



Power for professionals



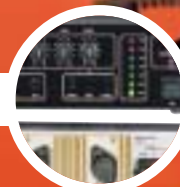
A colourful offer!



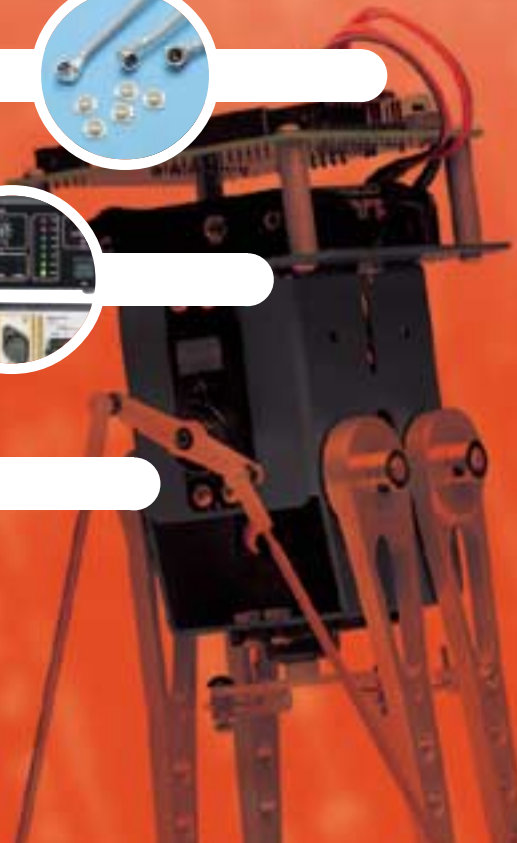
HF connector



100 V line PA system



TDS3000B



ELFA-info is published by ELFA AB,  
SE-175 80 Järfälla  
Phone: +46 8-580 941 00  
Fax: +46 8-580 943 00  
Circulation: (48,000) copies.



Additional data is available in  
ELFA's Internet Catalogue, at  
www.elfa.se, on products marked with this  
symbol.

In accordance with the delivery terms in the  
latest ELFA Catalogue, we issue a reserva-  
tion against any erroneous product  
descriptions, prices and other incorrect  
data that may occur.

Prices are approximate. Local deviations  
may occur. Prices listed in euro, excl. VAT.

International deliveries  
ELFA AB, SE-175 80 Järfälla  
Order phone: +46 8 580 941 30  
Order fax: +46 8 580 941 11  
E-mail: order@elfa.se

Deliveries to Denmark  
ELFA Norden A/S, Naverland 31,  
DK-2600 Glostrup  
Order phone: 43 20 63 40  
Order fax: 43 20 63 41  
E-mail: elfa.norden@elfa.se

Internet: www.elfa.se



Manufactured by Knipex

## Press tool in service case

Universal press tool designed for loose, replaceable dies. The tool has a parallel function for correct terminal connection. Disengaging return catch means that the tool does not release until the pressing process is complete. This guarantees a good connection between contact and cable. Supplied in foam plastic lined service case with assembly tool and moulded spaces for 7 pairs of dies.

### 97 49 05

Non-insulated flat pin bush, 0.5–6.0 mm<sup>2</sup>, roller press

### 97 49 06

Insulated cable clip 0.5–6.0 mm<sup>2</sup>

### 97 49 08

Non-insulated end bush, 0.5–6.0 mm<sup>2</sup>

### 97 49 13

Non-insulated cable clip 0.5–10 mm<sup>2</sup>

### 97 49 24

D-Sub contact element 0.03–0.56 mm<sup>2</sup>

### 97 49 40

Coaxial contact type BNC, TNCRG58/59/62/71/223

### 97 49 50

Coaxial contact type BNC, TNCRG58/174/188/316

### 97 49 70

Modular contact type RJ10, RJ11, RJ12, RJ45-, 6-pole, 8-pole

### 97 49 74

Modular contact manufactured by Molex, RJ11, RJ45

## Table of contents

### Electromechanical products, connectors, housings

Stepping motors .....	3
Sub rack system .....	4
Wet room fan .....	3
High density micro-ribbon connector .....	5
HF miniature connector .....	5
M8/M12 sensor connector .....	6
Coloured D-Sub covers .....	5
XLR chassis connector, shielded .....	5
Control board for stepping motors .....	4
Vandal-proof pushbutton switch IP68 .....	6
Pushbutton switch .....	6
Mains lead set, branched .....	9
Mains lead set, for e.g. laptops .....	9
Engine heater cable assembly .....	9
40/20 A relay .....	9
HF connector for fluorescent light fittings .....	7–8
Travel adapter set .....	19

### Passive and active Components

Switch regulators .....	9
Intelligent power semiconductors .....	10
Javelin Stamp with Java .....	11
Quadravox sound module .....	11
Accessories to Boe-Bot .....	11
Walking robot .....	11
Colour sensors .....	12
Ceramic high-voltage capacitors .....	12
Air-coiled loudspeaker chokes .....	18

### Power supply

3-phase mains filter .....	6
Rechargeable batteries for cordless phones .....	12
Rechargeable batteries, video/camera .....	12
1900 mAh R6 .....	12

High-current NiMh rechargeable battery .....	13
6F22 NiMh extended assortment .....	13
Lead acid battery for cyclical operation .....	13
Environmentally correct rechargeable batteries for power tools .....	14
Voltage converter for vehicles .....	14
Sinusoidal inverter 300 W .....	14
News from Mascot .....	15

### Computer products

Card reader for media memory USB .....	13
New universal programmer .....	15
Web camera Axis .....	19

### Communication

100 V line PA system .....	16
TFT LCD 5.6" monitor .....	19
Foam plastic for loudspeaker front panels .....	17
Loudspeaker grille .....	17

### Test and measuring instruments

Tachometer .....	7
Colourful offer .....	8
Current sensors .....	20
Cable finder .....	19
TDS3000B .....	18
Process multimeter Fluke 789 .....	18

### Tools

EX-classified torch with LED .....	4
New Weller soldering station .....	20
Battery-operated soldering iron .....	20
All-weather cases for mobile phones .....	17

Model	Article	Price each
Basic tool		
97 43 200	80-546-11	131,00
Dies		
97 49 05	80-546-13	60,80
97 49 06	80-546-15	47,60
97 49 08	80-546-17	47,60
97 49 13	80-546-19	47,60
97 49 24	80-546-21	107,00
97 49 40	80-546-23	76,10
97 49 50	80-546-25	89,20
97 49 70	80-546-27	91,40
97 49 74	80-546-29	109,00

## Economical stepping motor, hybrid model

Bipolar, two-phase hybrid stepping motor. With 1.8 degree mechanical full step that provides the motor's step angle. Robust motor with copper coil, non-corrosive rotor, aluminium flanges and stainless steel shaft. With a correctly dimensioned system, the motor provides maximum starting and holding torque, low internal temperature and minimal resonance. The ball bearings enable the stepping motor to withstand large radial loads. Performs full step, half step and micro step. Supplied complete with relevant cabling and flange.



Manufactured by Moons

	Model 16HY_	Model 17HD_	Model 23HS2_	Model 23HS3_
Holding torque	0.1 Nm	0.41 Nm	1 Nm	1.27 mNm
Step angle:	1.8° ±5 %	1.8° ±5 %	1.8° ±5 %	1.8° ±5 %
Shaft diameter:	5.0 mm	5.0 mm	6.35 mm	6.35 mm
Coil voltage:	19 V	8 V	4.05 V	4.9 V
Rated current:	0.55 A	0.8 A	1.5 A	1.4 A
Resistance/phase:	3.2 Ω	10 Ω	2.7 Ω	4.2 Ω
Inductance/phase:	4.5 mH	17 mH	7.6 mH	15 mH
Temp. range:	-20 to +50 °C (all models)			
Weight:	180 g	240 g	600 g	1,000 g

Model	Stock no.	Price each
16HY0416	54-462-32	31,80
17HD1008	54-462-24	31,80
23HS2014	54-462-08	50,10
23HS3001-01	54-462-16	64,30

Suitable stepping motor driver AT15R05, see stock no. 54-464-06.

## Small, powerful, long-life

DC motor with iron rotor and attached planetary gear. Sintered steel drive for long service life. Double ball bearing on output shaft, four cogwheels that absorb the power at each stage. Integrated suppressor. Simple assembly.

Technical data	
Operating voltage:	12 V = / 24 V =
Current consumption without load	
12 V version:	<250 mA
24 V version:	<150 mA
Temperature range:	-20 to +60 °C
Weight:	385 - 480 g



Manufactured by Micro Motors

Gear change	Max torque mNm	Revs/min without load	Revs/min max. load	Stock no.	Price each
12 V =					
5:1	200	800	510	54-455-07	51,50
18:1	600	218	155	54-455-15	56,50
25:1	900	160	105	54-455-23	56,50
67:1	2200	59,5	40	54-455-31	61,80
91:1	2700	43,6	31	54-455-49	61,80
125:1	3000	32	24	54-455-56	61,80
246:1	3000	15,2	14,5	54-455-64	65,30
336:1	3000	11,9	11	54-455-72	65,30
625:1	3000	6,4	6	54-455-80	65,30
24 =					
5:1	200	830	575	54-457-05	51,50
18:1	600	226	170	54-457-13	56,50
25:1	900	166	118	54-457-21	56,50
67:1	2200	61,5	45	54-457-39	61,80
91:1	2700	45	34	54-457-47	61,80
125:1	3000	33	26	54-457-54	61,80
246:1	3000	16,8	15	54-457-62	65,30
336:1	3000	12,3	11,5	54-457-70	65,30
625:1	3000	6,6	6,2	54-457-88	65,30

## PM stepping motor

Bipolar stepping motor with rotor consisting of a permanent magnet. The motor is fitted with two slide bearings that stabilise the stainless shaft. The motor has a long service life and a low sound level. Its small format enables it to fit in where space is limited. The 20PM model is suitable when the diameter of the motor is important, while models 35PM and 42PM are used when greater precision is required. Can be run with full step, half step and micro step. Supplied with cabling, 300 mm.



Manufactured by Moons

	20PM	35PM	42PM
Number of phases:	2	2	2
Holding torque	5 mNm	54 mNm	47 mNm
Step angle:	18°	7.5°	3.6°
Shaft diameter:	1.5 mm	3.0 mm	3.0 mm
Coil voltage:	5 V	3.75 V	3 V
Rated current:	500 mA	500 mA	500 mA
Resistance/phase:	10 Ω	7.5 Ω	5 Ω
Inductance/phase:	3.7 mH	7.7 mH	4.8 mH
Weight:	125 g	95 g	125 g

Model	Stock no.	Price each
20PM20M01-01A	54-466-04	12,10
35PM48S01-01A	54-466-12	12,10
42PM100S01-01A	54-466-20	12,10

Suitable stepping motor driver AT15R05, see stock no. 54-464-06.

