3 x 0,75	White, black	100	103,58
Flexible wire	(300 - 450 °C)	H05VV-F	3 x 1		100	129,47
Flexible wire	(300 - 450 °C)	H05VV-F	3 x 1,5		100	173,49
Flexible wire	(300 - 450 °C)	H05VV-F	3 x 2,5		100	271,89
Flexible fire-proof wire	(450 - 750 °C)	PECSOFLEX	3 x 1	Grey	100	132,06
Flexible fire-proof wire	(450 - 750 °C)	PECSOFLEX	3 x 1,5		100	169,61
Flexible fire-proof wire	(450 - 750 °C)	PECSOFLEX	3 x 2,5		100	270,59
Flexible unipole	(-15 + 90 °C)	N07V-K	1 x 1	White, grey, black	100	32,37
Flexible unipole	(-15 + 90 °C)	N07V-K	1 x 1,5	yellow, green, etc.	100	44,02
Rigid unipole	(-15 + 90 °C)	H05V2-U	1 x 0,75	White	250	75,09
Rigid unipole	(-15 + 90 °C)	H05V2-U	1 x 1		200	77,68

ELECTROMAGNETIC BALLASTS

BALLASTS FOR FLUORESCENT LAMPS				
Code	**Description**	**Power W**	**Price € / each**	**Recommended capacitor**
LRB215W	CE B2 230 V 50Hz Ballast with push-in terminals	15 - 25	3,84	4,5 µF
LRB220W	CE B2 230 V 50Hz Ballast with push-in terminals	18-20-22-24-26	3,78	4,5 µF
LRB232W*	CE B2 230 V 50Hz Ballast with push-in terminals	2 x 15 - 30 - 32	3,67	4,5 µF
LRB240W	CE B2 230 V 50Hz Ballast with push-in terminals	2 x 18 - 36 - 40	4,09	4,5 µF
LRB265W	CE B2 230 V 50Hz Ballast with push-in terminals	58 - 65		7 µF

BALLASTS WITH DIFFERENT VOLTAGE OR FREQUENCES AND SCREW TERMINALS ARE AVAILABLE ON DEMAND

* Phase Out

CAPACITORS for ballasts

CAPACITORS FOR BALLASTS (EN 61048 - EN 61049) AND FILTERS			
Code	**Description**	**Capacity µF**	**Price € / Each**
LCOND02MF	CEI approved, anti-blast capacitor	2	1,00
LCOND03MF	CEI approved, anti-blast capacitor	3	1,24
LCOND04RMF	CEI approved, anti-blast capacitor	4,5	1,24
LCOND07MF	CEI approved, anti-blast capacitor	7	1,34
LCOND10MF	CEI approved, anti-blast capacitor	10	1,45
LCOND25MF	CEI approved, anti-blast capacitor	25	2,70
LCOND30MF	CEI approved, anti-blast capacitor	30	2,96
LCOND35MF	CEI approved, anti-blast capacitor	35	3,60
LFIL0047MF	INTERFERENCE FILTER (used to attenuate interferences) 0,047 mF		0,26

ELECTRONIC BALLASTS

TRIDONIC ELECTRONIC BALLASTS for fluorescent lamps T5 T8

Class A2. Operating temperature: - 25 / + 55 °C .

Picture	Description	Tc MAX	Size (mm) Length	Base	Height	Base Power W	Lamp type	Price € /Each
	Monolamp TOP EN	75 °C	280	30	28	1 X 18	T8	ON DEMAND
	Monolamp TOP EN	75 °C	280	30	28	1 X 36	T8	
	Monolamp TOP EN	75 °C	280	30	28	1 X 58	T8	
	Monolamp PRO	75 °C	280	30	21	1 X 39	T5	
	Monolamp PRO Multiwatt	75 °C	280	30	21	1 X14-21-28-35	T5	
	Bi-lamp TOP EN	75 °C	280	30	28	2 X 36	T8	
	Bi-lamp TOP EN	75 °C	360	30	28	2 X 58	T8	
	Bi-lamp PRO	75 °C	360	30	21	2 X 39	T5	
	Bi-lamp PRO	75 °C	360	30	21	2 X 49	T5	
	Bi-lamp PRO	75 °C	360	30	21	2 X 54	T5	
	Bi-lamp PRO Multiwatt	75 °C	360	30	21	2 X14-21-28-35	T5	

BALLASTS VOSSLOH SCHWABE ELXc EffectLine for fluorescent lamp T8

Picture	Description	Tc MAX	Size(mm) Length	Base	Height	Base Power W	Lamp type	Price € / Each
	Monolamp ELXc	60°C	230	41	28	1 X 30	T8	9,42
	Bi-lamp ELXc	60°C	230	41	28	2 X 30	T8	10,18

OSRAM BALLASTS QUICKTRONIC for lamps T8 and T5

Picture	Description	Size (mm) Lenght.	Base	Height	Base Power W	Lamp type	Price € / Cad.
	Monolamp QT-ECO	150	22	22	1 x 4 - 16	T5	ON DEMAND
	Monolamp QT-FH multiw.	360	30	30	1 x14-21-28-35	T5	
	Bi-lamp QTP5 multiwatt	360	30	30	2 x 54	T5	
	**QT-FIT8 with Cathode pre-heating**						
	Monolamp QT-FIT8	280	30	28	1 x 36	T8	10,38
	Bi-lamp QT-FIT8	360	30	28	2 x 18	T8	11,44
	Multi-lamp QT-FIT8	280	40	28	3/4 x 18	T8	12,26

ELECTRONIC BALLASTS WITH DIMMER SWITCH AVAILABLE ON DEMAND

GEAR TRAYS

RoHS COMPLIANT 2002/95/EC

MADE IN ITALY

HIGH FREQUENCY GEAR TRAYS
Certified for lamps

CMNGROUP

Consisting of: Electronic Ballast made by European manufacturer, with quality label,
unipole rigid cable and lamp holders in accordance with European standards. ENEC certified.

LAST PIECES
SPECIAL PRICE

Code	Output power	Voltage	tic point	Packing	Ballast size mm.		
	W	V	°C	pHs.	L	P	H
LICE18W	1x18	220 - 240	75	25	234	40	28
LICE30W	1x30	220 - 240	75	25	360	30	30
	1x35	220 - 240	75	25			
LICE36W	1x36	220 - 240	75	25	234	40	28
LICE58W	1x58	220 - 240	75	25	234	40	28
	2x14	220 - 240	75	25			
LICE18WX2	2x18	220 - 240	75	25	234	40	28
LICE30WX2	2x30	220 - 240	75	25	360	30	30
LICE35WX2	2x35	220 - 240	75	25	0	0	0
LICE36WX2	2x36	220 - 240	75	25	234	40	28
LICE58WX2	2x58	220 - 240	75	25	234	40	28

N.B. Other models of gear trays are supplied on demand.
Excluded: Tube clamps, see page 5.04.

Electronic ballasts for outdoor applications

Electronic ballasts are exposed to special influences in outdoor applications.

Humidity:
The sign outside should be conducted in accordance with EN 60598-1 and adjusted by the index of protection against condensation and humidity. The ballast must be treated the same way as other electrical components, then appropriate measures must be taken to ensure that the moisture or humidity do not corrode.
The ballast should not be installed in a cavity where the condensate can create stagnation.
It is recommended to fix the ballast in an incline position so that any condensation water is able to drain off. Cables should be arranged to come from the bottom of the feeder to prevent condensation coming through the wires inside the ballast.

Temperature:
Electronic ballasts are designed for a defined ambient temperature range (Ta). They are specified in the corresponding data sheets and go from –30 °C up to +70 °C. The design of the lighting should ensure that the maximum specified ambient temperature is not permanently exceeded. A short overrun of 10 °C is specified in the EN 60598-1 and is tolerated without any quality losses.

EMC:
All electronic ballasts are EMC-compatible (radio interference suppression, harmonics and surge, burst). Therefore they are applicable without any restrictions.

CMNGROUP GEAR TRAYS
certified for fluorescent lamps

Fluorescent lamps with white painted galvanized steel bracket (complete with ballast, lamp-holder, lamp-starter, mounting clamps, mounting, 3 pole terminal block, clamp carrier phase plug.) IP20.

MADE IN ITALY

Code	Power	Voltage	Packages		Size bracket mm.			
			Standard	with r				
**	W	V	pcs	pcs	L	W	H	
LIC15W	15 B2	220 - 240	25	20	290	590	30	
LIC18W	18 - 20 B2	220 - 240	25	20	290	590	30	
LIC18WX2	2 x 18	220 - 240	25	20	290	590	30	
LIC22WC	22 x circoline	220 - 240	25	20	290	590	30	
LIC40WC	40 x circoline	220 - 240	25	20	290	590	30	

GEAR TRAYS FOR FLUORESCENT LAMPS WITH TRANSPARENT THERMOPLASTIC BRACKETS

Complete with ballast, lamp holder, lamp-starter, mounting clamps, fixing support and terminal. fixing support and terminal block. IP.

MADE IN ITALY

LAST PIECES
SPECIAL PRICE

Code	Power	Voltage	Packages		Size bracket mm.			Price	
			Standard	with r				Standard	with capacitor
**	W	V	pcs	pcs	L	W	H	€ /each	€ /each
LICT18W	1x18	230	25	20	320	42	36	9,35	11,05
LICT58W	1x58	230	25	20	320	42	36	11,25	12,65

Excluded from above prices: lamp and starter (see pages 5.01 - 5.02).
**** Add "R" to the code number in case of gear trays with capacitor.**

MEASURING TOOLS - MACHINERY

Picture	Description	Price €
	Milliammeter 0- 65 mA for panel	60,00
	Milliammeter 0- 200 mA for panel	60,00
	Voltmeter 0-300 V for panel	65,00
	Poket Multimeter (Made in Italy) Measurement: Voltage AC from 400 mV a	40,00
	3 in 1 "Digital Multifunction Clampmeter" (mA, Volts e Ohm)	703,50
	Portable Tester for Neon "Eco"	90,00
	Handle Scintillator, gas leackage detector	490,00
	Colours Checker (battery supply) for fluorescent powders	170,00

GLASS TUBES

Glostertube

RoHS COMPLIANT 2002/95/EC

MADE IN ITALY

- €/tube -

diameter and lenght mm	**Extra 3% for complete package purchase** N° of tubes per box	**101** white 6500° **102** white 4500° **103** white 3500° **104N** warmtone 2800° **112** white 9000' **111** white 7500°	**115N** champagne **202** blue **203** superblue **118** white 8000° Trif. **301** green **310** bright green **401N** pink	**302** green apple **402** purple **405** salmon **218** NEW turquoise **413** cyclamin **414** orchid	**406N** orange **409N** apricot **507N** super yellow
GLASS WITHOUT LEAD / GLASS WITH LEAD trasparent (any diameter) €/kg 16,15					
6x1500	200	8,93	13,12	15,94	23,46
8x1500	150	8,11	11,92	14,48	21,32
10x1500	120	8,28	12,11	14,76	21,74
12x1500	100	8,91	13,39	17,12	25,23
15x1500	50	10,14	16,10	20,27	29,25
18x1500	40	11,48	17,85	22,61	32,77
20x1500	30	13,10	20,35	25,76	37,36

COLOURED SODA GLASS

diameter and lenght mm	**COATED**			**CLEAR**		
	204 blue **205** acquamarine* **303** green* **304** emerald green **305** special emerald green	**207** purple **306** yellow-green **407** orange **502** gold yellow **503** lemon yellow **504** novial yelllow	**408** red	acquamarine * blue green* esmerald green	orange yellow	red
06x1500	18,98	22,57	27,38	11,94	14,60	16,48
08x1500	23,49	27,94	33,58	14,52	17,97	20,33
10x1500	26,35	31,52	29,29	16,58	20,34	22,84
12x1500	32,58	38,81	46,72	20,34	25,14	28,17
15x1500	40,51	48,48	58,50	25,49	31,33	34,98
15x3000	82,94	98,78	119,24	52,03	63,80	71,61
18x1500	51,37	61,20	73,96	32,25	39,55	44,40
18x3000	100,99	120,19	145,45	63,91	78,53	87,96
20x1500	57,41	68,26	82,57	36,04	44,13	49,57
20x2400	96,68	114,97	139,02	60,60	74,31	83,36
22x1500	61,07	72,80	87,80	38,24	46,88	52,67

