Harkness Screens UK
Tel +44 (0) 1438 725200
Fax +44 (0) 1438 344400

Harkness Screens USA
Tel +1 (540) 370 1590
Fax +1 (540) 370 1592

E-Mail sales@harkness-screens.com
www.harkness-screens.com

Low Voltage Interface (12v) for Electric Roller Screens

Description of use:

The low voltage interface is designed for use with projectors that have a continuous 12 volts output via a 3,5 mm jack connector socket. The low voltage interface is connected between the projector and the roller screen and automatically extends the roller screen when the projector is operated. The low voltage interface may also be used with other A.V. equipment that has the same 12-volt outlet.

The system consists of a relay unit, a protective housing and a 4-metre cable (fitted with a 3,5 mm jack connector plug). See photograph (figure # 1).
Description of use:

Figure #1

Specification:

The output of the interface unit is designed to operate a 240 volt 50 Hz single-phase or 110volts 60 Hz single-phase roller screen. The maximum current rating (output side) is 10 amps.
The control input is 12 volt D.C. continuous.

Installation:

Before commencing the installation please read these instructions carefully.

Only competent personnel should carry out the installation.
The protective housing should be located near the roller screen. The protective housing can be secured to a suitable surface with two screws.

Electrical Connection:

Only qualified personnel should carry out the electrical installation.
The roller screen is operated on single-phase mains voltage and MUST be protected by a suitable fused supply with an EARTH (ground) connection.
UK electrical requirement is 240v 50 Hz and 2 amps.
US electrical requirement is 110v 60 Hz and 5 amps

There are two terminal blocks on the relay unit. The block with four terminals is for the power supply and the motor connections. The block with two terminals is for the 12-volt signal.
Note! Both the supply and the motor wiring have an earth wire and these earth wires MUST be connected via a separate terminal block outside the relay unit.
There are four wires attached to the roller screen motor. The colour coding depends on UK or US versions of the roller screen.
The UK version is:- GREEN/YELLOW = earth - BLUE = common - BLACK and BROWN = up and down. (Note! Depending on the wrap of the screen on the roller the black and brown wires may be reversed).
The US version is :- GREEN = Ground - WHITE= common - RED and BLACK = up and down. (Note! Depending on the wrap of the screen on the roller the red and black wires may be reversed).

SEE WIRING DIAGRAM (Figure # 2) FOR ELECTRICAL CONNECTIONS

The interface unit can be used with a three-position rocker switch to provide a manual over-ride facility. Note! The rocker switch MUST be “maintained “ type. If there is any difficulty in obtaining a suitable switch contact Harkness Screens.

SEE WIRING DIAGRAM (Figure # 3) FOR ELECTRICAL CONNECTIONS WITH SWITCH.

NOTE!