## Moisture's worst enemy

Wet room fan for bathrooms and other rooms where you require increased air circulation. The fan is a plug-in model, intended for ventilation ducts with a diameter of at least 100 mm. Low power consumption and sound level. Double-insulated version, does not need to be earthed. Accessories are a timer function for PAX 200/201 and cover plate to adapt the fan to the existing holes or a duct with a larger diameter than 100 mm. Double-insulated version, does not have to be earthed. Authorisations: S, N, D, FI



Manufactured by PAX

Technical data	
Voltage:	220-240 V~, 50/60 Hz
Power usage:	4 W
Capacity:	90 m3/h (free-blowing)
Noise level:	42 dB (A)
Enclosure class:	IP44
Motor protection:	Thermofuse
Duct dimension:	100 mm
Dimensions:	160x202x144 mm

Model	Description	Stock no.	Price each
200	Basic model	54-216-07	89,20
20	With cold air valve	54-216-15	109,00
230	Moisture control and timer	54-216-23	140,00
23	Moisture control and timer, cold air valve	54-216-31	161,00
-	Timer 200/201	54-217-06	44,40
-	Cover plate, all models	54-217-22	8,54

## Tight, robust box Control (IP66)

Electronic/control box cast in aluminium with deeply recessed surface in the lid to provide protection for push buttons and switches. The box provides excellent EMC protection. Separate screw channels for fitting to wall. Cast bushings inside the base and the lid for earthing or fitting of assembly plates or circuit boards with self-tapping screws. Seal packing.

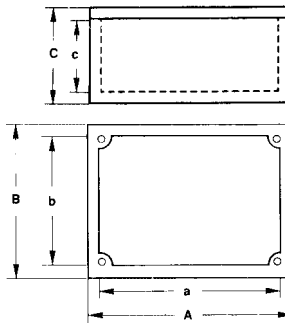


Manufactured by Rolec

Technical data	
Enclosure class:	IP66
Packing:	Thermoplastic -40 to +120 °C
Colour:	Powder paint, silicon grey (RAL 7032)

Model	A	B	C	Stock no.	Price each
EKTF 082	129.8	84.8	55.0	50-115-07	27,70
EKTF 083	179.8	84.8	55.0	50-115-15	32,40
EKT 082	129.8	84.8	78.0	50-115-23	28,70
EKT 083	179.8	84.8	78.0	50-115-31	33,70

(Dimensions in mm. Only denotes box's outer dimensions.)



Manufactured by AT Drives

## Control the steps

Drive module for bipolar stepping motors with maximum 3A current. Adjustable for 1/1-step, 1/2-step, 1/4-step or 1/8-step operation. The output current is adjustable using the trimming potentiometer between 0.15 and 1.5 A/phase, and can also be defined with a fixed resistance. Detachable holding current, 20 % of total output current. An internal 5 V is generated for simple connection and safe operation. The card is available in two versions, with 5 V or 24 V signal input. Inputs with optical couplers and transient-protected outputs provide good noise protection. For gentle operation and minimal resonance it is possible to fine-tune the current in the flanks from the drive circuits (see data sheet for A3955, stock no. 73-337-68). The card is supplied complete with relevant cabling, contact, internal standard software as well as user guide in Swedish and English.

Technical data	
Control voltage:	+5 V TTL/CMOS or 24 V=
Motor voltage:	+8 to +42 V=
Motor current:	Max 3 A
Temperature range:	-25 to +70 °C
Dimensions:	100x75x30 mm

Model	Stock no.	Price each
AT15R05-5	54-464-06	193,00
AT15R05-24	54-464-14	193,00

## Flexible subrack system

The platform for the Ratiopac Pro case system is based on the Europac Pro range of subracks, i.e. all accessories such as module section, card guide rails, card locks, panels, etc. can be used in the case. Ratiopac Pro is built symmetrically, which means that you can fit module front panels or cassettes from both the front and the back, as the front/rear sides are identical. The top/base and cover plates are fitted by means of snap-on fastenings, which makes them very easy to detach and attach. If required the top/base and cover plates can also be screwed into position. Even the standard version of the box has good EMC protection, and this can also be upgraded for higher



Manufactured by Schroff

shielding requirements. All elements in the box are electrically connected with one another. Ratiopac Pro is supplied unassembled as a basic set with end sections, top, base, cover strips, rear and front module sections. Panels, card guide rails, nut strips and other parts are ordered separately.

Model no.	Height	Width	Depth	Stock no.	Price each
24571-017	3	42	315	52-821-08	121,00
24571-029	3	63	315	52-821-16	129,00
24571-041	3	84	315	52-821-32	140,00
24571-042	3	84	375	52-821-40	145,00
24571-113	6	42	315	52-822-07	150,00
24571-125	6	63	315	52-822-15	163,00
24571-137	6	84	315	52-822-31	168,00
24571-138	6	84	375	52-822-49	178,00

Panels, card guide rails, nut strips and other accessories, see stock no. 52-531-09 and following

## Peli L1 LED, ATEX ZONE 0 Instrument pocket torch



Model	Stock no.	Price each
1930T	80-559-98	36,10

Small, convenient, with an LED that provides a powerful beam and long life span. The LED lasts for up to 50,000 operating hours, and the battery pack more than 100 hours. Supplied with shoulder strap and clip. Switch for temporary or continuous operation. Waterproof. Manufactured in impact-resistant, aluminium carbonate plastic. Supplied with 4 x LR44 batteries.

Technical data	
EX class:	II 1 G (EEx nL IIC T4)*
Dimensions:	Diameter 20 x L 60 mm
Weight:	25 g incl. batteries
LED colour:	White

\*) Tested in accordance with the ATEX standard for explosion-protected products. Zone 0 relates to approval for risk areas where explosive gas mixtures are present either continuously or for long periods.



Manufactured by MH connectors

## Easy to make the right connection

Coloured plastic cable cover fitted with locking screws. Straight cable output with draw casing. Consists of two halves that are clamped together. The cover is available in 8 different colours for easier identification. Spiral locking screw: UNC4-40.

No. of poles	Width mm	Height mm	Depth mm	Cable output mm
9	35.0	17.0	53.5	diameter 8.4
15	41.0	16.0	53.5	diameter 12.0
25	54.5	15.0	53.5	diameter 12.0
37	71.0	17.0	53.5	diameter 14.0

\*Depth incl. locking screws

Model	Colour	Stock no.	Price each
9-pole 09-BK-K	Black	44-130-01	1,73

For more information and prices, [www.elfa.se](http://www.elfa.se)

## Adaptor "High-Density Micro-Ribbon"

Micro-Ribbon"-type miniature plug with 1.27 mm spacing. Provided with soldering tags for cable area up to 0.2 mm<sup>2</sup> (AWG 30-24). The device is secured by means of spring-loaded hooks, which are built into the covers.



Manufactured by 3M

Technical data	
Max. operating voltage:	150 V~/200 V=
Max current:	0.5 A
Insulation resistance:	5x10 <sup>8</sup> Ω
Test voltage:	500 V rms
Temperature range:	-55 to +85 °C
Contact material:	Copper alloy
Contact plating:	Gold, selective
Insulation material:	Glass fibre-reinforced PCT

Model no.	No. of poles	Stock no.	Price each
10114-3000VE	14	44-156-00	4,43
10120-3000VE	20	44-156-18	4,13
10126-3000VE	26	44-156-26	5,15
10136-3000VE	36	44-156-34	5,15
10150-3000VE	50	44-156-42	6,70

## Housings

Plastic housings fitted with locking hooks and draw casing.

Technical data	
Material:	PBT (UL94V-0)
Rec. cable diameter	
14 pole:	7-8 mm
20, 26 pole:	11-12 mm
36, 50 pole:	5-16 mm

Model no.	No. of poles	Stock no.	Price each
10314-52F0-008	14	44-157-09	5,80
10320-52F0-008	20	44-157-17	5,33
10326-52F0-008	26	44-157-25	5,93
10336-52F0-008	36	44-157-33	5,68
10350-52F0-008	50	44-157-41	6,17



Manufactured by Hirose

## U.FL Miniature connector

Miniature coaxial connector and cabling with a build height of only 2.5 mm. Can be used for civil and military wireless communication, Bluetooth, W-LAN, GPS, GSM/GPRS modules, measuring instruments, etc.

### Technical data

Frequency range:	6 GHz
Impedance:	50 Ω
Breakdown voltage:	200 V, 1 min
Insulation resistance:	500 Mohm at 100 V=
Contact resistance:	20 mΩ
VSWR:	<1.3
Temperature range:	-40 to +90 °C

### Plug for circuit board assembly.

Dim (mm): H2.5×B3.1×L3.0 mm

Model no.	Stock no.	Price each	1-	100-	500-
U.FL-R SMT	46-144-00	1,03	0,86	0,68	

## Cables

Shielded cables with an outer diameter of 1.3 mm, fitted with angled plug suitable for previous socket.

**Type 1:** Cable with angled plug only at one end.

**Type 2:** Cable with angled plug at both ends.

Model no.	Model	Length mm	Stock no.	Price each
U.FL-LP-5016-A-(200)	1	200	46-144-34	6,69
U.FL-2LP-5016-A-(50)	2	50	46-144-42	7,97
U.FL-2LP-5016-A-(100)	2	100	46-144-59	8,14
U.FL-2LP-5016-A-(150)	2	150	46-144-67	8,32
U.FL-2LP-5016-A-(200)	2	200	46-144-75	8,54

## XLR chassis connector, EMI/RFI-shielded

Manufactured by Switchcraft. 3-pole XLR-type receptacle with angled circuit board pin for horizontal circuit board assembly. Fitted with ferrite disk for better EMI/RFI shielding. Cast housing in nickel-plated metal.



Manufactured by Switchcraft

	Model no.	Stock no.	Price each	1-	10-	50-
Silver-plated contact	F3MRAF	42-360-06	7,36	6,48	5,60	
Silver-plated sleeve cont.	F3FRAF	42-360-22	7,36	6,48	5,60	



Manufactured by Monacor

## Video distribution-amplifier

### TD-104

Single channel. Power consumption 3 VA.  
Dimensions 216x44x240 mm.

