Product Overview

The EWS 102 Elevator Load Weighing Sysytem is a compact easy to install device that provides a comprehensive control system for use with a range of sensor/application types. The EWS 102 standard model monitors the elevator load and provides several alarm outputs. It automatically adjusts to prevent errors caused by friction/compensation chain, and includes intelligent software that enables it to auto zero calibrate when the elevator is inactive. The EWS 102 analog models perform all the functions of the standard model but provides pre torque control via a voltage or current analog output.

Fitting & Wiring

The EWS 102 can be mounted either on a DIN rail or on a flat surface (using a single screw mounting aperture in the rear plate).
Wire the chosen sensor type to the control unit (see separate data sheet for colour coding).
Wire the control signal input to receive a suitable signal indicating the car has stopped at the landing with the doors opening or closing, for example the brake/open close circuit .
Wire the NO/NC alarm relays to each alarm input.

EWS 102 Analog Output Variants

Control Signal | 4-20mA Loop — Control Signal | V mA Analog — + Supply

System Programming

Once you have fitted the system, power up the EWS 102 and configure it to the specific requirements of the installation. The EWS 102 is configured using straightforward step-by-step procedures using the LED screen and three multifunction keys as follows:

Entering System Setup/Calibration Modes

Press the [Cal] and [Load] buttons (display shows: [CAL]) and then press:

[Cal] for the system setup menu (display show [SYSt])

[Zero] for zero calibration (display shows [ZEro])

[Load] for load calibration (display shows [LOAd])

Navigation

Use the ⬆ button to step through the menu items.
Press ➡ to view the value of a menu item

EWS 102 Standard

Editing Values

When a value is displayed, use ➡ to select each digit to edit (selected digit flashes) and use ⬆ to step through the value for that digit. Once the required value is displayed press ⟲ to save it.

The system will revert to the operational display after approx. 10 seconds. Alternatively, return to the display by pressing ⟲ twice.

FW 2.5 & 5.5 subject to alteration

EWS-102 CONTROL UNIT USER MANUAL
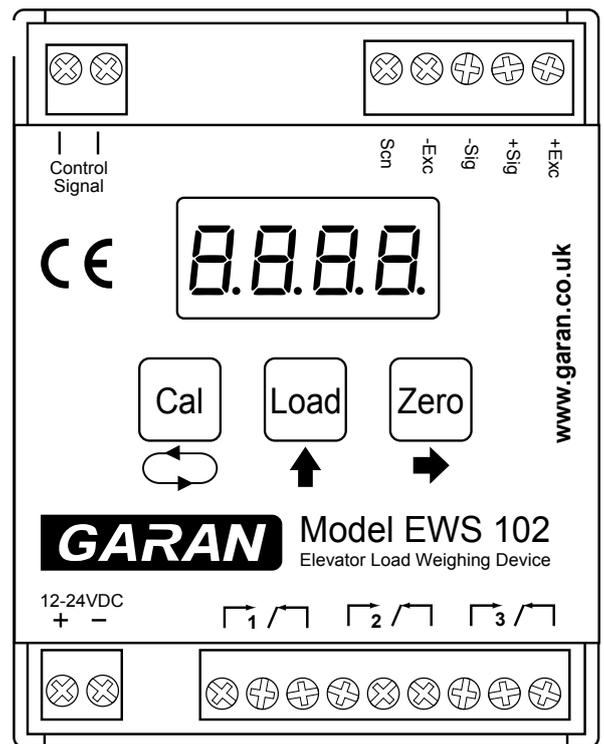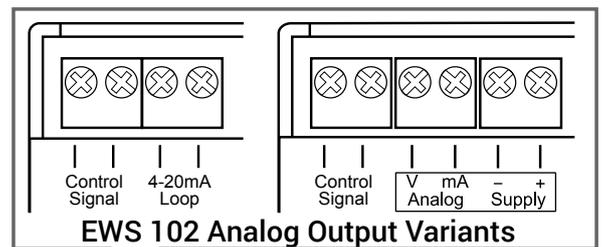
System Setup

Before starting the set up procedure, ensure that you have all the relevant data. Refer to the table and enter the required user values.

