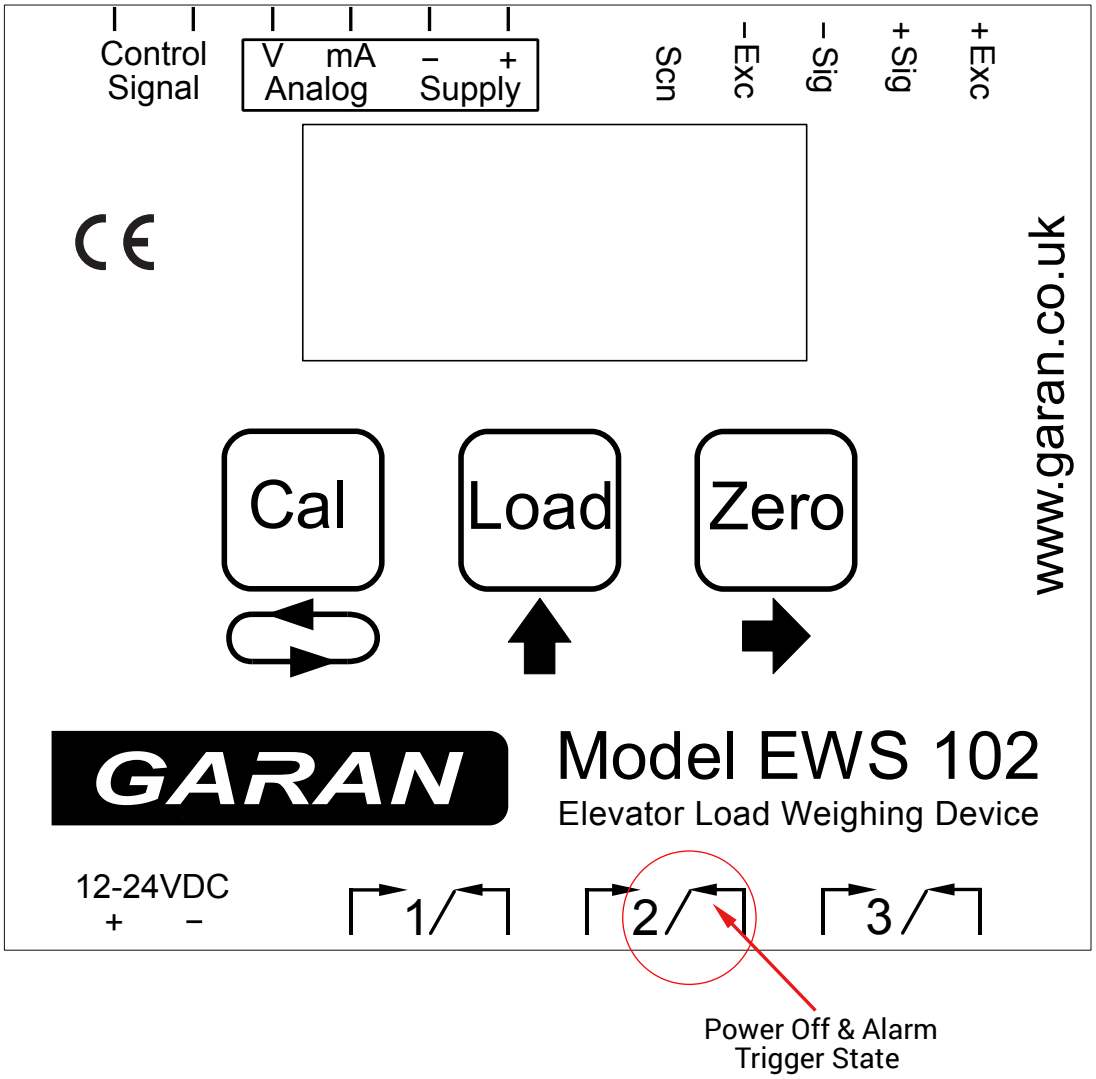
EWS 102 RELAY OUTPUTS SUPPLEMENTARY INFORMATION

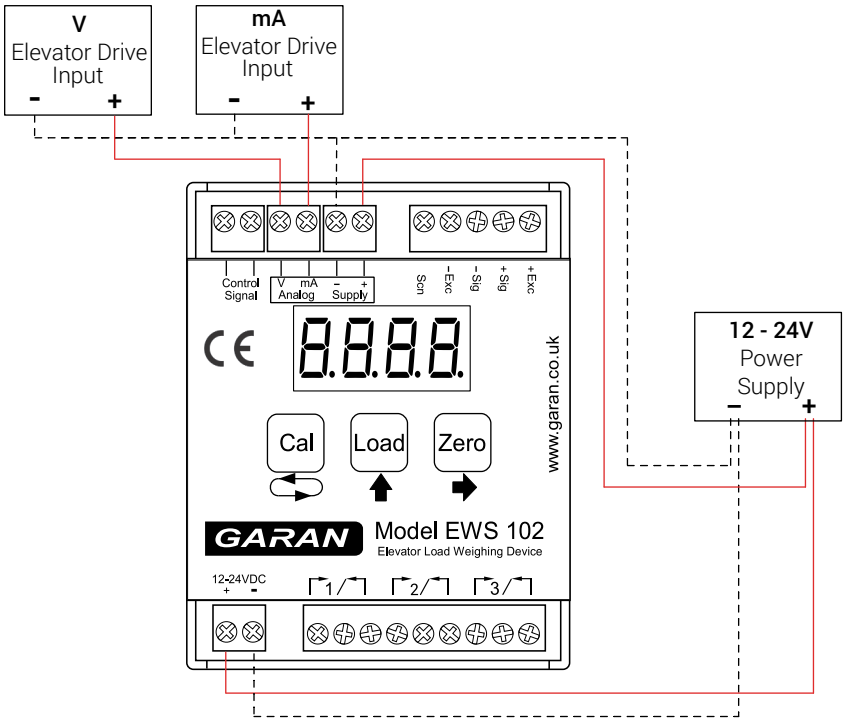


As the EWS 102 is a safety device, the label shows the default position of the relays when no power is being applied to the unit. When power is applied the relay switches state.

Relay 1 activates EWS 102's internal buzzer
Relay 3 can be configured with a negative value
This information is applicable for all variants of the EWS 102

EWS-102 CONTROL UNIT ANALOG SUPPLEMENTARY INFORMATION

Wiring Schematic



Analog Output Selection

For further information refer to EWS-102 Analog Calibration & Setup sheet.

There are seven selectable output ranges available. To view the current value press ➡ then use ⬆ to scroll through output types. Select and save required option by pressing ⟲