Weight 2.2 kg

### TD-204

2-channel. Power consumption 6 VA.  
Dimensions 216x44x240 mm.

Weight 2.5 kg

### TD-408

4-channel. Power consumption 6 VA.  
Dimensions 216x44x240 mm.

Weight 2.5 kg

### TD-816

8-channel. Power consumption 12 VA.  
Dimensions 432x44x240 mm.

Weight 4.7 kg



#### Common data

Input level/impedance:	1-2 V t-t/75 Ω
Output level/impedance:	1-2 V t-t/75 Ω
Bandwidth:	10 MHz ±3 dB
Signal/noise status:	>55 dB
Connection contacts:	BNC
Supply voltage:	230 V~, 50 Hz

Model	Stock no.	Price each
TD-104	30-653-07	94,40
TD-204	30-653-15	122,00
TD-408	30-653-23	177,00
TD-816	30-653-31	261,00

## Sensor connector M8/M12 IDC, Harax® range, dustproof and watertight, IP67

A range of 3 to 4-pole connectors for transmitters. With M8 or M12 thread connection. Dustproof and watertight in compliance with IP67. IDC terminal means that no special tools are required.



Manufactured by Harting

1. Strip the insulation on the cable.
2. Thread the cable through the housing and the plastic insert.
3. Trim the cables that are sticking out.
4. Tighten the cable fitting.

For more information and prices, [www.elfa.se](http://www.elfa.se)

#### Technical data

Rated voltage:	32 V
Rated current:	3 A
Temperature range:	-25 to +85°C
Environment class:	IP67
Max. conductor area:	0.25-0.50 mm <sup>2</sup>
Material:	PVC
Max. cable diameter:	5.1 mm

	Model	No. of poles	Cable output	Stock no.	Price each
M8 cable plug	2101 130 4061	3	Straight	44-512-09	13,60

## Mains interference filter for chassis assembly, 3-phase

A 3-phase mains filter in a metal case for chassis assembly. Fitted with 2 separate choke steps for each phase. This means that FN258 provides high damping of both symmetrical and asymmetrical

disruption. No connection of zero conductor. Connected via fixed cables. Adapted for cable lengths of up to 50 m. Model with max. input voltage 690 V is available on request.

#### Technical data

Max. voltage:	480 V ~
Max. leak current:	
FN258-7:	18.0 mA
FN258-16:	20.0 mA
FN258-30:	26.5 mA
Dimensions	
FN258-7:	255x126x50 mm
FN258-16:	305x142x55 mm
FN258-30:	335x150x60 mm
Cable length	
FN258-7/-16:	300 mm
FN258-30:	400 mm



Authorisations:  
CSA, EneC,  
UL (rec)



Model no.	Max current	Inductance L	Stock no.	Price each
FN258-7	7 A	4.5 mH	69-674-00	143,00
FN258-16	16 A	3.0 mH	69-674-18	166,00
FN258-30	30 A	2.0 mH	69-674-26	217,00

## Metal pushbutton switch IP68, vandal-proof

Metal push button switch with unipolar instant connection. Designed for low levels of voltage and current. Low front section limits potential for damage by tools. Complies with enclosure class IP68 (front only). Screw connection.

#### Technical data

Contact function:	unipolar connection, instant
Circuit-breaking capacity:	1 A 50 V
Contact material:	Ag
Contact resistance:	<10 mΩ
Insulation resistance:	>1x10 <sup>9</sup> Ω
Breakdown voltage:	>1000 V~
Temperature range:	-20 to +70°C
Front dimension:	Diameter 21.5 mm
Depth behind panel:	28.0 mm
Panel holes:	Diameter 19.2 mm



Manufactured by Bulgin



Model	Stock no.	Price each		
		1~	10~	20~
MP0037	35-070-01	12,70	11,40	10,5

## Unipolar pushbutton switch

Unipolar, 2-way pushbutton toggle switch with centricity. For snap-on fastening in panel. Flat pin connection.

#### Technical data

Authorisations:	Demko, Fimko, Nemko, Semko, VDE
Circuit-breaking capacity:	6A 250 V~
Connections:	Flat pin 4.8x0.8 mm
Front dimension:	Diameter 23.3 mm
Depth behind panel excl. connections:	14.3 mm
Panel holes:	Diameter 19.8 mm (guide lip 1 mm)



Manufactured by Taiway

Model	Function	Stock no.	Price each		
			1~	10~	20~
R19-R112-A	to-to	35-018-06	2,01	1,80	1,43
R19-R112-D	to-from-to	35-018-22	2,00	1,80	1,42

## DT-1236L Tachometer

Hand-held combination instrument with digital display of revolutions/surface speed. Measures mechanically through contact and optically using laser. Very high degree of accuracy and easy to use, held in one hand. Automatic memory for most recent, highest and lowest readings. Areas of application: installation and servicing of motors, fans, lifts, etc. Supplied with measuring wheel, 60 cm reflex tape and case. User guide in Swedish and English. Batteries are ordered separately.



Model	Stock no.	Price each
DT-1236L	76-598-81	421,00
Extra reflex tape	76-598-16	4,05
Reserve measuring wheel (x 3)	76-599-23	23,10

Manufactured by  
**Lutron**



R6 model battery, see stock no. 69-252-00.

Technical data	
Measurement ranges	
RPM/laser:	5-99,999 rpm.
RPM/mechanical:	0.5-19,999 rpm.
Surface speed:	0.05-1.9999 m/min.
Max resolution	
rpm:	0.1 rpm
Surface speed:	0.01 m/min.
Inaccuracy:	±0.05% +1 digit
Measuring range/laser:	4 cm to 2 m
Display:	LCD with contrast setting, 5 digits, digit height 10 mm
Memory:	Last/Max/Min readings
Laser:	1 mW, class II
Working temperature:	0-50°C
Battery:	4x1.5 V type R6
Dimensions:	67x215x38 mm
Weight:	280 g

## PC card for video recording and monitoring

PC card for recording and monitoring using up to four video cameras and one computer. Replaces video recorders in alarm and monitoring systems. Playback and monitoring can be achieved from another site via the Internet or ISDN via a network card. Timed or movement-activated recording of up to 25 images per second (time lapse). Video monitoring is in real time. Alarm activation is registered and presented in a user-friendly way. Software included. Hardware requirements: Pentium III 800 MHz, 128 MB RAM, VGA card with 16 MB RAM, 30 GB hard disk, Windows 98SE/ME/XP/2000, PCI bus.



Manufactured by **Monacor**

Technical data	
System:	PAL/CCIR, NTSC, SECAM
No. images/sec.:	Up to 25 images/sec.
No. of pixels:	640x480
Compression:	Wavelet/Mpeg 4
Photo format:	BMP, JPEG, TIF
Video format:	AVI
Network:	LAN, TCP/IP, ISDN, PSTN, ADSL
Backup function:	HDD, CD-R, MO, ZIP
Dimensions:	175x100 mm

Model	Stock no.	Price each
GV-600/4	30-657-03	545,00

## HF device for fluorescent light fittings 1x4-16 W

Electronic series connector for a fluorescent lamp or compact fluorescent lamp with an output of 4 to 16 W. Provides flicker-free light, saves energy and increases the fluorescent lamp's service life. A warm start makes the device suitable for lighting that is switched on and off frequently. Automatic shutoff if the tube is broken, and automatic activation when replaced. Can also run on direct current, e.g. from emergency power unit.



Manufactured by **Osram**

Technical data	
Authorisations:	VDE
Voltage:	198-254 V~, 50 Hz 176(198)-254 V=
Operating frequency:	35-45 Hz
Output factor:	0.6
RFI:	Complies with EN55015, 61000, 61547
Service life:	30,000 h
Temperature range:	-15 to +50°C
Dimensions:	80x40x22 mm
c-c:	72-75 mm

Model	Stock no.	Price each
QT-ECO 1x4-16/230-240S	33-550-05	17,70

## HF device for compact fluorescent light fittings 26-42/32 W

Electronic series connector for 1 or 2 compact fluorescent lamps with an output of 26 to 42 or 26 to 32 W. The benefits include flicker-free light and lower energy consumption. The use of "cut-off" technology gives the fluorescent lamp a greatly increased service life. Quick activation and disconnection of pre-heating (less than 1 sec). Automatic shutoff if the lamp is broken. Automatic reactivation after replacement. Can also run on direct current, e.g. from emergency power unit.



Manufactured by **Osram**

Technical data	
Authorisations:	Enec, VDE
Voltage:	198-254 V~, 50-60 Hz 176-254 V=
Operating frequency:	Approx. 45 kHz
Output factor:	0.97
RFI:	Complies with EN55015 EN61000, EN61547
Temperature range:	-20 to +50°C
Dimensions:	103x67x31 mm (K2)
c-c:	110 mm (diagonal)

Model	Stock no.	Price each
QT-M 1x26-42/230-240S	33-550-54	26,00
QT-M 2x26-32/230-240S	33-550-70	29,00

**A colourful offer!**



Buy a ScopeMeter Color 196C or 199C and get one of the following products FREE.

- A "Gameboy Colour Advance" or
- A "Casio Colour mini TV-970"



The Fluke ScopeMeter Color 199C is a portable, robust digital storage oscilloscope with a maximum sampling speed of 2.5 GS/s, 200 MHz bandwidth and a colour screen. The oscilloscope has fully liquid, insulated inputs and is battery operated. You can read more about the Fluke ScopeMeter Color on our website, [www.elfa.se](http://www.elfa.se)

When you have received your Fluke ScopeMeter Color from us, you complete the response card that we have sent you and return it to Fluke; Fluke will then send you the product that you have selected.

This offer remains valid until 31-12-2002.

Model	Stock no.	Price each
Fluke ScopeMeter Color 196C 100MHz incl. special offer	76-235-56	3 274,00
Fluke ScopeMeter Color 199C 200MHz incl. special offer	76-235-59	3 777,00

**Fluorescent light fittings from Osram**



**HF device for fluorescent light fittings, 14-35 W**

Electronic series connector for 1 or 2 model FH fluorescent lamps (T5, diameter 16 mm) with an output of 14 to 35 W. The benefits include flicker-free light and lower energy consumption. The use of "cut-off" technology gives the fluorescent lamp a significantly longer service life. Quick activation and disconnection of pre-heating (less than 1 sec). Automatic shutoff if the tube is broken. Automatic reactivation after replacement. Can also run on direct current, e.g. from emergency power unit.

