

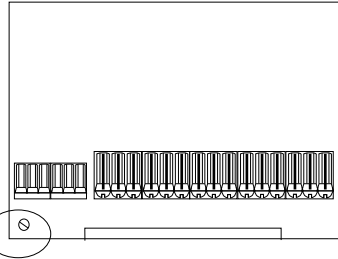


# REMOVING COVER

1

Remove Screw

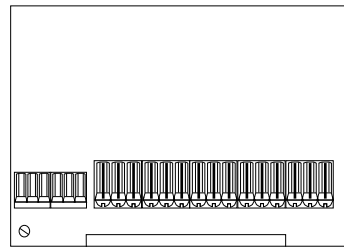
END



2

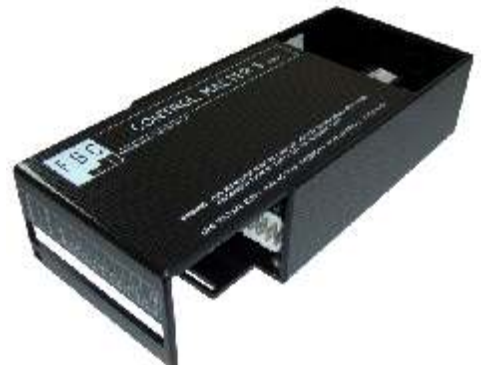
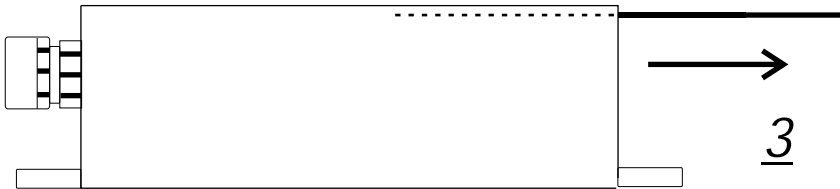
Remove Switch input Connectors

END



3

Top Can Be Removed



## CONNECTING 220/240 VOLT INPUT.

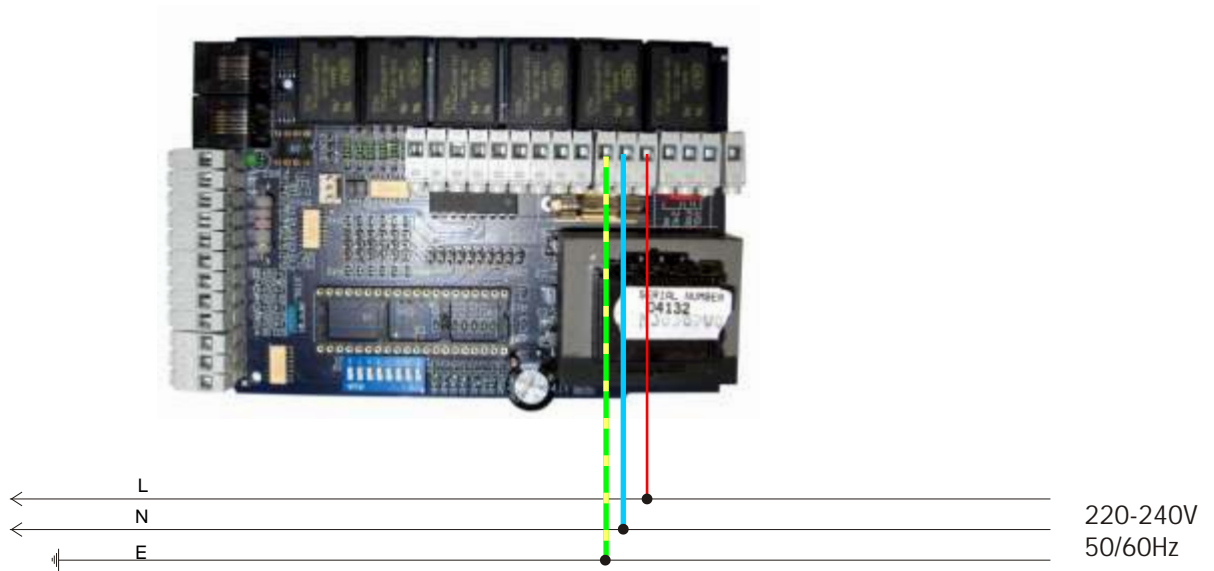
The Cm3 is compatible with all standard EBC electric blinds and electrical components.

Cabling arrangements are shown in the diagram.

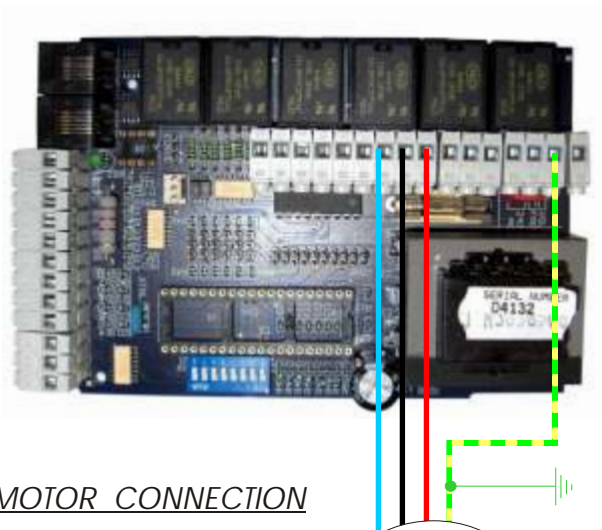
Respect the electrical standards as well as the following points:

A.. Disconnect the main before carrying out any work

B.. Use 1.5mm max. Flexible cables



## Motor connections



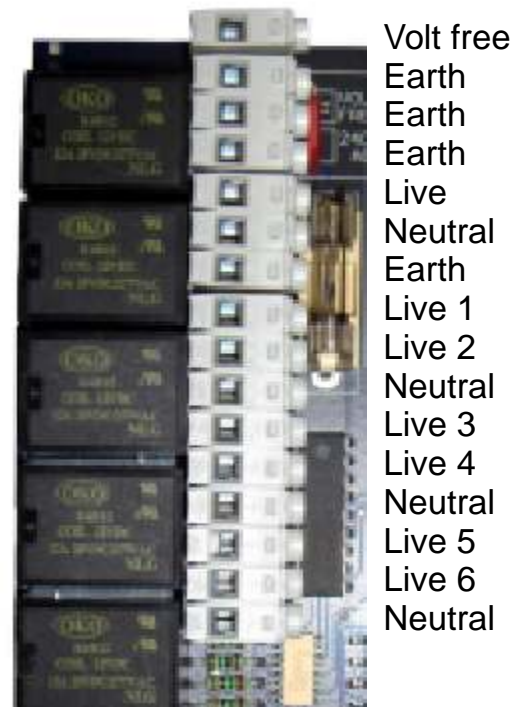
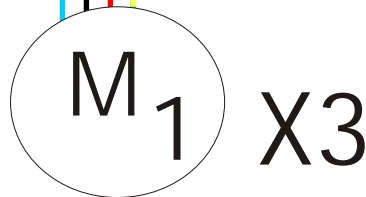
### MOTOR CONNECTION