4-20	Output type 4-20mA.	4mA = no load, 20mA = full load
0-20	Output type 0-20mA.	0mA = no load, 20mA = full load
0-24	Output type 0-24mA.	0mA = no load, 24mA = full load
0-5	Output type 0-5V.	0V = no load, +5V = full load
0-10	Output type 0-10V.	0V = no load, +10V = full load
b i 5	Output type +/-5V	-5V = no load, 0v + half load, +5V = full load
b i 10	Output type +/-10V	-10V = no load, 0v + half load, +10V = full load

Note

Calibration and set up can be carried out on any floor, but the EWS 102 must be re-zeroed at the lowest floor to finalise the Analog output calibration.

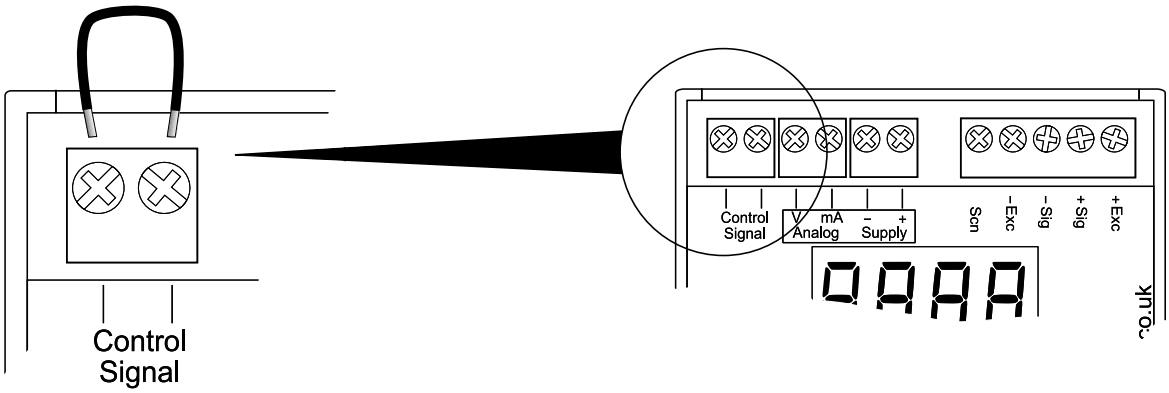
Firmware 5.5 Rev 4 subject to alteration