Technical data	
Authorisations:	Enec, VDE
Voltage:	198-254 V~, 50-60 Hz 176-254 V=
Operating frequency:	45-50 kHz
Output factor:	0.94-0.98 (depending on output)
RFI:	Complies with EN55015 EN61000, EN61547
Temperature range:	-20 to +50°C
Dimensions:	360x30x30 mm
c-c:	350 mm

Model	Stock no.	Price each
QT-FH		
1x14-35/230-240	33-552-11	26,00
QT-FH		
2x14-35/230-240	33-552-29	30,40



**HF device for fluorescent light fittings, 49 W**

Electronic series connector for 1 or 2 model FQ fluorescent tubes (T5, diameter 16 mm) with an output of 49 W. The benefits include flicker-free light and lower energy consumption. The use of "cut-off" technology gives the fluorescent lamp a significantly longer service life. Quick activation and disconnection of pre-heating (less than 1 sec). Automatic shutoff if the tube is broken. Automatic reactivation after replacement. Can also run on direct current, e.g. from emergency power unit. The model designed for 1 fluorescent tube can have its output regulated by the 1-10 V controller. Regulation is possible down to 1 %.

Technical data	
Authorisations:	Enec, VDE
Voltage:	198-254 V~, 50-60 Hz 176-254 V=
Operating frequency:	40 kHz
Output factor:	0,99
RFI:	Complies with EN55015 EN61000, EN61547
Temperature range:	-20 to +50°C
Dimensions:	360x30x30 mm
c-c:	350 mm

Model	Stock no.	Price each
QT-FQ		
2x49/230-240DIM*	33-552-45	27,40
QT-FQ		
2x49/230-240	33-552-52	30,10

\* Can be used with 1-10 V controller. Regulation down to 1 %.



**HF device for fluorescent light fittings, 2 x 36-40 W**

Electronic series connector for 2 size T8 fluorescent lamps, diameter 26 mm, with an output of 36-40 W. The benefits include flicker-free light and lower energy consumption. The use of "cut-off" technology gives the fluorescent lamp a longer service life. Warm start. Automatic shutoff if the lamp is broken. Automatic reactivation after replacement. Can also run on direct current, e.g. from emergency power unit. The QT-HF model can have its output regulated by the 1-10 V controller. Regulation is possible down to 1 %.

Technical data	
Authorisations:	Enec, VDE
Voltage:	198-254 V~, 50-60 Hz 176-254 V=
Operating frequency:	40 kHz
Output factor:	0,98
RFI:	Complies with EN55015 EN61000, EN61547
Temperature range	
QT-QTP:	-25 to +50°C
QT-HF:	0 to +50°C
Dimensions:	423x30x30 mm
c-c:	415 mm

Model	Stock no.	Price each
QT-QTP		
2x36/230-240	33-552-78	46,90
QT-HF		
2x36/230-240DIM*	33-552-86	97,50

\* Can be used with 1-10 V controller. Regulation down to 1 %.



### Main leads set with 2P+ $\perp$ branch

Main lead set with branches for 2 plugs (IEC320). Class I. Max 10 A.

Cable:

H05VV-F, 3x1.0 mm<sup>2</sup> + (2x)3x0.75 mm<sup>2</sup>.

Approval: VDE

Length	Colour	Stock no.	Price each
2 m	Black	43-319-97	10,40



### 2P+ $\perp$ Main leads set, for e g laptops

Main lead set with contacts suitable for devices such as laptop computers and flat-screen monitors. Class I. Max 2.5 A.

Cable: H03VV-F, 3x0.75 mm<sup>2</sup>. Approval: VDE

Length	Colour	Stock no.	Price each
3 m	Black	43-313-10	4,92



### Engine heater cable assembly

Engine heater cable assembly for Defa engine heater with the small contact. Socket fitted with lid.

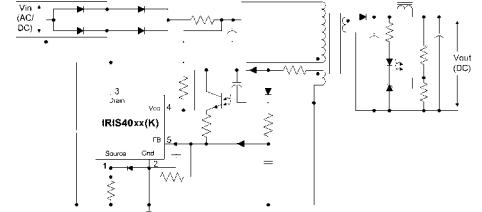
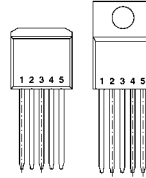
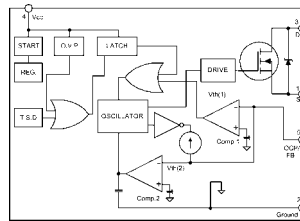
Grey cable and black contacts.

Stock no.	Length	Price each
43-322-43	2.5 m	24,90
43-322-50	5.0 m	32,90

## News from International Rectifier

### IRIS 40XX Switch regulator

Switch regulator with internal MOSFET transistor. The circuit is protected against temperature, overvoltage and overcurrent.



Model	Stock no.	Price each
TO220-5 capsule		
IRIS4007	71-268-81	6,42
IRIS4011	71-269-23	6,42
IRIS4013	71-269-56	7,05
IRIS4015	71-269-80	7,98
TO262-5 capsule		
IRIS4007K	71-268-99	6,26
IRIS4011K	71-269-31	6,26
IRIS4013K	71-269-64	6,89
IRIS4015K	71-269-98	7,83

#### Technical data

Power:	-35 V max
Power consumption:	30 mA max
Temperature range:	-20 to +125°C
Original package:	50 units/tube

	4007	4011	4013	4015	
VDSS:	200	650	650	650	V max
ID:	4.0	2.7	5.1	8	A max
PD(MOSFET):	73	89	179	235	W max
RD <sub>S(on)</sub> :	0.4	3.9	1.95	0.97	Ω max
Rise time tr:	200	250	250	310	ns max

### Unipolar 40/20 A relay

Relay with unipolar closing or switching contact. Fitted with integrated fixed angle. Suitable for use in electrical context for vehicles. Connection via flat pin plug, 6.3x0.8 mm.



#### Technical data

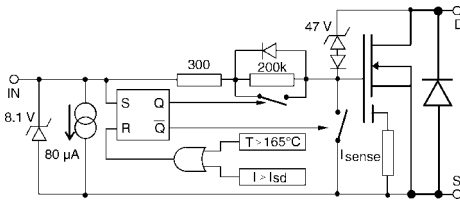
Contact function:	Unipolar closure (form 1A) Unipolar switching (form 1C)
Closure capacity:	
TR93F-12DC-SDA:	40 A 14 V= (N/O)
TR93F-12VDC-SDC:	40 A 14 V= (N/O), 30 A 14 V= (N/C)
TR93F-24VDC-SDC:	20 A 28 V= (N/O), 10 A 28 V= (N/C)
Max. breaking output:	500 W
Contact material:	AgSnO <sub>2</sub>
Contact resistance:	100 mΩ
Insulation resistance:	100 mΩ
Breakdown voltage:	500 V- (1 min)
Rise/fall time:	15/15 ms
Service life:	1x10 <sup>6</sup> times (mech.) 1x10 <sup>5</sup> times (electr, 1A) 3x10 <sup>4</sup> times (electr, 1C)
Temperature range:	-40 to +80°C
Dimensions (LxWxH):	28x28x53 mm (incl. angle and contacts)

Model	Coil voltage nom (min-max)	Coil res.	Stock no.	Price each
Closing				
TR93F-12VDC-SDA	12 V= (9-18)	90	37-007-42	5,73
Switching				
TR93F-12VDC-SDC	12 V= (9-16)	80	37-007-54	5,73
TR93F-24VDC-SDC	24 V= (18-36)	360	37-007-62	6,43

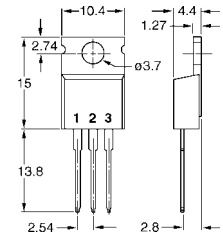
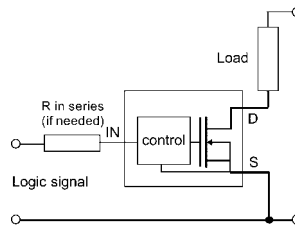
## IPS (Intelligent Power Switch)

Manufactured by International Rectifier. MOSFET transistor for demanding environments with integrated drive and protective

electronics. The transistor is protected against ESD, temperature and overcurrent, and is fitted with a clamp diode between drain and source.



Technical data	
Tsd (shutdown):	165°C type
I <sub>sd</sub> (shutdown)	
IPS021:	5.5 A type
IPS031:	14 A type
ESD	
human body model:	4 kV
machine model:	0.5 kV



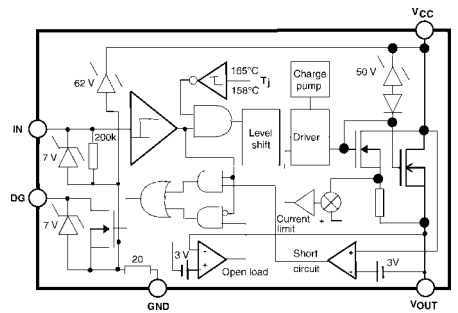
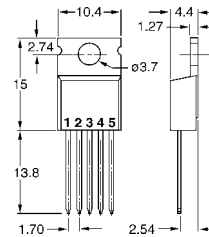
Model	Limits			Type values			Stock no.	Price each
	P tot W	VDSV	IDA	VclampV	rDS(on)	T on/T off us		
IPS021	2	47	8	50	0.13	0.5/2	71-266-00	2,76
IPS031	2	47	18	50	0.045	0.3/2	71-266-34	4,26

MOSFET transistor for demanding environments with integrated drive and protective electronics. The transistor is protected against ESD, temperature and overcurrent. The driver's

electrical system and the load's earth are fully separated, and the transistor permits a very large offset between the two.

Technical data	
Supply voltage:	+5.5 to 35 V
V offset:	V <sub>cc</sub> -50/V <sub>cc</sub> +0.3 V min/max
Tsd (shutdown):	165°C type
Ilim	
IPS511:	5 A type
IPS521:	10 A type
ESD	
human body model:	4 kV
machine model:	0.5 kV

Op. Conditions	In	Out	Dg
Normal	H	H	H
Normal	L	L	L
Open load	H	H	H
Open load	L	H	H
Over current	H	L (limiting)	L
Over current	L	L	L
Over-temperature	H	L (cycling)	L
Over-temperature	L	L	L

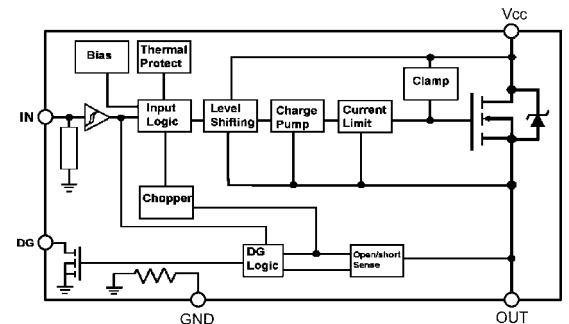
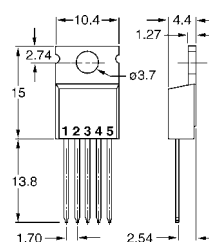


Model	Limits		Type values			Stock no.	Price each
	P tot W	IDA	VclampV	rDS(on)	T on/T off us		
IPS511	25	1.7	50	0.11	7/15	71-266-67	3,76
IPS521	218	2.2	50	0.055	10/35	71-267-09	5,26

MOSFET transistor for demanding environments with integrated drive and protective electronics. The transistor is protected against ESD, temperature and overcurrent. The driver's

electrical system and the load's earth are fully separated, and the transistor permits a very large offset between the two.

