

CabVision™



Elevator operating efficiency
improvement system



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Product Overview

- Determines the space occupied in an elevator car by comparing a reference image against images taken constantly of the car floor while in operation, to determine when the car is “full.”
- Once the car becomes full, relay outputs, working in conjunction with the elevator’s load weigh system, tell the elevator controller to ignore hall calls until the car is no longer full



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Target Applications

- Designed for situations where various objects occupying space in an elevator car can prevent additional passengers from entering the car, but these objects may not be heavy enough to trigger the elevator's load weigh system.



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Target Applications (cont'd)

- In these situations, the elevator's operating efficiency is negatively impacted when the car responds to multiple hall station calls, but passengers are effectively unable to use the elevator.
- Hospitals, Hotels, Nursing homes, ...

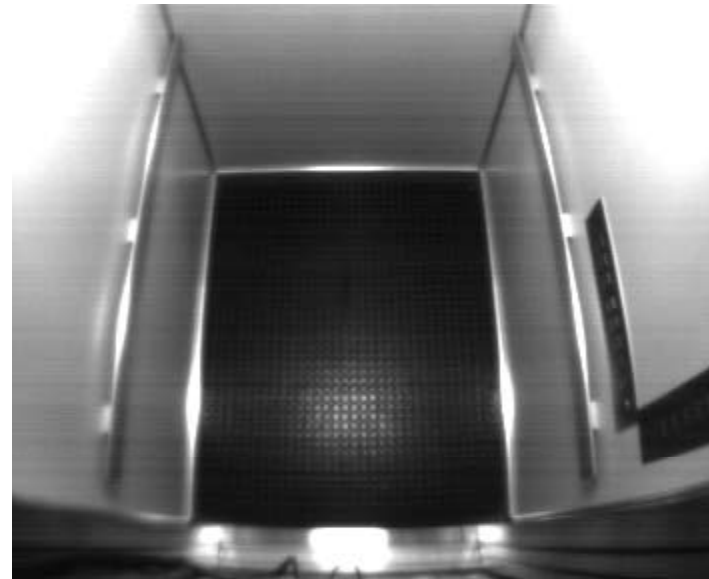


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Interface / Installation



Ceiling mounted,
approximately at center



Wall mounted, above car
doors

Part Nos: A851A (vertical mount), **A851B** (wall mount)

ADAMS

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Interface / Installation (cont'd)

Connection Cable:

Wire Colour	Description	
Brown	+24 V	<i>Positive power supply</i>
White	GND	<i>GND of power supply and of serial interface</i>
Green	Test In	<i>The test input has no function and must be left open.</i>
Yellow	Relay Out1 – NO	<i>Elevator car occupancy is higher than the threshold value set with P1.</i>
Grey	Relay Out1 – Com	
Pink	Relay Out1 – NC	<i>Elevator car occupancy is lower than the threshold value set with P1.</i>
Blue	Relay Out2 – NO	<i>Elevator car is not empty.</i>
Red	Relay Out2 – Com	
Black	Relay Out2 – NC	<i>Elevator car is empty.</i>
Violet	RS 232 RX	<i>Can be used if the visualisation software is used.</i>
Grey/Pink	RS 232 TX	<i>Can be used if the visualisation software is used.</i>

Relay Outputs:

Relay	LED colour	Relay on*	Relay off*
Out1	Green	Occupied floor space in the elevator car is higher than the threshold value set by potentiometer P1.	Occupied floor space in the elevator car is lower than the threshold value set by potentiometer P1.
Out2	Red	Elevator car is not empty .	Elevator car is empty.

