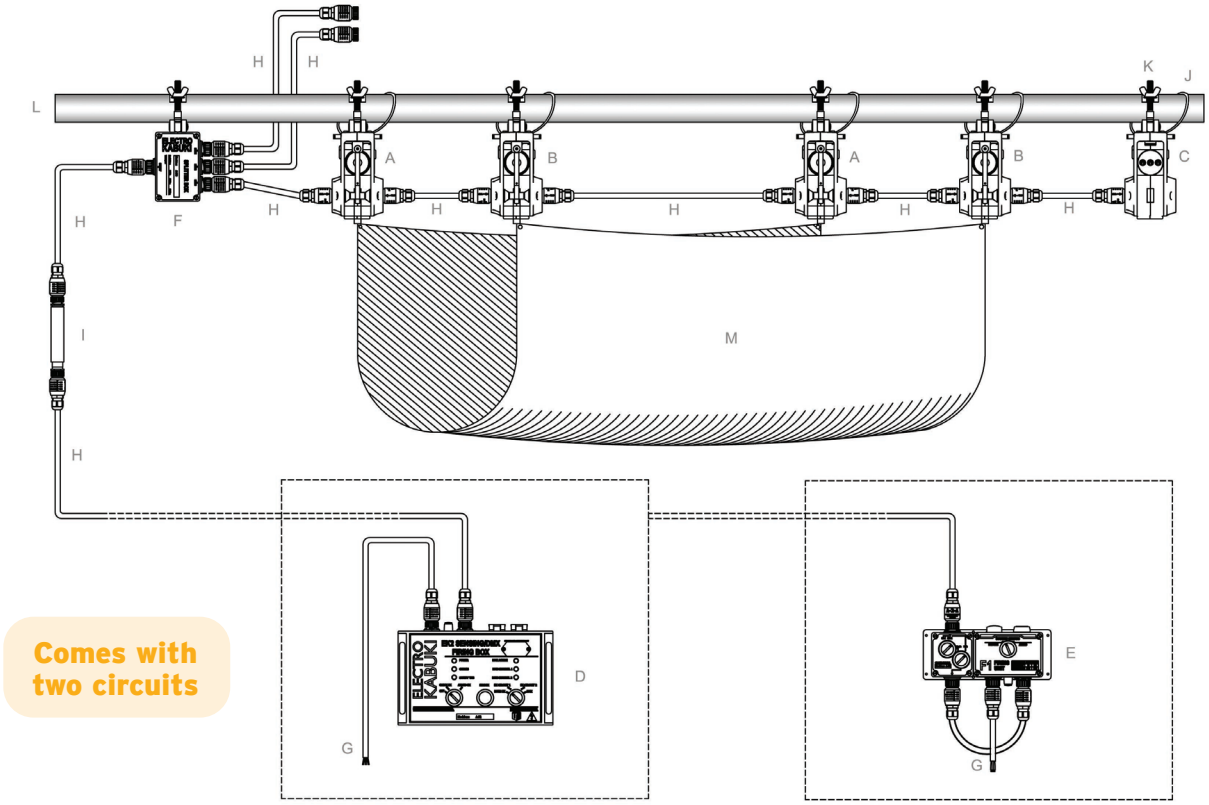
ELECTRO KABUKI

Electro Kabuki

The EK2 is the latest development of the highly successful Electro Kabuki system. At the heart of each unit is a powerful and dependable magnet which holds a pivoting hook. That's where you hang your load – whether it's for a curtain release, car reveal or a special effect drop. The system has now progressed into being a two-circuit system capable of "Flop and Drops". Typically, a "Flop and Drop" may be a flag or banner which firstly drops into view and then drops to the floor at the end of the scene. For maximum versatility the new firing boxes allow you to select either Circuit 1 or 2 or both. Furthermore, you can now choose between a Standard Firing Box or the DMX version. By using the DMX firing box you will also maximise the feedback information you gain from the LED status Indicators. On page 179 we have also included some useful Holding Magnets and a small Shot Bolt. Flints can also supply heavy-duty shot bolts and rotary solenoids. For projects outside the UK other voltages can be supplied.

FLOP AND DROP BASIC LAYOUT



Comes with two circuits

How it works

The basic system really could not be simpler! Each Electro Kabuki unit has a socket on each side. One is coloured blue and the other is coloured white. Each cable has a plug on each end. Yes, you've guessed, one is white and one is blue. Do I need to go any further?! Wiring up really is that simple.