Condition	In	Out	Dg
Normal	H	H	H
Normal	L	L	L
Output Open	H	H	H
Output Open	L	H	H
Shorted Output	H	Current-Limiting PWM Mode	L
Shorted Output	L	L	L
Over-Temp	H	L	L
Over-Temp	L	L	L



Technical data	
Supply voltage:	+5.5 to 35 V
V offset:	V <sub>cc</sub> -50/V <sub>cc</sub> +0.3 V min/max
Tsd (shutdown):	165°C type
ESD	
human body model:	4 kV
machine model:	0.5 kV

Model	Limits		Type values			Stock no.	Price each
	P tot W	IDA	VclampV	rDS(on)	T on/T off us		
IP6210	28	5	54	0.150	50/60	71-267-33	6,23
IP6216	28	10	54	0.150	50/60	71-267-66	6,23
IP6220	28	10	54	0.80	50/60	71-267-90	6,89
IP6224	28	20	54	0.80	50/60	71-268-24	7,05
IP6226	28	20	54	0.80	50/60	71-268-57	7,20

## Javelin Stamp development kit

Parallax has so far been associated with basic. Now they have moved over to Java, and introduce a powerful stamp module based on a Uvicom SX48AC processor. Compared to Basic Stamp, is characterised by its language and also a vastly increased memory and multitasking.

The development kit consists of a newly-developed lab card with double serial ports, Javelin module, serial cabling, Windows software and manual.



Manufactured by Parallax Inc

	<i>Basic Stamp II</i>	<i>Javelin Stamp</i>
MCU	Microchip PIC16C57	Uvicom SX48AC
Inst/sec.	4,000	8,000 + UART communication
Clock	20 MHz	20 MHz
Program memory	2 Kbytes	32 Kbytes
RAM	32 bytes	32 Kbytes
I/O	16	16+
		2 dedicated RS-232 ports
Power consumption	8 mA	50 mA
Commands	36	55

Model	Stock no.	Price each
Javelin module	73-192-54	107,00
Starter kit	73-192-62	250,00



Sound module



Programming module

## Complete sound module from Quadravox

A complete, pre-assembled module for the recording and playback of sound for up to four minutes. The module is based on the ISD 4003-04MP circuit, which is controlled by a micro-controller. Can process up to 240 different sound segments. The module has an adjustable baud rate, digitally controlled volume function, line output signal and power amplifier for direct operation of loudspeakers.

The programming module enables the user to control and program the sound module from a PC. Supplied with software and documentation. Connects to the serial port.

Model	Stock no.	Price each
QV306M4 sound module	73-193-79	71,10
QV430P Programming module	73-193-95	83,10



## The Toddler, walking robot

A robot kit, based on a Basic Stamp II module. The robot walks by shifting its centre of gravity sideways, and turns by sliding its feet in the opposite direction. The set is complete with all mechanical parts, Toddler circuit board, 2 servos, battery holder, connecting parts and documentation.

Model	Stock no.	Price each
Toddler walking robot	73-193-46	344,00

## Accessories for Boe-Bot

There are now a number of interesting accessories for Boe-Bot. All accessories are supplied with the required connecting parts and functional descriptions. Sample programs are available for download at [www.parallaxinc.com](http://www.parallaxinc.com).

### Compass module

Consists of an electro-mechanical compass sensor, which is controlled by a single-chip computer. The single-chip computer takes care of all communication with the sensor, to relieve the load on the Stamp module.



### Line tracker



This module consists of five reflex detectors. Equipped with potentiometer to adjust the detectors' threshold values.

### Speech module

The module is based on the ISD -4003-04MP circuit, which is controlled by a single-chip computer. Contains 240 pre-recorded sound files in the form of speech and sound effects. The sound files can be replaced by your own sounds. The card is also supplied with loudspeakers and a microphone.



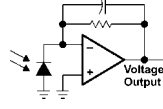
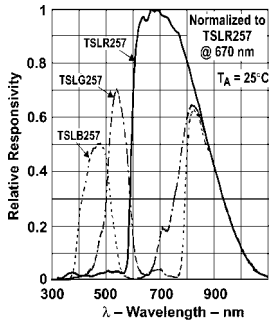
### Gazbot

A bumper fitted with microswitches and IT module, which enables Boe-Bot to identify and avoid obstructions.

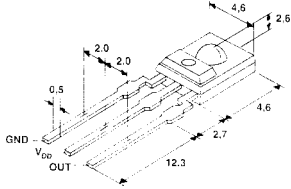


Model	Stock no.	Price each
Compass module	73-194-60	95,10
Line tracker	73-194-78	71,10
Voice module	73-194-86	156,00
Gazbot	73-194-94	86,80

## TSLx257 Light-to-voltage converter



Manufactured by TAOS



A light sensor that converts light into output voltage in direct proportion to the light's intensity. The sensor has a blue, green or red filter, and also comprises a photodiode and an amplifier.

### Technical data

Power:	+2.7 to +5.5 V
Power consumption:	1.9 mA type
Sensitivity	
TSLB 257 (470 nm, blue):	1.18 V/(μW/cm <sup>2</sup> )
TSLG 257 (524 nm, green):	1.25 V/(μW/cm <sup>2</sup> )
TSLR 257 (635 nm, red):	1.82 V/(μW/cm <sup>2</sup> )
Detection angle:	±40°
Temperature range:	0 to +70°C

Model	Colour	Stock no.	Price each
TSLB257	Blue	75-421-86	5,55
TSLG257	Green	75-421-94	5,55
TSLR257	Red	75-422-02	5,55

## Ceramic high-voltage capacitors

Ceramic, high-voltage condenser designed for connection and disconnection. Sold individually. Stocked in packs of 1000.

### Technical data

Temperature range:	-25 to +85°C
Max. operating voltage:	3 kV= or 10 kV=
Insulation resistance:	1x10 <sup>10</sup> Ω
Lead spacing (LS):	5.0-10 mm (see table)
Wire diameter:	0.8 mm



Manufactured by Hitano

Capacitance F	Dielectric	Tol.	LS mm	Stock no.	Price/100
Voltage 3 kV=					
10 p	S2L	±10 %	5.0	65-802-03	20,10
22 p	S2L	±10 %	7.5	65-802-29	20,10
47 p	S2L	±10 %	10.0	65-802-45	20,10
100 p	Y5P	±10 %	5.0	65-802-78	17,70
220 p	Y5P	±10 %	5.0	65-802-94	17,70
470 p	Y5P	±10 %	5.0	65-803-10	20,10
1000 p	Z5U	±5 %	5.0	65-803-69	32,20
2200 p	Z5U	±5 %	7.5	65-804-35	48,20
0.01 u	Z5U	±5 %	10.0	65-805-75	43,40
Voltage 10 kV=					
10 p	S2L	±10 %	7.5	65-815-08	80,30
22 p	S2L	±10 %	10.0	65-815-24	117,00
47 p	S2L	±10 %	10.0	65-815-40	185,00
100 p	Y5P	±10 %	10.0	65-815-65	60,20
220 p	Y5P	±10 %	10.0	65-815-81	96,30
470 p	Y5P	±10 %	10.0	65-816-07	141,00
1000 p	Z5U	±5 %	10.0	65-816-23	141,00
2200 p	Z5U	±5 %	10.0	65-816-49	173,00



Manufactured by GP

Rechargeable batteries for cordless phones  
New models of NiMH rechargeable batteries for cordless phones from GP.

Suitable for	Capacity mAh	Stock no.	Price each
Ericsson DT-230	550	69-464-20	13,40
Samsung SP-R6100	500	69-464-38	15,90
Siemens 3010 Micro	600	69-464-46	25,80
Doro 8075/8085	370	69-464-53	12,10
Doro W&T 800	550	69-464-61	12,10
Dancall 8200	600	69-464-79	15,10



Manufactured by GP

Rechargeable batteries, video/camera  
Li-Ion type. If you are unsure whether the battery is suitable for your particular camera, contact Technical Info.

Suitable for	Replaces	Capacity mAh	Stock no.	Price each
Sony Cybershot P20, P30, P50, etc	NP-FS11/F10	1100	69-338-32	76,20
Panasonic NVDA1B, NVDS33, etc.	CGR-D110/E1B	800	69-338-40	38,30
Canon MV200, UC-V10Hi, etc.	BP-911	1600	69-338-65	53,40
Canon EOS-D60, Power shot G1	BP-511, BP-512	1300	69-338-73	81,90
Canon Ixus 300, 330, etc.	NB-1L	680	69-338-81	54,10
Nikon Coolpix 775, 885, 995, etc.	EN-EL1	700	69-338-99	49,30

## GP 2000 series

The battery with the highest capacity on the market!

GP Batteries now launches an NiMH battery in R6/AA format at no less than 1900 mAh.

Perfect for digital cameras, as it provides up to three times the operating time for one charge compared to alkali batteries.



Manufactured by GP

Model	Capacity	Stock no.	Price each
GP2000 (AA/R6)	min 1900	69-307-13	6,52

## 7.2/8.4/9.6 V NiMH 6F22 (9 V type)

NiMH battery in standard size corresponding to 6F22 (9 V type) and with push-button connection. Cadmium-free, and thus a more environment-friendly solution than nickel-cadmium.

Technical data	
Voltage/type:	7.2/8.4/9.6 V/6F22
Standard charge:	0.1 C, 14 h
Temperature range charge:	-10 to +40°C
discharge:	-20 to +40°C
storage:	-20 to +35°C
Dimensions:	26.5×17.5×48.5 mm



Manufactured by GP

Model	Voltage V	Capacity mAh	Stock no.	Price each
17R7H	7.2	170	69-311-66	12,30
15F8H	8.4	150	69-311-41	10,10
17R8H	8.4	170	69-311-74	13,30
17R9H	9.6	170	69-311-82	13,90

## High-capacity 3.6 V lithium battery

High-capacity lithium battery designed for applications with a moderate power outlet. Available with standard poles or soldering tags.