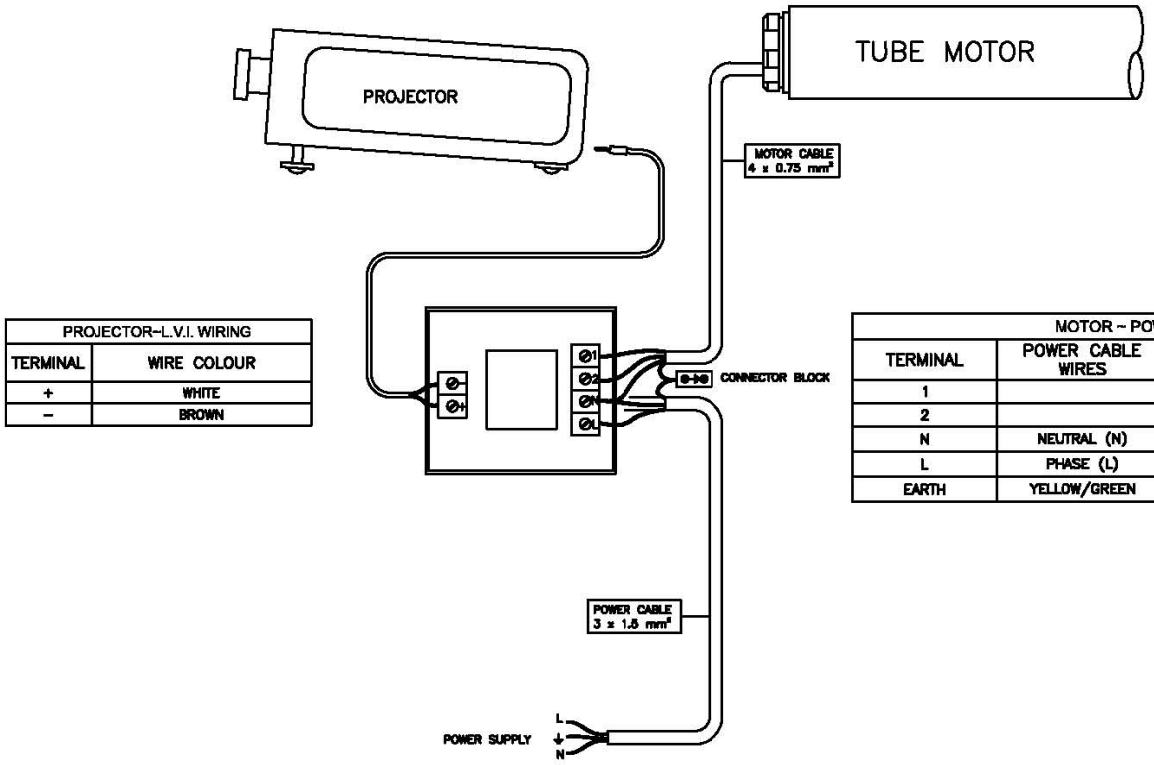
The roller screen motor and Low Voltage Interface MUST be wired with the retract (up) wire on the motor connected to terminal # 1 on the low voltage interface. This is applicable if the low voltage interface is used with or without the switch.

Operation:

The low voltage interface without the switch is completely automatic. The projector, when switched on, will supply the low voltage interface with 12 volts. This will energise the relay and the roller screen will descend. When the projector is switched off the relay will reset and the roller screen will retract.

The power required for the low voltage interface to operate is 12 volts DC, with a minimum impedance of 30mA (milli-amps). If the output being used with the trigger is below this, it will not function and will not activate the screen motor.

If the rocker switch is included in the circuit, it must be set in the retract (up) position. The low voltage interface will then be automatic and control the roller screen position.
To over-ride the low voltage interface, operate the rocker switch. Putting the switch in the extend (down) position will extend the roller screen and setting the switch to the centre position will stop the roller screen.
Remember to set the rocker switch in the centre position when the roller screen is not in use.