** = Available till sale of all stock

ELECTRODES

ADVANTAGE SERIES - LF LEAD FREE						
Code	**Type**	**Lenght mm.**	**mA**	**EGL Code**	**Price €/each**	**Price €/each tub.**
SS9SC	**10C**	50	20/30	122100LFC	2,41	
SS9SCTC	**T 10C**	50	20/30	122200LFC		2,90
SS12CCLT	**12CL**	79	30/45	120913LF	2,81	
SS12CCLTT	**T 12CL**	79	30/45	121013LF		1,97
SS12CCCC	**12CL**	54	30/45	120909LF	2,35	
SS12CCCT	**T 12CL**	54	30/45	121009LF		2,44
SS15CCCT	**15CL**	66	80	114805LF	2,41	
SS15CCCTT	**T 15CL**	66	80	114905LF		2,50
SS19MCC	**19CM**	73	120/180	124500LF	2,20	
SS19MCCT	**T 19CM**	73	120/180	124600LF		2,59
SS19MCLT	**19CM**	88	120/180	124550LF	2,20	
SS19MCTT	**T 19CM**	88	120/180	124650LF		2,59
SS19LCLT	**19CL**	101	200	124565LF	2,51	
SS19LCTT	**T 19CL**	101	200	124665LF		2,81
SS19LCCT	**19CL**	79	200	124900LF	2,51	
SS19LCCTT	**T 19CL**	79	200	125000		2,81

***while stocks last**

ACCESSORIES FOR BLOWING				
Code	**Item**		**EGL Code**	**Price €/each**
SSGASNE-225	GAS: Neon	Fiala 2,25 Lt	424000	71,60
KGR00ARGO	GAS 100% Argon	Flask 12 Lt		125,45
KGR00NEOA	GAS 100% Neon	Flask 12 Lt		125,45
KGR55ARNA	GAS 50% NE- 50% AR	Flask 12 Lt		125,45
KGR75ARNA	GAS 25% NE- 75% AR	Flask 12 Lt		125,45
SSMIS752	GAS 25% NE- 75% AR	Flask 12 Lt		
SSMERTRI	Mercury*	Flask 200 gr	1220	45,25

***Caution: mercury is dangerous for life, use it with care and avoid a direct touch.**

****** Material available on order.**

On Demand: Caps and tubes in rubber - Flame bench or handy flame - Brizio Basi replace sections - Burners or hand and bench flames for working the glass

HIGH VOLTAGE TRANSFORMERS

MADE IN ITALY

PRICE LIST Pe EU - EXTRA EU 2023 Validity from deliveries 01/02/2023

INDEX

Isc = 1,3 x max Iwc
Argon/Mercury - Mixture Argon/Neon

TRANSFORMERS FEATURES

RESINBLOCK Isc 1,3 for gas argon or mixture
COLDLine for cold cathode lamps type Slimline
MINIBLOCK Isc 1,3 for gas argon or mixture
MILLENNIUM Isc 1,3 for gas argon or mixture

Isc = 1,2 x max Iwc
suggested use with 100% Neon gas

RESINBLOCK Isc 1,2 for gas Neon
MINIBLOCK Isc 1,2 for gas Neon
MILLENNIUM Isc 1,2 for gas Neon

Accessories
General sales terms

RESINBLOCK
- Standard model in epoxy resin
- Ferromagnetic core
- IP44

MINIBLOCK
- Smaller epoxy resin model
- Ferromagnetic core
- IP20

MILLENNIUM
- Epoxy resin model with builit-in protection and power factor capacitor
- A compact element, quick to install thanks to cable glands pre-printed on the box
- Ferromagnetic core
- IP44

Pe TYPE
- Standard European model allowing for protective devices to be installed

F/ART RESIN
- Exclusive epoxy resin is used to encapsulate and protect the product, making it durable
- Benefits: effiicient heat dissipation, protection against dust and water, resistance to atmospheric agents and UV rays, the original appearance is guaranteed over time, high reliability.

SPECIAL TRANSFORMERS
- We are able to provide transformers with technical specifications required by the customer.
- For special requests about transformers not in the list we apply a surcharge (+10%)
- Shipping time may change

PACKING
- Free of charge in single pack

FITTING
- Properly follow the fitting instructions printed in ithe carton box and/or in the QR code

WARRANTY 2 YEARS

RESINBLOCK TRANSFORMERS (C.M.)
LOW VOLTAGE

MADE IN ITALY

Ics = 1,3 I_{work}

TRANSFORMERS WITH TENSION LOWER THAN 1.000V

WARNING: the European RoHS Directive does not allow the new installation of cold cathode lamps conataining mercury with a power supply of less than 1000V

(there is no problem for old installations and for lamps without mercury)

PHASE OUT
NEW DISCOUNTS

1x990

2x990

Input: 230 V, 50 Hz
Output: 990 Vac
Current Intensity: 50-100 mA
IP rating: IP44

Other input/output voltages and 60Hz frequence are available on request

- **Low voltage** transformer (<1000V)
- Resin transformer with ferromagnetic core
- Options: single or double 990V output
- **CM type: not designed for protective device installation.** For 990Vmodels , protections are not required due to the low voltage
- For indoor and outdoor use (even if exposed to weather conditions)
- Without safety knives
- Dimmable with external devices (leading edge dimmer)

100 mA series

Working current 100 mA max, short circuit current 130 mA (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Ø tube 20 mm *	Ø tube 25 mm *	Price EURO
2x990/100	*	RES. LOW VOLTAGE	113	1,00	-	-	87 92 270	4,61	3,3 - 4,5 m	4,0 - 5,2 m	126,03

200 mA series

Working current 170 mA max (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Ø tube 20 mm *	Ø tube 25 mm *	Price EURO
2x990/200	*	RES. LOW VOLTAGE	182	1,63	-	-	104 92 270	7	4,6 - 6,6 m	5,4 - 6,6 m	168,44

*** Available on request**

* 50% argon - 50 % Neon gas mixture tubes filling. Measurements shown are based on laboratory tests and expressed in electrical meters

METREAGE CHART IN ELECTRICAL METERS

METERAGE CHART IN ELECTRICAL METERS **
TRANSFORMER 2X990V. LIGHTING
LOW VOLTAGE

WARNING

THIS METERAGE CHART IS PURELY INDICATIVE BASED ON LABORATORY MEASUREMENTS AND MADE UNDER CONTROLLED CONDITIONS.

The electrical parameters of a sign depends by tubes length, tubes forming, number of the tubes, type of electrodes used, tubes pressure, input voltage and by the influence of atmospheric agents.

This chart has been calculated with formed tubes and/or linear tubes with 230 V. / 50 Hz input voltage (Min lenght for formed tubes, Max length for linear tubes). For a proper and safe choice of the transformer is recommended:

1. To test the installation with a Variac (Input tension 230 V).
2. To check the working current (after 10/15 min of work) with a milliampmeter or with a digital milliamp-clampmeter.
3. To operate with a working current of approximately: **90%** for ARGON - NEON mixture - **95%** for 100% NEON gas
4. To check the real working current and the input voltage at the installation site.

Trasformatori F.A.R.T. Icc 1,3
TUBI CARICATI CON MISCELA 50% ARGON 50% NEON

F.A.R.T. Transformers Isc 1,3
50% ARGON 50% NEON GAS MIXTURE TUBES FILLING

MODELLO / TYPE	ø 15 mm	ø 18 mm
2x990V/50	1,9 - 3,1	2,4 - 3,6
MODELLO / TYPE	**ø 20 mm**	**ø 25 mm**
2x990V/100	3,3 - 4,5	4,0 - 5,2
MODELLO / TYPE	**ø 20 mm**	**ø 25 mm**
2x990V/200	4,6 - 6,0	5,4 - 6,6

Trasformatori F.A.R.T. Icc 1,2
TUBI CARICATI CON GAS 100% NEON

F.A.R.T. Transformers Isc 1,2
100% PURE NEON GAS TUBES FILLING

MODELLO / TYPE	ø 15 mm	ø 18 mm
2x990V/60	1,4 - 2,2	1,8 - 2,8
MODELLO / TYPE	**ø 20 mm**	**ø 25 mm**
2x990V/120	1,8 - 3,0	2,4 - 3,8

** **Come calcolare i metri elettrici:** tubi diritti più 0.5 metri per coppia di elettrodi. **Esempio:** 3 tubi da 1,2 metri = 3 x 1,2 + 0,5 metri x 3 tubi = 5,1 metri elettrici.
** **How to calculate electrical meters:** tubes linear meters plus 0.5 mt per pair of electrodes. **Example:** 3 tubes of 1.2 mt = 3 x 1.2 + 0.5 mt x 3 tubes = 5.1 electrical meters.

RESINBLOCK Pe

PHASE OUT
NEW DISCOUNTS

25 mA series

Working current 25 mA max, short circuit current 32,5 mA (Isc = 1,3 I work)

RoHS MADE IN ITALY

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO	Price EURO	Price EURO
Last pieces									without Protecion	Protec	Totalpro
3.000/25 Pe	*	RESINBLOCK	50	0,40	4 µF	0,23	77 92 270	3,48	129,29	151,97	180,99
5.000/25 Pe		RESINBLOCK	80	0,65	6,3 µF	0,38	81 92 270	3,98	127,64	150,32	179,33

37 mA series

Working current 37 mA max, short circuit current 48 mA (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO	Price EURO	Price EURO
									without Protecion	Protec	Totalpro
1.000/37 Pe	*	This item is no longer available. Alternative product: ECR 5000/50 or Miniblock 1.000/37									
1.500/37 Pe	*	This item is no longer available. Alternative product: ECR 5000/50 or Miniblock 1.500/37									
2.000/37 Pe	*	RESINBLOCK	48	0,40	4 µF	0,23	77 92 270	3,48	115,71	136,14	162,29
2.500/37 Pe	*	RESINBLOCK	58	0,48	6,3 µF	0,28	77 92 270	3,50	129,87	152,54	181,57
3.000/37 Pe		RESINBLOCK	69	0,59	6,3 µF	0,33	81 92 270	3,95	124,62	147,30	176,31

50 mA series

Working current 50 mA max, short circuit current 65 mA (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO	Price EURO	Price EURO
									without Protecion	Protec	Totalpro
1.500/50 Pe	*	RESINBLOCK	47,5	0,40	4 µF	0,23	77 92 270	3,50	129,26	151,94	180,94
3.000/50 Pe		RESINBLOCK	90	0,78	8 µF	0,42	81 92 270	4,06	128,53	151,22	180,22
4.000/50 Pe		RESINBLOCK	115	1,01	10 µF	0,55	87 92 270	4,67	139,77	162,45	191,48
10.000/50 Pe		RESINBLOCK	282	2,40	25 µF	1,20	116 107 310	9,60	219,78	242,46	271,47

*** Available on request**

** Possibility to order the models placed in a larger mechanics, they will be managed as special products and will have a minimum order quantity of 5 pcs per model.
Prices will be like the current small versions but increased by 10%