Technical data	
Voltage:	3.6 V
Capacity:	3300 mAh
Power outlet:	130 mA
Chemical system:	LISOC12
Temperature range:	-60 to +85 degrees
Storage time:	10 years
Dimensions:	diam17.1x50.6 mm

Manufactured by Saft



Model	Version	Stock no.	Price each
LS17500	Standard poles	69-285-01	13,90
LS17500-CNR	Soldering tags	69-285-27	14,80

## Cylindrical NiMH batteries for R/C

NiMH batteries specially designed for use in remote-controlled models such as cars, boats, robots, etc. Features include very high discharging currents and quick charging. Single cell with solder tags or battery pack, 7.2 V, with Tamiya contact.

Technical data	
Voltage:	1.2/7.2 V
Capacity:	3000 mA
Quick charge:	3000 mA, 1 h
Temperature range quick charge:	0 to +40°C
discharge:	0 to +50°C
storage:	-20 to +30°C
Dimensions RC-3000HV/1.2:	23.0x43.5 mm (Sub C)
RC-3000HV/7.2:	135x47.5x24.5 mm
Weight RC-3000HV/1.2:	62 g
RC-3000HV/7.2:	407 g

<sup>3)</sup> At 0.2C discharging current.



Manufactured by Sanyo

Model	Voltage	Stock no.	Price each
Single cell RC-3000HV/1.2	1.2 V	69-334-02	15,00
Battery pack RC-3000HV/7.2	7.2 V	69-334-36	86,60

## Lead acid battery for cyclical operation

Maintenance-free lead acid battery specially designed for cyclical operation. High energy density, high reliability, independent operation and a long service life are just some of the properties. Suitable for use in emergency power units, alarm and security systems, emergency lighting, etc.

Technical data	
Charge voltage:	
cyclical:	2.4–2.45 V/cell
maintenance:	2.3–2.35 V/cell
Number of cycles in compliance with DIN:	300
in compliance with IEC:	600
Connection	
6 V/10 A:	4.8 mm flat pin
12 V/2–10 A:	4.8 mm flat pin
12 V/16–25 A:	M5 screw
12 V/40–85 A:	Conical car battery pole



Manufactured by Sonnenschein

Voltage V	Capacity* Ah	Dim mm	Weight kg	Stock no.	Price each
6	10	152×51×95	2.1	69-475-01	35,00
12	2	179×34×61	1.0	69-475-35	32,90
12	3,5	134×67×60	1.5	69-475-68	38,80
12	6,5	152×66×95	2,6	69-476-00	40,60
12	10	152×98×95	4.1	69-476-26	64,30
12	16	181×76×167	6.7	69-476-42	92,20
12	25	176×167×126	9.6	69-476-67	113,00
12	40	210×175×175	14.8	69-476-83	160,00
12	60	306×190×175	21.8	69-477-17	247,00
12	85	330×236×171	32.6	69-477-41	297,00

\*At 20 h.

## PC Card reader/writer, USB



Manufactured by Carry

USB-connected reader/writer for 3.3 V SmartMedia memory card (Solid State Floppy Disc Card, SSFDC) and CompactFlash type I/II.

- 3.3 V SmartMedia + CompactFlash type I/II
- Windows 95/98 SE/2000/ME
- Mac OS 8.6 or later
- High-speed USB, 12 Mbit/s
- LED display

Supplied with cabling and drivers (CD). English description. See the manufacturer's website ([www.carry.com.tw](http://www.carry.com.tw)).

Model	Type of card	Stock no.	Price each
UISC3SE	SmartMedia + CompactFlash	25-228-78	57,70
UISMC4	SmartMedia+CompactFlash+MemoryStick	25-228-86	120,00

## Batteries for power tools

ELFA keeps a stock of a range of NiMH battery packs, suitable for power tools from various manufacturers. For each battery there is a machine designation together with the corresponding original battery.

Return old NiMH and NiCd batteries to the supplier.



	<i>Voltage</i>	<i>Dimensions</i>	<i>Weight</i>	<i>Stock no.</i>	<i>Price each</i>
Suitable for AEG 7.2, Atlas Copco 7.2, Makita 7.2	7.2 V	150×48×27 mm	373 g	69-440-86	49,50
Suitable for AEG 9.6 model ABSE13, ABS13/8.6 V	9.6 V	151×76×49 mm	563 g	69-442-43	68,90
Suitable for Panasonic model EY62220, EY503	2.4 V	-	171 g	69-443-00	36,20
EY3653, EY3654	7.2 V	96×71×60 mm	460 g	69-441-36	67,80
EY6101EQK, EY6100EQK, EY6205BC	12.0 V	97×81×84 mm	710 g	69-441-51	94,00
Suitable for Makita model 6204 DWWDG, 6226DWE, 6222 DWE, etc.	9.6 V	111×89×79 mm	554 g	69-442-01	76,50
6012HDW, 6092DW, 6093DW, etc.	9.6 V	182×48×29 mm	502 g	69-440-94	62,30
6211DWE, 6311DWH, etc.	12.0 V	100×86×79 mm	666 g	69-441-10	87,40
6223DWE, 6227DWE, etc.	12.0 V*	108×87×95 mm	715 g	69-442-19	110,00
Suitable for Hitachi D10DB, DRC10, etc.	7.2 V	103×60×55 mm	407 g	69-440-45	55,80
D10DD, D10DG/K-S, etc.	9.6 V	100×70×72 mm	548 g	69-440-52	76,50
DH15DV, DS10DTA, etc.	12.0 V	124×70×73 mm	683 g	69-440-60	94,60
Suitable for Bosch GBM7.2VE, GSR7.2VE, GUS7.2	7.2 V	105×70×55 mm	411 g	69-440-03	56,80
GBM9.6VE, GSR9.6VE/VES/VET	9.6 V	130×70×55 mm	542 g	69-440-29	68,90
GBM9.6VE-2, PBM9.6VES-2, etc.	9.6 V	114×108×59 mm	563 g	69-441-77	80,40
GBM12VES-2, GSR12VE-2, etc.	12 V*	114×108×59 mm	707 g	69-441-85	107,00
Suitable for Atlas Copco PES9.6, PES9.6T/2, etc.	9.6 V	124×67×67 mm	581 g	69-442-68	75,40
MX12	12 V	124×67×67 mm	709 g	69-442-76	86,90

\* Capacity 3000 mAh, others 2200 mAh

## Voltage converter for vehicles



Switching voltage converters designed to be connected to the lighter sockets in cars, boats or trucks using a 12 V or 24 V system. Adjustable output voltage between 1.5 and 12 V, in seven settings. Supplied with seven replaceable, pole-reversible secondary contacts.

<i>Technical data</i>	
Input voltage:	11–30 VDC
Output voltage:	1.5/3/4.5/6/7.5/9/12 VDC
Output current:	1.5 A

<i>Model</i>	<i>Stock no.</i>	<i>Price each</i>
SDC2010	69-880-67	14,30

## Inverter with sinusoidal output voltage

Inverter that converts 12 V direct current into 230 V sinusoidal alternating current. Suitable for running mains-powered equipment in mobile contexts, e.g. in a vehicle.

Sinusoidal output voltage provides the facility to connect TVs, computers or stereo equipment that is sensitive to modified square waves that occur in normal inverters. The inverter is fitted with temperature protection as well as protection against short circuits and low battery voltage.



<i>Technical data</i>	
Output (continuous):	300 W
Output (intermittent):	1000 W
Input voltage:	10–15 VDC
Output voltage:	230 VAC/50 Hz
Curve type:	Sinusoidal
Idling output:	4 W
Dimensions:	225x242x80 mm

<i>Model</i>	<i>Stock no.</i>	<i>Price each</i>
G-12-300S	69-719-15	179,00



## TRACO POWER

New range of 60 W mains units for demanding industrial applications.

Extremely compact design (45x75x100 mm)

- Fitted to DIN rail
- Facility for parallel connection
- Available in versions with screw block or non-locking quick connector
- Suitable for cost-critical applications



Model	Description	Connection	Stock no.	Price each
TCL 060-112	12 V/4 A	Screw block	69-986-03	90,30
TCL 060-124	24 V/2.5 A	Screw block	69-986-11	78,90
TCL 060-112C	12 V/4 A	Quick connector	69-986-37	86,80
TCL 060-124C	24 V/2.5 A	Quick connector	69-986-45	74,70

### DC/DC-converters

#### TEL-3

3W DC/DC in 24-pin DIL package. Suitable for cost-critical applications. Replaces the TEF range.



E.g.	Stock no.	Price each
TEL3-0511	69-593-08	22,10



#### TMR

New 2W DC/DC range in compact SIL package. Suitable in telecommunications and data communication products requiring a lot of space as well as in industrial process controls.

E.g.	Stock no.	Price each
TMR0511	69-598-03	21,30



#### TEN-15

15W DC/DC with high level of efficiency and standard pin configuration. Replaces the TAP range.

E.g.	Stock no.	Price each
TEN15-1211	69-596-05	63,70



#### TEN-25

New 25W DC/DC range with high level of efficiency and standard pin configuration. Replaces the TAM25 range.

E.g.	Stock no.	Price each
TEN25-1211	69-576-09	65,70



For more information and prices, [www.elfa.se](http://www.elfa.se)

## New from Mascot



### Mascot 2025, switching 135 W mains unit with PFC

Free-standing mains unit with power factor correction (PFC) and a broad input voltage range.



Model	Output voltage	Max. output current	Stock no.	Price each
2025/12	13.2 V=	10 A	69-493-09	197,00
2025/24	24 V=	5 A	69-493-17	197,00
2025/48	48 V=	2.5 A	69-493-25	197,00

Accessories: Suitable mains charge stand 43-314-01

### Mascot 9829, battery eliminator with adjustable output voltage

Compact switching battery eliminator with continuously adjustable output voltage. Replaceable secondary contact with reversible polarity may be purchased separately.



Output voltage	Max. output current	Stock no.	Price each
4.5-12 V=	1.2 A	69-494-08	41,10
12-30 V=	0.65 A	69-494-16	41,10

### Secondary contacts

Model	Dy / di	Stock no.	Price each
3630	5.5/2.1 mm	69-805-02	0,61
3617	5.5/2.5 mm	69-805-10	0,61
3635	3.8/1.35 mm	69-805-28	0,61
3627	5.0/1.9 mm	69-805-36	0,61
3615	3.5 mm plug	69-805-44	0,61
3620	2.5 mm plug	69-805-51	0,61

## New, faster universal programmer

### LabTool-48XP

Intelligent programmer in new version with faster, more efficient programming and extended support for Windows XP.



