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39 *
40 */
41
42 /**
43 *  @file    cansignal.h
44 *  @author  foxBMS Team
45 *  @date    01.10.2015 (date of creation)
46 *  @ingroup DRIVERS
47 *  @prefix  CANS
48 *
49 *  @brief   Headers for the messages and signal settings for the CAN driver
50 *
51 *  generic conversion module header of Can signals from CAN buffered reception to
52 *  DATA Manager and vice versa

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53      *
54      */
55
56  #ifndef CANSIGNAL_H_
57  #define CANSIGNAL_H_
58
59  /*===== Includes =====*/
60  #include "cansignal_cfg.h"
61
62  #include "can.h"
63
64  /*===== Macros and Definitions =====*/
65
66  /*===== Constant and Variable Definitions =====*/
67  /**
68   * This structure contains variables relevant for the CAN signal module.
69   */
70  typedef struct {          Booleans should have been used.
71      uint8_t periodic_enable;          /*!< defines if periodic transmit and receive should run */
72      uint8_t current_sensor_present;   /*!< defines if a current sensor is detected */
73      uint8_t current_sensor_cc_present; /*!< defines if a CC info is being sent */
74  } CANS_STATE_s;              CC = Coulomb Count?
75
76      This should have been more specific to
77      convey the needed info.
78
79  /*===== Function Prototypes =====*/
80  /**
81   * initializes local variables and module internals needed to use conversion of
82   * can signals. Until now no initialization is needed and thus the function does
83   * nothing.
84   */
85  extern void CANS_Init(void);
86
87  /**
88   * handles the conversion of can signals from and to datamanager database or
89   * other modules defined by the getter and setter configuration.
90   */
91  extern void CANS_MainFunction(void);
92
93  extern void CANS_Enable_Periodic(uint8_t command);
94  extern uint8_t CANS_IsCurrentSensorPresent(void);
95  extern uint8_t CANS_IsCurrentSensorCCPresent(void);
96
97  /**
98   * @brief Add message to transmit buffer, message will be transmitted shortly after.
99   *
100   * @param canNode: canNode on which the message shall be transmitted
101   * @param msgID: ID of the message that will be transmitted
102   * @param ptrMsgData: pointer to a uint8_t array that contains the message that will be transmitted
103   * @param msgLength: length of the message that will be transmitted
104   *
105   * This parameter can be a value of CAN_identifier_type.
106   * @param RTR Specifies the type of frame for the message that will be transmitted.
107   * This parameter can be a value of CAN_remote_transmission_request

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105  *
106  * @retval E_OK if successful, E_NOT_OK if buffer is full or error occurred
107  */
108  extern STD_RETURN_TYPE_e CANS_AddMessage(CAN_NodeTypeDef_e canNode, uint32_t msgID, uint8_t* ptrMsgData,
109      uint32_t msgLength, uint32_t RTR);
110
111  /**
112  * @brief Transmits canNode transmit buffer
113  *
114  * @param canNode: canNode on which the message shall be transmitted
115  *
116  * @retval E_OK if transmission successful, otherwise E_NOT_OK
117  */
118  extern STD_RETURN_TYPE_e CANS_TransmitBuffer(CAN_NodeTypeDef_e canNode);
119
120
121  /**
122  * @brief Transmits message directly on the CAN bus
123  *
124  * @param canNode: canNode on which the message shall be transmitted
125  * @param msgID: ID of the message that will be transmitted
126  * @param ptrMsgData: pointer to the data that shall be transmitted
127  * @param msgLength: Specifies the data length
128  * @param RTR: Specifies the type of frame for the message that will be transmitted.
129  *
130  * @retval E_OK if transmission successful, otherwise E_NOT_OK
131  */
132  extern STD_RETURN_TYPE_e CANS_TransmitMessage(CAN_NodeTypeDef_e canNode, uint32_t msgID, uint8_t* ptrMsgData,
133      uint32_t msgLength, uint32_t RTR);
134
135  /*===== Function Implementations =====*/
136
137  #endif /* CANSIGNAL_H_ */
138

```