

## LVL : BASKET SELF-LEVELLING UNIT

The basket levelling unit LVL constantly checks and corrects angular differences in the platform's basket automatically. The LVL unit, with dual microcontroller (**redundant**) and full digital control circuits as per the **Machinery Safety Directive**, is sealed in a robust aluminum cast casing in **IP66** protection class. The LVL electronic control unit includes reverse current, short circuit and high current **protection relay**.



There are signal outputs for hydraulic systems with On/Off **Safety Valve** or **Power-Pack** hydraulic-motor.

The microcontroller in the LVL computes the signal that will adjust the optimal basket position with advanced proportional algorithms and **closed-loop PID algorithms**. Thus, the signal of correcting according to the speed of travel of the vehicle and the hydraulic oil temperature is constantly updated. The correction signal is transmitted to the electro-hydraulic basket balancing valve as **on/off** or **PWM**.

The LVL unit is delivered with the most frequently used parameters loaded. However, when fine tuning is required for each machine and hydraulic system, it is possible to calibrate with easy-to-use and **free LVL Calibration software**.



### **AV.CAGE.LVL. 24Pin Wire Connection**

The connection pin numbers of the basket levelling unit are as shown in the following table:

<b>PIN</b>	<b>Signal</b>
A2	Levelling Valve Channel B - Output (On/Off or PWM)
A3	Levelling Valve Channel A - Output (On/Off or PWM)
B2	Optional output for external power-pack (hydraulic motor)
A8	+12-24Vb Battery (+)
B1	Battery (-) or GND
B3	Optional Switch Input for Basket Folding
B7	CAN-Low (Programming or Fine-Tuning)
C1	+12-24Vb Battery (+)
C3	Optional Switch Input for Basket Un-Folding
C6	CAN-Hi (Programming or Fine-Tuning)

If the basket hydraulic system is independent of the main hydraulic system, the basket power-pack unit (or Safety Valve) is activated before the levelling starts. After the levelling is complete, the power unit is automatically switched off.

If basket folding is available on the vehicle, the basket is folded at the desired angle with the aid of an external switch.

**AVIONI LVL** is proposed as an independent basket balancing unit both on its own and as a subcomponent of a system on aerial work platforms and fire trucks.