Manufactured by Advantech

LabTool-48XP has support

for more than 5,000 different circuits, and the software is being continually updated for new circuits.

- Software for Windows 95/98/NT/2000/XP
- Very fast programming: under 2 seconds/Mbit for Flash memory
- Up to 48-pin DIL without adapter

Complete "device list" and demo version of software supplied can be downloaded from the manufacturer's website: [www.aec.com.tw](http://www.aec.com.tw)

There is an upgrade kit to upgrade LabTool-48 to LabTool-48XP. The software does not have to be sent in, but can be replaced by the user.



Model	Stock no.	Price each
LabTool-48XP	25-969-89	1 127,00
UPGRD-KIT-48XP	25-969-97	310,00

## 100 V line PA system

The following range from Monacor includes most products that an engineer or fitter should need to be able to install a PA system in venues such as small sports halls, shops, warehouses, workplaces, churches, restaurants or hotels. The products have been designed to create good sound for both speech and music.

The 100 V line has obvious benefits compared to a low-ohm system when there are long distances between the amplifier and



### 100 W amplifier PA-888

PA amplifier with two microphone inputs and one AUX input. Tone control and outputs for both low-ohm and 100 V loudspeakers. Siren and chime to attract attention are included. Powered by 230 V or 12 V direct current. Compact, only 280 mm wide.



Model	Stock no.	Price each
PA-888, amplifier 100 W	30-410-01	197,00
PDM-300 desktop microphone	30-411-26	58,50



### 170 W amplifier PA-1200

PA amplifier with three detachable sections for 100 V outputs, and outputs for both 4 and 8 ohm. Inputs for microphone, balanced line, phono, telephone. Siren and chime to attract attention are included, as well as a number of mixer controls with bass and treble controls. Powered by 230 V or 24 V direct current. The width is a standard 19" (482 mm), with angle brackets available as accessories for fitting in a cabinet.



Model	Stock no.	Price each
PA-1200, amplifier 170 W	30-410-27	499,00
PA-12RM, angle brackets	30-410-92	51,60
PDM-300 desktop microphone	30-411-26	58,50



### 340 W amplifier PA-1240

A powerful amplifier for larger systems. With five zones, each of which can be controlled separately. Phantom supply to electret microphones in general has the same functionality as the PA-1200.



Model	Stock no.	Price each
PA-1240, amplifier 340 W	30-410-43	869,00
PA-1120PTT desktop microphone	30-411-00	288,00

the loudspeakers, and also when a large number of loudspeakers have to be connected. In a 100 V line system you no longer need to worry as much about system impedance or losses, which makes the installation much easier.

PLEASE NOTE! As the system contains 100 V these installations must be performed by a qualified electrician.

Please visit our website at [www.elfa.se](http://www.elfa.se) for further information about these products.

### Recessed loudspeakers

With integrated 100 V transformer. EDL-11 is fitted with a fireproof rear cover.



Model	Output rms	Diameter	Stock no.	Price each
EDL-10	10/6/4/2 W	262 mm	30-415-06	51,70
EDL-11	10/5/2.5 W	269 mm	30-415-22	49,70

### Loudspeakers

With integrated 100 V transformer. 2-way system with separate base and treble loudspeakers.



Model	Colour	Output rms W	Dimensions	Stock no.	Price/pair
EUL-30WS	White	15/7.5/4/2/1	130x192x115	30-417-04	77,60
EUL-30SW	Black	15/7.5/4/2/1	130x192x115	30-417-12	77,60
EUL-60WS	White	15/7.5/4/2/1	215x290x172	30-417-20	170,00
EUL-60SW	Black	15/7.5/4/2/1	215x290x172	30-417-38	170,00
EUL-80WS	White	30/15/7.5/4/2	270x370x220	30-417-46	254,00
EUL-80SW	Black	30/15/7.5/4/2	270x370x220	30-417-53	254,00

### Horn loudspeakers

Horn for applications requiring very high performance and targeted output. Suitable for larger premises and outdoors. PLEASE NOTE! Driver must be ordered to create a complete loudspeaker.



Model			Stock no.	Price each
SK-159	horn	375x222x300 mm	30-419-02	57,90
SK-22	horn	dia 565x460 mm	30-419-28	78,00
KU-616	driver	IP65 max 60 W	30-419-44	57,10



## Package price!

Fluke 189 True RMS multimeter with very high degree of accuracy. Has highest safety classification Cat III 1000 V or Cat IV 600 V in accordance with EN61010. Data interface with logger. Considered by many to be the best multimeter in the world – buy one yourself!

### The Fluke 189 PLUS package contains:

- Fluke 189: The world's best hand-held multimeter
- FVF-SC2: FlukeView Forms PC software
- TPAK: Toolpak – fitting kit
- C125: Soft case

**565,00**

The Fluke 189 PLUS package  
 Stock no.: 76-001-66  
 Normal price: 714,00

This offer is valid until 31-12-2002

## Battery tester/charger



Tool for capacity testing, charging and reconditioning most kinds of batteries. In addition to the standard programs, any voltage can be defined for charging and final voltage when discharging. Loading current and discharge current can be defined individually between 10 mA and 2.2 A. Connection to battery is by universal cable and clamps/contacts. The process can be followed on a PC in tabular or graphical form, and printed out in the form of voltage or capacity curves. The battery's self-discharge can be tested at any intervals from one hour to 200 days. A special reconditioning program is included, and keeps the connected battery "topped up". Supplied with PC cabling and software (CD). User guide in Swedish and English.

Technical data	
Battery types:	NiCd, NiMH, Li-Ion and lead batteries
Capacity:	50 mAh–40 Ah
Max. charge voltage:	20.0 V
Max. charge current:	2.2 A
Display:	LCD 2x16 characters, backlit
Connections:	4 mm lab sleeve, safety type
Power supply:	230 V mains
Dimensions WxHxD:	205x80x147 mm
Weight:	1.8 kg

Model	Stock no.	Price each
Battery tester/charger SM-APL1	76-523-81	542,00

## Foam plastic for loudspeaker front panels

Good acoustic permeability. Easy to cut.



Model	Dimensions (mm)	Stock no.	Price/pair
MDM-3002	480x378x10	30-319-03	7,64
MDM-8602	611x480x10	30-318-79	10,50
MDM-4002	668x579x10	30-318-87	18,00
MDM-3522	780x422x10	30-318-95	12,10

## Loudspeaker grille

Dense perforation. Consists of two sections: a securing ring, which is screwed on to the box, and a grille, which is snapped into place.



Model	Dim dia x H mm	For speaker diameter	Stock no.	Price/pair
SG-75	99x11	3"	30-318-04	2,35
SG-100 1	41x11	4"	30-318-12	3,40
SG-130	163x14	5"	30-318-20	3,73
SG-165	174x16	6.5"	30-318-38	4,08
SG-200	214x18	8"	30-318-46	6,73
SG-250	267x18	10"	30-318-53	9,55
SG-300	322x22	12.5"	30-318-61	13,10

## Boxit® All-weather cases for mobile phones



Manufactured by Nite Ize

All-weather cases that protect mobile phones, as they are impact-resistant, watertight and dust-proof. "Gore® audio membrane" provides good sound transfer. "Boxit®" is compatible with most mobile phones on the market.

Technical data	
Enclosure class:	IP45 and IP65
Temperature range:	-40 to +60°C
Dimensions with small case:	W25xH114xL51 mm
Dimensions with large case:	B25xH133xL51 mm
aerial holder:	H32x25 mm
Weight:	71 g

Model	Stock no.	Price each
NBX07	80-569-21	32,30

## Tektronix TDS3000B oscilloscope

**Digital Phosphor Oscilloscope, better than analogue and better than digital  
Now even better!**

Tektronix, world leaders in the field of oscilloscopes, are now upgrading their TDS3000 range to TDS3000B. TDS3000B is a range of digital phosphor oscilloscopes (DPO).

The new range includes a 100% faster CPU, 10x higher accuracy on the time base, built-in Ethernet port, FFT and advanced triggers as standard on all models, and much more.

### WaveStar

Windows-based software to document, display, save, process and analyses measurement data collected. System requirements W95/98/NT/XT.



Model	Stock no.	Price each
WSTRO	76-246-87	431,00

Model	MHz	Channels	GS/s	Stock no.	Price each
TDS3012B	100	2	1.25	76-251-06	4 512,00
TDS3014B	100	4	1.25	76-251-14	5 463,00
TDS3032B	300	2	2.5	76-251-22	5 939,00
TDS3034B	300	4	2.5	76-251-30	8 079,00
TDS3052B	500	2	5	76-251-48	9 743,00
TDS3054B	500	4	5	76-251-55	11 883,00

Supplied with 2 x X10 passive probes, 4 for the four-channel models. Instruction manuals. Application modules TDS3FFT, TDS3TRG, front panel guard and NIST traceable calibration certificate.

### Application models and accessories

Model	Description	Stock no.	Price each
TDS3AAM	Advanced Analysis Application Module for TDS3XXX	76-251-97	607,00
TDS3GV	Communication Module: GPIB + VGA + RS-232	76-252-05	482,00
TDS3LIM	Limit Test Application Module	76-252-13	607,00
TDS3PRT	Thermal Printer for TDS3000 Series	76-252-21	725,00
TDS3SDI	270 Mbit/s Serial Digital Application Module	76-252-39	2 967,00
TDS3TMT	Telecom Mask application module	76-252-47	1 219,00
TDS3VID	Advanced Video Measurement Application Module for TDS3xxx	76-252-54	607,00
TDS3BAT	Rechargeable NiCad battery pack	76-252-62	483,00
TDS3CHG	Fast Charger for battery pack	76-252-70	159,00
AC3000	Soft case	76-252-88	208,00
RM3000	Rack assembly	76-252-96	373,00

For more information about Tektronix DPO, visit the DPO website at <http://www.tek.com/Masurement/scopes/dpo>

For more detailed information about oscilloscopes in the TDS3000 series, see <http://www.tek.com/Masurement/scopes>

## Air-coiled loudspeaker chokes

Air-coiled chokes with high power resistance and low internal resistance. Air-coiled with acid-free copper wire. Designed for use as a pitch filter in loudspeakers in hi-fi applications.