- Just purchase a firing box and a "Power-In" cable – this cable has one end plain for you to attach your preferred plug type
- Purchase as many Electro Kabuki units as you need to perform your drop. Spacing for drapes is generally 1.0 – 1.5 m. They can be selected with clamps so the units can be attached directly to flying bars
- The DMX firing box requires an end of line unit for each branch
- Purchase a long Link Cable to reach from the control box to the first unit
- Purchase enough short Link Cables to join up all the other units
- Plug the system in
- Select Circuit 1, Circuit 2 or both
- Check continuity
- Press the fire button

"Flop and Drop" Arrangement

If you require a "Flop and Drop" you will need to buy Electro Kabukis with two different circuits. Just select the desired circuit on the firing box for each part of the drop. Don't worry if you want to use them all together at another date. You can just select "Both" on the firing box. No extra cabling is required, all the cables can operate two circuits. Rather than positioning the units side by side, as shown in the diagram, you can also use the new "Back to Back" Bracket [see next page].

Key to parts

- **A** EK2 Electro Kabuki Circuit 1
- **B** EK2 Electro Kabuki Circuit 2
- **C** End of Line Indicator
- **D** Sensing/DMX Firing Box
- **E** Basic Firing Box
- **F** Splitter Box [optional]
- **G** Power In Cable
- **H** Link Cable [various lengths]
- **I** Cable Connector
- **J** Safety Bond [a soft loop formed in 3 mm Ø wire will pass through the hole]
- **K** Clamp for 42 – 52 mm tube
- **L** Scaffold Tube [page 248], Truss Chord or Flying Bar
- **M** "Flop and Drop" Cloth [special item made to order]

Safety Information

The function of the EK2 Electro Kabuki System is to suspend a load and release it on command from a remote location. Although the equipment is highly reliable it must be remembered that NO SYSTEM IS 100% RELIABLE. The Electro Kabuki must therefore not be used in an application where untimely release of the load might cause injury, death or damage to property. Each mechanism is supplied with an instruction sheet. A full manual is available to download from the downloads section of our website – www.flints.co.uk. It is the user's responsibility to read and understand the manual before using the system. It is important that the person specifying and operating suspension equipment is competent to do so.

EK2 ELECTRO KABUKI LOAD RELEASE MECHANISM

EK2 Electro Kabuki Units

This award-winning design will reliably release weights of up to 50 kg. It can be used to drop items such as backdrops, dummies or cables on cue from a remote position. The load can be released as a vertical drop or at angles up to horizontal. The item is attached to a hook arm which pivots free when the magnet is energised. A clever spring is incorporated to throw the arm clear of the magnet when light loads are used, for example, with balloon drops. The latest models have a rubber sound dampening pad so the operation is virtually silent. A safety catch is incorporated so that the mechanism can be tested prior to the show without releasing the load. The catch should be locked on until it is safe to operate. The Electro Kabuki can be easily daisychained. The body has a thread at the top and at the back to take M12 bolts [max depth 20 mm]. Manfrotto half couplers can be attached to make a quick fixing to scaffold tubes.

- ✓ Now available in two circuits
- ✓ Sound dampened
- ✓ Now fitted with blue LED status lamp
- ✓ Built-in safety catch
- ✓ Also available in 110 V AC version [plus other voltages for work outside UK]
- ✓ No wiring necessary – just order ready-made cables!
- ✓ Continuous program of improvements – visit flints.co.uk for the latest details

Supplied with detailed instructions.

SPECIFICATION: Fitted with weatherproof AMP CPC Series 1 connectors. Power consumption: 6.6 W [at 20°C magnet coil temperature]. For a full range of Safety Bonds see page 216.

Shown with half coupler sold separately

A B

N

SAFETY	Breaking Load	Safety Factor	SWL
	FHS002HCS	with shackle pin in slot	550kg

code	description	Type	price
SOLEK2P230C1	For 230 V AC supply	Channel 1	£335.00
SOLEK2P230C2	For 230 V AC supply	Channel 2	£335.00
SOLEK2P110C1	For 110 V AC supply	Channel 1	£335.00
SOLEK2P110C2	For 110 V AC supply	Channel 2	£335.00
K SOLEKMF300	Manfrotto half coupler 300 kg + bolt		£23.41
N SOLEKBTB	Back-to-back bracket [includes coupler]		£38.75
SOLEKFC15	Flight case for up to 15 units		£1,150.00

General Solenoid Care

- ✓ Keep the matching surfaces spotlessly clean. Even a small iron filing stuck to the magnet will dramatically reduce performance. Try to appoint one person to take charge of re-setting.
- ✓ As these units are impulse rated they should not be energised for longer than 15 seconds. If they remain energised they will heat up and require a slightly different voltage to release.
- ✓ If you are bolting directly to the Electro Kabuki via the M12 threaded inserts please make sure the bolt length is correct. Using a bolt which is too long could damage the unit.
- ✓ A cable securing clip is provided on the new units but please don't yank or carry the units by swinging them from the cables!