Setting	Meaning	Default Value	User Value	Connected to	Comment
CAP	Elevator capacity	1000kg		N/A	
AL 1	Relay 1 trigger value	1100kg			Must be +ve value
AL2	Relay 2 trigger value	1000kg			Must be +ve value
AL3	Relay 3 trigger value	-300kg			Can be +ve or -ve
HYSt	Amount load needs to drop after alarm to reset instrument	30kg		N/A	
dLY	Defines the delay in storing the car load value, after a signal has been applied to the EWS control signal input	2 sec		N/A	0=0sec, 1=0.5sec .... upto 7 = 3.5sec.
diSP	Disable the display during travel	Off		N/A	
FiL	Defines the update rate and damping factor before the measured signal is stored	1			0=0.4sec, 1=0.8sec .... upto 3 = 1.6 sec.
SrES	Auto system reset function	Off			Must select On after calibration completed

Maximum Capacity

To set the maximum capacity of the elevator, enter the system setup menu and press ⬆ once to select the Maximum Capacity setting

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CAP
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Alarm Trigger Values

Each of the 3 alarm relays can be individually set to trigger at a particular load. Alarm relays 1 and 2 can trigger on any positive value. Typically, relay 1 would be set to trigger the required overload condition, which prevents the elevator doors from closing. When relay 1 is triggered, the internal buzzer also sounds.
Relay 3 van be set to trigger at either a positive or negative value. The negative value can be used to indicate the presence of an obstruction affecting the free movement of the cabin.

Note: When setting a positive value. for Alarm 3, ensure that the left hand digit is set to '0' if it is set to '-' the value will be treated as a negative

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AL 1
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Press ➡ to view the current value. Change the value using the ➡ and ⬆ buttons and then press ⟳ to save the new setting and move to the next parameter.

Hysteresis Value

Once an alarm has been triggered, it will not reset until the load has dropped below the trigger value by the hysteresis value set here. This prevents cycling of of the alarm.

To set the hysteresis value. enter the system setup menu and press the ⬆ button repeatedly until the hysteresis menu is displayed

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HYSt
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Press ➡ to view the current value. Change the value using the ➡ and ⬆ buttons and then press ⟳ to save the new setting and move to the next parameter.

Delay

To adjust the time interval from when the door close signal is activated and the measured load is stored by the EWS 102, to minimise signal spikes due to the mechanical shock effect of the door closing.

dLY   Defines the time from the control signal input is activated and the car load is stored.
Default =2, the available settings are: 0 = 0sec, 1 = 0.5sec, ...7 = 3.5sec.

Display

Option for turning the display on or off when the lift is moving, activated by the the door close signal

d iSP   To change the setting, press ⬆ and use ➡ to toggle beteween On and OFF.

Filter Value

The filter value determines the update rate and damping factor. The available settings are:

0 = 0.4sec, 1 = 0.8sec, 2 = 1.2sec, 3 = 1.6sec. To set the filter value, enter the system setup menu and press the ⬆ button repeatedly until the hysteresis menu item is displayed:

FI L   Press ➡ to view the current value. Change the value using ➡ and ⬆ buttons, then press ⟳ to save the new setting and move to the next parameter.

Sounder Control

An internal sounder beeps when an overload alarm is triggered or when the keypad is pressed

bEEP   To change the settings, press ➡ and use ⬆ to toggle between ON and OFF. Press ⟳ to save the new setting and exit System Setup

System Reset

Option for turning the auto system reset on or off, this should always be OFF during calibration and On before the lift enters service.

SrES   To change the settings, press ➡ and use ⬆ to toggle between ON and OFF. Press ⟳ to save the new setting and exit System Setup

Calibration

Before starting to, ensure that you have suitable known weight available for calibrating the load.