EWS-102 - USING THE CONTROL SIGNAL SUPPLEMENATRY INFORMATION

The Control Signal & Travel Compensation.

The Control Signal is used for the correction of mechanical errors associated with the type of Elevator and the position of the sensor used to take the measurement.

The most common type of installation requiring the use of the control signal/travel compensation are elevators fitted with a compensation chain.



For example an Elevator using a sensor fitted at top of the lift shaft with no people can be 0Kg at the highest level and 200Kg at the ground floor – This weight difference reflects the weight of the ropes and the change in length of rope between top and bottom.

The EWS when using the “control signal” is designed to ignore any weight change during travel between stops.

Operation

- The control signal terminal is a volt free contact which can be used in conjunction with existing elevator relays e.g. Door, Brake, Stop etc.
- When the Elevator is stationary the control signal is held at short circuit, the EWS is now in “*weighing mode*” people can move freely in/out the weight and the EWS will continually monitor change in the car load.
- At the point of travel and were NO people can either leave or enter the elevator (the doors are closed) the control signal must be switched to open circuit via the control signal triggering the EWS into *“travel Mode*” at this exact point of EWS instantly stores the car load.
- On the arrival at the destination floor level the control signal is switched back to short circuit "*weighing mode*" again at a point NO people can either leave or enter the elevator. (the doors have not opened)
- Once returned to weighing mode the display will show the stored weight from the last floor therefore rejecting any system weight change due to the ropes.

EWS-102 - USING THE CONTROL SIGNAL SUPPLEMENATRY INFORMATION

Timing

The selection of relay to trigger EWS control signal is critical to avoid what we term “timing issues”, namely:

> *If the doors are opened before the “control signal” returns the EWS to the weighing mode then any person who leaves the car will not be registered this can cause displayed to build up causing a false overload condition.*
>
> *We therefore CANNOT recommend using the EWS on an advanced doors setting.*
>
> *The control signal switching point must be a time when NO people can either leave or enter the elevator.*

Smaller spikes can be captured during the point of the control signal changeover as the Elevator comes to rest, wire vibration seen by a rope transducer, or slight positional changes on the elevator due people movement in the car, the application of the brake or the opening of the door etc.

These spikes can also result in weight build and a false overload condition but can be reduced to a minimum by using a timer relay to introduce a delay to the switching of the control signal allowing the Elevator more time to come to rest.

Typically a 2 sec delay should reduce the effect of these spikes but care must be taken to ensure the introduction of any delay does not result in people being able to leave the car prior to the EWS returning to weighing mode.

If using the Control signal for travel compensation we recommend using the SYSTEM RESET function.

System Reset (SrES)

With the System Reset set to ON the EWS the unit will perform a re-zero of the system provided NO pre-set weight change (35Kg) is seen over pre-set time limit (2 Mins).

This function should occur in BOTH states of the control signal i.e. Short Circuit and Open Circuit.

This re calibration is required to remove errors caused by:

- Weight build up caused by the capture “weight spikes” during control switching between Weighing Mode (Short Circuit) and Travel Mode (Open Circuit) see “timing issues” above.

- Mechanical issues that affect the “systems repeatability” (friction) which prevents the overload device returning to zero.

In some buildings which have a high volume of traffic over a sustained period of time it may be required to use a reduced time limit – This can be supplied on request.

NOTE: The System reset should be switched ON at the time the Elevator is ready to go into service and switch OFF during calibration.

See also:

EWS-102 User Manual
EWS-102 Calibration & Setup