EK2 SENSING/DMX FIRING BOX

EK2 Sensing/DMX Firing Box

This is the very latest design of control box which now serves five purposes.

- ✓ Checks the status of the system prior to firing [i.e. the position of the safety catches on the mechanisms and the continuity of the cabling circuit]
- ✓ Houses a push button for local firing of the units
- ✓ Controls which units are fired when the push button is used [i.e. Circuit 1, Circuit 2 or both]
- ✓ Houses DMX circuitry for remote firing of the units
- ✓ Capable of firing up to 200 Electro Kabuki 230 V AC units, or 75 Electro Kabuki 110 V AC units
- ✗ Not weatherproof

Supplied with detailed instructions.

SPECIFICATION: Fitted with colour-coded AMP CPC Series 1 connectors. Fuse rating: 8 A. The power cable is listed below and the other cables are listed in the wiring section opposite. Weight: 2.65 kg.

Compatible with previous EK Kabuki models

K

code	description	price
SOLAF2	EK2 Sensing/DMX Firing Box	£1,980.00
SOLB2A	Power in supply 2m cable [AMP to bare]	£30.00

BASIC FIRING UNIT

Basic Firing Unit

This basic unit now allows the operator to select Circuit 1, Circuit 2 or both but does not house DMX or sensing circuitry. Supplied with: detailed instructions.

SPECIFICATION: Fitted with weatherproof colour-coded AMP CPC Series 1 connectors, two fuse holders [one spare fuse] and a LED light to show when the system is armed. Weight: 1.5 kg.

E

code	description	price
SOLAF3	Firing Unit 110/230 V	£540.00
SOLB2A	Power in supply 2m cable [AMP to bare]	£30.00

SPLITTER BOX

Splitter Box

Although the Electro Kabuki mechanisms can be easily daisychained, there are still times when a splitter box can be useful. If you have three drops in different locations in a grid, or a high ceiling, a single cable can be run to a splitter box and then sent in three directions to the mechanisms.

SPECIFICATION: Fitted with an M12 threaded insert for easy connection to hook clamps or half couplers. Weight: 0.97 kg.

F

code	description	price
SOLEKASP3	Three-way splitter	£175.00
K SOLEKMF300	Manfrotto half coupler 300 kg + bolt	£23.41

ELECTRO KABUKI

END OF LINE UNIT

End of Line Unit

This unit forms part of the circuitry which proves electrical continuity in the cabling visible from the stage level. Only used in conjunction with the Sensing/DMX Firing Unit. The unit has three switches, all of which should be on for a single chain of Kabukis. Individual switches should be used when two or three chains of Kabukis are used in conjunction with the splitter box. A green LED on the unit indicates the cables are correctly connected.

code	price
SOLAEOLI	£244.00

WIRING OPTIONS & ACCESSORIES

Wiring Options

Wiring up the Electro Kabuki mechanisms couldn't be simpler. The supply end of each cable is pre-fitted with a blue male [pin] connector and the load end is fitted with a white female connector [socket]. The mechanisms and the firing box are colour coded to match. The AMP connectors used on the cables are weatherproof to IP65. All you need to do is choose the length of cable you need between the firing box and the mechanisms and also the distance between the mechanisms. Special lengths can also be made up but they are slightly more expensive. Please note that it is not possible to join the cables together without a connector (SOLA1C).