RESINBLOCK Pe

PHASE OUT
NEW DISCOUNTS

RoHS COMPLIANT MADE IN ITALY

75 mA series

Working current 75 mA max, short circuit current 97,5 mA (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO without Protecion	Price EURO Protec	Price EURO Totalpro
1.000/75 Pe	*	RESINBLOCK	47	0,41	4 µf	0,23	77 92 270	3,50	On Demand	On Demand	On Demand
2.000/75 Pe		RESINBLOCK	88	0,80	8 µF	0,41	81 92 270	4,06	130,30	152,97	182,00
3.000/75 Pe		RESINBLOCK	122	1,14	12,5 µF	0,55	92 92 270	5,25	145,31	168,00	197,01
4.000/75 Pe		RESINBLOCK	162	1,51	16 µF	0,76	99 92 270	6,18	158,46	181,14	210,16
5.000/75 Pe		RESINBLOCK	204	1,87	20 µF	0,94	112 92 270	7,77	182,14	204,83	233,84
6.000/75 Pe		RESINBLOCK	248	2,17	20 µF	1,09	116 107 310	9,53	211,50	234,18	263,20

100 mA series

Working current 100 mA max, short circuit current 130 mA (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO without Protecion	Price EURO Protec	Price EURO Totalpro
1.000/100 Pe	*	RESINBLOCK	61,5	0,54	6,3 µF	0,28	77 92 270	3,52	On Demand	On Demand	On Demand
1.250/100 Pe		RESINBLOCK	74	0,66	8 µF	0,35	81 92 270	4,02	127,56	150,24	179,25
1.500/100 Pe		RESINBLOCK	90	0,81	8 µF	0,41	81 92 270	4,06	129,75	152,43	181,44
2.000/100 Pe		RESINBLOCK	113	1,04	10 µF	0,54	87 92 270	4,67	139,60	162,28	191,31
2.500/100 Pe		RESINBLOCK	142	1,27	12,5 µF	0,67	99 92 270	5,85	148,06	170,75	199,77
3.000/100 Pe		RESINBLOCK	162	1,51	14 µF	0,76	99 92 270	6,18	157,99	180,65	209,68

200 mA series

Working current 170 mA max (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO without Protecion	Price EURO Protec	Price EURO Totalpro
1.400/200 Pe	*	RESINBLOCK	1,14 119	2,00	12,5 µF	1,00	92 92 270	5,60	177,89	200,55	229,59
2.100/200 Pe	*	RESINBLOCK	1,72 173	3,00	20 µF	1,50	104 92 270	6,85	200,43	223,11	252,14
3.500/200 Pe	*	RESINBLOCK	2,85 274	5,00	35 µF	2,50	127 107 310	11,52	274,64	297,32	326,34

*** Available on request**

NOTE: TRANSFORMERS OVER 10.000 Volts ARE NOT ALLOWED BY EUROPEAN STANDARDS .

F.A.R.T. reserves the right to modify the stated technical data at any time and without notice.

MINIBLOCK Pe TRANSFORMERS

Ics = 1,3 I_{work} (Argon - Mixture Argon/Neon)

MADE IN ITALY

PHASE OUT
NEW DISCOUNTS

Input: 230 or 240 V, 50 Hz
Output: 1.000-6.000 Vac
Current Intensity: 18-120 mA
IP rating: IP20

Other input/output voltages and 60Hz frequence are available on request

- **Minimum size**
- Resin transformer with ferromagnetic core
- **For indoor use** (outdoor only if not exposed to weather conditions)
- Dimmable with external devices (leading edge dimmer)
- Compatible protection device: only external PPE

18 mA series

Working current 18 mA max, short circuit current 23 mA (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO
1.000/18 Pe	*	MINIBLOCK	14	0,12	-	-	48 74 260	2,10	135,52

25 mA series

Working current 25 mA max, short circuit current 32,5 mA (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO
1.000/25 Pe	*	MINIBLOCK	21	0,18	2 µF	0,09	48 74 260	2,10	131,99
1.500/25 Pe	*	MINIBLOCK	27	0,24	2 µF	0,12	48 74 260	2,10	132,84

*** Available on request**

MINIBLOCK

MADE IN ITALY

PHASE OUT
NEW DISCOUNTS

37 mA series

Working current 37 mA max, short circuit current 48 mA (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H	W	L	Net weight (Kg)	Price EURO
3.000/37 Pe	*	MINIBLOCK	70	0,60	6,3 µF	0,30	66	74	260	3,50	146,80
4.000/37 Pe	*	MINIBLOCK	88	0,83	10 µF	0,42	66	74	260	3,60	151,98
5.000/37 Pe	*	MINIBLOCK	107	0,93	10 µF	0,47	77	74	260	4,60	155,52

50 mA series

Working current 50 mA max, short circuit current 65 mA (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H	W	L	Net weight (Kg)	Price EURO
1.000/50 Pe	*	MINIBLOCK	37	0,33	4 µF	0,17	48	74	260	2,10	133,95
1.500/50 Pe	*	MINIBLOCK	49	0,45	6,3 µF	0,23	55	74	260	2,70	137,81
2.000/50 Pe	*	MINIBLOCK	64	0,60	6,3 µF	0,30	55	74	260	2,80	139,56
2.500/50 Pe	*	MINIBLOCK	74	0,71	8 µF	0,36	66	74	260	3,50	148,96
3.000/50 Pe	*	MINIBLOCK	87	0,83	10 µF	0,42	66	74	260	3,60	151,44
4.000/50 Pe	*	MINIBLOCK	140	1,15	10 µF	0,58	77	74	260	4,60	163,80

100 mA series

Working current 100 mA max, short circuit current 130 mA (Isc = 1,3 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H	W	L	Net weight (Kg)	Price EURO
1.000/100 Pe	*	MINIBLOCK	64	0,60	6,3 µF	0,30	55	74	260	2,80	141,57
1.250/100 Pe	*	MINIBLOCK	75	0,71	8 µF	0,36	66	74	260	3,60	150,63
1.500/100 Pe	*	MINIBLOCK	88	0,85	10 µF	0,43	66	74	260	3,60	153,93
2.000/100 Pe	*	MINIBLOCK	110	1,10	12,5 µF	0,55	77	74	260	4,60	164,18
2.500/100 Pe	*	MINIBLOCK	133	1,30	12,5 µF	0,65	77	74	260	4,70	178,32

*** Available on request**

F.A.R.T. reserves the right to modify the stated technical data at any time and without notice.

METREAGE CHART IN ELECTRICAL METERS

METERAGE CHART IN ELECTRICAL METERS **
50% ARGON / 50% NEON GAS MIXTURE TUBES FILLING
F.A.R.T. Transformers Isc 1,3 - (Short circuit current 30%)

WARNING

THIS METERAGE CHART IS PURELY INDICATIVE BASED ON LABORATORY MEASUREMENTS AND MADE UNDER CONTROLLED CONDITIONS.

The electrical parameters of a sign depends by tubes length, tubes forming, number of the tubes, type of electrodes used, tubes pressure, input voltage and by the influence of atmospheric agents.

This chart has been calculated with formed tubes and/or linear tubes with 230 V. / 50 Hz input voltage (Min lenght for formed tubes, Max length for linear tubes). For a proper and safe choice of the transformer is recommended:

1. To test the installation with a Variac (Input tension 230 V).
2. To check the working current (after 10/15 min of work) with a milliampmeter or with a digital milliamp-clampmeter.
3. To operate with a working current of approximately **90%** of the nominal one.
4. To check the real working current and the input voltage at the installation site.

TENSIONE DI USCITA OUTPUT VOLTAGE	ø 8 mm 18 mA	ø 10 mm 18 mA	ø 10 mm 25 mA	ø 12 mm 25 mA	ø 12 mm 37 mA	ø 15 mm 37 mA	ø 15 mm 50 mA	ø 18 mm 50 mA	ø 20 mm 50 mA	ø 20 mm 100 mA	ø 25 mm 100 mA
1.000	0,0 - 1,1	0,0 - 1,2	0,0 - 1,2	0,0 - 1,3	0,0 - 1,4	0,0 - 1,5	0,0 - 1,6	0,0 - 1,7	0,0 - 1,8	0,0 - 2,1	0,0 - 2,4
1.250										2,0 - 2,9	2,3 - 3,3
1.500	1,1 - 1,7	1,2 - 1,8	1,5 - 2,1	1,7 - 2,3	1,7 - 2,3	1,9 - 2,5	1,9 - 2,5	2,0 - 2,9	2,3 - 3,2	2,5 - 3,5	3,1 - 4,2
2.000	1,6 - 2,6	1,8 - 2,8	2,2 - 3,0	2,5 - 3,3	2,5 - 3,3	2,7 - 3,6	2,7 - 3,6	3,0 - 4,1	3,3 - 4,5	3,6 - 4,9	4,5 - 5,5
2.500	2,7 - 3,1	2,8 - 3,3	3,0 - 3,7	3,4 - 4,1	3,4 - 4,1	3,6 - 4,3	3,8 - 4,5	4,5 - 5,1	4,8 - 5,7	5,1 - 6,0	5,7 - 6,8
3.000	2,9 - 3,5	3,0 - 3,8	3,4 - 4,4	3,7 - 4,8	4,0 - 5,0	4,3 - 5,6	4,3 - 5,6	5,0 - 6,4	5,5 - 7,2	6,0 - 7,9	7,1 - 8,4
3.500										7,5 - 9,4	8,5 - 10,5
4.000	4,0 - 5,1	4,3 - 5,5	5,5 - 6,5	6,1 - 7,1	6,1 - 7,1	6,5 - 7,8	6,5 - 7,8	7,5 - 8,9	8,5 - 9,9	9,6 - 11,4	10,3 - 12,5
5.000	6,1 - 6,5	6,0 - 7,0	6,4 - 7,9	6,8 - 8,5	7,0 - 8,6	8,1 - 9,7	8,2 - 9,8	9,3 - 11,1	10,0 - 12,1	11,2 - 13,6	12,5 - 15,4
6.000	6,5 - 7,3	6,9 - 8,0	7,8 - 9,0	8,6 - 9,8	8,8 - 10,0	10,2 - 11,4	10,5 - 11,7	11,2 - 13,3	12,3 - 14,5	13,7 - 16,0	15,3 - 17,1
7.000	8,1 - 8,9	8,3 - 9,6	9,5 - 10,6	10,4 - 11,5	10,6 -11,8	11,7 - 13,0	12,0 - 13,4	13,1 - 15,2	14,7 - 16,8	16,3 - 18,0	17,4 - 20,1
8.000	9,1 - 9,8	9,7 - 10,6	10,9 - 12,2	11,9 - 13,4	12,1 - 13,7	13,4 - 15,2	13,8 - 15,5	15,4 - 17,6	17,5 - 19,4	18,6 - 21,2	20,9 - 23,3
9.000	10,0 - 10,8	10,5 - 11,6	12,8 - 14,1	14,3 - 15,6	14,6 - 15,8	15,7 - 17,5	16,0 - 17,8	18,2 - 20,2	20,1 - 22,3	21,7 - 23,9	23,4 - 25,5
10.000	10,9 - 11,8	12,0 - 13,0	15,0 - 16,1	16,1 - 17,5	16,3 - 17,8	17,8 - 19,7	18,3 - 20,2	19,8 - 23,0	22,3 - 24,3	24,4 - 26,6	26,8 - 29,7

** **Come calcolare i metri elettrici:** tubi diritti più 0.5 metri per coppia di elettrodi. **Esempio:** 3 tubi da 2 metri = 3 x 2 + 0,5 metri x 3 tubi = 7,5 metri elettrici.
** **How to calculate electrical meters:** tubes linear meters plus 0,5 mt per pair of electrodes. **Example:** 3 tubes of 2 mt = 3 x 2 + 0.5 mt x 3 tubes = 7,5 electrical meters.

