Component Technical Specification

Human Machine Interface

v 1.2

2017-03-06

Revision history

Version	Description	Date
1.2	Document formatting	2017-03-06
1.1	Reviewed, minor findings fixed	2017-02-16
1.0	Initial draft version	2017-02-07

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Functional description – Human Machine Interface

The Human-Machine Interface (HMI) is responsible for receiving the inputs from the driver and providing visual feedback about the physical state of the vehicle.

The driver inputs shall be simulated with the keyboard.

The driver inputs shall cover the following elements:

a) Accelerator pedal
b) Brake pedal
c) Automatic gearshift
d) Turn signal control
e) Steering wheel
f) Headlights switch

The accelerator pedal shall have 2 values: 0% for released and 100% for pressed key state.

The brake pedal shall have 2 values: 0% for released and 100% for pressed key state.

The automatic gearshift shall have 4 states: Park (P), Reverse (R), Neutral (N) and Drive (D).

The turn signal control shall have 2 states: On and Off. If a turn signal is set to On state in one direction, it shall set the turn signal to Off in the other direction.

The signed position of the steering wheel shall be set with ±15° increments.

The headlight switch shall have 2 states: On and Off.

The visual feedback about the physical state of the vehicle shall cover the following elements:

a) Acceleration
b) Break lights
c) Turn signal lights
d) Steering wheel orientation

The HMI shall handle the following inputs for the Adaptive Cruise Control (ACC):

a) Activate the feature
b) Disable the feature
c) Set vehicle speed
d) Set safety distance (timegap)

The set vehicle speed input sets the speed limit to the current vehicle speed.

The HMI shall handle the following inputs for the Traffic Sign Recognition (TSR):

a) Activate the feature
b) Disable the feature

The HMI shall handle the following inputs for the Park Pilot (PP):

a) Activate the feature

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b) Disable the feature
c) Initiate the maneuver

The HMI shall handle the following inputs for the Lane Keeping Support (LKS):

a) Activate the feature
b) Disable the feature

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