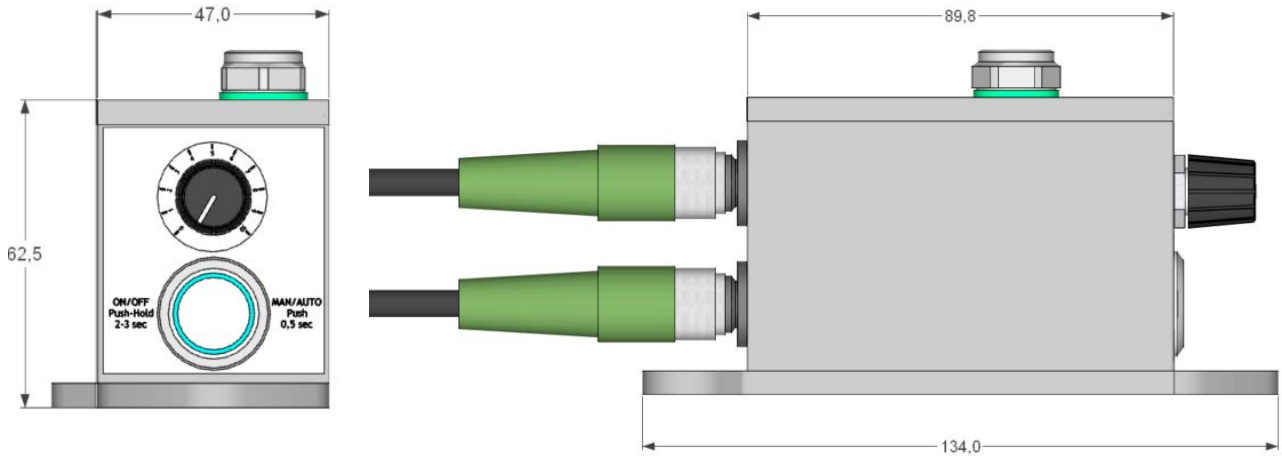
# SERVI AS – ADAPTED SOLUTIONS

Description:

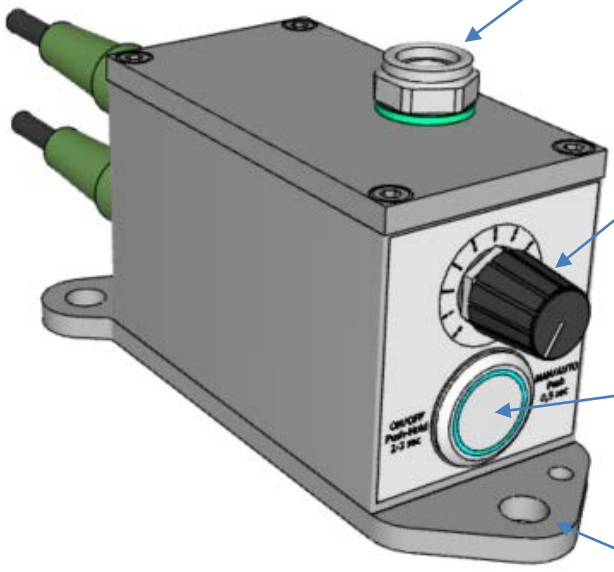
- Built-in digital amplifier card for proportional control of one (1) solenoid requiring up to 2,5A current draw.
- Designed to meet requirement for automatic speed control of hydraulic proportional valves & robustness needed for use on agricultural vehicles.
- Control is either manual by potentiometer or automatic by input from vehicle ISO117896 speed signal. Requested mode is selected by toggling the pushbutton.
- Use of true or calculated speed input can be set by defined button sequence or by programming software.
- The PC software also gives access to several additional parameters like deadband compensation, dither adjustment, current limitation and more.
- Being fully digital means no fiddling with mechanical potentiometers. Also ensures easy adaption to different coil characteristics & machines.
- Reduces time needed for final adjustment during series production. Download the correct parameter file for a machine and all adjustments are done.
- Wide supply voltage band gives maximum flexibility and ensures correct operation even in situations with severe supply voltage drop.

