

# Product Specification

Function, quality and reliability are subjects of this specification.

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## VCS II GenericIO Parameter Setting

### Integrated Speed Switch with Speed Pulse (ID 11 / 12)

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This specification describes the requirements for an ISS function with speed pulse by GenericIO parameter setting.

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# 1 References

The system specification 400 010 203 0 ist the basis for the VCS II requirements. This document specifies the VCS II system.

The electrical data of the output is specified in the component specification of the corresponding modulator.

# 2 General

The function "ISS with speed pulse" is an extension of the basic ISS function. The ISS output also supplies a speed information. The permanent signal is added by a superimposed, pulse frequency, which delivers an information about the current vehicle speed. By this e.g. ELM and ISS can be controlled simultaneously by two GenericIO outputs.

# 3 Pinning

The function uses the following connector pins:

Variant	Connector pin
Standard	X6.1, X6.2
Premium	X6.1, X6.2

The speed pulse and the ISS are allocated to the digital Generic output D1 (X6.1, ID 11) resp. to D2 (X6.2, ID 12).

# 4 Wiring

The ISS function is wired by the GenericIO cable 449 617 ... 0 (resp. other cables which support this and other functions). See also the wiring diagram on page 4.

# 5 External components

For this function there are no additional external components necessary.

# 6 Functionality

The ISS output is switched on or off semi-permanently (depending on the parameter setting). This signal is superimposed by a speed signal with:

- A switch-on pulse, if the ISS is switched off basically
- A switch-off pulse, if the ISS is switched on basically

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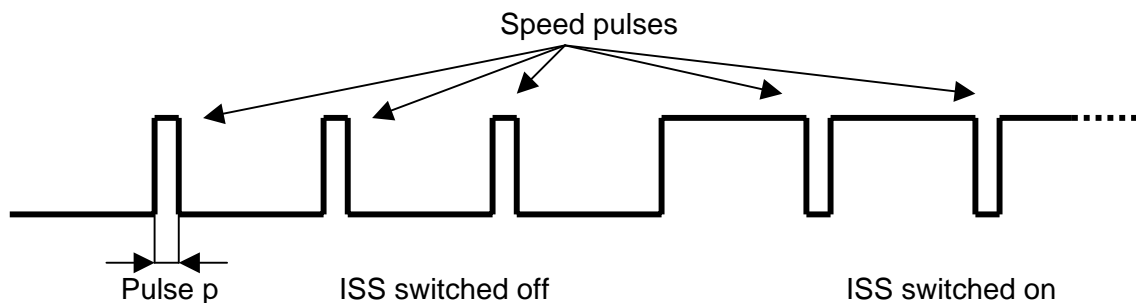
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The ISS is switched based on the ECU internal reference speed.

The speed pulse has the following format:

$$p = 195 \text{ ms} + v * 5 \text{ ms} / \text{km/h}$$

## 7 Operating range

The speed pulse works for vehicle speeds up to 160 km/h.

## 8 Failure detection and reaction

The following failures can be detected at the corresponding output:

- Short circuit to power
- Short circuit to ground
- Cable break (only if the corresponding function parameter is activated)

If one of these failures occurs the function is switched off and the ABS warning lamp is activated (in case of cable brake only if the corresponding function parameter is activated).

## 9 Function parameters

The following function parameters are available:

### ISS:

- Speed threshold
- Control mode: as long as v is greater than switching threshold, as long as v is greater than switching threshold – min. 10 s, exactly 10 s
- Signal inverted, not inverted
- Cable break detection active / not active

### Speed pulse:

- Cable break detection active / not active

## 10 Test function

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The test function allows testing of the integrated speed switch function as well as the speed pulse function within one test.