To enter calibration mode you must fit a link between the Control Signal Input terminals:

Control Signal
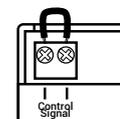
Zero Calibration

To enter Zero Calibration mode (Press [Cal] and [Load] buttons together followed by [Zero])

2Ero

Ensure that the cabin is empty and press [Cal] to initiate the calibration. The display will count down from 10 to 1 and then displays [CAL] to indicate that the zero point has been calibrated and stored. Press [Zero] within 10 seconds to proceed to the Load calibration mode.

Load Calibration

If you press [Load] within 10 seconds at the end of the last procedure, press [Cal] and [Load] buttons together followed by [Load] to enter Load Calibration Mode.

LOAd   Place the known load into the cabin and press [Cal]

- - - -   Enter the weight of the known load in kg using the ➡ and ⬆ buttons, then press ⟳ to complete the input and start the calibration the display will countdown from 10 to 1 and then displays [CAL] to indicate the load has been calibrated.

FW 2.5 & 5.5 subject to alteration

Error Codes

If after powering up the unit, the display shows an error message, this could indicate that the sensor positioning and/or wiring needs to be checked.

Code	Error	Cause/Solution
Err 1	Sensor Signal Input - Negative	Reverse connection of sensor signal leads
Err2	Insufficient Sensor Signal	Installation Error - Contact Garan
Err3	Sensor Offset Too High - Positive	Installation Error - Contact Garan
Err4	Sensor Offset Too High - Negative	Installation Error - Contact Garan
Err5	Trying to calibrate without Control Signal link	Fit link between control signal terminals
Err6	Sensor not conected to EWS	Connect sensor/check sensor wiring

Analog Output Variants

Depending on the EWS variant these control units can provide an analog output proportional to the elevator load and provide a signal to allow the controller to pre-torque the motor.
Analog outputs - current (4-20mA, 0-20mA), voltage (0-5V, 0-10V, +/-5V or +/-10V) or current (4-20mA) only.

EWS-102 4-20mA Version

For further information please refer to EWS-102 4-20mA Control Unit Supplementary Information Sheet.

EWS-102 Multi Analog Version

For information regarding selction of the required analog output please refer to EWS-102 Control Unit Multi Analog System Setup Sheet.
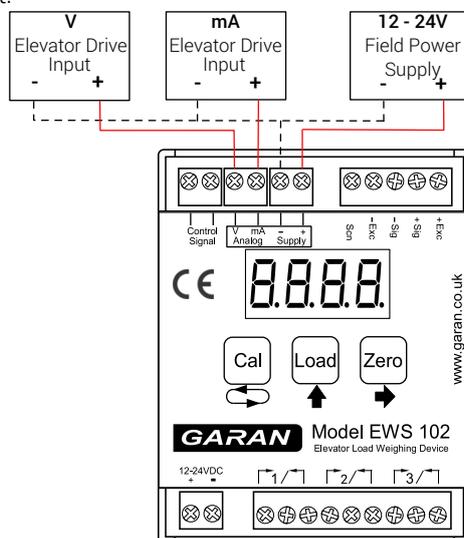
Note:

The analogue output section is galvanically isolated from the instrument power, hence the separate field supply.

If isolation isn't required, the instrument power supply can also be the field power supply.

Intelligent Software

The EWS 102 Intelligent software features:

1.	An AUTO ZERO function that is pre-set and designed to remove any zero drift errors as a result of ambient changes.

2.	A SYSTEM RESET function which is user defined and will re-zero the overload system when the elevator is at rest.

To set the System Reset values, enter the system setup menu and press the button repeatedly until the first of these parameters are displayed.

Travel Compensation

The travel compensation prevents errors associated with the presence of a compensation chains. It is automatically activated when the Control Signal input is wired to receive a door open/close signal.