BROWN/ BLACK = L1

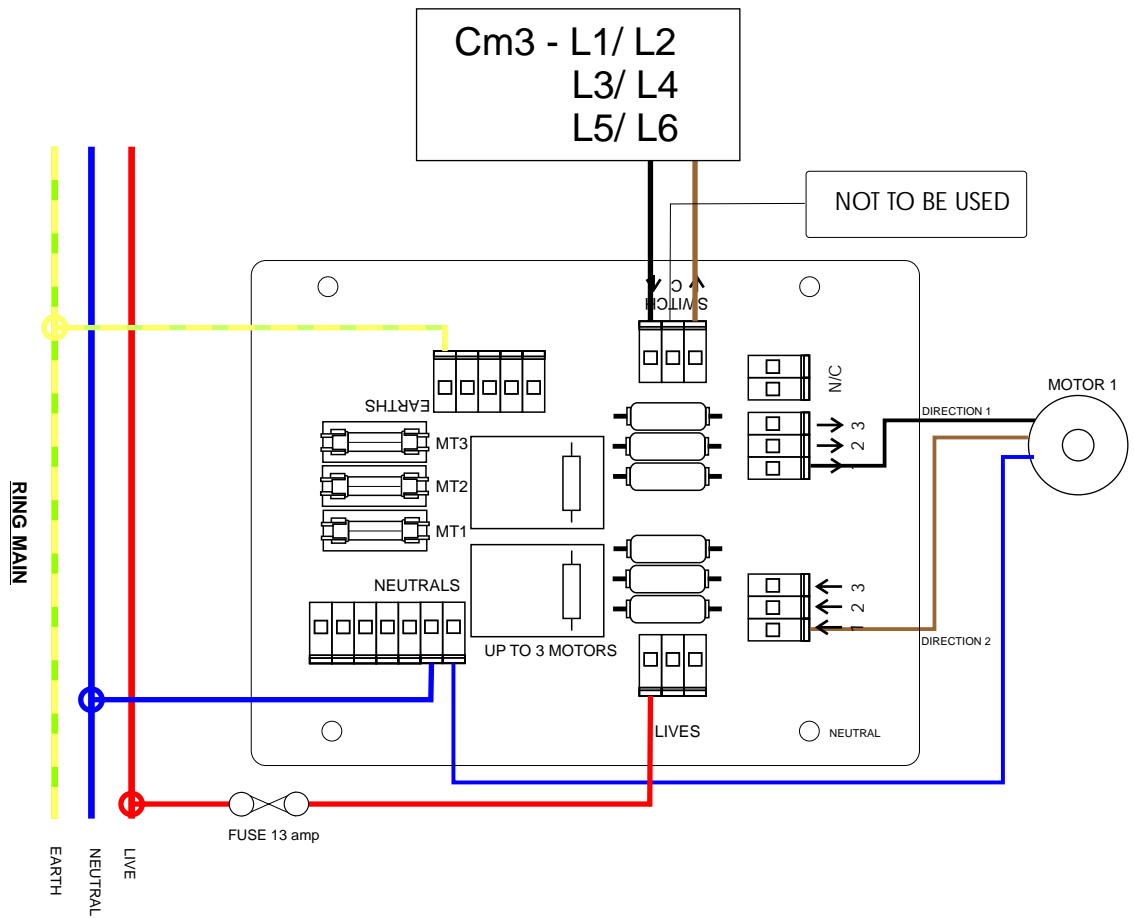
BROWN/ BLACK = L2

BLUE = N

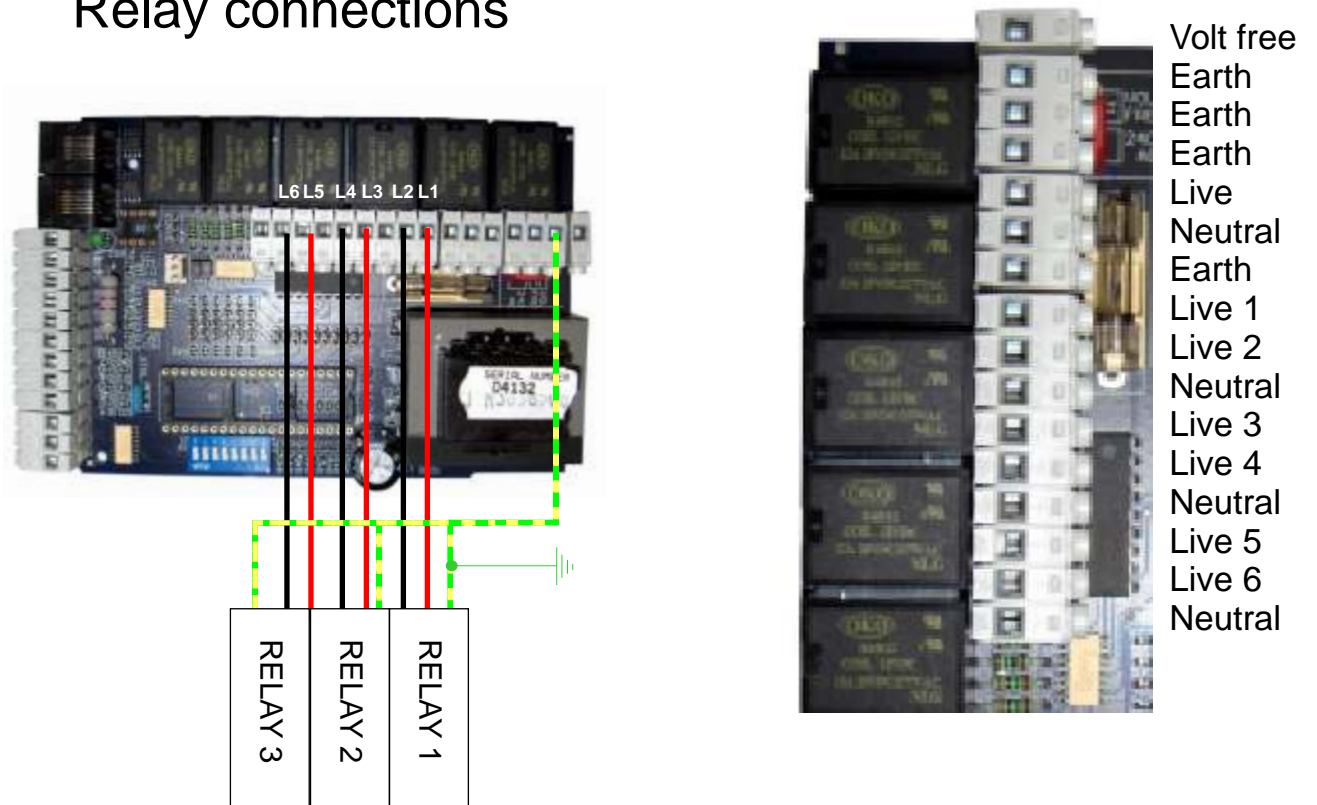
GREEN/ YELLOW = E



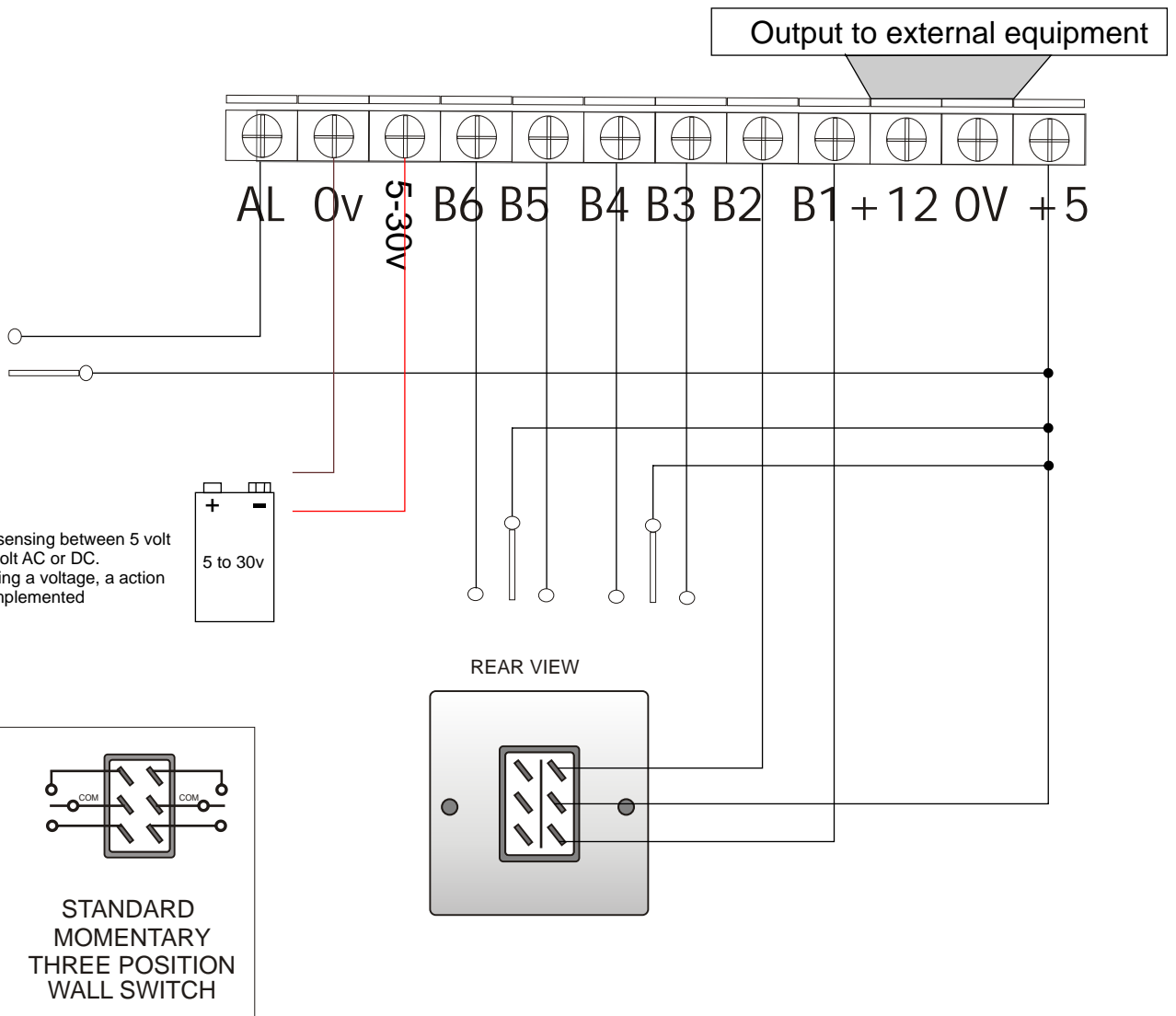
