

COMPACT AGRICULTURAL PEDAL

Compact Agricultural Electronic Pedal – Applications



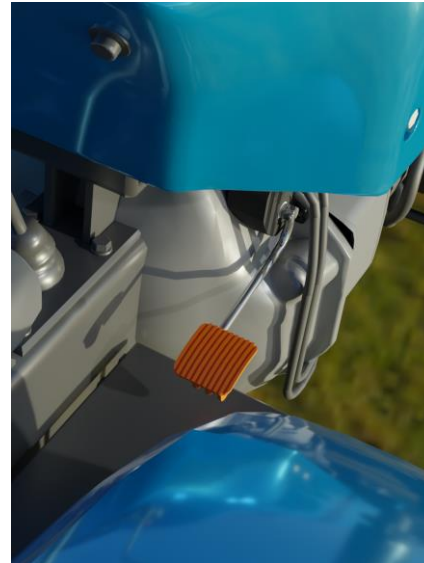
The new compact agricultural pedal represents a more compact variant than ELEN Anthos pedal. It has been designed for agricultural machines with tight spaces for installation and other mechanical restraints. It is a space-saving solution that combines high actuating force, extremely compact size and high life cycle. Its mechanical robustness and reliability make it suitable to be used in harsh environments and under severe conditions.

MAIN FUNCTIONS

- Accelerator pedal for electronically driven heat-engines subjected to emission standards (Tier IV Final, Stage V)
- Accelerator pedal for electrically driven vehicles

FIELDS OF APPLICATION

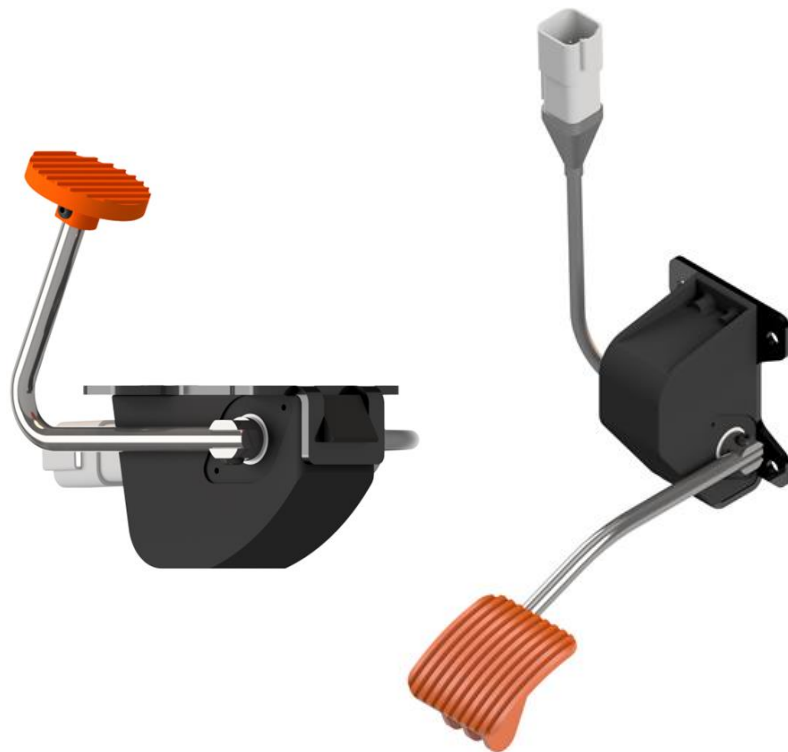
- Compact / specialized agricultural tractors
- Specialized agricultural machineries
- Compact medium-range utility tractors
- Garden and lawn mower tractors