Protections chart

TAB. A TRANSF. - PROTECTION

Icc= 1.3	18 mA	25 mA	37 mA	50 mA	75 mA	100 mA		
Icc= 1.2	20 mA	30 mA	45 mA	60 mA	90 mA	120 mA	150mA	200 mA
1.000 V	PI07/TP07	PI07/TP07	PI07/TP07	PI07/TP07	PI10/TP10	PI10/TP10		
1.500 V	PI07/TP07	PI07/TP07	PI07/TP07	PI10/TP10		PI10/TP10		
1.750 V							PI10/TP10	
2.000 V	PI07/TP07	PI07/TP07	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10		
2.500 V	PI07/TP07	PI07/TP07	PI10/TP10	PI10/TP10		PI10/TP10		
3.000 V	PI07/TP07	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10		
3.500 V						PI10/TP10	PI10/TP10	PI10/TP10
4.000 V	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10		
5.000 V	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	
6.000 V	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10		
7.000 V	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10		
8.000 V	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10		
9.000 V	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI40/TP40		
10.000 V	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI10/TP10	PI40/TP40		
12.000 V*		PI10/TP10	PI10/TP10	PI10/TP10				
15.000 V*		PI10/TP10		PI10/TP10				

TAB. B TRANSF. - COVERS / BRIDGE CABLES

Icc= 1.3	18 mA	25 mA	37 mA	50 mA	75 mA	100 mA		
Icc= 1.2	20 mA	30 mA	45 mA	60 mA	90 mA	120 mA	150mA	200 mA
1.000 V	07	07	07	07	08	08		
1.500 V	07	07	07	08		08		
1.750 V							08	
2.000 V	07	07	08	08	08	08		
2.500 V	07	07	08	08		08		
3.000 V	07	08	08	08	08	08		
3.500 V						08	10	10
4.000 V	08	08	08	08	08	08		
5.000 V	08	08	08	08	08	10	10	
6.000 V	08	08	08	08	10	10		
7.000 V	08	08	08	08	10	10		
8.000 V	08	08	08	08	10	10		
9.000 V	08	08	08	10	10	40		
10.000 V	08	08	10	10	10	40		
12.000 V*		08	10	10				
15.000 V*		10		10				

RESINBLOCK Pe TRANSFORMERS

MADE IN ITALY

Ics = 1,2 I_{work} (neon gas 100%)

SPECIFICALLY ENGINEERED WITH REDUCED SHORT CIRCUIT CURRENT
SUGGESTED FOR PURE NEON GAS LOAD (RED LIGHT)

Without Protecion

With Protecion

Input: 230 or 240 V, 50 Hz
Output: 1.000-10.000 Vac
Current intensity: 18-200 mA
IP rating: IP44

Other input/output voltages and 60Hz frequence
are available on request

- **Standard European model** allowing for protective devices to be installed
- Resin transformer with ferromagnetic core
- For indoor and outdoor use (even if exposed to weather conditions)
- With **safety knives:** opening the lid immediately interrupts the power supply
- Power factor capacitor not included (sold separately)
- Dimmable with external devices (leading edge dimmer)
- Suggested for **pure neon gas load**

20 mA series

PHASE OUT
NEW DISCOUNTS

Working current 18 mA max, short circuit current 20 mA (Isc = 1,2 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H	W	L	Net weight (Kg)	Price EURO without Protecion	Price EURO Protec	Price EURO Totalpro
2.000/20 Pe	*	RESINBLOCK	50	0,40			66	76	247	3,48	130,10		
6.000/20 Pe	*	RESINBLOCK	60	0,56	6,3 µF	0,27	81	92	270	3,95	143,62	166,29	195,32

*** Available on request**

** Possibility to order the models placed in a larger mechanics, they will be managed as special products and will have a minimum order quantity of 5 pcs per model.
Prices will be like the current small versions but increased by 10%

RESINBLOCK Pe

MADE IN ITALY

30 mA series

Working current 25 mA max, short circuit current 30 mA (Isc = 1,2 I work)

PHASE OUT
NEW DISCOUNTS

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO without Protecion	Price EURO Protec	Price EURO Totalpro
4.000/30 Pe	*	RESINBLOCK	57	0,53	6,3 µF	0,27	77 92 270	3,51	133,27	155,94	184,95

60 mA series

Working current 50 mA max, short circuit current 60 mA (Isc = 1,2 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO without Protecion	Price EURO Protec	Price EURO Totalpro
1.000/60 Pe	*	RESINBLOCK	34	0,33	4	0,17	66 76 247	2,40	126,00		
2.000/60 Pe	*	RESINBLOCK	56	0,54	6,3 µF	0,26	77 92 270	3,52	132,19	154,87	183,89
3.000/60 Pe	*	RESINBLOCK	74	0,78	10 µF	0,34	81 92 270	4,06	128,53	151,22	180,23
5.000/60 Pe	*	RESINBLOCK	125	1,25	12,5 µF	0,58	99 92 270	5,85	147,67	170,35	199,37

*** Available on request**

** Possibility to order the models placed in a larger mechanics, they will be managed as special products and will have a minimum order quantity of 5 pcs per model.
Prices will be like the current small versions but increased by 10%

MINIBLOCK TRANSFORMERS

RoHS COMPLIANT MADE IN ITALY

Ics = 1,2 I_{work} (neon gas 100%)

SPECIFICALLY ENGINEERED WITH REDUCED SHORT CIRCUIT CURRENT
SUGGESTED FOR PURE NEON GAS LOAD (RED LIGHT)

PHASE OUT
NEW DISCOUNTS

Input: 230 or 240 V, 50 Hz
Output: 1.000-6.000 Vac
Current Intensity: 18-120 mA
IP rating: IP20

Other input/output voltages and 60Hz frequence are available on request

- **Minimum size**
- Resin transformer with ferromagnetic core
- **For indoor use** (outdoor only if not exposed to weather conditions)
- Dimmable with external devices (leading edge dimmer)
- Compatible protection device: only external **PPE**
- Suggested for **pure neon gas load**

20 mA series

Working current 18 mA max, short circuit current 20 mA (Isc = 1,2 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO
1.000/20 Pe	*	MINIBLOCK	18	0,12	-	-	48 74 260	2,00	135,52
2.000/20 Pe	*	MINIBLOCK	26	0,24	-	-	48 74 260	2,00	136,10
3.000/20 Pe	*	MINIBLOCK	36	0,35	4 µF	0,18	48 74 260	2,10	141,08
4.000/20 Pe	*	MINIBLOCK	42	0,44	6,3 µF	0,22	48 74 260	2,70	144,67
5.000/20 Pe	*	MINIBLOCK	45	0,54	6,3 µF	0,27	55 74 260	2,70	145,90
6.000/20 Pe	*	MINIBLOCK	53	0,65	6,3 µF	0,33	55 74 260	2,70	153,19

Series 30 mA

Working current 25 mA max, short circuit current 30 mA (Isc = 1,2 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO
1.000/30 Pe	*	MINIBLOCK	20	0,18	-	-	48 74 260	2,10	131,99
2.000/30 Pe	*	MINIBLOCK	32	0,33	4 µF	0,17	48 74 260	2,10	134,72
3.000/30 Pe	*	MINIBLOCK	45	0,44	6,3 µF	0,22	55 74 260	2,70	138,03
4.000/30 Pe	*	MINIBLOCK	57	0,60	6,3 µF	0,30	55 74 260	2,70	141,10
5.000/30 Pe	*	MINIBLOCK	71	0,71	8 µF	0,36	66 74 260	3,50	152,40
6.000/30 Pe	*	MINIBLOCK	86	0,83	8 µF	0,42	66 74 260	3,60	153,97

*** Available on request**

MINIBLOCK

RoHS MADE IN ITALY

PHASE OUT
NEW DISCOUNTS

45 mA series

Working current 37 mA max, short circuit current 45 mA (Isc = 1,2 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO
1.000/45 Pe	*	MINIBLOCK	27	0,24	-	-	48 74 260	2,10	132,89
2.000/45 Pe	*	MINIBLOCK	46	0,44	6,3 µF	0,22	55 74 260	2,70	137,35
3.000/45 Pe	*	MINIBLOCK	64	0,65	8 µF	0,33	66 74 260	3,50	146,79
4.000/45 Pe	*	MINIBLOCK	80	0,83	8 µF	0,42	66 74 260	3,60	151,98
5.000/45 Pe	*	MINIBLOCK	100	1,00	10 µF	0,50	77 74 260	4,60	155,52

60 mA series

Working current 50 mA max, short circuit current 60 mA (Isc = 1,2 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO
1.000/60 Pe	*	MINIBLOCK	34	0,33	4 µF	0,17	48 74 260	2,10	133,95
2.000/60 Pe	*	MINIBLOCK	56	0,60	6,3 µF	0,30	55 74 260	2,80	139,56
3.000/60 Pe	*	MINIBLOCK	80	0,83	8 µF	0,42	66 74 260	3,60	151,44
4.000/60 Pe	*	MINIBLOCK	113	1,05	10 µF	0,53	77 74 260	4,60	163,80
5.000/60 Pe	*	MINIBLOCK	132	1,25	14 µF	0,63	77 74 260	4,70	180,79

90 mA series

Working current 75 mA max, short circuit current 90 mA (Isc = 1,2 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO
1.000/90 Pe	*	MINIBLOCK	40	0,45	6,3 µF	0,23	55 74 260	2,80	140,71
2.000/90 Pe	*	MINIBLOCK	72	0,85	10 µF	0,43	66 74 260	3,60	155,62
3.000/90 Pe	*	MINIBLOCK	100	1,25	12,5 µF	0,63	77 74 260	4,70	180,75

120 mA series

Working current 100 mA max, short circuit current 120 mA (Isc = 1,2 I work)

TYPE (V/mA)		MODEL	Power (W)	Current (A)	PF Capacitor external IP55	Current PFC (A)	Dimensions (mm) H W L	Net weight (Kg)	Price EURO
1.000/120 Pe	*	MINIBLOCK	55	0,60	6,3 µF	0,30	55 74 260	2,80	141,57
2.000/120 Pe	*	MINIBLOCK	100	1,05	12,5 µF	0,53	77 74 260	4,60	164,17

*** Available on request**

F.A.R.T. reserves the right to modify the stated technical data at any time and without notice.

MADE IN ITALY

METREAGE CHART IN ELECTRICAL METERS

METERAGE CHART IN ELECTRICAL METERS **
100% PURE NEON GAS TUBES FILLING
F.A.R.T. Transformers Isc 1,2 - (Short circuit current 20%)

WARNING

THIS METERAGE CHART IS PURELY INDICATIVE BASED ON LABORATORY MEASUREMENTS AND MADE UNDER CONTROLLED CONDITIONS.

The electrical parameters of a sign depends by tubes length, tubes forming, number of the tubes, type of electrodes used, tubes pressure, input voltage and by the influence of atmospheric agents.

This chart has been calculated with formed tubes and/or linear tubes with 230 V. / 50 Hz input voltage (Min lenght for formed tubes, Max length for linear tubes). For a proper and safe choice of the transformer is recommended:

1. To test the installation with a Variac (Input tension 230 V).
2. To check the working current (after 10/15 min of work) with a milliampmeter or with a digital milliamp-clampmeter.
3. To operate with a working current of approximately **95%** of the nominal one.
4. To check the real working current and the input voltage at the installation site.