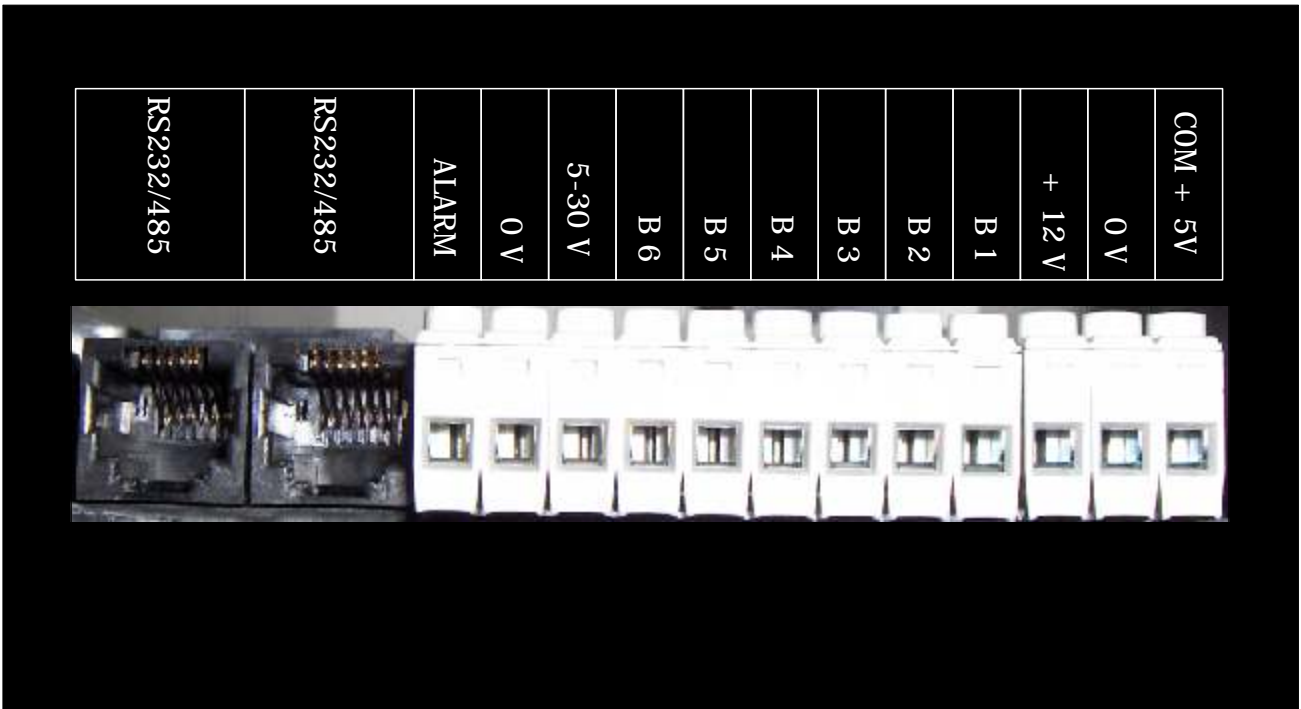
# Cm3 - Connection to Relays



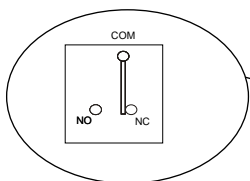
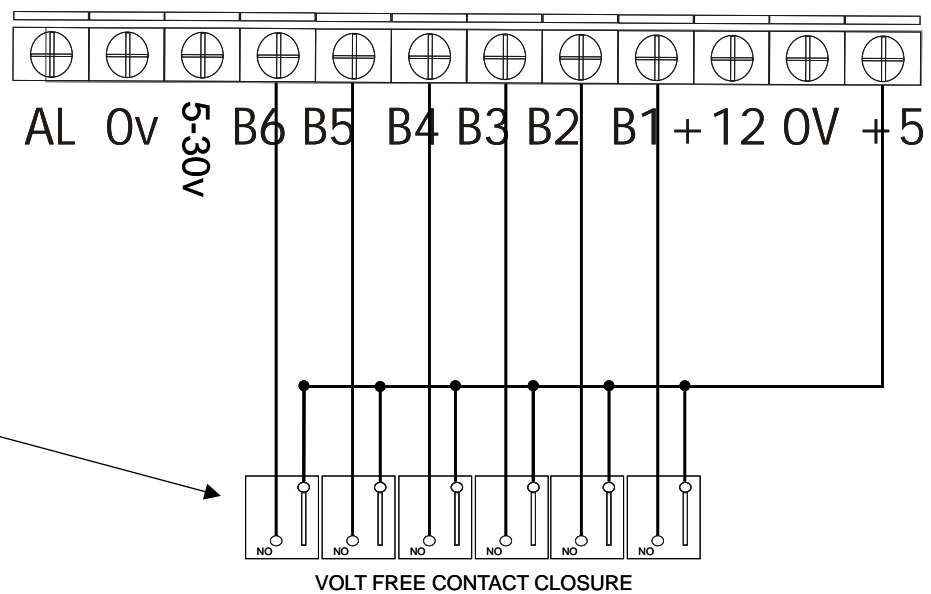
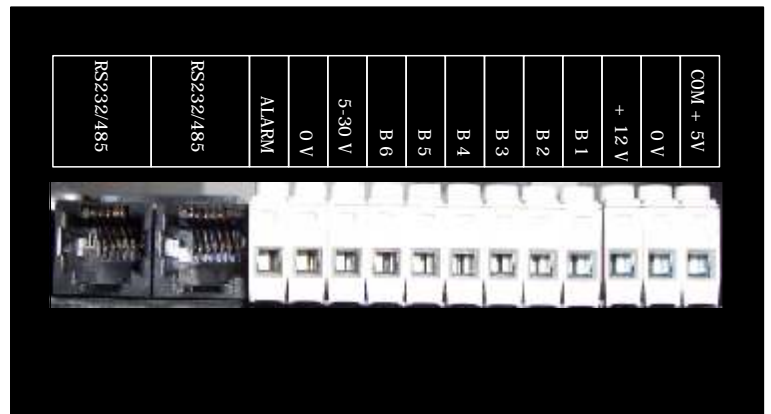
## Relay connections



