

## Programming Digital Limits

On initial power-up, the controller will automatically detect any devices that are connected (limit type, safety edge etc) and enter Programming Mode, indicated by a constant, slow-flashing Red L.E.D. **Note** : Only the internal board mounted '+', '-' and 'P' buttons will operate in Programming Mode. Please observe the following procedure to set the limits :-

Run the door to the Open position and press the 'P' & '+' buttons together to save the Open Limit position.  
The Red L.E.D. will flash rapidly for 1 second to indicate that the limit position is now stored.

Run the door to the Close position and press the 'P' & '-' buttons together to save the Close Limit position.  
The Red L.E.D. will flash rapidly for 1 second to indicate that the limit position is now stored.

The Limit Programming Mode will then end automatically and the Red L.E.D. will stop flashing.

If the controller does not enter Programming Mode, or you wish to re-enter Programming Mode, please press the 'P' button for at least 2s. The Red LED will flash slowly and the Programming procedure above may then be followed.

## Setting Mechanical Limits

On initial power-up, the controller will automatically detect any devices that are connected (limit type, safety edge etc) and enter Programming Mode, indicated by a constant, slow-flashing Red L.E.D. **Note** : Only the internal board mounted '+', '-' and 'P' buttons will operate in Programming Mode. Please observe the following procedure to set the limits :-

Use the '+' button to run the door to the Open position and adjust the Open Limit cam to suit.

Use the '-' button to run the door to the Close position and adjust the Close Limit cam to suit.

When both limits have been set, press the 'P' button for at least 2s.

The Limit programming Mode will then end and the Red L.E.D. will stop flashing.

Please refer to the Door Operator Manual for instructions on how to adjust the mechanical limit cams.

## Changing Motor Direction

If the motor travels in the wrong direction i.e. drives Open when the Close button is pressed, then the motor direction can be changed by removing the power and interchanging two of the incoming supply phases.

If the operator is reverse mounted (or if normal open rotation is reversed i.e gear & pinion drive) pressing both the '+' & '-' buttons for 5 seconds when in limit programming mode will reverse the motor direction.

The Red L.E.D. will flash rapidly to indicate the change of direction. The Limit Programming procedure may then be restarted.

## Resetting Limits

To reset the limits, enter Programming Mode by pressing the 'P' button for at least 2s.

The Red LED begins to flash slowly and the Limit Programming procedure above may then be restarted.

**Note** :- If both Open & Close Limits have already been set, it is possible to change only one position (i.e. No requirement to program both limit positions again).

After adjusting the required Limit position(s), exit Programming by pressing the 'P' button for at least 2s.

## Resetting the Control Panel

The CS310 can be reset back to factory defaults at any time. This may be required if the CS310 has been powered without the correct limit type connected (e.g. digital limit encoder un-plugged) causing the automatic detect to fail, or if the CS310 has been used on a previous installation.

To initiate the reset, press & hold the 'P' and '-' pushbuttons as the power is turned back on.

Keep both buttons pressed until the Green L.E.D. turns on (after approx 10s). The CS310 will then re-start.