TENSIONE DI USCITA OUTPUT VOLTAGE	ø 8 mm 20 mA	ø 10 mm 20 mA	ø 10 mm 30 mA	ø 12 mm 30 mA	ø 12 mm 45 mA	ø 15 mm 45 mA	ø 15 mm 60 mA	ø 18 mm 60 mA	ø 20 mm 60 mA	ø 25 mm 120 mA
1.000	0,0 - 0,7	0,0 - 0,8	0,0 - 0,9	0,0 - 1,0	0,0 - 1,0	0,0 - 1,2	0,0 - 1,3	0,0 - 1,4	0,0 - 1,5	
2.000	0,8 - 1,3	0,9 - 1,8	0,9 - 1,9	1,1 - 2,0	1,1 - 2,4	1,3 - 2,6	1,3 - 2,6	1,4 - 2,8	1,5 - 3,0	1,7 - 3,2
3.000	1,2 - 2,0	1,5 - 2,2	2,4 - 3,2	2,3 - 3,4	2,4 - 3,4	2,5 - 3,5	2,9 - 4,2	3,1 - 4,4	3,3 - 4,6	3,3 - 4,9
4.000	1,9 - 2,7	2,1 - 3,0	3,1 - 4,1	3,5 - 4,5	3,5 - 4,6	3,5 - 4,7	4,0 - 5,2	4,2 - 5,5	4,4 - 5,8	5,0 - 6,7
5.000	2,7 - 3,8	3,4 - 4,1	4,0 - 4,9	4,4 - 5,4	4,7 - 5,7	4,9 - 6,2	5,1 - 6,4	5,4 - 6,7	5,6 - 7,1	6,9 - 8,5
6.000	4,2 - 5,1	4,7 - 5,6	5,6 - 6,6	5,9 - 7,0	6,1 - 7,3	6,2 - 7,5	6,5 - 7,7	6,9 - 8,3	7,1 - 8,5	8,1 - 10,8
7.000	6,4 - 7,5	6,6 - 8,0	7,5 - 8,9	7,9 - 9,3	7,7 - 9,1	8,0 - 9,5	8,6 - 10,0	9,1 - 10,5	9,5 - 11,0	10,4 - 12,1
8.000	7,3 - 8,6	7,6 - 9,2	8,4 - 9,9	8,7 - 10,5	9,0 - 10,7	9,1 - 11,9	9,8 - 11,5	10,0 - 11,8	10,2 - 12,2	12,3 - 14,0
9.000	7,9 - 9,0	8,2 - 9,7	9,1 - 10,7	9,9 - 12,2	10,5 - 12,4	10,6 - 12,6	10,7 - 13,0	11,1 - 13,3	11,4 - 13,8	13,4 - 15,6
10.000	8,7 - 9,9	9,2 - 10,8	11,2 - 12,9	11,4 - 13,8	11,6 - 14,2	11,9 - 14,8	13,1 - 15,0	13,3 - 15,4	13,5 - 16,0	14,0 - 16,7
12.000			13,0 - 15,1	14,4 - 16,2	15,4 - 18,0	15,8 - 18,6	15,4 - 18,7	15,7 - 18,0	16,0 - 18,6	
15.000			17,0 - 19,3	17,9 - 20,6	17,5 - 20,2	18,4 - 21,2	19,6 - 22,2	19,9 - 22,6	20,2 - 23,0	

** **Come calcolare i metri elettrici:** tubi diritti più 0.5 metri per coppia di elettrodi. **Esempio:** 3 tubi da 1,2 metri = 3 x 1,2 + 0,5 metri x 3 tubi = 5,1 metri elettrici.
** **How to calculate electrical meters:** tubes linear meters plus 0,5 mt per pair of electrodes. **Example:** 3 tubes of 1,2 mt = 3 x 1,2 + 0.5 mt x 3 tubes = 5,1 electrical meters.

METREAGE CHART IN ELECTRICAL METERS

METERAGE CHART IN ELECTRICAL METERS **
50% ARGON / 50% NEON GAS MIXTURE TUBES FILLING
F.A.R.T. Transformers Isc 1,2 - (Short circuit current 20%)

WARNING

THIS METERAGE CHART IS PURELY INDICATIVE BASED ON LABORATORY MEASUREMENTS AND MADE UNDER CONTROLLED CONDITIONS.

The electrical parameters of a sign depends by tubes length, tubes forming, number of the tubes, type of electrodes used, tubes pressure, input voltage and by the influence of atmospheric agents.

This chart has been calculated with formed tubes and/or linear tubes with 230 V. / 50 Hz input voltage (Min lenght for formed tubes, Max length for linear tubes). For a proper and safe choice of the transformer is recommended:

1. To test the installation with a Variac (Input tension 230 V).
2. To check the working current (after 10/15 min of work) with a milliampmeter or with a digital milliamp-clampmeter.
3. To operate with a working current of approximately **95%** of the nominal one.
4. To check the real working current and the input voltage at the installation site.

TENSIONE DI USCITA OUTPUT VOLTAGE	ø 8 mm 20 mA	ø 10 mm 20 mA	ø 10 mm 30 mA	ø 12 mm 30 mA	ø 12 mm 45 mA	ø 15 mm 45 mA	ø 15 mm 60 mA	ø 18 mm 60 mA	ø 20 mm 60 mA	ø 20 mm 120 mA	ø 25 mm 120 mA
1.000	0,0 - 1,0	0,0 - 1,1	0,0 - 1,1	0,0 - 1,2	0,0 - 1,3	0,0 - 1,4	0,0 - 1,4	0,0 - 1,6	0,0 - 1,6	0,0 - 1,9	0,0 - 2,2
2.000	1,4 - 2,2	1,6 - 2,4	1,7 - 2,8	1,7 - 2,8	1,9 - 2,9	2,1 - 3,0	2,4 - 3,3	2,5 - 3,2	2,7 - 3,8	3,0 - 4,2	3,4 - 4,7
3.000	2,4 - 3,0	2,6 - 3,2	2,8 - 3,8	3,5 - 4,4	3,6 - 4,6	3,7 - 4,8	3,8 - 4,9	4,9 - 5,8	4,7 - 6,1	5,2 - 6,7	5,4 - 7,1
4.000	3,0 - 4,1	3,2 - 4,4	4,1 - 5,2	4,6 - 5,7	4,6 - 5,7	5,0 - 6,3	5,2 - 6,5	6,8 - 7,5	6,5 - 7,9	7,1 - 8,6	7,8 - 9,4
5.000	4,4 - 5,2	4,6 - 5,6	5,0 - 6,4	5,8 - 7,2	5,8 - 7,3	6,1 - 7,8	6,2 - 8,0	7,0 - 8,9	7,9 - 9,4	8,7 - 11,0	10,0 - 12,5
6.000	5,0 - 5,9	5,3 - 6,4	6,0 - 7,2	6,9 - 8,1	7,1 - 8,3	7,5 - 8,7	8,0 - 9,4	8,9 - 11,0	9,4 - 11,6	11,4 - 13,7	14,1 - 15,9
7.000	6,8 - 7,6	7,0 - 8,1	8,1 - 9,2	9,1 - 10,2	9,3 - 10,4	9,7 - 11,0	10,2 - 11,6	11,2 - 13,1	11,9 - 13,9	13,5 - 15,3	15,4 - 17,8
8.000	7,9 - 8,6	8,3 - 9,3	9,5 - 10,8	10,5 - 11,9	10,7 - 12,1	11,6 - 13,1	11,9 - 13,6	13,7 - 15,6	14,8 - 16,7	17,1 - 18,8	17,8 - 20,0
9.000	8,7 - 9,5	9,5 - 10,2	11,1 - 12,4	12,5 - 13,8	12,7 - 13,9	13,5 - 15,3	13,8 - 15,6	16,4 - 18,6	17,5 - 19,6	18,8 - 21,0	20,6 - 22,8
10.000	9,6 - 10,6	10,8 - 11,8	13,5 - 14,6	14,5 - 15,9	14,9 -16,2	16,0 - 17,9	16,7 - 18,7	18,7 - 20,9	20,1 - 22,1	21,8 - 24,0	23,2 - 26,4
12.000			16,4 - 18,5	17,1 - 19,8	17,7 - 20,2	18,1 - 20,9	19,0 - 21,8	21,1 - 23,4	21,2 - 24,6		
15.000			21,6 - 24,2	23,2 - 25,8	23,6- 26,3	24,0 - 26,9	24,1 - 27,1	25,9 - 28,4	26,5 - 29,9		

** **Come calcolare i metri elettrici:** tubi diritti più 0.5 metri per coppia di elettrodi. **Esempio:** 3 tubi da 1,2 metri = 3 x 1,2 + 0,5 metri x 3 tubi = 5,1 metri elettrici.
** **How to calculate electrical meters:** tubes linear meters plus 0,5 mt per pair of electrodes. **Example:** 3 tubes of 1,2 mt = 3 x 1,2 + 0.5 mt x 3 tubes = 5,1 electrical meters.

F/ART FEED FOR ART / LIGHT / POWER /

LCU DIMMER

PHASE OUT
NEW DISCOUNTS

WARRANTY 2 YEARS

LCU DIMMER

Leading Edge type Dimmer
suitable for cold cathode installation (neon) powered by electromagnetic transformer, such as the Resinblock.

BRIGHTNESS CAN BE ADJUSTED IN 3 DIFFERENT WAYS
1. Potentiometer 1-10V (supplied with the dimmer)
2. 0-10V signal
3. Push-button

EXTRA:
LCU DIMMER can also be used in DALI systems, by means of converter from DALI to 0-10V signal

LCU dimmer can control several electromagnetic transformers for a total load of 5 ampere. In case the total load is greater than 5 ampere then it is possible to install more than one LCU dimmer and connect them together in «**daisy chain**» configuration: by setting the first LCU dimmer all the other will be adjusted at the same level.
Thanks to an integrated fine-tuning trimmer, the brightness of groups of neon tubes powered by electromechanical transformers can be equalised.

RoHS COMPLIANT 2002/95/EC — MADE IN ITALY

Code	Description							Price €/pcs.
	Vac input voltage	Frequency Hz	Max current A	PPE PROTECTION incorporated	0-10 VDC CONTROL	CONTROL 1-10V Potentiometer	Push Button CONTROL	
TLCU005P1F	220-240	50	5	NO	YES	YES	YES	€ 135,00
TLCU105P1F	220-240	50	5	YES	YES	YES	YES	€ 150,00

Size mm L x D x H	Weight Kg	Working temperature ° C	Stock temperature ° C	Humidity (non condensing) %	IP Grade	Insulation class
90 x 71 x 62	0.250	-20 ÷ +40	-20 / 80	5 ÷ 90	IP20	Class II

POWER FACTOR CORRECTION CAPACITORS

RoHS COMPLIANT MADE IN ITALY

Anti-explosion type capacitors. It is recommended to always correct the power factor of the power supply line, allowing for a more economical and efficient use of energy, with the possibility to completely eliminate reactive energy costs. This allows the transformer, the sign and also the network cables to work better thanks to the lower current cosnumption.