# TRIGGER INPUTS



# Cm3 Volt Free Contact Switching

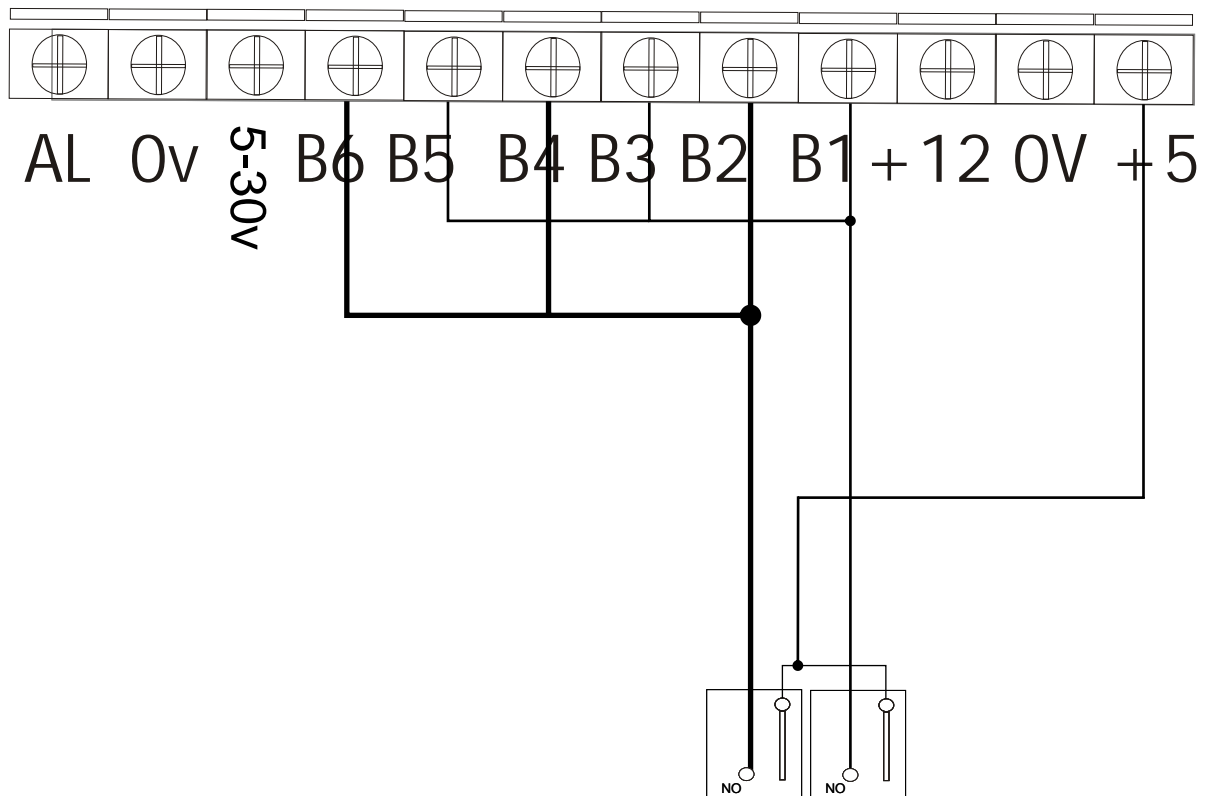
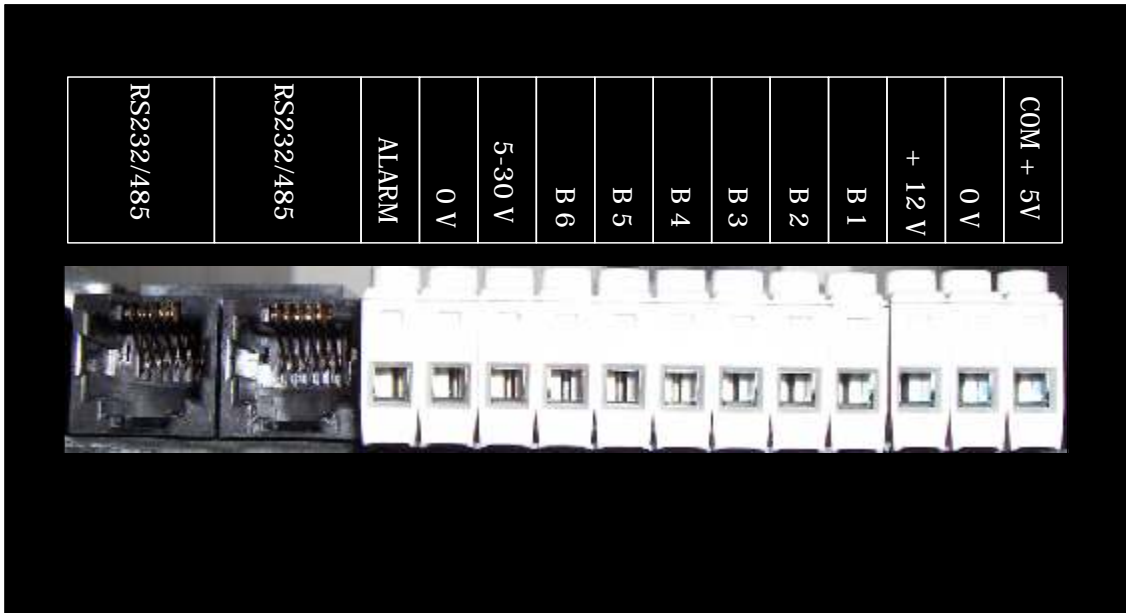


To control blinds from contact closure relay boards require 2 contact closure (1 for up and 1 for down)  
 To activate a movement, the contact closure relay should be programmed in a momentary pulse state (on **action** - contact should be at the NO position) (on **CUT** - contact should be at the NC position)

If you need to implement a stop command this is the delay action between either up to down or down to up. To test this; activate a Down command while the blind is in travel, pulse a Up command and you will notice a small delay, then the blind will start to travel up. This delay between Up and Down to Up is the stop command. A stop command can be activate by pulsing a contact in the apposite direction to the one last implemented.

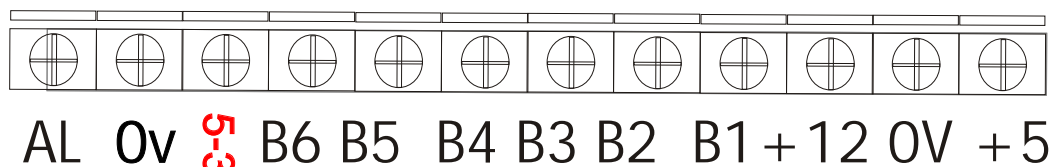
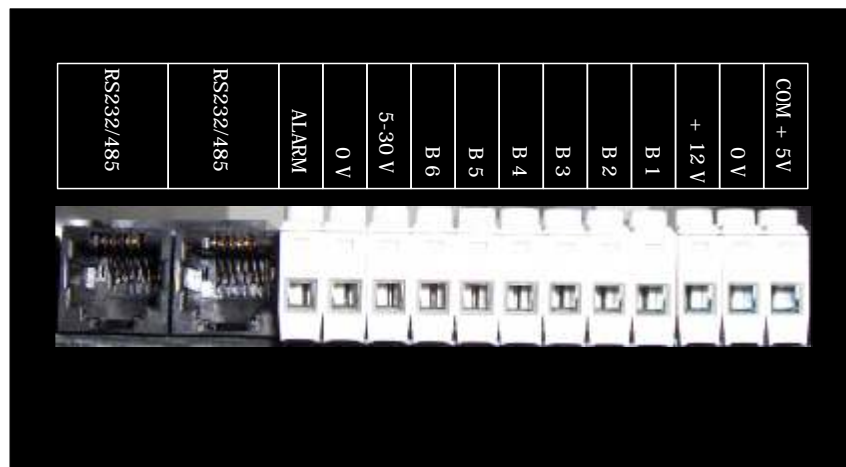
# GROUP SWITCHING