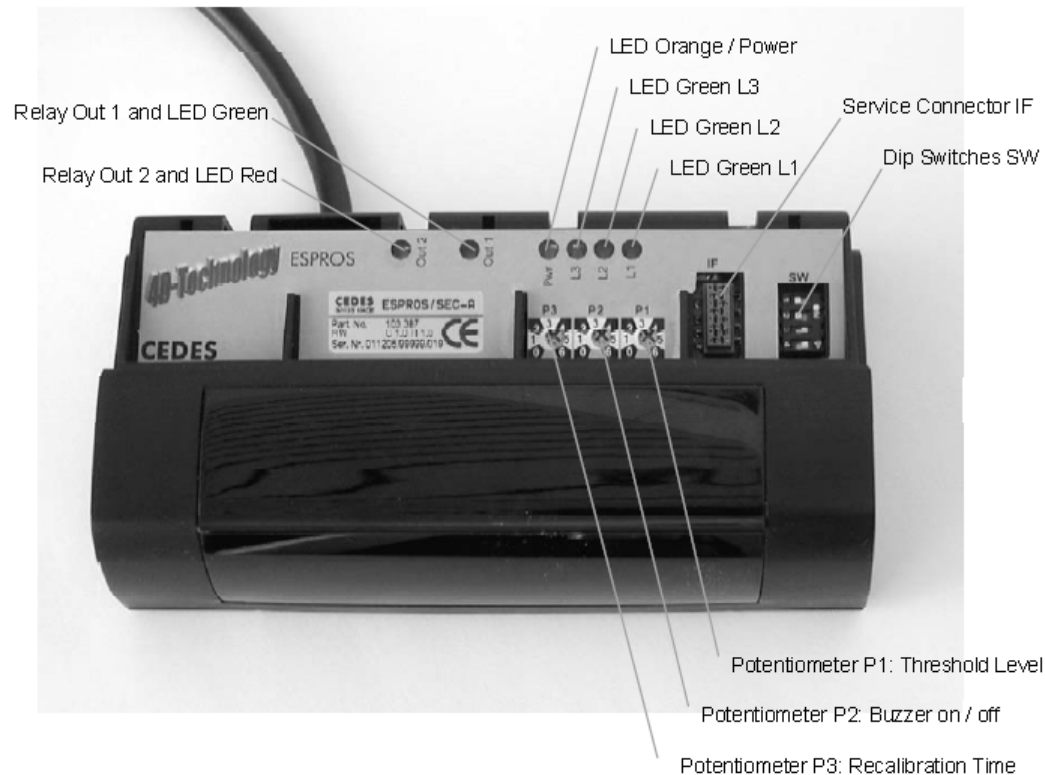




Fig. 1: ESPROS/VOL Interfaces

LED	Function	Normal State
Pwr	Power supply is on.	On
Out1	Shows state of output relay Out1.	See section 2.2
Out2	Shows state of output relay Out2.	See section 2.2
L1		Flashes occasionally, if recalibration starts ^{**} .
L2		After initialisation, not used ^{**}
L3	Shows if ESPROS/VOL is functioning normally.	Blinking ^{**}

Adjustments

Potentiometer P1	Potentiometer position	Threshold value	Remarks	
	Full left	0	4 %	One or more people are in the elevator car*.
		1	19 %	
		2	37 %	
	Middle	3	52 %	Factory setting, the elevator car is half full*.
		4	67 %	
		5	84 %	
	Full right	6	100 %	The elevator car is full*.

* Occupancy of the elevator car is proportional to it's size.


Potentiometer P2	Potentiometer position	Buzzer status	Remarks	
	Full left	0	off	Factory setting, buzzer off
		1	off	
		2	on	
	Middle	3	on	
		4	on	
		5	on	
	Full right	6	on	Buzzer on

After the start-up and adjustment potentiometer P2 should be turned to position 0, so that the buzzer is turned off.



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Adjustments (cont'd)

Potentiometer P3	Potentiometer position		Recalibration time (seconds)	Remarks
	Full left	0	20	Factory setting
		1	37	
		2	53	
	Middle	3	70	
		4	87	
		5	103	
	Full right	6	120	

If the environment in the observation range of CabVision does not vary during the recalibration time, the reference will be set as the current picture. With recalibration, you will guarantee that a permanent change in the elevator will be taken into account.

Technical Data

Value	Min.	Max.	Remarks
Power supply	16 VDC	30 VDC	Max. Rippel 0.5 V
Power consumption	-	200 mA	@ 24 VDC
Relay outputs	10 mVDC 10 mA	30 VDC/1A 42 VAC/1A	
Ambient light level for proper operation	50 Lux	2'000 Lux	
Temperature range <i>Operation</i>	-5° C (+23° F)	+55° C (+131° F)	
Temperature range <i>Storage and transportation</i>	-20° C (-4° F)	+80° C (+176° F)	
Relative humidity	5 %	90 %	Not condensing
Optical opening angle horizontal	68°	-	See drawings
Optical opening angle vertical	54°	-	See drawings
Ideal installation position	-	-	Car top, middle
Car height for proper operation	2.1 m (8.3')	4.5 m (17')	
Cable length	2 m (8')	-	
Cable type	-	-	11 wires AWG 26
Enclosure rating	-	-	IP65

In addition to sufficient illumination, CabVision requires a source of IR light to work with the camera sensor. System is not recommended for use with cars having glass walls and/or glass floors



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