Compact Agricultural Electronic Pedal – Distinctive Features

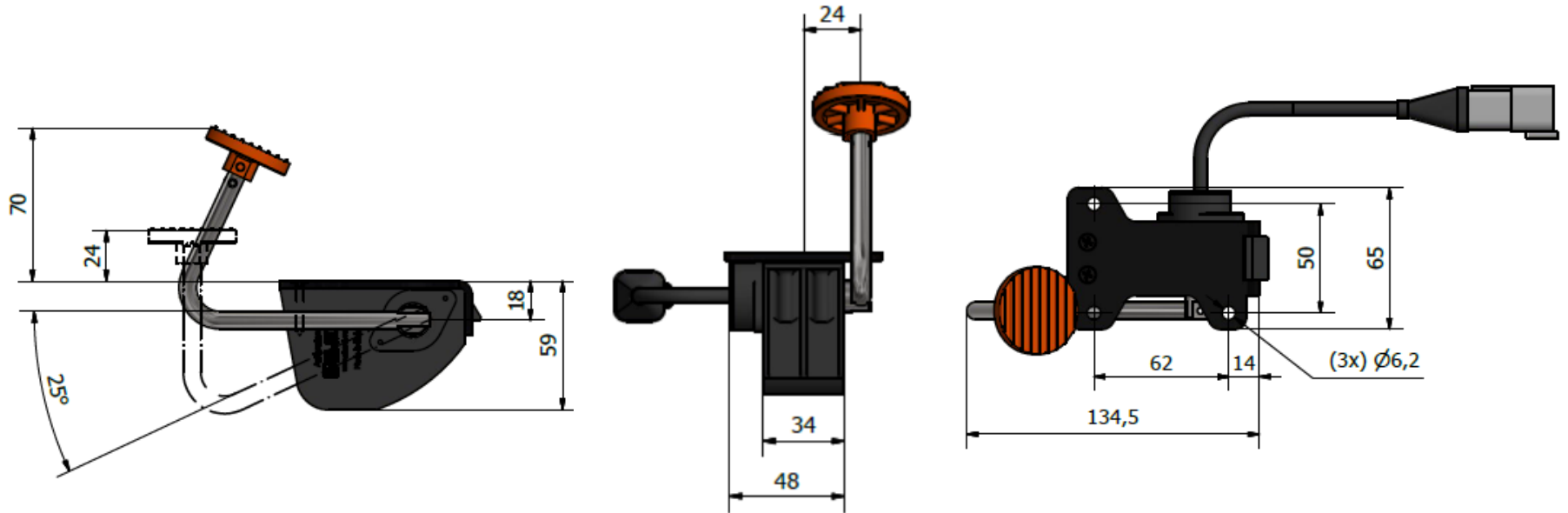
MECHANICAL CONFIGURATIONS

- Robust plastic structure
- 2 versions: suspended and underfloor mounting types
- Modular product design with external angle sensor
- Internal end-stroke
- Versatile mechanics: customizable metal plate for fixing, customizable metal lever and footboard
- Position of the lever: right or left mounting
- Right or left sensor
- Variable pedal travel and actuating force
- Standard footboard RAL2004
- Cable outlet
- Cable length and connector type: fully customizable



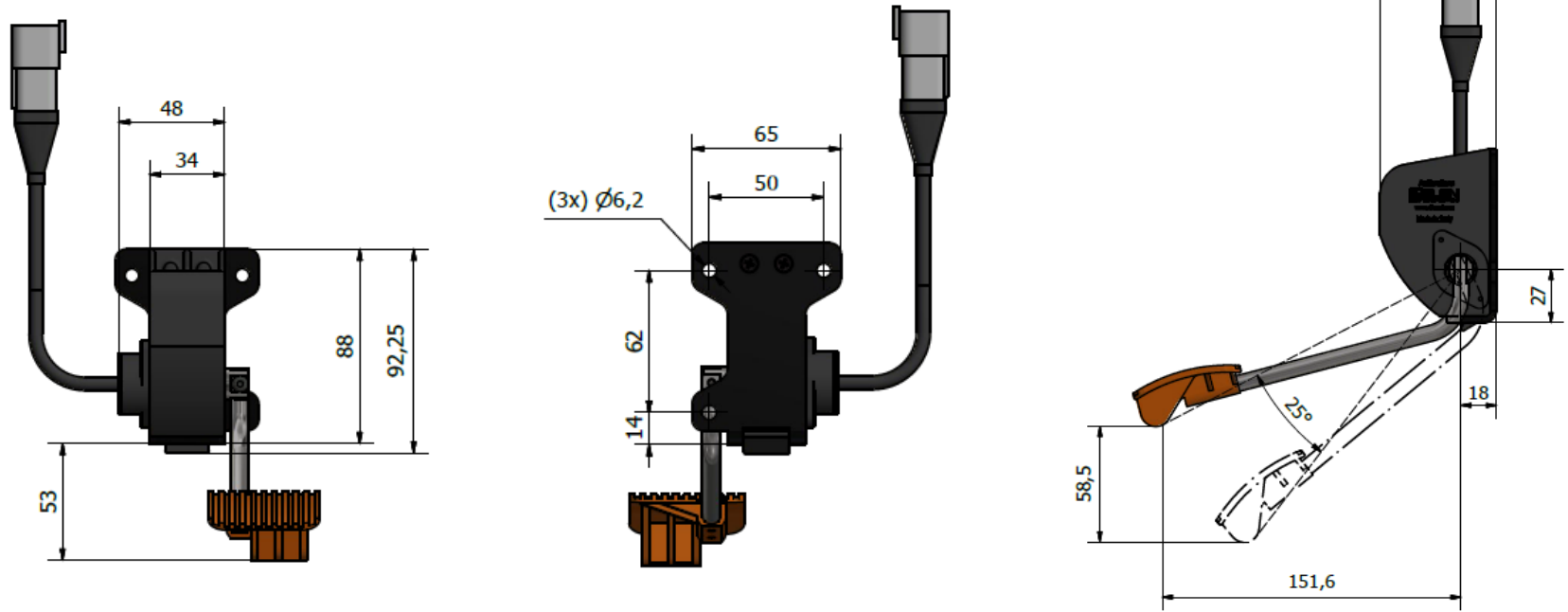
Compact Agricultural Electronic Pedal – Underfloor Version