TECHNICAL FEATURES

- IP rating IP55
- Tollerance ± 5%
- Metal clamp, bolt and nut for fixation on the transformer
- Input voltage: 230-240V

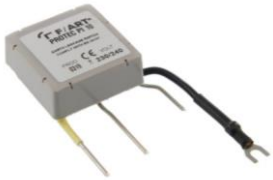
Power Facot Capacitors	Price (€)
4 µF	**12,51**
6,3 µF	**12,75**
8 µF	**12,99**
10 µF	**13,11**
12,5 µF	**13,47**
14 µF	**13,58**
16 µF	**14,30**
20 µF	**15,13**
25 µF	**15,85**
30 µF	**16,92**
35 µF	**17,28**
40 µF	**17,87**
50 µF	**19,78**

PROTECTION SWITCHES

PROTEC

Internal Protecion

RoHS COMPLIANT MADE IN ITALY



- Protects against high voltage earth leakage
- To be installed under the transformer lid
- Not compatible with dimmer

PROTEC Type **P07** **22,68 €**

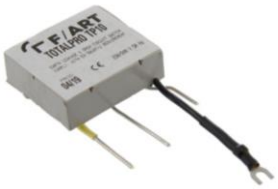
PROTEC Type **PI10 - PI40** **22,68 €**

please refer to compatibility table at page 24

08 PHASE OUT REPLACED BY PI10

TOTALPRO

Internal Protecion



- Protects against high voltage earth leakage
- Protects against disconnection/accidental breakage of the neon lamp
- To be installed under the transformer lid
- Required in Europe for neon lamps installed under 2.5m height or in possible contact with people
- Not compatible with dimmer

TOTALPRO Type **TP7** **41,20 €**

TOTALPRO Type **TP10 - TP40** **51,70 €**

please refer to compatibility table

08 PHASE OUT REPLACED BY TP10 - 07 PHASE OUT

PPE

External Protecion

- Protects against high voltage earth leakage
- Compatible with dimmer switches, light game and animation effect controller. Be sure to install them accoding to instruction manual
- To be installed outside the transformer
- Installation on the DIN rail
- Can be used also with Miniblock model
- Possibility to connect more than one transformer to a single PPE, with a maximum allewed current 5A
- Compliant with the European EN 50107-2

PPE **65,46 €**

PROTECTION SWITCHES GUARANTEE: TWO YEARS FROM PRODUCTION'S DATE PRINTED ON THE PROTECTION LABEL

PRICES BENEFIT OF THE SAME SALES TERMS APPLIED ON THE TRANSFORMERS

SPARE LIDS WITH SAFETY KNIVES

RoHS COMPLIANT MADE IN ITALY

Lid	Euro
type 07	8,80
type 08	13,90
type 10	17,63
type 40	26,90
type 08 for Millennium	16,77
type 10 for Millennium	19,38

Please refer to compatibility ***TABLE B*** *at page 24*

FIXING ACCESSORIES

RoHS COMPLIANT MADE IN ITALY

ASSEMBLY BRACKET with adjustable block

single piece 12,15 €

SUPPORTS

pair 6,13 €

BRIDGE CONNECTORS

Specific connectors for Resinblock Transformers to use without the internal protection PI and TP.
Please refer to compatibility **TABLE B** at page 25.
.

Code	Item	Price (€)
Y2950	Bridge connector type 7/8	2,70
Y2953	Bridge connector type 10/40	2,70

MEASURING DEVICES

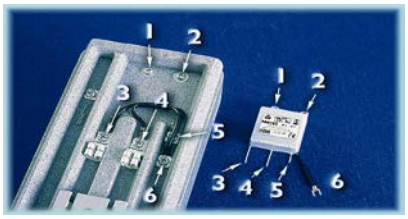
SEE PAG. 5.11

PROTEC ASSEMBLY INSTRUCTIONS

PROTEC switch PROTECTION AGAINST EARTH LEAKAGE

ASSEMBLY INSTRUCTIONS

Protec protection switches were studied in accordance with the European standard EN 50107-2 and have been approved by the German Institute "VDE".
Our technical department has designed these protection switches so they can easily be installed without any additional equipment under the lid of Resinblock type "PE" transformers.
You can see from the diagram, the simplicity of assembling the protection in " *Resinblock® Pe"* units:



1) Loosen the screws nos.1 to 6 on the transformer.
2) Remove the cable connection "BRIDGE" between the knife swtiches and the primary circuit.
3) Place the protection so that the 5 fixing coincide with screws from nos. 1 to nos. 5.
4) Fully tighten screws nos. 1 to nos. 5.
5) Connect terminal nos. 6 of switch to transformer screw no.6 and fully tighten.

Now the transformer is complete with the protection and is in accordance with EN 50107. You will have a greater degree of safety against the possibility of fire in the neon installation.

WARNING

To effectively protect against earth leakage you must have a safe connection between:
1) A secure direct earth connection.
2) Any metal parts of the sign
3) The base plate of the transformer.
Inferior direct earth connections or poor connection to metallic components, can place at risk irreparably the operation of the protective device, leading to inefficiency of your installation and a lack of safety.

N.B. Internal protection switches must not be used on animated or dimmed installations. The Protec "PPE" protection switch which is external to the transformer should be installed in between the supply and the switching gear in accordance with installation instructions.

FUNCTION OF PROTEC SWITCH

This protection works in the case of an earth fault occuring:

• For transformers with a short-circuit current greater than 25 mA the feed to the high-tension circuit of the transformer is immediately interrupted when there is an earth leakage to the mass of at least 25 mA.

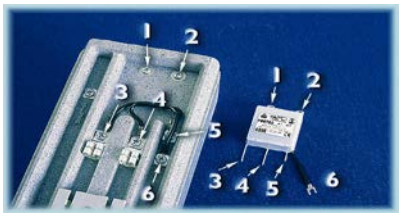
• For transformers with a short –circuit current less that 25 mA (type 18 mA working and type 20mA of c.c.) the protection works immediately only in the case of total short circuit between the high tension connectors and the mass and will not work with a small dispersion.

TOTALPRO ASSEMBLY INSTRUCTIONS

TOTALPRO switch PROTECTION AGAINST EARTH LEAKAGE AND OPEN CIRCUIT

ASSEMBLY INSTRUCTIONS

These protections have been engineered and designed in accordance with the requirements of the European Norm EN50107-2 with effective modification of the project for the detection and sensing of the secondary open circuit faults.
Our engineers have designed these protection devices so that they could be easily fitted under the lid of our Resinblock 2000, Resinblock 2000 Compact, Resinblock 2000 Millenium, Resinblock Millenium Compact "Pe" type transformers.
From the picture it's easy to see how simple is the installation of a Totalpro switch into a "*Resinblock® 2000 Pe*" :



1) Remove screws n. 1 through n. 6 from the transformer.
2) Remove the connection wire bridge between the knife switches and the primary winding.
3) Set in place the switch so that the two fixing holes coincide with screws n. 1 and n. 2, then alternately tighten screws n. 1 and 2 until fully locked.
4) Assemble and tighten screws n. 3 through n. 5.
5) Connect terminal n. 6 of the switch to the transformer's screw n. 6.
6) Assemble and fully tighten screw n. 6.

Attention: Always check the protection device is sticked to the transformer's surface, pressing it down in place prior final assembly.
Now the transformer is completed with the protection switch and set in accordance with the requirements of the installation standards; this way You will get a greater safety for both people and installations against the hazard of fire.

WARNING

Do not supply transformers equipped with Totalpro switches with flashing, dimming or programming units, but only directly to the supply net.
To operate properly, earth leakage protection switches need:
1) A good ground system in accordance to current standards
2) Both metal sign frame and the earth connector of each single transformer have to be connected one to each other (equipotential bonding) and to the earth terminal. Inferior grounded systems or poor connections between the metal parts and the ground connector of the transformer can place at irreparably risk the operation of the protection device, leading to inefficiency of your installation and lack of safety.

TOTALPRO NEW FEATURES AND OPERATION

This newly conceived protection device operates in case of earth leakage of the H.T. to the ground and in case of accidental secondary open circuit (e.g. a broken tube).
• *The Totalpro protection device operates in accordance with the reaction timing and the limits provided by the EN 50107-2* (that is a reaction time of <200ms for the H.T. Earth Leakage and between 3 and 5 seconds for secondary open circuit).
• *The Totalpro protection device has been provided with a thermal probe detecting the temperature of the transformer* :
when it reaches ***105°C***, it reacts switching off the supply to the transformer. This way it will be protected against higher than rated supply voltage on the primary, higher than rated secondary current and generally against any inadequate capacity of heat dissipation. When the temperature of the switched transformer will reach the right parameter (<85°C), at this moment the protection device could be armed once again through the main supply switch.
• *The Totalpro protection device has a red Led indicator in the lower face of the switch* , please note this signalling Led has been placed so that we could read the operation data of the microchip inserted in the device circuit.
This latter is deputed to record all the interventions of the switch - specifically as to the open circuit ones -thus allowing to the engineers of our laboratory to trace the parameters of the occurred intervention and determining by consequence the effective causes and their responsibilities.
Both in the case of an earth leakage or of a secondary open circuit, prior switching on again the plant which suffered by the intervention of the protection device, it is important to follow the following steps:

1) **Switch off the supply to the plant from the main;**
2/ **To remove the fault's cause;**
3) **Switch on the supply from the main**.

RESINBLOCK AND MINIBLOCK INSTRUCTIONS

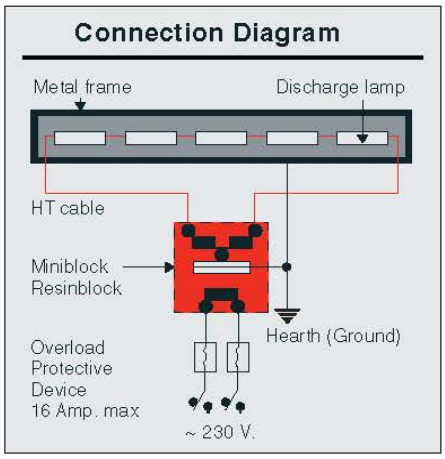
Presetting operations EN

1 Check that adequate protection against overload is provided fuses or thermal-magnetic circuit-breakers-max 16 Amp.

2 Check that all earth connections to metal parts and to the transformers are properly made to ground in accordance with local Safety Regulations (EN 50107-2).

3 Check that the transformer is adequately ventilated to avoid excess temperature (e.g. avoid installing the transformer in a completely enclosed space or too close to another transformer) (EN 50107-2).

4 Check that the high voltage connecting cables are as short as possible, the transformer should be installed as close, to the neon tube it supplies, as possible. The section of the copper wire should be a minimum of 1 mm^2 (EN 50107-2).



Transformer's selction

1 With power switched off:

LOW VOLTAGE SIDE

A) Connect the supply terminals of the transformers across the terminals of a VARIAC and connect a voltmeter in the circuit;
B) Connect the load (gas discharge tube) in series with the transformer output, and connect a milliammeter in the circuit;
C) Connect the Ground terminal to the ground circuit.

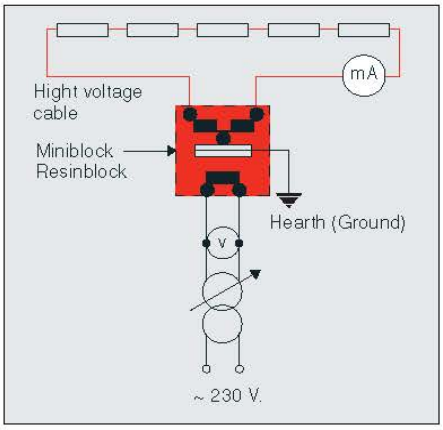
2 Switch on the power:

A) By means of the VARIAC, and checking with the voltmeter, supply the transformer with the exact voltage indicated on the transformer label.

HIGH VOLTAGE SIDE

B) Check by means of the milliammeter:

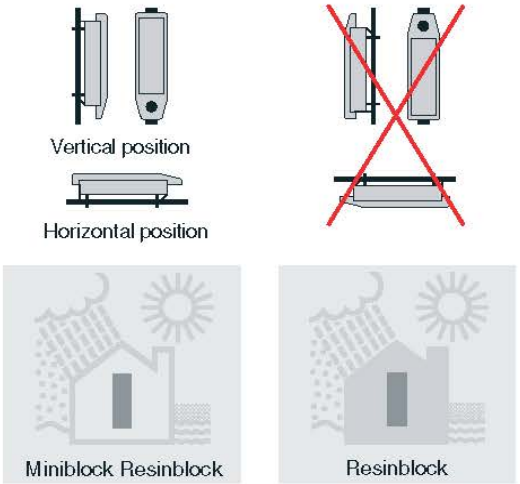
- that the secondary current (mA) doesn't exceed the value marked on the transformer label, if necessary replace the transformer under test with a lower output voltage model;
- the secondary current (mA), on the other hand, can be less than the value marked on the transformer label up to 10% for tubes using Argon or a mixture of 50% Argon and 50% Neon (e.g. if the label value=25mA -10% the minimum current=22mA)
- in case of tubes using Neon only or a mixture containing a high percentage of Neon, the secondary current can be less than the transformer label value by no more than 5% (e.g. if the label value=25mA - 5% the minimum current=24mA).