## TRIGGER INPUTS



# Voltage sensing to trigger equipment

## TRIGGER INPUTS



Projector

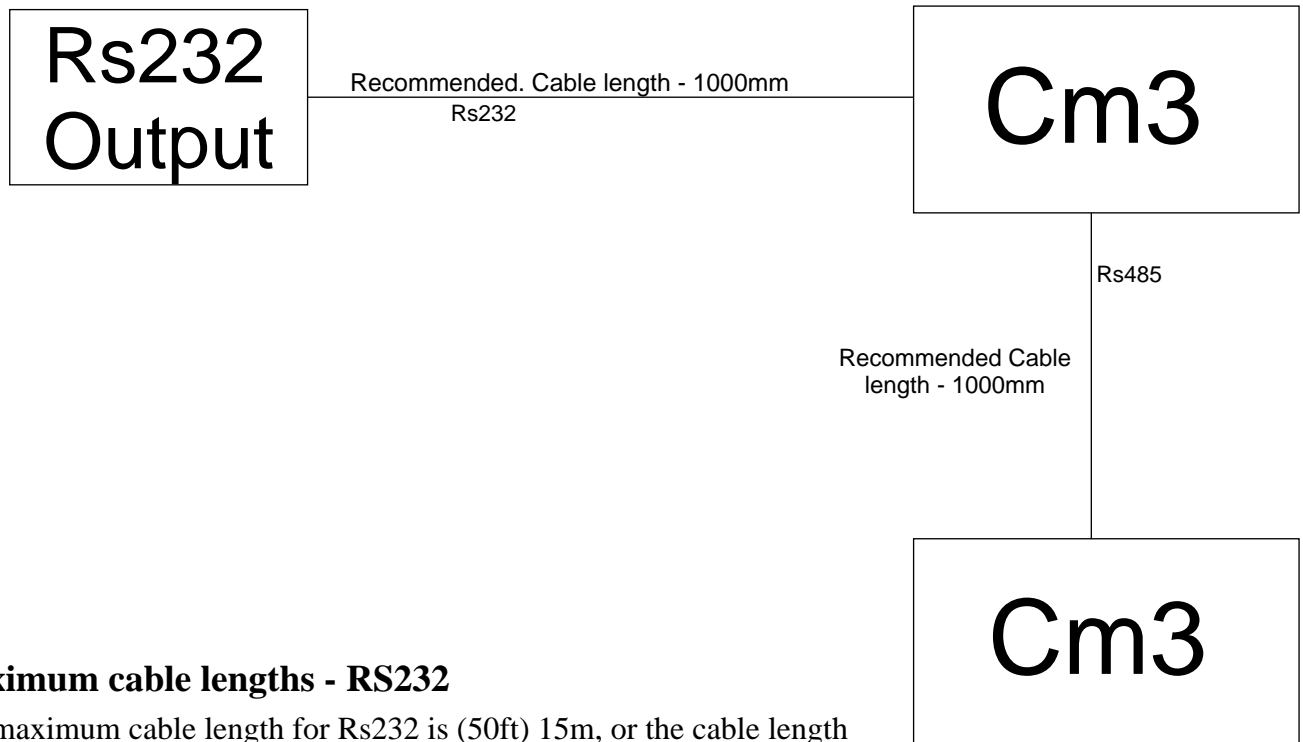
Acoustic amplifier

Lighting

### Voltage sensing can be used to trigger an event such as;

- To Switch sequenced lighting on or off
- Darkening a room via motorised blinds
- Activating a projection screen to a relevant position
- Turning on or off equipment to make a scene
- Activating Alarm, Water features, Fountains, Audio and Visual equipment, High Powered Lighting, etc.

# Serial Interface



## Maximum cable lengths - RS232

The maximum cable length for Rs232 is (50ft) 15m, or the cable length equal to a capacitance of **2500 pF**.

Using a cable with low capacitance allows you to span longer distances without going beyond the limitations of the standard. If for example **UTP CAT-5** cable is used with a typical capacitance of **17 pF/ft**, the maximum allowed cable length is (147ft) 44m.

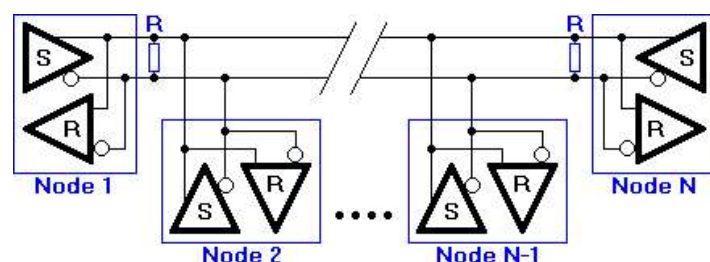
We recommend that all communication cables are to be run in a screened cable to ensure clean communication.

## Maximum cable lengths - RS485

The maximum cable length for Rs485 is 1200m,

We recommend that all communication cables are to be run in a screened cable to ensure clean communication.

### RS485 network topology



The **RS485** network must be designed as one line with multiple drops, not as a star. Although total cable length maybe shorter in a star configuration, adequate termination is not possible anymore and signal quality may degrade significantly.

# Cm3 CONNECTIONS

If more than one Cm3 is being connected to a RS232 control system, each unit must be controlled from individual ports AND NOT CONNECTED TOGETHER.

If only one RS232 port is available then it will be possible to network units using the RS232 to 485 converter ON THE CM3, In this situation the First unit must be on address 0 and the jumper moved to 232 The next unit changed to RS485 using the jumper settings and on address 1 and so on....



Address 0

RS485

TO THE NEXT Cm3

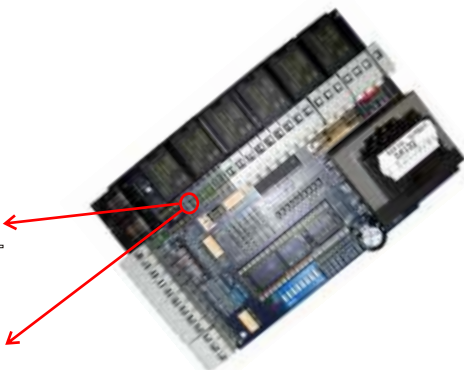
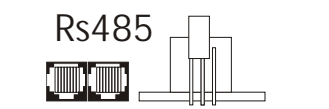
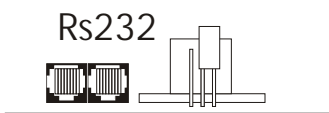
Link for RS232/RS485 LINK MUST BE MOVED WHEN LINKING UNIT 0 TO UNIT 1 FOR RS485 NETWORKING.

RS232 LINK	RS485 LINK
2&3	1&2

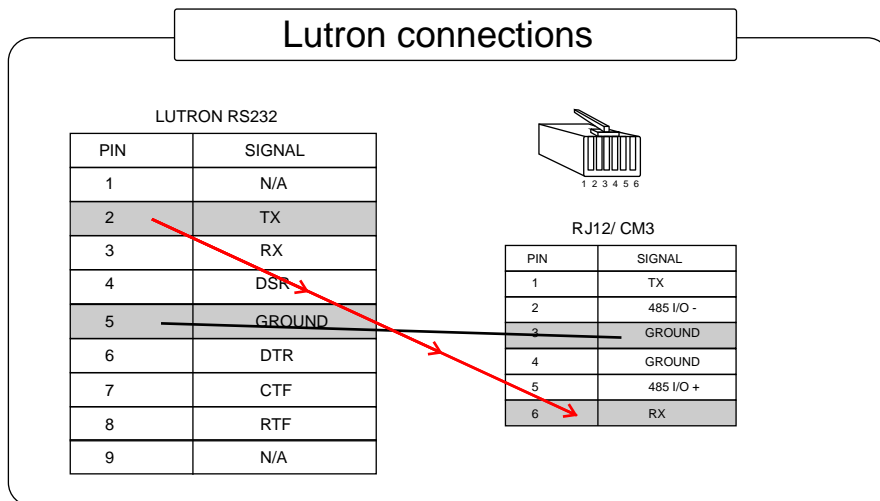
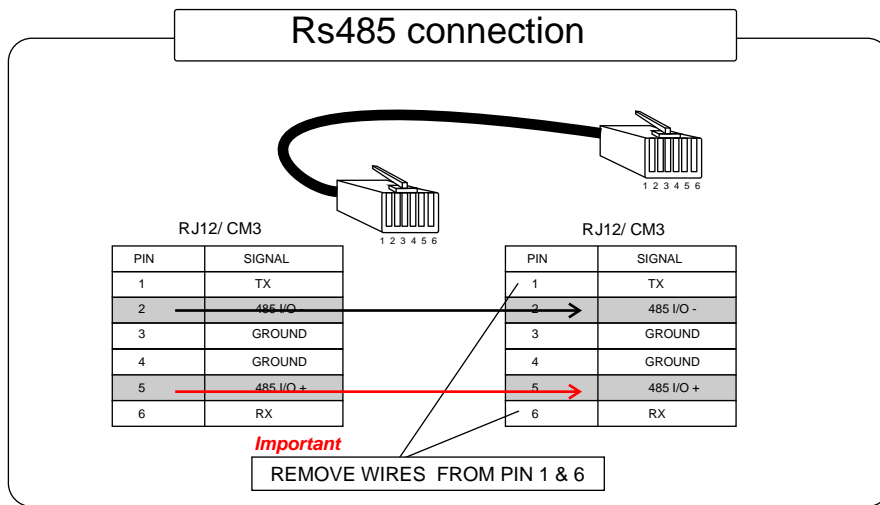
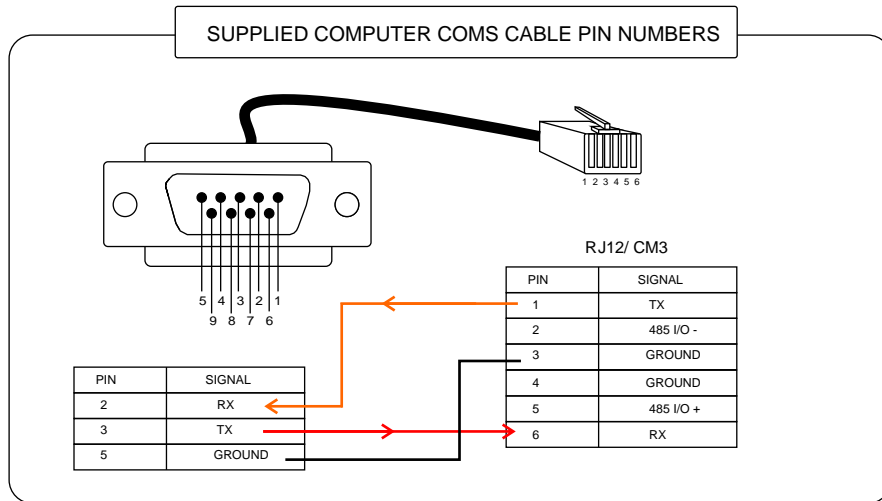
Address 1