MAIN DIMENSIONS



Compact Agricultural Electronic Pedal – Suspended Version

MAIN DIMENSIONS



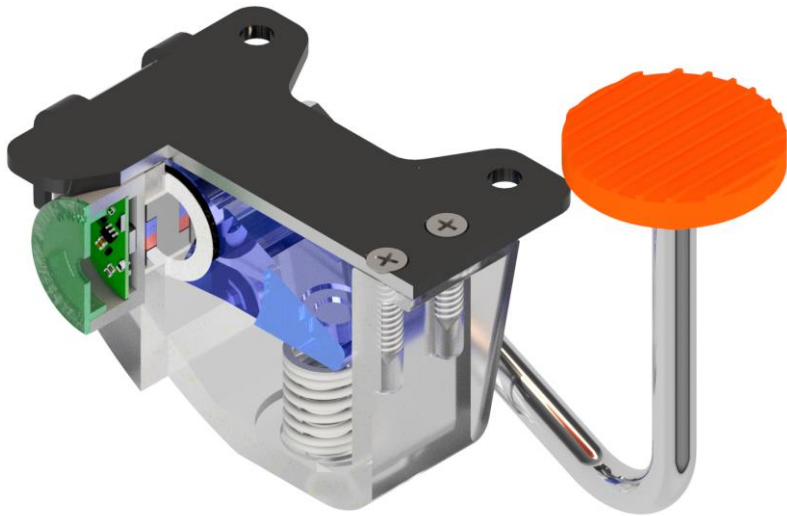
Compact Agricultural Electronic Pedal – Distinctive features

ELECTRONIC CONFIGURATIONS

- Versatile electronics: programmable, integrated electronic board
- Supply voltage: 5V; 10-30V
- Single or double output signal
- Programmable analogue output (current or voltage); min.-max. levels within the supply voltage range
- Single or double IVS (N.O. or N.C.); Programmable tripping threshold
- PWM output available; Programmable [%]duty-cycle
- CAN-BUS output option available (SAE J1939 version); Customizable CAN message
- CANOPEN – under development

Compact Agricultural Electronic Pedal – Overall technical features (1/3)

CONSTRUCTION CHARACTERISTICS AND INTERNAL STRUCTURE



HALL EFFECT TECHNOLOGY - CONTACTLESS

An hall-effect sensor detects the field strength of a magnet integral with the lever. It guarantees a reliable signal, immune to premature failures due to mechanical wear.

Compact Agricultural Electronic Pedal – Overall technical features (2/3)

INDEPENDENT CIRCUITS – FUNCTIONAL SAFETY

Double output versions are obtained by integrating on the same electronic support two sensors with completely independent and galvanically isolated circuits, in compliance with functional safety standards (EN ISO 13849)

PROGRAMMABLE ELECTRONIC BOARD

The programmable electronic board allows to set up the output signal values and the trigger threshold for the switch signal without hardware interventions and manual calibrations. It provides a wide range of output configurations and it guarantees the highest level of signal reliability, precision and repeatability.

RESIN-COATED BOARD COMPARTMENT

It ensures absolute impermeability against water/dust/corrosive agents infiltrations and makes the electronic board compartment a completely sealed subassembly of the product structure.

RETURN TO STARTING POSITION – DOUBLE RETURN SPRING

It is implemented to maintain the minimum overall dimensions and at the same time to guarantee the redundancy of the springs, an adequate actuating force as well as a high life cycle.

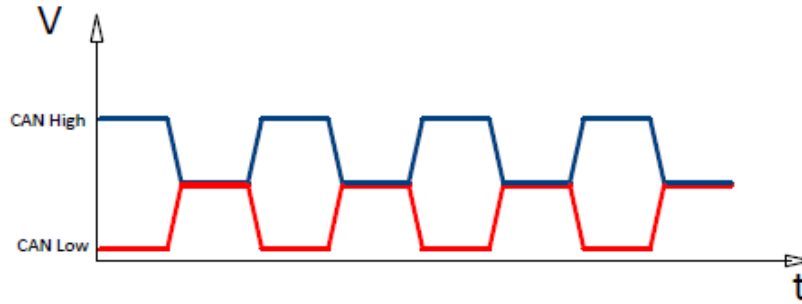
Compact Agricultural Electronic Pedal – Overall technical features (3/3)