✓ Quick ✓ No specialist skills required

Wiring to plugs type SOL01DC and SOL02AC is as follows: earth on earth, live on terminal No.1, neutral on terminal No.2.

	code	standard cable lengths	price
G	SOLB2A	Power in supply 2m cable [AMP to bare]	£30.00
	SOLA05A	0.5m Cable	£41.00
	SOLA2A	2m Cable	£45.00
H	SOLA5A	5m Cable	£58.00
	SOLA10A	10m Cable	£74.00
	SOLA20A	20m Cable	£106.00
	SOLA30A	30m Cable	£140.00
I	SOLA1C	Connector	£36.00
	code	non-standard cable lengths	price
	SOLAMPSF	Power-in blue AMP connector [fitted to your cable]	£11.30
	SOLAMPPF	Power-out white AMP connector [fitted to your cable] SOLAMPPF	£11.30
	SOLCABLE	4 x 1.5 mm² black cable [price per metre]	£2.00
	code	spares and accessories for solenoids	price
	SOLCRINGS10	Spare coupling rings and fitting tube [pack of 10]	£38.00
	SOLCCAPS10	Spare connector caps [pack of 10]	£52.00
	SOLCBOLTS10	Clamp bolts [pack of 10] and Allen key	£17.00
	SOLSRC20	Strain relief clips [pack of 20]	£16.00
	SOLDRVEL1	D-Rings [pack of 10] and velcro [2 m]	£17.50
	SOLF18A	24 V DC 8 A fuses for firing unit [pack of 10]	£16.00
	SOL01DC	Spare plug for 24 V DC supply	£3.85
	SOL02AC	Spare rectifying plug for 240 V supply	£22.81

EK2 STARTER KITS

EK2 Electro Kabuki Starter Kits

Electro Kabuki have put together these Starter Kits to give newcomers to the art of the reveal everything they need. Very popular among small companies and those wanting to try the system before making a bigger commitment, although don't forget Flints hire a slightly older version of the system (see page 404). The kits have two EK2 circuit 1 units and two EK2 circuit 2 units so you can stage simple drops or impressive "flop and drops". They come in both a 230 V and a 110 V version. Please note: Electro Kabuki restricts the supply to one Starter Kit per end user company.

Mechanisms and Clamps

2 x EK2 Unit, circuit 1, [no clamp]. Weight: 1.40 kg each, 2.8 kg total
2 x EK2 Unit, circuit 2, [no clamp]. Weight: 1.40 kg each, 2.8 kg total
4 x Manfrotto half coupler + bolt [loose]. Weight: 0.25 kg each, 1.0 kg total

Control

1 x Basic A-F3Firing Box, 110/230 V. Weight: 1.55 kg, 1.60 kg total

Standard Cables and Accessories

1 x Power Cable. Weight: 0.35 kg each, 0.4 kg total
3 x 2 m Link Cable. Weight: 0.35 kg each, 1.1 kg total
1 x 20 m Link Cable. Weight: 3.15 kg each, 3.2 kg total

Shipping details

Total net shipping weight: 12.70 kg
Total gross shipping weight: 14.00 kg

code	volts	price	Tradeline
SOLA0900145	230V	£3,401.70	£3,401.70
SOLA0900146	110V	£3,401.70	£3,401.70

Design Tips when using Holding Magnets

It is very difficult to pull an armature plate directly off a holding magnet. Well, we certainly can't. However, it is possible to slide the plate off by pushing hard with your thumbs – this is getting very technical. If possible try to design your mechanism so that the plate cannot slide off. Hinged lids work very well as the plate will need a direct pull. Incorporate a small spring if the door is very light. If you want to drop a picture from the wall consider placing a small lip under the picture so it has to fall forwards. Always ensure the plate and the solenoid make 100% contact, it is normal to allow the plate to move slightly to avoid any forced misalignment. Finally, keep the magnet faces spotlessly clean.

HOLDING MAGNET

Holding Magnet

This is a 35 mm diameter magnet which when energised releases its load. The applications are numerous – it could secure the lid to a drop box, release a light cloth, or make a picture fall from a wall. We recommend using our 40 mm diameter holding plate [armature]. A rubber grommet is supplied to allow some movement to ensure complete contact with both faces. If you want to release very light loads ensure that the voltage is accurately delivered to avoid residual magnetism. Adding extra weight or spring loading doors can be helpful design tips. Our holding magnets are supplied with a plug and socket connector with PG11 glands ready to take your cable. [See previous page for design tips when using magnets]

SPECIFICATION: Wiring information: earth on earth, live on terminal No.1, neutral on terminal No.2. Size: 50 mm long x 35 mm Ø. Fixings: One off 5 mm machine screw. Weight: 350 g Power Consumption: 8 W NB: As these units are impulse rated they should not be energised for longer than 15 seconds – our firing boxes are fitted with a momentary switch to avoid this happening. If using the firing box you will need to order a power feed cable [SOLB2A] and a length of cable [SOLCABLE] fitted with a white AMP connector [SOLAMPP]. You will need to connect the cable to the holding magnet. Wiring to plugs type SOL01DC and SOL02AC is as follows: Earth on earth, live on terminal No.1, neutral on terminal No.2.