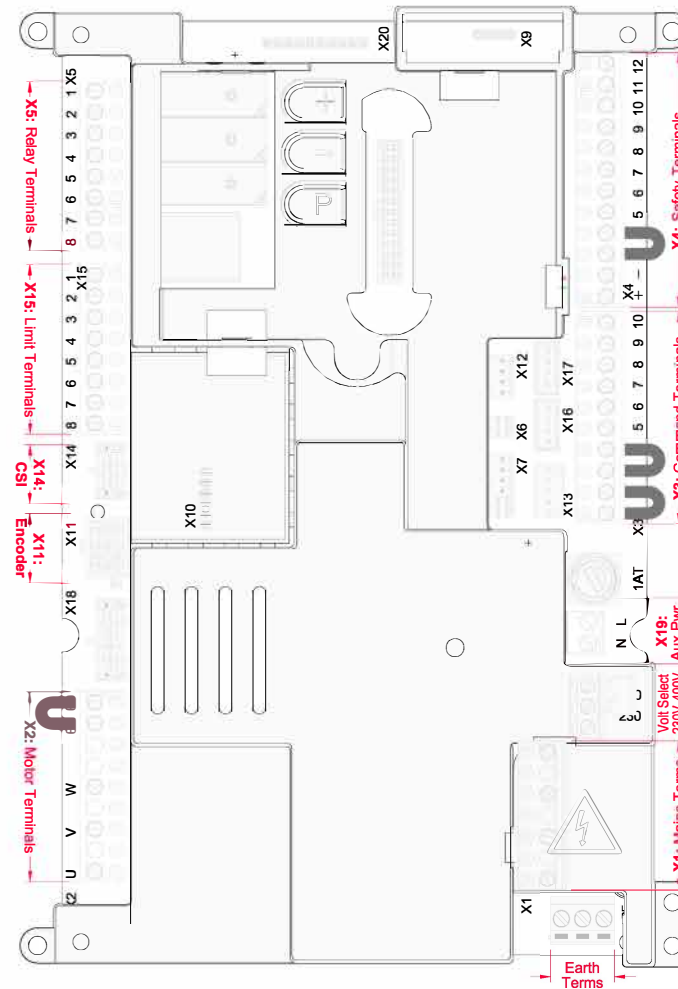
## L.E.D. Status

L.E.D.	Tag	Status	Error	Comment/Action
1 (Green)	Power	Off	No Supply present	No operating voltage supply present
2 (Red)	Error	1 x Flash	Error STOP	Stop circuit interrupted - Check Manual Override & any Stop pushbuttons/Circuits
		2 x Flash	Error RS485	System stopped; Encoder communication error. Acknowledge the error by pressing Stop; restart by pressing the button.
		3 x Flash	Error Travel Limit	System stopped and no door movement possible. Disconnect the P.C.B. from the power supply; reprogram the travel limit positions.
		4 x Flash	Error Motor Direction	System stopped and no door movement possible; Phase rotation is incorrect Reverse the motor direction as per the 'Changing Motor Direction' procedure (see above).
		5 x Flash	Error Power	System stopped. Acknowledge the error by pressing Stop; restart is possible by pressing the button.
		6 x Flash	Error Running Time	System stopped. Acknowledge the error by pressing Stop; restart is possible by pressing the button.
		ON	Safety Edge Fault / Not connected	Deadman close only possible - Check safety edge connections / or install safety edge for impulse close

**Note**:- Once the error has been cleared, the P.C.B. must be powered Off & On again.

## CS 310 Quick Start Guide (Stock Code: 40-4310)

**WARNING!** Read these instructions FULLY before use.  
Installation should only be carried out by a **COMPETENT** installer.



Key	Description
X1	Mains Power Supply (under plastic cover)
X2	Motor terminals
X3	Remote Pushbutton / Command terminals
X4	Safety Device terminals
X5	Relay Output terminals (volt-free)
X6	External ON/OFF switch connector
X7	Pushbutton connector
X8	LCD Display connector
X9	Radio Receiver connector
X10	24/7 Weekly Timer (under plastic cover)
X11	RS485 Encoder (Kostal) connector
X12	Ext. Radio Rec. / Loop Detector connector
X13	Lid Mounted CS Pushbutton connector
X14	CSI Interface for Pushbutton / Programmer
X15	Mechanical Limit Switch terminals
X16	MS BUS System connector
X17	MS BUS System connector
X18	Inverter Control interface
X19	230Vac 1A Fused Aux Output terminals
X20	Radio Safety Edge System connector
LED1	Green Power / Run LED
LED2	Red Status / Error LED
S1	(+) Test Open / Programming button
S2	(-) Test Close / Programming button
S3	(P) Test Stop / Programming button
F1	Voltage Selector (under plastic cover)
PE	Protective Earth terminals

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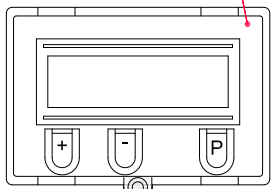
Rev Date:- 12/05/16

Date:- 12/08/14

# Wiring Connections

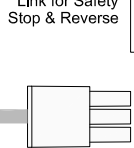
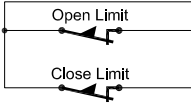
**Note:-** Please refer to main manual for further information

**LCD Programmer Display (Optional)**  
(Stock Code: 40-1045)

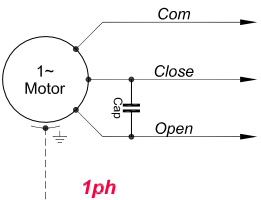
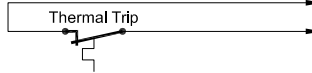


Relay Relay Relay Relay  
No.1 No.2 No.3 No.4

Com → Relay 1 Output  
N/O →  
Com → Relay 2 Output  
N/O →  
Com → Relay 3 Output  
N/O →  
Com → Relay 4 Output  
N/O →