Rs232



# CONNECTION DETAILS

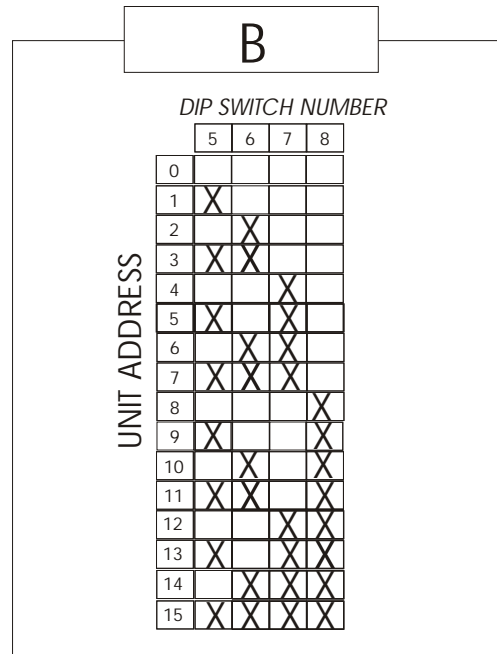
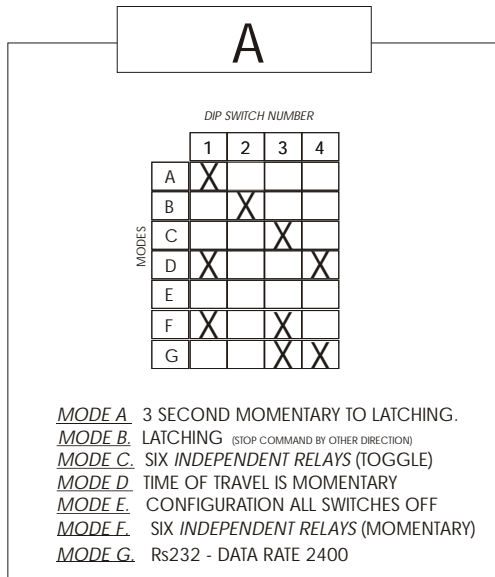


ASCII COMMANDS SENT TO THE Cm3 CONTROL UNIT MUST HAVE A **CARRIAGE RETURN (X0D HEX)** or ASCII "#" AT THE END OF THE STRING TO ACTIVATE THE COMMAND SENT. Eg. 03000000#

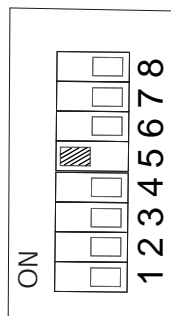
IF SENDING MULTIPLEX OR MULTIPLE ACTIONS, THERE MUST BE A 200 MILLISECOND DELAY BETWEEN EACH COMMAND. THIS CAN BE A LOGIC WRITTEN PROGRAM TO BUFFER THE COMMANDS TO MAKE SURE THAT THERE ARE NO MORE THAN ONE ASCII COMMAND SENT AT ANY ONE TIME TO THE Cm3 CONTROL UNIT(S).

**Remember to connect the TX from the control system to the RX of the cm3**

# MODE SETTINGS AND UNIT ADDRESSES



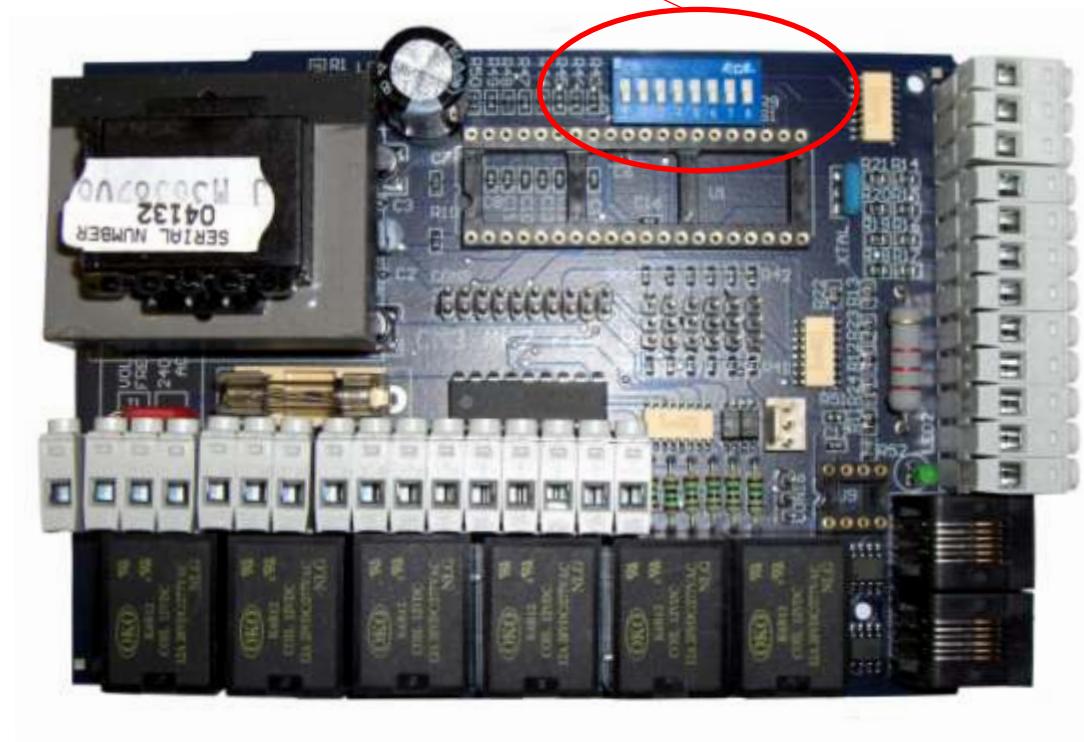
The address of the cm3 units start at 0300 ---- and continue  
 0301 ----, 0302 ----, 0303 ---- etc. Through to 0314 ----



= 0301

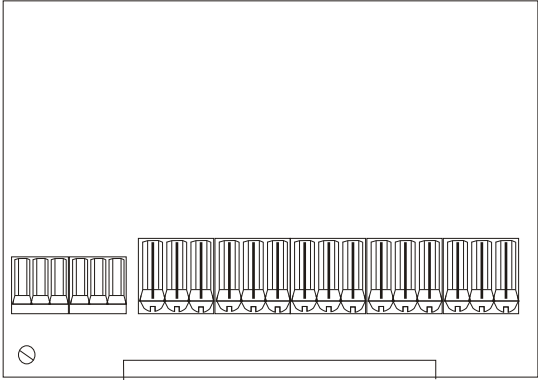
SELECT DIP SWITCH  
 NUMBER FOR  
 MODES A - F