code	description	price
SOL035	With plug for 24 V DC supply [excl. holding plate]	£150.00
SOL035AC	With plug for 230 V AC supply [excl. holding plate]	£172.43
SOL01DC	Spare plug for 24 V DC supply	£3.85
SOL02AC	Spare rectifying plug for 240 V supply	£22.81

ARMATURE PLATES

Armature Plate

These plates are surface ground electro nickel-plated and are the correct thickness for maximum performance from your solenoid.

SPECIFICATION: Size: 40 mm Ø x 6 mm thick supplied with 4 mm csk shoulder screw and rubber grommet with 6 mm of exposed thread. Weight: 50 g.

code	price
SOL40ARM	£18.13

SMALL SHOT BOLT

Small Shot Bolt

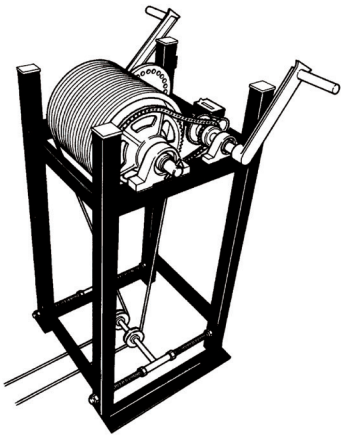
This device is ideal for light-duty safety catches on safety cages and lift access gates. They spring to lock and energise to release. It can also be used to drop light loads. It has a 10 mm stroke on its 8 mm diameter bolt and is supplied with flying leads. The unit is secured by its neck through a 16 mm hole with the nut provided. The reverse end of the stainless steel bolt is tapped to take a 3 mm bolt which could be used as an emergency release in the event of a power failure. The bolt slides on long life PTFE bearings. These solenoids are not suitable for heavy side loads. Please ask for details about heavy-duty solenoids.

SPECIFICATION: These units are continuously rated for 24 V DC. You will need to provide a 24 V DC supply. Size: 40 mm Ø x 60 mm plus 12 mm long threaded neck [M16]. Weight: 460 g. Power consumption: 14 W

code	price
SOL40SHOT	£128.20

TRUCK WINCHES

Truck Winch



Designed for moving medium to heavy-weight stage trucks. The winch drum is capable of 25 m of travel. There is a choice of handle positions providing a 1:1 or 1:3 ratio. The lower sheaves are adjustable to maintain cable tension. It can be operated by one or two crew. Fitted with a simple but effective pin brake. The winch is supplied with a trip meter for the accurate positioning of trucks even in blackouts. The finish is black powder coated. Additional handles are also available for dual operation.

SPECIFICATION: WxH 550 x 1,090 mm. Cable: 5 mm. Fixings: 6 off M10 bolts or coach screws.

code	description	price
FHS510T	Truck Winch + One handle + Trip meter [25 m travel]	£3,750.00
FHS505	Extra Handle for all winches	£217.00

Winch Meter

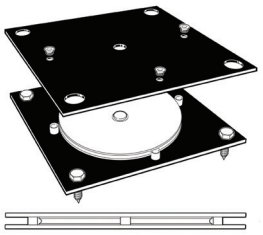
This unit shows 0 – 999999 on 10:1 ratio They are used on our truck winches but they can be used for other applications. Axle: Ø 6 mm.

code	description	price
FHS5011	Type CRSRLCB10:1J2010	£130.30

LOW LEVEL RETURN PULLEY

Low Level Return Pulley

A 230 mm diameter aluminium sheave grooved to take 6 mm wire rope mounted in between two 300 mm square plates so that the overall thickness is just 18 mm. Fitted with an Oilite bush bearing and nylon side washers. These pulleys were designed by Flints to act as return pulleys for our truck winches and can be mounted within the thickness of a 19 mm ply floor. Fixings: four M10 coach screws which are accessed through large diameter holes in the top plate but are hidden within the 18 mm depth when tightened down.



SPECIFICATION: Sheave Ø: 230 mm. Thickness: 18 mm. Max wire rope Ø: 6 mm.

code	description	weight	price
FHS503	Whole assembly	4.9kg	£111.50
FHS504	Sheave only	868g	£44.65