RELIABILITY

- Operating principle: Hall-effect contactless
- Output and IVS are handled by firmware without any contact switch or manual calibration
- Compression spring and double spring return
- IP67 rating
- Operating temperature: -40°C to 85°C
- Immune to infiltrations (closed mechanical structure with no need for a protection rubber bellow)
- Immune to vibrations and electromagnetic interferences
- Protection against ESD, load-dump, overvoltage, reverse polarity, short-circuits
- Independent isolated circuits for output redundancy in accordance with Functional Safety standards
- Life cycle over 10 million cycles

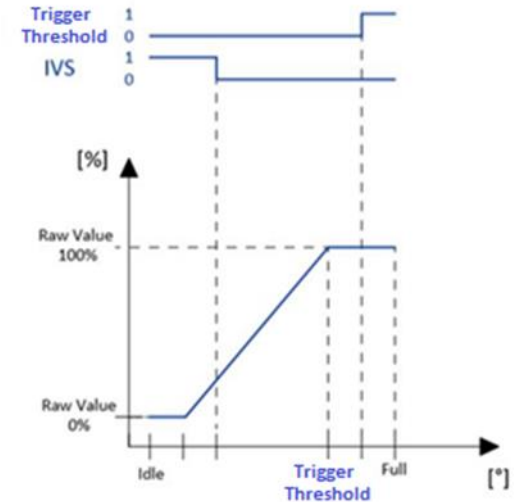
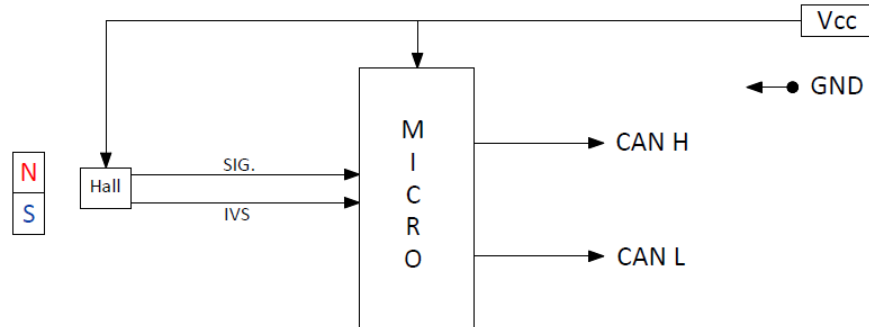
Compact Agricultural Electronic Pedal – CAN J1939 Output

Output Signal



CAN message can be electronically configured in accordance with motor's specific requirements.

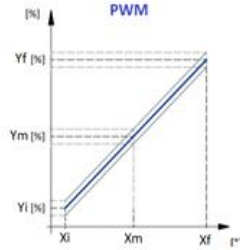
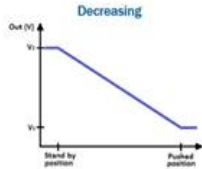
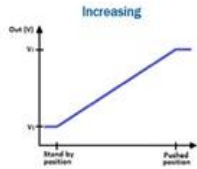
Functional Scheme



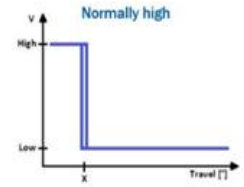
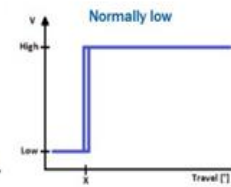
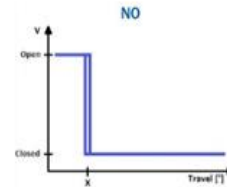
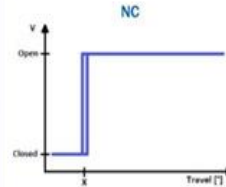
Compact Agricultural Electronic Pedal – Other output configurations

SINGLE SIGNAL

Analogic

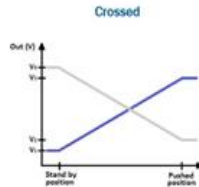
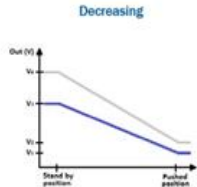
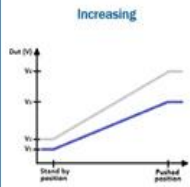


IVS (Idle Validation Switch)

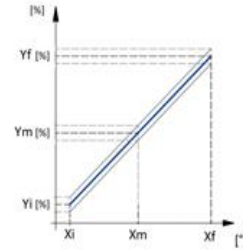
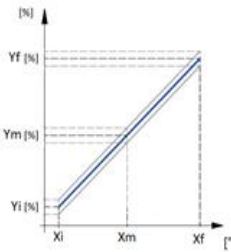


DOUBLE SIGNAL

Analogic



PWM



IVS (Idle Validation Switch)