X = ON



# DIMENSIONS

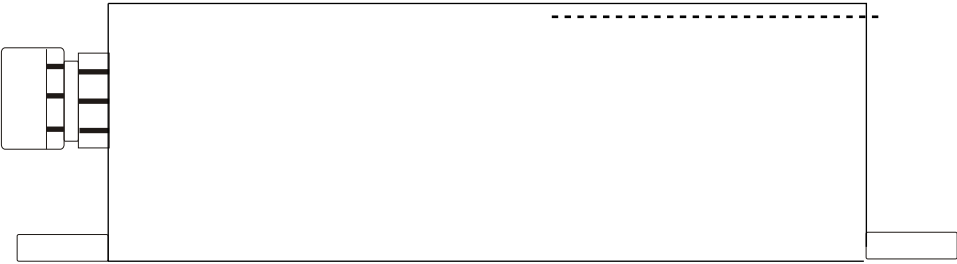
END



56MM

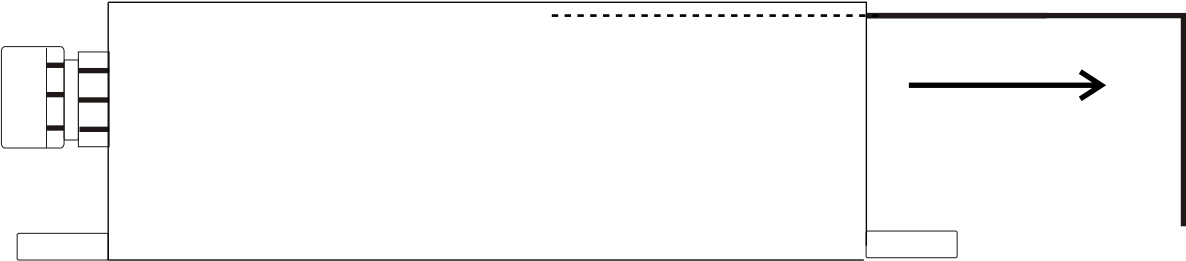


100MM



234MM

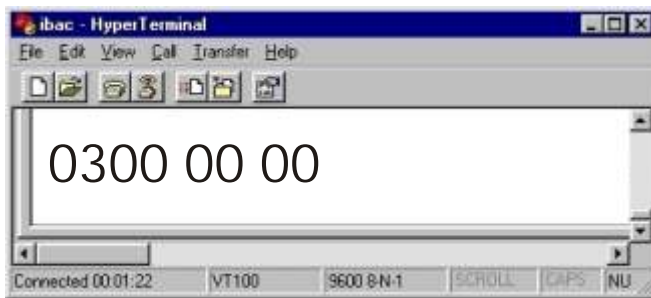
Top Can Be Removed



380MM

Set to mode B

## Cm3 Serial Protocol Codes For Blind number 1



(0300) (00) (01)  
ADDRESS BLIND NO. ACTION

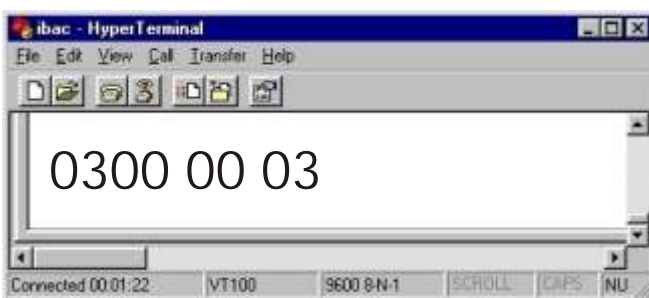
Direction 1



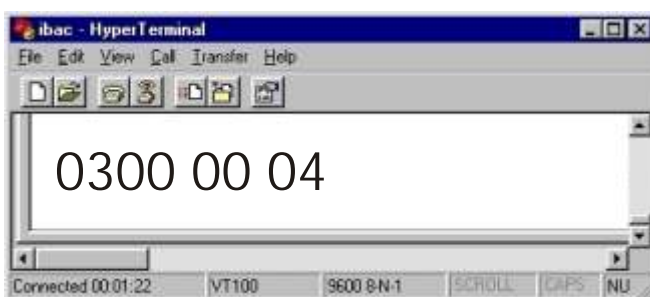
Direction 2



Stop



Tilt 1



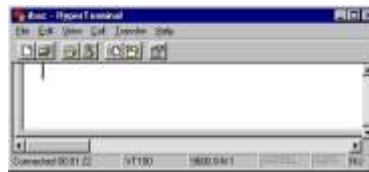
Tilt 2


## Step 1 : Connecting Your PC To The Cm3

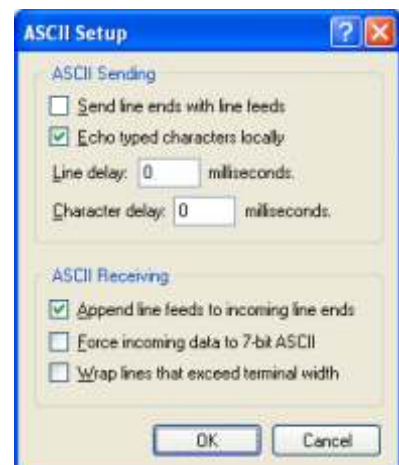
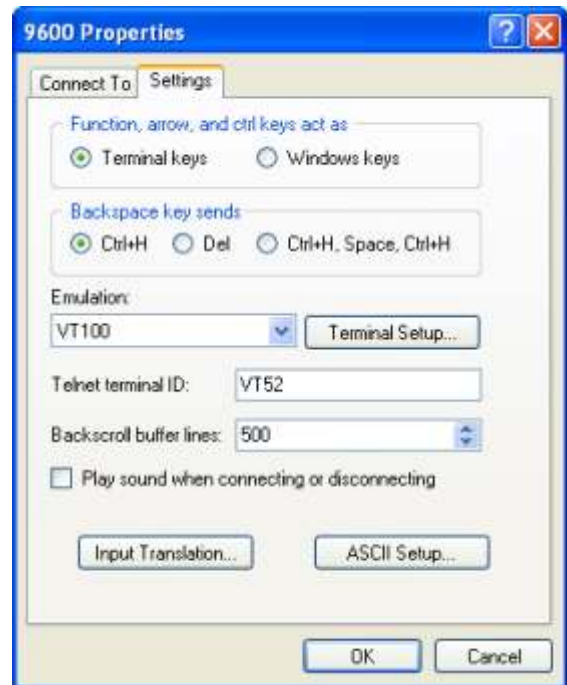
The interconnect cable is required to connect your PC to the CM3. This allows the CM3 Hyper Terminal to communicate with the CM3 unit. The cable connects between RS232 Port on the Cm3 and a serial port on the PC. (If you are not using the serial cable supplied by EBC please refer to the installation manual for correct pin connections)



- Step 2 : Left Click On START BUTTON
- Left Click On ALL PROGRAMS
- Left Click On ACCESSORIES
- Left Click On COMMUNICATIONS



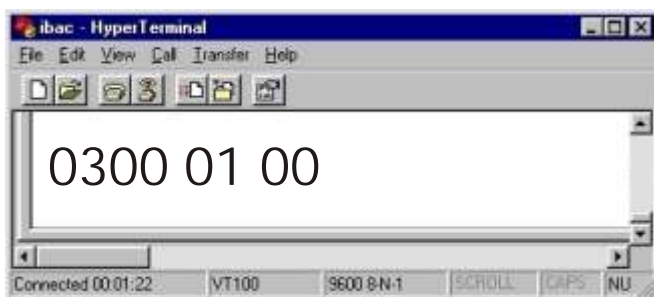
- Step 3 Double Click  To Open Hyper Terminal
- Step 4: set up Properties



Make sure that Hyper Terminal is setup to use the PC Serial Port that the cm3 is plugged into.