Copper wire: Acid free, diameter 1.2 mm

Power resistance: 300 Wrms



Model	Inductance mH	DC resistance Ω	Dim (mm)	Stock no.	Price each
LSIP-15	0.15	0.15	48x19	58-300-05	2,14
LSIP-18	0.18	0.15	48x19	58-300-13	2,44
LSIP-22	0.22	0.15	48x19	58-300-21	2,69
LSIP-27	0.27	0.20	48x19	58-300-39	2,88
LSIP-33	0.33	0.20	48x19	58-300-47	3,23
LSIP-39	0.39	0.25	59x19	58-300-54	3,59
LSIP-47	0.47	0.47	59x19	58-300-62	4,16

For more articles and prices, see [www.elfa.se](http://www.elfa.se)



## New Fluke 789 Process multimeter

When Fluke introduced the 787 it was the first instrument to combine an accurate precision multimeter with a 4–120 mA process calibrator. Now comes the Fluke 789, which is a further development of the former 787, with even sharper performance and more functions.

### The new functions include the following

- Integrated 24 V operating voltage
- Quick buttons to switch between 4 and 20 mA
- In-built 250 W HART resistor
- Larger, clearer, backlit double display
- Simpler replacement of fuses and battery without breaking the calibration seal

### Other functions

- Complies with safety class Cat III 1000 V in accordance with EN61010-1
- Precision multimeter AC/DC from 0–400.0 mV up to 1000 V, and current from 0–30.00 mA to 0–0.440 A
- Frequency measurement up to 20 kHz
- Min/Max/Average/Hold and relative measurement
- Diode test and connection test with buzzer.
- Simultaneous display of mA and % in a double display
- 20 mA current source driving and reducing calibrator
- Manual range (100 %, 25 % or own) as well as Autorange and Autoramp.

Stock no.	Price each
76-493-95	783,00

## Network camera with web server, colour/zoom

Network camera with in-built web server for image transfer without a computer via the Internet, network, modem, ISDN, etc. Connection for Ethernet and RS232. The 2100 model has optics with a fixed range and the 2110 has optics with a variable range (zoom). C/CS mount. Light-sensitive down to 1 lux. The camera can

also be used in a monitoring context and connected to an alarm system. The camera then starts automatically when the alarm is activated, and e-mails the images to the specified address. Equipped with alarm input and relay output. For indoor use. Supplied with mains unit.

Technical data		
	Axis 2100	Axis 2110
Speed:	Max. 10 pictures/sec.	Max. 15 pictures/sec.
Sensor:	1/4", 0.3 Mpixel	1/4", 0.3 Mpixel
No. of pixels:	640x480	640x480
Sensitivity:	3-10,000 lux	1-200,000 lux
Network:	10/100 BaseT	10/100 BaseT
Serial communication:	RS232	RS232
Objective mount:	C/CS mount	C/CS mount
Supply voltage:	12 V=	12 V=
Power consumption:	9.6 W	7 W
Temperature range:	+5 to +40°C	+5 to +40°C
Dimensions:	102x41x147 mm	102x41x147 mm
Weight:	240 g	260 g



Manufactured by Axis

Model	Stock no.	Price each
Axis 2100	30-619-00	496,00
Axis 2110	30-619-18	794,00



Manufactured by Monacor

## TFT LCD 5.6" colour monitor

LCD monitor using TFT technology, providing good resolution, high contrast and less creep at faster speeds. Suitable for both stationary and portable use in various kinds of monitoring systems, video recording, etc. A video camera, video player or other equipment with a composite video signal at the output can be connected directly to the monitor. In-built loudspeaker. Output for earphones. The picture can be displayed normally or reversed. Powered by 12 V direct current from the mains or a battery pack (not supplied). Supplied with a stand with an adjustable 1/4" bracket and connection cable.

Technical data	
Monitor:	5.6" LCD, TFT active matrix
System:	PAL/NTSC
(adjustable)	
Resolution:	960 (H)x234 (V) pixels
Inputs	
video:	1 Vt-1 / 75 Ω
audio:	30 mV / 10 kΩ
Contact type:	Phono
Supply voltage:	12 V=
Power consumption:	700 mA
Temperature range:	0 to +40°C
Dimensions:	173x130x30 mm
Weight:	470 g

Model	Stock no.	Price each
TVLCD-564COL	30-640-37	427,00

For a suitable mains unit (battery eliminator), see stock no. 69-804-86, and for a secondary contact see stock no. 69-805-02.

## AT-2004 Cable finder

The AT-2004 consists of three sections: the S2300 signal generator, T2200 transmitter and R2000 receiver. These can be combined to work in various work areas and to ensure identification that is as effective and safe as possible. Indication is by means of both sound and light signals. The equipment does not disrupt sensitive electronic appliances such as computers, hospital equipment, industrial control systems, etc.

### Work area 1. R2000 + S2300

For the localisation of live and non-live cables/circuits indoors and outdoors, without dispersion/overlapping. Operating voltage 9-300 V, depth 0-4 m, horizontal range is effectively unlimited.

### Work area 2. R2000 + T2200

For the localisation of non-live cables/circuits indoors and outdoors, dispersion/overlapping to other galvanic cables may occur. Signal source 9/24 V, depth 0-



Manufactured by Pasar

2 m, horizontal range approx. 300 metres. Supplied with safety cables, crocodile clips, measuring prongs, user guide in Swedish and English, all in a sturdy case with a handle.

Model	Stock no.	Price each
AT-2004	76-454-76	1 089,00



## Travel adapter set

Travel adapter set, earthed, suitable for most sockets in the world. Consists of a plug with a fixed Schuko output and five loose plug connectors. The required plug

connector is simply fitted to the output socket for the required type of adapter.

Description	Stock no.	Price each	
		1-	10-
Adapter set	43-405-19	14,80	13,30

## Current sensor from LEM



### 3–20 A, “open loop” current sensor

Sensor with open loop for circuit board assembly. Used where there is a high demand for accuracy, e.g. control of revolution speed, servo operation, UPS and switching power unit. Also suitable for current control and short circuit protection in household appliances such as fridges, washing machines, etc. Measurement takes place in a magnetic field with a Hall element, which provides low power consumption and galvanic separation.

Technical data	
Output signal:	±4 V (at primary current)
Inaccuracy:	<1 %
Frequency range:	0-50 kHz
Supply voltage:	±15 V
Working temperature:	-25 to +85°C
Dimensions:	15.4x20x19 mm
Weight:	8 g



Model	Primary RMS current	Top current	Stock no.	Price each
HX 3-P	3A AC/DC	±9 A	76-962-06	17,30
HX 5-P	5A AC/DC	±15 A	76-962-14	17,30
HX 10-P	10A AC/DC	±30 A	76-962-22	17,30
HX 15-P	15A AC/DC	±45 A	76-962-30	17,30
HX 20-P	20A AC/DC	±60 A	76-962-48	17,30

### 2-25 A, “closed loop” current sensor

Sensor with closed loop for circuit board assembly. Very basic accuracy at low temperature operation. Typical applications include measurement/control of batteries, welding units, servo operation and trucks. Measures current in a cable up to 25 A directly through the opening or 8–12–25 A connected via primary conductors in parallel or in series. The sensor can thus also be used for differential measurements.

Technical data	
Output signal:	±2.5 V, ±0.625 A (at primary current)
Inaccuracy:	±0.2 % (at 25°C)
Frequency range:	0-100 kHz
Supply voltage:	5 V
Working temperature:	-10 to +85°C
Dimensions:	22.2x24x9.3 mm
Weight:	10 g



Model	Primary RMS current	Top current	Stock no.	Price each
LTS6-NP	6A AC/DC	±18 A	76-963-05	22,40
LTS15-NP	15A AC/DC	±45 A	76-963-13	22,40
LTS25-NP	25A AC/DC	±80 A	76-963-21	22,40

### 10–500 V (0–10 mA) Voltage sensor

Sensor mounted to circuit board to measure and control direct/alternating voltage. Completed by suitable resistance selected on the basis of the voltage to be measured. The module can also be used to measure 0–10 mA (no resistance is required). Galvanically separated. Typical applications include measurement/control of batteries, welding units and servo operation.

Technical data	
Output signal:	±25 mA (at primary voltage/current)
Inaccuracy:	±0.9 % (at 25°C)
Supply voltage:	±12 till ±15 V
Working temperature:	-25 to +85°C
Dimensions:	29.2x15.1x26 mm
Weight:	22 g



Model	Measurement range	Stock no.	Print each
LV25-P	10–500 V (0–10 mA)	76-965-03	60,60

## Temtronic WSD 161

The WSD 161 is an electronically controlled 130 W soldering station with smooth, variable temperature control from 50–140°C. Fitted with connections for two separate soldering tools, one channel delivering 80 W and the other 50 W. Compatible with all electronically controlled Weller soldering tools. The electronic control unit in the station identifies which soldering tool is connected, and automatically adjusts to the correct parameters. Fitted with a digital display for the current preset temperature. Potential-free. The soldering station is fully manufactured in an ESD-proof design.

Supplied with transformer, WPH 80 and KH 20 stand with cleaning sponges, ESD-proof WSP 80 miniature soldering pen, ESD-proof LR 21 50 W soldering pen. ET-B and LT-B tips.

Compatible soldering tools: WSP-80, WT-50, LR-21, MLR-21, MPR-30, WHP-80, WST-20.



Technical data	
WSP 80 soldering pen:	24 V/80 W
LR 21 soldering pen:	24 V/50 W
Transformer:	230 V/24 V
Dimensions WxLxH:	166x115x101 mm
Weight:	2.0 kg

Weller model no.	Model	Stock no.	Price each
5 32 706 99	WSD 161	82-240-81	530,00

## Cordless soldering iron

Battery-operated soldering iron, ideal for service and repairs to places that are difficult to access. Operates using 3 x LR6 batteries. Fitted with switch and separate heating button for the soldering tip. Red LED indicates heating.

- 160 heating cycles to 350°C
- Continuous operation approx. 60 mins. (400 soldering spots)
- Heating time approx. 15 sec. to 350°C



Manufactured by ERSA

Technical data	
Power:	6 W
Tip temperature:	600°C (max)
Ambient temperature:	0–40°C
Dimensions:	173x35.5x20 mm
Weight:	105 g incl. batteries

Supplied with 3 pcs of LR6 batteries, 1 piece of cone-shaped tip, 1 piece of chisel-shaped tip and a tool for changing the soldering iron.

Model	Stock no.	Price each
B0640041	82-537-18	83,70