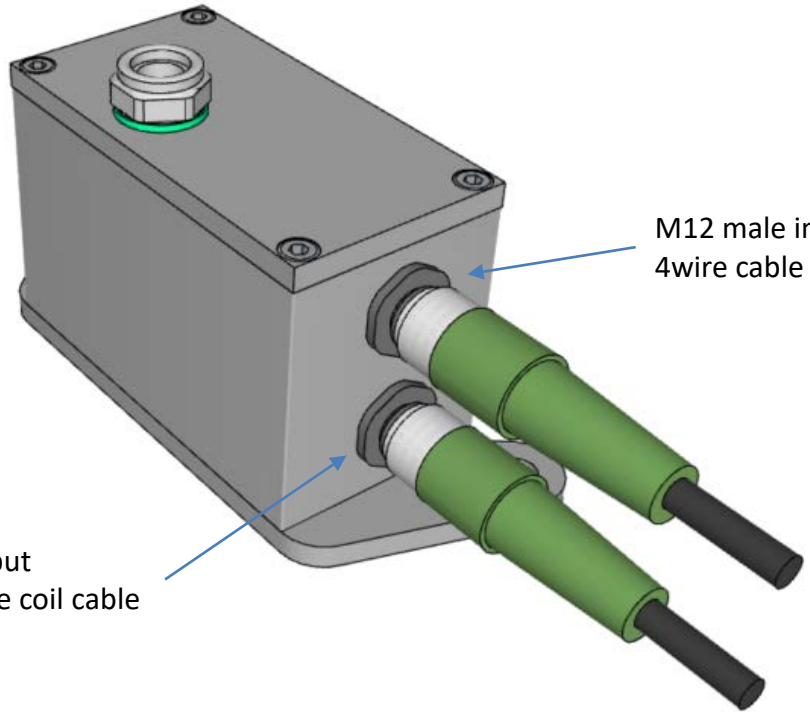



Features:

| | |
|---|---|
| Supply: | 12-32 VDC |
| Current Output: | Max 2,5A. (>2A @ 10.8V supply voltage) |
| Ingress Protection | Up to IP69K, molded for vibration resistance |
| Housing material: | Aluminum EN AW 6060 |
| Programming cable | Micro USB to PC |
| Software: | HCS Tool |

Design/connections



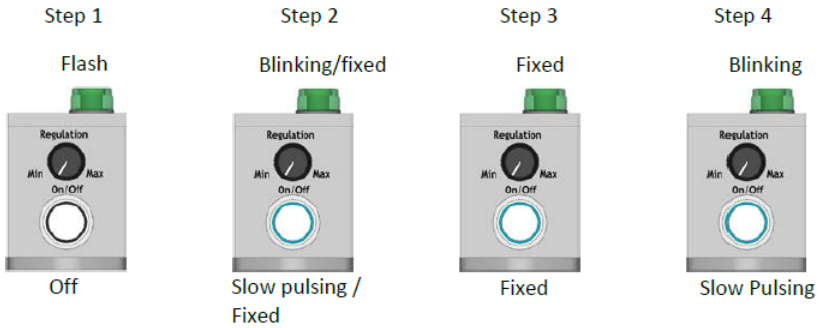



## Operation

**Front pushbutton activation mode**

| Step | Action | Result | Activation time t (sec) | Function | Potmeter function | Top LED | Colour | LED FPB* | Colour | Enable |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Ignition swith on | Power on | | ODC power on/ Current output off | | Off | Green | Off | | OFF |
| 2 | Push-hold ON/OFF | Change activation | 2,0 ≤ t ≤ 3,0 | Mode activated (last selected) | Depending mode | Constant | Green | Depending mode | Blue | ON/OFF |
| 3 | Push | Change mode | 0,1 ≤ t ≤ 0,5 | Toggle from Manual to Auto** | Gain for speed command | Constant | Green | Pulsing for 10 sec after PFB activate | Blue | ON |
| 4 | Push | Change mode | 0,1 ≤ t ≤ 0,5 | Toggle from Auto to to Manual** | Direct command | Constant | Green | Constant for 10 sec after PFB activate | Blue | ON |

* LED FPB: LED Front Push Button
** Last mode stored at disable or power off




**Front pushbutton programming mode for speed signal selection**

| Step | Action | Repetitions | Activation time t (sec) | Top LED | Color | Mode | Pin | Prog mode |
|---|---|---|---|---|---|---|---|---|
| 1 | Push-hold | 1 | 5 ≤ t ≤ 6 | Blinking | Red/ Green | Programming mode* | | On |
| 2 | Push | 1 | 0,1 ≤ t ≤ 0,5 | Blinking slow | Red | Theoretical speed (default)** | 2 | On |
| 3 | Push | 2 | 0,1 ≤ t ≤ 0,5 (2 push ≤ 2) | Blinking fast | Red | True speed** | 1 | On |

* Automatic exit programming mode after 5 sec inactivity or power off.
** Selected speed signal saved and remain also at power off

# SERVI AS – ADAPTED SOLUTIONS

ISO11768

The firmware is adapted to the ISO11768 7-pin standard vehicle interface giving information about the following vehicle parameters:

— Pin 1: true ground speed
— Pin 2: theoretical ground speed
— Pin 3: rear PTO rotational speed
— Pin 4: rear three-point implement in-work/out-of-work
— Pin 5: rear three-point linkage position
— Pin 6: power supply
— Pin 7: common ground

The electronics utilizes pins 1, 2, 6 and 7 for power supply and speed input. Connection in control box is a 4pin M12 male connector on the end of the housing. Frequency range: For speed >1km/h -> 130 pulses/m. Equals 0-1500 Hz for speed 0-40 km/t.

Below is a graph showing linear output current relative to vehicle ground speed in automatic mode. The steepness or inclination of the red curve is set manually by the potentiometer according to the operator`s preferences.