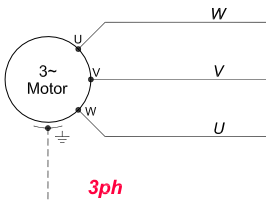


**Kostal Encoder (Optional)**  
(Stock Code: 40-4006)



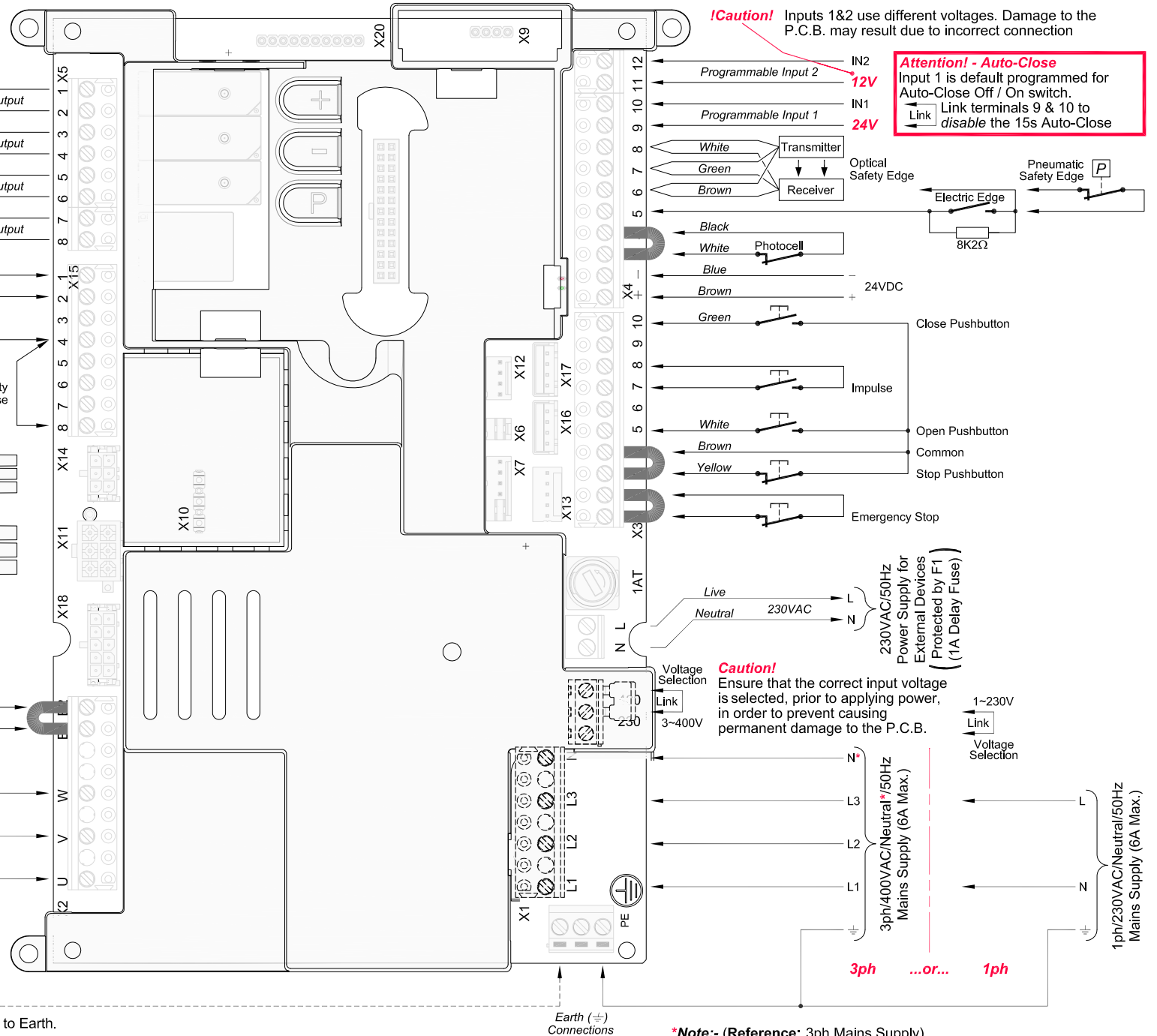
1ph

...or...



3ph

**Note:-** Ensure that the shield of the encoder cable is connected to Earth.



**\*Note:- (Reference: 3ph Mains Supply)**  
Whilst a Neutral is not required in order for the control board, it will prevent the use of the auxiliary 230VAC supply provided on X19