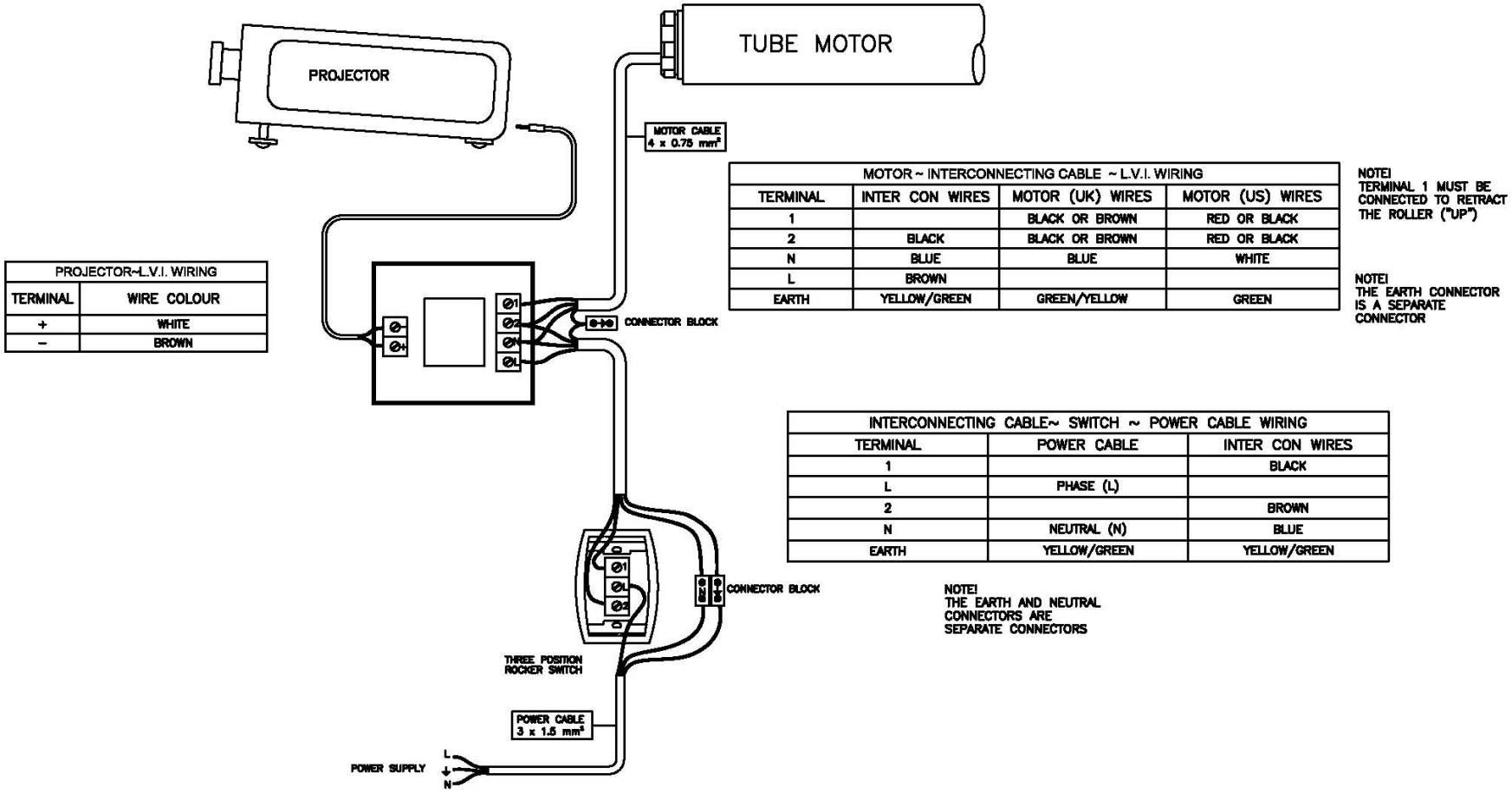
PROJECTOR–L.V.I. WIRING	
TERMINAL	WIRE COLOUR
+	WHITE
–	BROWN

MOTOR ~ POWER CABLE ~ L.V.I. WIRING			
TERMINAL	POWER CABLE WIRES	MOTOR (UK) WIRES	MOTOR (US) WIRES
1		BLACK OR BROWN	RED OR BLACK
2		BLACK OR BROWN	RED OR BLACK
N	NEUTRAL (N)	BLUE	WHITE
L	PHASE (L)		
EARTH	YELLOW/GREEN	GREEN/YELLOW	GREEN

NOTE!
TERMINAL 1 MUST BE CONNECTED TO RETRACT THE ROLLER ("UP")

NOTE!
THE EARTH CONNECTOR IS A SEPARATE CONNECTOR

Figure # 2 Wiring Diagram without Rocker switch



PROJECTOR~L.V.I. WIRING	
TERMINAL	WIRE COLOUR
+	WHITE
–	BROWN

MOTOR ~ INTERCONNECTING CABLE ~ L.V.I. WIRING			
TERMINAL	INTER CON WIRES	MOTOR (UK) WIRES	MOTOR (US) WIRES
1		BLACK OR BROWN	RED OR BLACK
2	BLACK	BLACK OR BROWN	RED OR BLACK
N	BLUE	BLUE	WHITE
L	BROWN		
EARTH	YELLOW/GREEN	GREEN/YELLOW	GREEN

NOTE!
TERMINAL 1 MUST BE CONNECTED TO RETRACT THE ROLLER ("UP")

NOTE!
THE EARTH CONNECTOR IS A SEPARATE CONNECTOR

INTERCONNECTING CABLE~ SWITCH ~ POWER CABLE WIRING		
TERMINAL	POWER CABLE	INTER CON WIRES
1		BLACK
L	PHASE (L)	
2		BROWN
N	NEUTRAL (N)	BLUE
EARTH	YELLOW/GREEN	YELLOW/GREEN

NOTE!
THE EARTH AND NEUTRAL CONNECTORS ARE SEPARATE CONNECTORS

Figure # 3 Wiring Diagram with Rocker switch