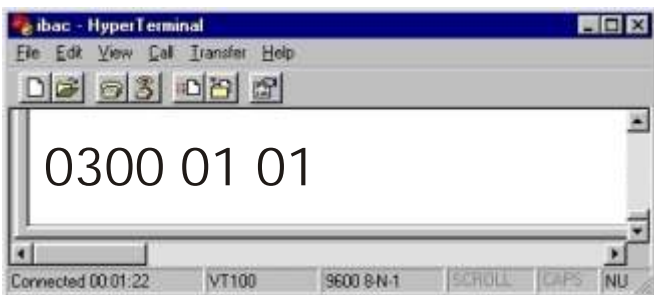
Set to mode B

## Cm3 Serial Protocol Codes For Blind number 2

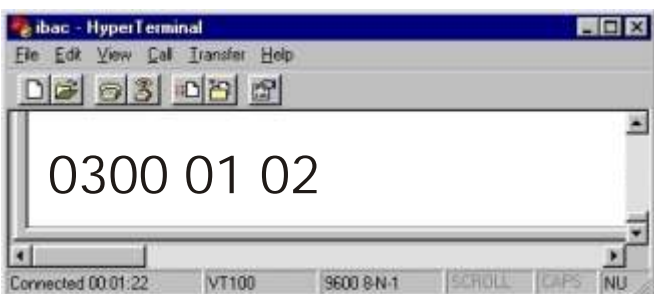


(0300) (01) (01)  
ADDRESS BLIND NO. ACTION

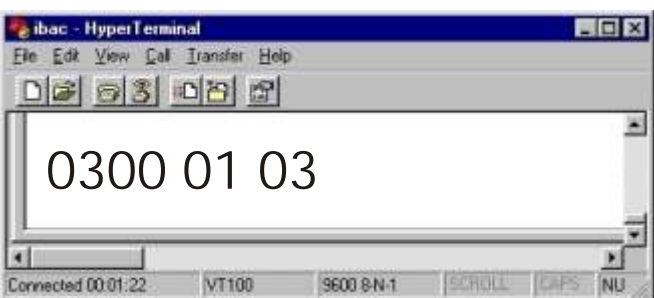
Direction 1



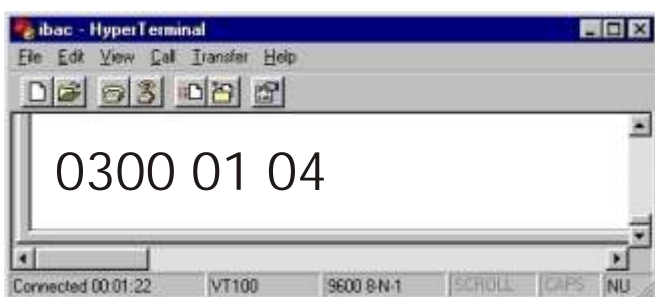
Direction 2



Stop



Tilt 1



Tilt 2

Set to mode B

## Cm3 Serial Protocol Codes For Blind number 3

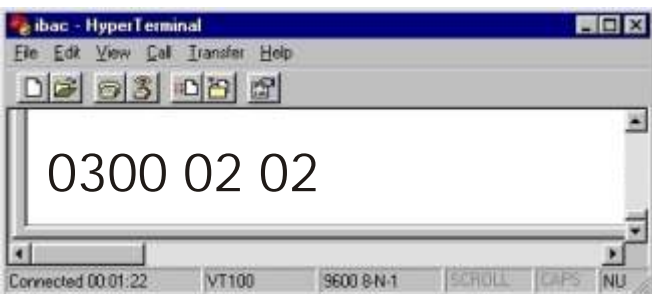


(0300) (02) (01)  
ADDRESS BLIND NO. ACTION

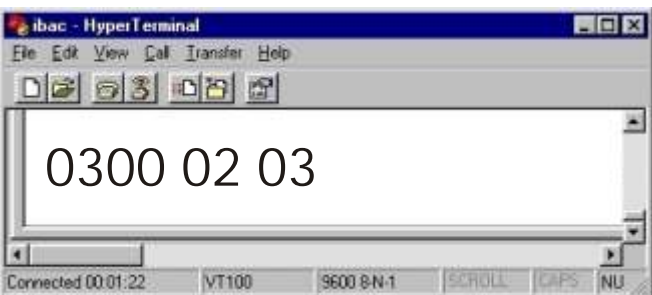
Direction 1



Direction 2



Stop



Tilt 1



Tilt 2

Set to mode c

## Cm3 Serial Protocol Codes For independent relay

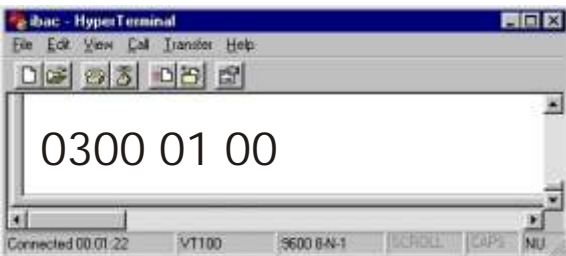
(0300)	(02)	(01)
ADDRESS	RELAY NO.	ACTION



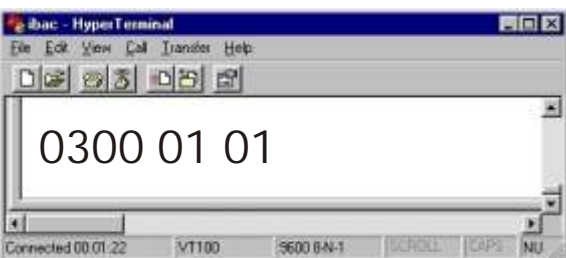
Relay 1 – on or off



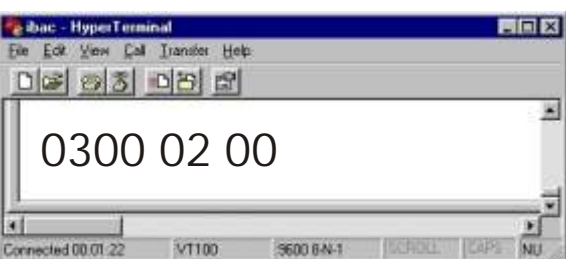
Relay 2 – on or off



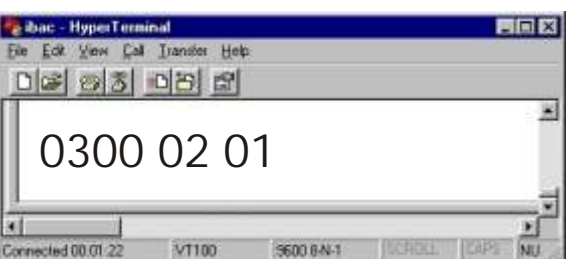
Relay 3 – on or off



Relay 4 – on or off



Relay 5 – on or off




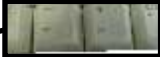
Relay 6 – on or off

# Learning Rc5 Infra-red or Unique Rs232 commands

## **INFRA-RED LEARNING**



Make sure that connection is made between the computer and a Cm3 control unit and Type in "0300lrlearn" in lower case then hit RETURN, this will activate the infra-red learning function.

Scroll through using the   keys to get to the function you require and hit RETURN. Actions as below;

BLIND 1 UP, BLIND 1 DOWN, BLIND 1 STOP, BLIND 1 TILT 1, BLIND 1 TILT 2,  
BLIND 2 UP, BLIND 2 DOWN, BLIND 2 STOP, BLIND 2 TILT 1, BLIND 2 TILT 2,  
BLIND 3 UP, BLIND 3 DOWN, BLIND 3 STOP, BLIND 3 TILT 1, BLIND 3 TILT 2,  
ALL UP, ALL DOWN, ALL STOP, ALL TILT 1 and ALL TILT 2.

SEND ASCII FUNCTION CAN BE TRIGGERED IF SET UP IN CONFIG. MENU

Point the Remote at the infra red eye and press the desired key.  
Repeat as described above for further functions.



Once you have finished, type "end" in lower case then hit RETURN and the words "All O.k" will appear.

## **UNIQUE Rs232 LEARNING**

This feature is useful if a combination of Cm3 control units are linked together and a grouping of ports is required on multiple units.

ie. Port one of unit one, port two of unit three and port three of unit five are wired to three blinds and require simultaneous operation. This can be set up to have a "unique Rs232 Code."

Type in "0300lrlearn" in lower case then hit RETURN, this will activate the infra-red learning function.

Scroll through using the   keys to get to the function you require and hit RETURN.

Actions as below;

BLIND 1 UP, BLIND 1 DOWN, BLIND 1 STOP, BLIND 1 TILT 1, BLIND 1 TILT 2,  
BLIND 2 UP, BLIND 2 DOWN, BLIND 2 STOP, BLIND 2 TILT 1, BLIND 2 TILT 2,  
BLIND 3 UP, BLIND 3 DOWN, BLIND 3 STOP, BLIND 3 TILT 1, BLIND 3 TILT 2,  
ALL UP, ALL DOWN, ALL STOP, ALL TILT 1 and ALL TILT 2.

SEND ASCII FUNCTION CAN BE TRIGGERED IF SET UP IN CONFIG. MENU

TYPE IN THE ASCII YOU WISH TO USE Eg. "group1up" then hit RETURN,  
Repeat as described above for further functions.

Once you have finished, type "end" in lower case then hit RETURN and the words "All O.k" will appear.

Send the command "group1up" and Hit RETURN(XOD) or ASCII "#" to activate the function programmed.

# Configuration Control



Type in “0300values” in lower case then hit RETURN, this will activate the values screens. In this mode all Outputs, Inputs and Timing Values can be altered.

You can alter the following;

- **Blind control**
- **Independent relay operation**
- **Projection screen control**
- **Multi Aspect Ratio Control**
- **Volt free contact configuration**
- **Timing values of relays**
- **Delayed on and off time of relays**
- **5 to 30 Volt trigger Input configuration**
- **6 x ASCII SEND FUNCTIONS - to change send rate of ascii use either “\$” to change to 2400 or “!” to change to 9600**

All values are loaded to the Program Memory and can be accessed By SELECTING MODE E then turning the unit off and REBOOTING.

ALL INFORMATION MUST BE FULLY ENTERED OR VALUES WILL **NOT** BE SAVED.

This function is for experienced programmers and is useful for complete control of Electric Blinds, lights, Motors, lifts, pumps and much more.