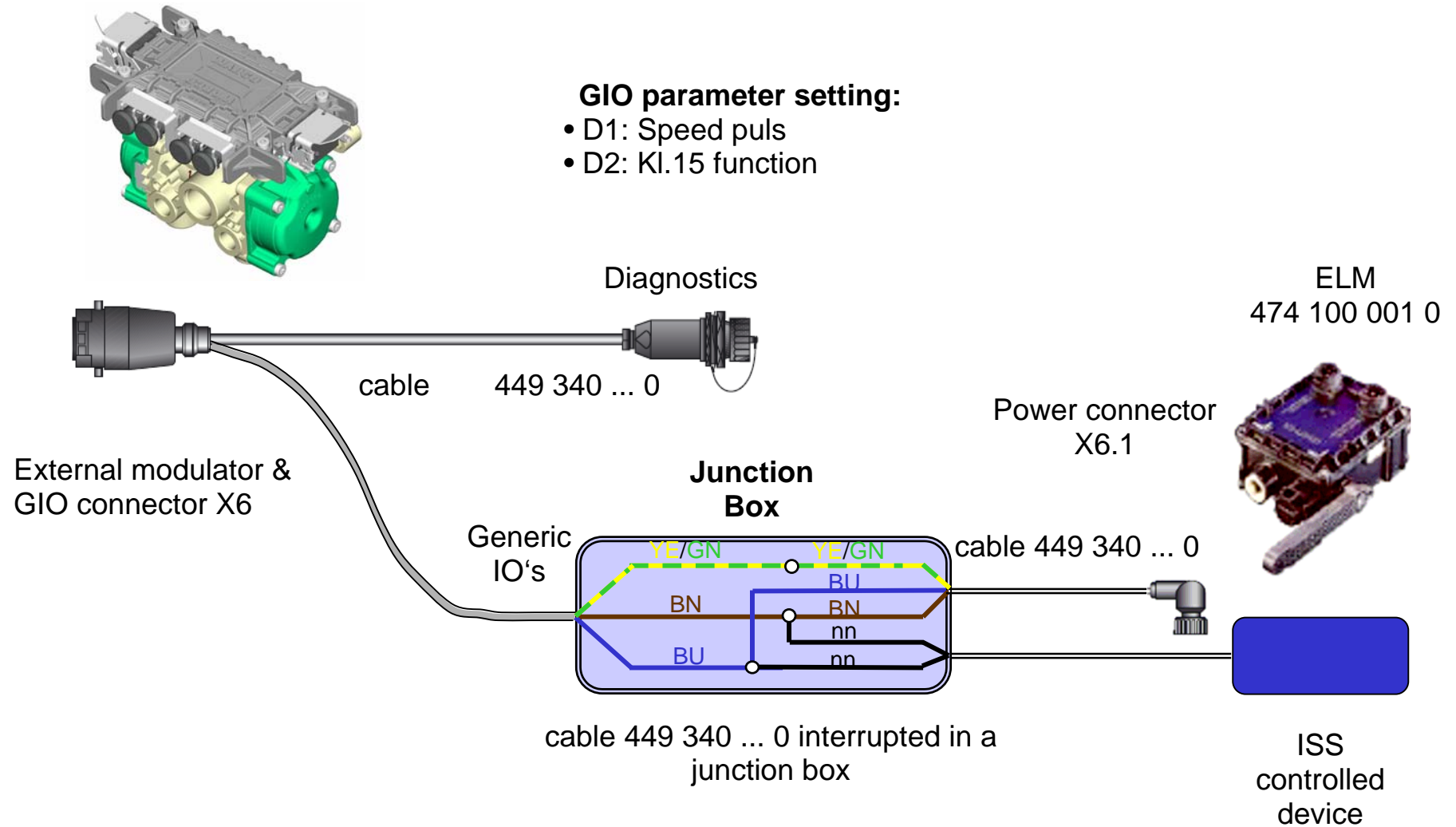
## 11 System safety

GenericIO functions may be used for general applications. Trailer manufacturers, workshops and fleets who are installing or operating this functionality must assure that the system achieves a safe status in case of any system failure (fail-safe status).

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# VCS II ISS + Speed pulse for ELM + ISS

## 12 Wiring diagram



## Attachment

Reference of matching circuit diagrams

VCS II, ISS and Speed Pulse for ELM and ISS

Click to open:

[ISS and Speed Pulse for ELM and ISS 841 802 136 0](#)