MSS54

module description
EGAS

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1. EGAS

The setpoint for the position controller of the EDK is determined in the EGAS module.

2nd **TARGET VALUE DETERMINATION**

The determination of the target value takes place in the 10ms task. First, in **egas_soll_bestimm() ,** it is determined from which size the target value is calculated. Via **egas_soll_status ,** it is communicated from which size the target value is to be calculated. In **egas_soll_berech(),** the final calculation of **egas_soll** takes place.
instead of.
Since the setpoint is updated every 10 ms, but the actual value is recorded with each controller cycle, a sawtooth-shaped curve results, and thus changing gradients of the control deviation. By gradually increasing the setpoint until the next update via **edk_soll_inc,** a more homogeneous curve of the control deviation results (see module description edk).

2.1. SETPOINT IN NORMAL OPERATION

egas_soll_stat = 1 or 2. The bit constant **CFG_M.EGAS** can be used to select whether the setpoint for the position controller is derived from the calculated setpoint torque of the motor or from the driver's request from the PWG.

CFG_M.EGAS = 0 => Setpoint from PWG **(egas_soll** = **md_fw_rel)**
CFG_M.EGAS = 1 => Setpoint from MM **(egas_soll** = **wdk_soll).**

After ignition off and **n** = 0, the setpoint is taken from the specifications for adaptation of the upper stop.

In order to enable movement of the DK when adaptation is not active and the engine is stopped **(B_MS)** (e.g. diagnosis), the system then switches to **md_fw_rel .**
If the condition **B_SKM_EDK_AUS** is fulfilled via the safety concept, a setpoint of 0 is specified.

2.2. SETPOINT VIA DIAGNOSIS

egas_soll_stat = 3. The routine **edk_write(Parameter1, Parameter2)** can be called via diagnosis (DS2 protocol). If Parameter1 has the value 0, Parameter2 is interpreted as a setpoint in % DK position; if Parameter1 = 1, a duty cycle between 0% and 100% is transferred via Parameter2. The desired value is only set when the engine is stopped **(B_MS)** and in diagnosis mode **(B_DIAG) .** The background task continuously checks whether these conditions are still met **(edk_write_undo)** and, if necessary, the control via diagnosis is switched off.

2.3. SETPOINT DURING ADAPTATION IN THE FOLLOW-UP

egas_soll_stat = 4. During the 100% adaptation in the run-on, **edk_soll _adapt** is taken as the setpoint.

2.4. SETPOINT DURING THE PRE- DRIVE CHECK

egas_soll_stat = 5. During the Pre Drive Check after KL15 on, **K_PDR_SOLL_EDK** is taken as the target value.

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3. CONSTANTS, CHARACTERISTIC CURVES AND VARIABLES

3.1. CONSTANTS

K_EGAS_UBMIN	threshold for release of 100% adaptation
K_EGAS_WDK_TAU	-

3.2. CHARACTERISTIC CURVES

KF_EGAS_WDK	Implementation rf_soll on wdk
KF_EGAS_WDK_KH	Implementation of rf_soll on wdk for cat heating
KF_EGAS_WDK_ENTDROSSELT	-

3.3. VARIABLES

egas_soll_status 1: 2:	status setpoint specification wdk_soll
3:	md_fw_rel
4:	edk_soll_diag
5:	edk_soll_adapt
6:	K_PDR_SOLL_EDK 0 (for PDR)
egas_soll	setpoint EGAS
egas_ist	actual value EGAS
egas_ipk	Communication Master - Slave for EGAS
Bit 1:	Request master to slave, switch off H-bridge
Bit 2:	Confirmation slave to master, H-bridge switched off
Bits 3 to 7:	free
wdk_soll	setpoint specification EGAS