ADVICE: when using 100% Neon gas filling on locations with temperatures below +5°C, for a reliable striking of the gas, the use of specific Neon gas transformers is highly recommended.

Fitting

The "MINIBLOCK" range (IP20) should be contained within a suitable protective enclosure. In some cases, this can be the sign itself. Please note that particular care should be taken to provide adequate ventilation within such enclosure.
The "RESINBLOCK" range (IP44) may be installed either indoor, mounted in any position, or outdoor directly exposed to the weather, without any additional protection, provided it is mounted in the position shown in the drawing.



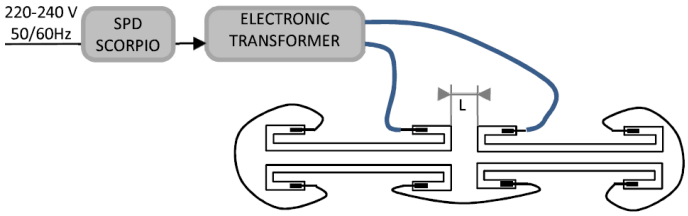
The transformer is suitable for installation on not flammable surfaces only.

ELECTRONIC TRANSFORMERS FOR NEON

F/ART FEED FOR ART / LIGHT / POWER /

WARRANTY 2 YEARS

PHASE OUT
NEW DISCOUNTS

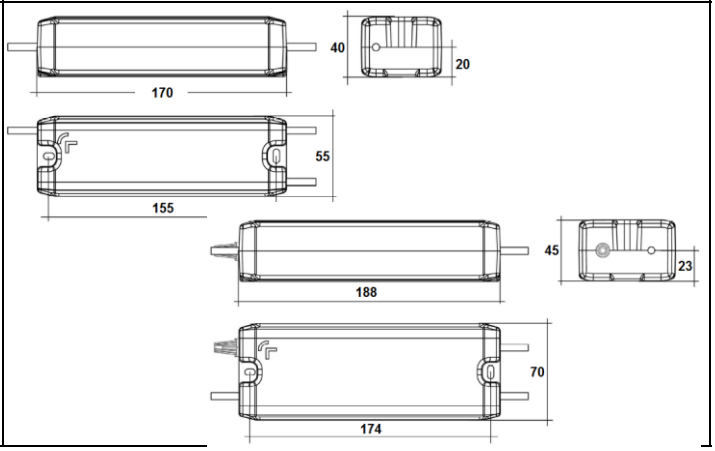


L = 30mm for ECR 5000
L = 50mm for ECR 6000, 9000 and 10000

ECR ELECTRONIC TRANSFORMERS IP67

Epoxy resin case (patent pending).
Input 220-240 V with 2 m mains cord (no plug).
High tension output with cable HV EN60143 type B, 1,5 m length.
Type B electronic converter, with built-in protection against earth leakage.
PFC built-in.
Equipped with earth bond cable to connect the installation surface to earth.
Isolation class I.
Input voltage 220-240. Input frequency 50/60 Hz.
Working temperature - 20 + 50 °C.
Suitable for both Neon and Argon/Neon.
Mercury migration free.
Constant current output (allow a wide range of tube length to be operated).
2 Years Warranty.

For ELECTRICAL METERS see next page list.



Code	Description						Price €/pcs.
	Power W	Output Voltage V AC	Output Power mA	Output Frequency kHz	Size L x W x H	Weight Kg	
TZ5020	60	5.000 (2.500 - E - 2.500)	20	26	170x55x40	1,05	€ 75,75
TZ5050	85	5.000 (2.500 - E - 2.500)	50	23	170x55x40	1,05	€ 89,12
TZ6030	60	6.000 (3.000 - E - 3.000)	30	30	188x70x45	1,50	€ 85,78
TZ90200	85	9.000 (4.500 - E - 4.500)	20	26	188x70x45	1,50	€ 98,03
TZ10030 [1]	92	10.000 (5.000 - E - 5.000)	30	24	188x70x45	1,50	€ 103,60
TZ10030A [2]	92	10.000 (5.000 - E - 5.000)	30	24	188x70x45	1,50	€ 103,60
TZ5020D*	60	5.000 (2.500 - E - 2.500)	20	26	188x70x45	1,50	€ 83,54
TZ6030D*	60	6.000 (3.000 - E - 3.000)	30	30	188x70x45	1,50	€ 86,89
TZ8020D*	80	8.000 (4.000 - E - 4.000)	20	26	188x70x45	1,50	€ 95,80
TZ9020*	85	9.000 (4.500 - E - 4.500)	20	26	188x70x45	1,50	€ 99,14
TZ6030F**	60	6.000 (3.000 - E - 3.000)	30	30	188x70x45	1,50	€ 90,23
TZ10030F**	92	10.000 (5.000 - E - 5.000)	30	24	188x70x45	1,50	€ 106,93

[1] **NEON**
[2] **ARGON**

*** Dimmable by meansof built-in potentionmeter**
**** Equipped with flasher**
On request available in satin black colouring

F/ART
FEED FOR ART/ LIGHT/ POWER/

ELECTRONIC TRANSFORMERS FOR NEON

WARRANTY 2 YEARS

METERAGE CHART IN ELECTRICAL METERS

How to calculate electrical meters: tubes linear meters plus 50 cm per each pair of electrodes.
Note: for very complex tubes (with many sharp bends) it is recommended to decrease the maximum length by a 20%.

Item *Code*		Gas Type	Ø 6mm	Ø 8mm	Ø 10mm	Ø 12mm	Ø 15mm	Ø 18mm
ECR 5000/20 W *ECR5020W*	ECR 5000/20 B *ECR5020B*	**Neon**	2,8	3,1	4,0	6,0	7,5	7,5
		Argon/Neon	4,8	5,8	7,4	9,0	9,0	11,5
ECR 5000/50 W *ECR5050W*	ECR 5000/50 B *ECR5050B*	**Neon**	3,9	4,3	5,6	8,4	10,5	10,5
		Argon/Neon	6,7	8,1	10	10,5	11,0	13,0
ECR 6000/30W *ECR6030W*	ECR 6000/30 B *ECR6030B*	**Neon**	3,5	3,9	5	7,6	9,5	9,5
		Argon/Neon	6,7	8,1	10,3	12,5	12,5	16
ECR 9000/20 W *ECR9020W*	ECR 9000/20 B *ECR9020B*	**Neon**	4,8	6,0	7,5	9,5	11,7	11,7
		Argon/Neon	8,4	9,6	12,6	15,0	17	17,2
ECR 10000/30 W *ECR10030W*	ECR 10000/30 B *ECR10030B*	**Neon**	5,3	6,6	8,3	10,5	12,9	12,9
		Argon/Neon	9,2	10,6	13,9	16,5	19	19
ECR 5000/20DW *ECR5020DW*	ECR 5000/20 DB *ECR5020DB*	**Neon**	2,8	3,1	4,0	6,0	7,5	7,5
		Argon/Neon	4,8	5,8	7,4	9,0	9,0	11,5
ECR 6000/30DW *ECR6030DW*	ECR 6000/30 DB *ECR6030DB*	**Neon**	3,5	3,9	5	7,6	9,5	9,5
		Argon/Neon	6,7	8,1	10,3	12,5	12,5	16
ECR 8000/20 DW *ECR8020DW*	ECR 8000/20 DB *ECR8020DB*	**Neon**	4,2	5	6,2	8,6	10,6	10,6
		Argon/Neon	8,6	8,9	11,5	13,8	14,8	16,6
ECR 9000/20 DW *ECR9020DW*	ECR 9000/20 DB *ECR9020DB*	**Neon**	4,8	6,0	7,5	9,5	11,7	11,7
		Argon/Neon	8,4	9,6	12,6	15,0	17	17,2
ECR 6000/30 FW *ECR6030FW*	ECR 6000/30 FB *ECR6030FB*	**Neon**	3,5	3,9	5	7,6	9,5	9,5
		Argon/Neon	6,7	8,1	10,3	12,5	12,5	16
ECR 10000/30 FW *ECR10030FW*	ECR 10000/20 FB *ECR10030FB*	**Neon**	5,3	6,6	8,3	10,5	12,9	12,9
		Argon/Neon	9,2	10,6	13,9	16,5	19	19

ELECTRONIC CONVERTERS

The converters must be used with Argon and Neon gas mixtures, only the highlighted models can also be used with Neon gas only.

CODE	MANUFACTURER CODE	secondary mA	secondary Volt	primary A	price € / cad.	size L	size w	size h	weight gr.
Z201SL	K201SL	20	990	0,20	**91,30**	160	29	24	280
K202SL	K202SL	20	2.000	0,25	**95,20**	160	29	24	280
Z202SL R	K202SL R	20	2.000	0,25	**95,20**	160	29	24	280
Z203	**K203**	20	3.000	0,35	**119,70**	160	40	27	370
Z204	**K204**	20	4.000	0,50	**142,80**	160	53	34	750
Z205D	**K205D**	20	5.000	0,55	**163,40**	205	39	34	750
Z208D	**K208D**	20	8.000	0,95	**179,60**	207	52	46	1.200
Z302	**K302**	30	2.000	0,40	**119,70**	160	40	27	370
Z304	**K304**	30	4.000	0,60	**147,00**	160	53	34	750
Z401	K401SL	40	990	0,25	**91,30**	160	29	24	280
Z401X2	K401DUO	40	2x990	0,45	**136,10**	185	47	26	650
Z401.5	K401.5	40	1500	0,35	**119,70**	160	40	27	370
Z403	K403	40	3.000	0,60	**142,80**	160	53	34	750
Z501	K501	50	990	0,35	**112,70**	160	40	27	370
Z502.5	K502.5	50	2.500	0,60	**142,80**	160	53	34	750
Z504	K504	50	4.000	0,80	**195,20**	255	57	46	950
Z601	K601	60	990	0,40	**116,90**	160	40	27	370
Z602	K602	60	2.000	0,60	**142,80**	160	53	34	750
Z801	K801	80	990	0,45	**128,70**	160	53	34	750
K801.5	K801.5	80	1500	0,60	**142,80**	160	53	34	750
Z203F	**K203F**	20	3.000	0,35	**129,80**	160	40	27	370
Z205F	**K205F**	20	5.000	0,55	**179,60**	205	39	34	750
Z208F	**K208F**	20	8.000	0,95	**197,40**	207	52	46	1.200
Z403D *	K403D *	40	3.000	0,60	**257,50**	260	62	47	1.350
Z502D *	K502D *	50	2.000	0,60	**257,50**	260	62	47	1.350
Z401D **	K401D **	40	990	0,25	**140,10**	205	39	34	750
Z401DDUO **	K401DDUO **	40	2x990	0,50	**160,70**	205	49	28	650
Z801D **	K801D **	80	990	0,50	**129,30**	205	39	34	750
Z801DDUO **	K801DDUO **	80	2x990	0,95	**191,10**	205	56	36	970
Z1201D**	K1201D**	120	990	0,40	**179,00**	207	52	46	1.200

R = Neon gas only
F = Convertitori con flasher integrato
* adjustable via voltage control (0-10V DC)
** adjustable via phase inversion control

IP TABLE

TABELLA IP

Il **grado di protezione IP** classifica e valuta il grado di protezione fornito da involucri meccanici contro l'intrusione di particelle solide (quali parti del corpo, oggetti e polvere) e l'accesso di liquidi. Il codice è pubblicato dalla Commissione Internazionale Elettrotecnica (IEC).
Norma europea EN60529.

Al termine fisso IP seguono due cifre:
- Prima cifra: livello di protezione che l'involucro fornisce contro l'accesso di solidi
- Seconda cifra: livello di protezione che l'involucro fornisce contro l'accesso di liquidi.

IP TABLE

The IP rating classifies and assesses the degree of protection provided by mechanical casing against the intrusion of solid particles (such as body parts, objects and dust) and liquids.

The code is published by the International Electrotechnical Commission (IEC).
European standard EN60529.

Two numbers follow the letters "IP":
- First number: the level of protection that the casing provides against the intrusion of solids
- Second number: the level of protection that the casing provides against the intrusion of liquids.

PROTETTO CONTRO L'INGRESSO DI OGGETTI SOLIDI / PROTECTED AGAINSTS FOREIGN SOLID OBJECTS	PROTETTO CONTRO LA CADUTA DI LIQUIDI E IMMERSIONE IN ACQUA / PROTECTED AGAINST WATER FALL AND EFFECTS OF WATER IMMERSION	NON PROTETTO / NON PROTECTED	CADUTA ACQUA VERTICALE / VERTICAL WATER DROPS	CADUTA ACQUA CON INCLINAZIONE <15° / WATER DROPS WITH <15° TILT ANGLE	CADUTA ACQUA CON INCLINAZIONE <60° / WATER DROPS WITH <60° TILT ANGLE	SPRUZZI D'ACQUA DA QUALSIASI DIREZIONE / SPLASHING WATER	GETTI D'ACQUA DA QUALSIASI DIREZIONE / WATER JETS	FORTI GETTI D'ACQUA DA QUALSIASI DIREZIONE / POWERFUL WATER JETS	EFFETTI DI BREVI IMMERSIONI / TEMPORARY IMMERSION IN WATER	EFFETTI DI IMMERSIONE PROLUNGATA / CONTINUOUS IMMERSION IN WATER
		IPx0	IPx1	IPx2	IPx3	IPx4	IPx5	IPx6	IPx7	IPx8
NON PROTETTO / NON PROTECTED	IP 0x	IP00	IP01	IP02						
>50 mm Ø	IP 1x	IP10	IP11	IP12	IP13					
>12.5 mm Ø	IP 2x	IP20	IP21	IP22	IP23					
>2.5 mm Ø	IP 3x	IP30	IP31	IP32	IP33	IP34				
>1 mm Ø	IP 4x	IP40	IP41	IP42	IP43	IP44	IP45	IP46		
INGRESSO DELLA POLVERE / DUST-PROTECTED	IP 5x					IP54	IP55	IP56		
ERMETICAMENTE CONTRO L'INGRESSO DELLA POLVERE / HERMETICALLY DUST-PROTECTED	IP 6x					IP64	IP65	IP67	IP67	IP68

METALBOX

Metal case transformers for outdoor use IP44, complete of security knife switch protection

Serie 18 mA			
Model type		***Price***	
1-2.5KV 18mA selfadjusting	outdoor use	€	**106,10**
3000V 18 mA	outdoor use	€	**110,08**
4000V 18 mA	outdoor use	€	**113,54**
5000V 18 mA	outdoor use	€	**119,70**
6000V 18 mA	outdoor use	€	**123,88**
7000V 18 mA	outdoor use	€	**137,29**
8000V 18 mA	outdoor use	€	**138,05**
9000V 18 mA	outdoor use	€	**150,18**
10000V 18 mA	outdoor use	€	**154,40**

Serie 25 mA			
Model type		***Price***	
1-2.5KV 25mA selfadjusting	outdoor use	€	**106,10**
3000V 25 mA	outdoor use	€	**110,08**
4000V 25 mA	outdoor use	€	**113,54**
5000V 25 mA	outdoor use	€	**119,70**
6000V 25 mA	outdoor use	€	**123,88**
7000V 25 mA	outdoor use	€	**137,29**
8000V 25 mA	outdoor use	€	**138,05**
9000V 25 mA	outdoor use	€	**150,18**
10000V 25 mA	outdoor use	€	**154,40**

Serie 35-45 mA			
Model type		***Price***	
1-2 KV 35/45 MA selfadjusting	outdoor use	€	**110,09**
3000V 35-45 mA	outdoor use	€	**116,06**
4000V 35-45 mA	outdoor use	€	**123,02**
5000V 35-45 mA	outdoor use	€	**138,42**
6000V 35-45 mA	outdoor use	€	**141,27**
7000V 35-45 mA	outdoor use	€	**148,07**
8000V 35-45 mA	outdoor use	€	**159,50**
9000V 35-45 mA	outdoor use	€	**168,89**
10000V 35-45 mA	outdoor use	€	**184,39**

METALBOX

Metal case transformers for outdoor use IP44, complete of security knife switch protection

Serie 50 mA			
Model type		***Price***	
990V 50 mA	outdoor use	€	**106,27**
2000V 50 mA	outdoor use	€	**111,72**
3000V 50 mA	outdoor use	€	**123,02**
4000V 50 mA	outdoor use	€	**134,77**
5000V 50 mA	outdoor use	€	**142,97**
6000V 50 mA	outdoor use	€	**156,04**
7000V 50 mA	outdoor use	€	**166,40**
8000V 50 mA	outdoor use	€	**181,28**
9000V 50 mA	outdoor use	€	**197,45**
10000V 50 mA	outdoor use	€	**203,20**

Serie 75 mA			
Model type		***Price***	
990V 75 mA	outdoor use	€	**108,09**
2000V 75 mA	outdoor use	€	**120,08**
3000V 75 mA	outdoor use	€	**142,49**
4000V 75 mA	outdoor use	€	**163,32**
5000V 75 mA	outdoor use	€	**181,48**
6000V 75 mA	outdoor use	€	**204,37**
7000V 75 mA	outdoor use	€	**218,89**
8000V 75 mA	outdoor use	€	**239,56**
9000V 75 mA	outdoor use	€	**269,20**
10000V 75 mA	outdoor use	€	**277,78**

Serie 100 mA			
Model type		***Price***	
990V 100 mA	outdoor use	€	**111,72**
1500V 100 mA	outdoor use	€	**122,64**
2000V 100 mA	outdoor use	€	**135,88**
2500V 100 mA	outdoor use	€	**143,14**
3000V 100 mA	outdoor use	€	**156,04**
3500V 100 mA	outdoor use	€	**165,12**
4000V 100 mA	outdoor use	€	**181,48**
5000V 100 mA	outdoor use	€	**204,52**
6000V 100 mA	outdoor use	€	**238,70**
7000V 100 mA	outdoor use	€	**248,50**
8000V 100 mA	outdoor use	€	**275,74**
9000V 100 mA	outdoor use	€	**303,18**
10000V 100 mA	outdoor use	€	**352,73**

PROTECTIONS

Metal case transformers for outdoor use IP44, complete of security knife switch protection

Protections			
Model type		***Price***	
DISTOP	*Earth leakage protection (SGFP).* ***One model only for the whole range of transformers***	**€**	**28,24**
DISTOP PLUS	*Earth leakage protection with arrangement for Remote Control*	**€**	**36,18**
INTERDISTOP	*Earth leakage protection and open circuit monitor (SGFP+OCM).* ***One model only for the whole range of transformers***	**€**	**63,40**
Installation of protection on the transformer		**€**	**2,24**
MODULAR DISTOP	***External Earth leakage protection.***	**€**	**58,95**

SPARE LIDS

Polycarbonate-ABS lids - Painted Metal lids

Spare Lids		
Model type	***Price***	
Polycarbonate-ABS lid for Metalbox transformer type 1	**€**	**9,24**
Polycarbonate-ABS lid for Metalbox transformer type 1.5	**€**	**10,53**
Polycarbonate-ABS lid for Metalbox transformer type 2	**€**	**11,76**
Metal lid for Metalbox transformer type 1	**€**	**20,19**
Metal lid lid for Metalbox transformer type 2	**€**	**25,23**

LEXTERIOR

Transformers in thermoplastic box with protection degree IP 43 for Outdoor /Indoor use, with or without SGFP (DISTOP) installed

Serie 25mA

Model type	*Price*			
	LEXTERIOR		LEXTERIOR + DISTOP	
1-2.5KV 25 mA selfadjusting	€	100,77	€	122,00
3000V 25 mA	€	104,59	€	125,81
4000V 25 mA	€	107,89	€	129,42
5000V 25 mA	€	113,74	€	134,95
6000V 25 mA	€	117,70	€	138,92
7000V 25 mA	€	129,13	€	153,22
8000V 25 mA	€	130,33	€	154,75

Serie 35-45mA

Model type	Prezzo – *Price*			
	LEXTERIOR		LEXTERIOR + DISTOP	
1-2KV 35-45 mA selfadjusting	€	104,59	€	125,81
3000V 35-45 mA	€	110,28	€	131,45
4000V 35-45 mA	€	116,88	€	138,08
5000V 35-45 mA	€	131,51	€	152,71
6000V 35-45 mA	€	134,18	€	155,41
7000V 35-45 mA	€	140,68	€	161,89
8000V 35-45 mA	€	151,50	€	172,74

Serie 50mA

Model type	Prezzo – *Price*			
	LEXTERIOR		LEXTERIOR + DISTOP	
990V 50 mA	€	100,95		
1500V 50 mA	€	104,08	€	125,32
2000V 50 mA	€	106,15	€	127,37
2500V 50 mA	€	112,63	€	133,86
3000V 50 mA	€	116,88	€	138,08
4000V 50 mA	€	128,02	€	149,26
5000V 50 mA	€	135,83	€	157,05
6000V 50 mA	€	148,25	€	169,48
7000V 50 mA	€	158,06	€	179,29
2x990V/50mA TWIN	€	111,45		

LEXTERIOR

Transformers in thermoplastic box with protection degree IP 43 for Outdoor /Indoor use, with or without SGFP (DISTOP) installed

Serie 100mA				
Model type	***Price***			
	LEXTERIOR		**LEXTERIOR + DISTOP**	
990V 100mA	**€**	**106,15**		
1500V 100mA	**€**	**116,49**	**€**	**137,71**
2000V 100mA	**€**	**129,09**	**€**	**150,30**
2500V 100mA	**€**	**135,98**	**€**	**157,21**
3000V 100mA	**€**	**148,24**	**€**	**169,48**
3500V 100mA	**€**	**156,86**	**€**	**178,11**
2x990V/100mA TWIN	**€**	**132,11**		

Serie 200mA			
Model type	***Price***		
	LEXTERIOR		**LEXTERIOR + DISTOP**
990V 200mA	**€**	**141,32**	
2x990V/200mA TWIN	**€**	**175,85**	

MINILEXA

Extremely compact Transformers with just 1.9 kg, ideal for installations on narrow places and channel letters. Smart alternative to electronic convertors

MINILEXA			
Model type		***Price***	
3000V 18mA	Indoor use IP43	**€**	**71,72**
5000V 18mA	Indoor use IP43	**€**	**71,72**
2000V 25mA	Indoor use IP43	**€**	**71,72**
4000V 25mA	Indoor use IP43	**€**	**71,72**
990V 50mA	Indoor use IP43	**€**	**71,72**
2000V 50mA	Indoor use IP43	**€**	**71,72**
990V 100mA	Indoor use IP43	**€**	**71,72**

CAPACITORS

Single or multiple capacitors

SINGLE CAPACITORS			
Model type		***Price***	
Single capacitor	6,3 µF	€	**19,45**
Single capacitor	8,0 µF	€	**20,33**
Single capacitor	10,0 µF	€	**21,18**
Single capacitor	12,5 µF	€	**22,97**
Single capacitor	16,0 µF	€	**24,72**
Single capacitor	20,0 µF	€	**26,50**
Single capacitor	25,0 µF	€	**27,75**
Single capacitor	30,0 µF	€	**30,27**
Single capacitor	35,0 µF	€	**32,81**
Single capacitor	40,0 µF	€	**37,02**

MULTIPLE CAPACITORS			
Model type		***Price***	
Single capacitor	50 µF	€	**51,22**
Single capacitor	60 µF	€	**53,00**
Single capacitor	70 µF	€	**57,42**
Single capacitor	80 µF	€	**61,81**
Single capacitor	90 µF	€	**65,34**
Single capacitor	100 µF	€	**69,77**