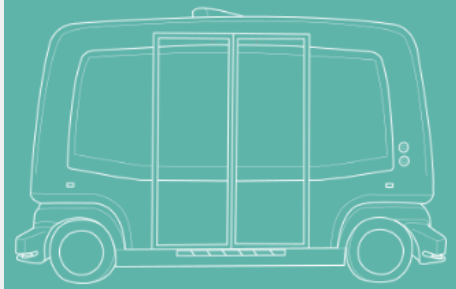

EZ10 GEN0 GEN1
Core Control
CAN Interface Definition

DOCUMENT PURPOSE
This document presents the signals exchanged between the navigation computer and the plateform used for vehicle automated control. It also presents a few signals exchanged within the platform used for debug purposes. With: E4V_BMS = battery management system Curtis_1238 = Traction controller Curtis_1310 = Main control unit

APPLICABLE DOCUMENTS			
#	Ref / Name	Purpose	Version
1	EZ10_V2_3_RD_v1.0-LMS.dbf	CAN database for EZ10 Gen0/1 R&D projects	v1.0
2	EM-EZ10PROD-IDD-00009-EN-revA0_EZ10_Gen0_Gen1_EZ10_Command_for_R&D_purposes	How to Command an EZ10 Gen0/1 for R&D purposes	A0

DOCUMENT TRACKING			
Version	Edits completed by	Date	Description of edit
A0	Tommy Theard	07/01/2019	Document creation
A1	Nicolas Péloffy	7/5/2020	Added information about battery voltage, battery current, Motor current RMS
A2	Nicolas Péloffy	2/7/2020	Added heartbeat PCNav info

From	To	Message	ID	DLC	Byte	Bit	Position	Data	Type	Type 2	Unit	Factor	Raw Data	Display Data	Cyclic or Event	Frequency	Description
Navigation PC	CURTIS_1238	Recv_from_PC_1	0x193	8	Byte 0	B0	0	PC_CAN_Command_Accel_(LSB)	Int 16 Bits	Signed	m/s²	0.001	-32768 - 32767	-32.768 - 32.767	Cyclic	20 ms < 200 ms or watchdog will be triggered	Acceleration comand wished to reach the speed command
Navigation PC	CURTIS_1238		0x193	8	Byte 0	B1	1	PC_CAN_Command_Accel_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 0	B2	2	PC_CAN_Command_Accel_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 0	B3	3	PC_CAN_Command_Accel_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 0	B4	4	PC_CAN_Command_Accel_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 0	B5	5	PC_CAN_Command_Accel_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 0	B6	6	PC_CAN_Command_Accel_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 0	B7	7	PC_CAN_Command_Accel_(LSB)									
Navigation PC	CURTIS_1238	Recv_from_PC_1	0x193	8	Byte 1	B0	8	PC_CAN_Command_Accel_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 1	B1	9	PC_CAN_Command_Accel_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 1	B2	10	PC_CAN_Command_Accel_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 1	B3	11	PC_CAN_Command_Accel_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 1	B4	12	PC_CAN_Command_Accel_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 1	B5	13	PC_CAN_Command_Accel_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 1	B6	14	PC_CAN_Command_Accel_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 1	B7	15	PC_CAN_Command_Accel_(MSB)									
Navigation PC	CURTIS_1238	Recv_from_PC_1	0x193	8	Byte 2	B0	16	PC_CAN_Command_Speed_(LSB)	Int 16 Bits	Signed	m/s	0.001	-32768 - 32767	-32.768 - 32.767	Cyclic	20 ms < 200 ms or watchdog will be triggered	Speed command in m/s*1 000.
Navigation PC	CURTIS_1238		0x193	8	Byte 2	B1	17	PC_CAN_Command_Speed_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 2	B2	18	PC_CAN_Command_Speed_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 2	B3	19	PC_CAN_Command_Speed_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 2	B4	20	PC_CAN_Command_Speed_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 2	B5	21	PC_CAN_Command_Speed_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 2	B6	22	PC_CAN_Command_Speed_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 2	B7	23	PC_CAN_Command_Speed_(LSB)									
Navigation PC	CURTIS_1238	Recv_from_PC_1	0x193	8	Byte 3	B0	24	PC_CAN_Command_Speed_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 3	B1	25	PC_CAN_Command_Speed_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 3	B2	26	PC_CAN_Command_Speed_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 3	B3	27	PC_CAN_Command_Speed_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 3	B4	28	PC_CAN_Command_Speed_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 3	B5	29	PC_CAN_Command_Speed_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 3	B6	30	PC_CAN_Command_Speed_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 3	B7	31	PC_CAN_Command_Speed_(MSB)									
Navigation PC	CURTIS_1238	Recv_from_PC_1	0x193	8	Byte 4	B0	32	PC_CAN_Command_Steer_Front_Rad_(LSB)	Int 16 Bits	Signed	Rad	0.0001	-32768 - 32767	-3.2768 - 3.2767	Cyclic	20 ms < 200 ms or watchdog will be triggered	Front steering angle command in radian * 10000
Navigation PC	CURTIS_1238		0x193	8	Byte 4	B1	33	PC_CAN_Command_Steer_Front_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 4	B2	34	PC_CAN_Command_Steer_Front_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 4	B3	35	PC_CAN_Command_Steer_Front_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 4	B4	36	PC_CAN_Command_Steer_Front_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 4	B5	37	PC_CAN_Command_Steer_Front_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 4	B6	38	PC_CAN_Command_Steer_Front_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 4	B7	39	PC_CAN_Command_Steer_Front_Rad_(LSB)									
Navigation PC	CURTIS_1238	Recv_from_PC_1	0x193	8	Byte 5	B0	40	PC_CAN_Command_Steer_Front_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 5	B1	41	PC_CAN_Command_Steer_Front_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 5	B2	42	PC_CAN_Command_Steer_Front_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 5	B3	43	PC_CAN_Command_Steer_Front_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 5	B4	44	PC_CAN_Command_Steer_Front_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 5	B5	45	PC_CAN_Command_Steer_Front_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 5	B6	46	PC_CAN_Command_Steer_Front_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 5	B7	47	PC_CAN_Command_Steer_Front_Rad_(MSB)									
Navigation PC	CURTIS_1238	Recv_from_PC	0x193	8	Byte 6	B0	48	PC_CAN_Command_Steer_Rear_Rad_(LSB)	Int 16 Bits	Signed	0.0001 Rad	0.0001	-32768 - 32767	-3.2768 - 3.2767	Cyclic	20 ms < 200 ms or watchdog will be triggered	Rear steering angle command in radian * 10000
Navigation PC	CURTIS_1238		0x193	8	Byte 6	B1	49	PC_CAN_Command_Steer_Rear_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 6	B2	50	PC_CAN_Command_Steer_Rear_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 6	B3	51	PC_CAN_Command_Steer_Rear_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 6	B4	52	PC_CAN_Command_Steer_Rear_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 6	B5	53	PC_CAN_Command_Steer_Rear_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 6	B6	54	PC_CAN_Command_Steer_Rear_Rad_(LSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 6	B7	55	PC_CAN_Command_Steer_Rear_Rad_(LSB)									
Navigation PC	CURTIS_1238	Recv_from_PC	0x193	8	Byte 7	B0	56	PC_CAN_Command_Steer_Rear_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 7	B1	57	PC_CAN_Command_Steer_Rear_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 7	B2	58	PC_CAN_Command_Steer_Rear_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 7	B3	59	PC_CAN_Command_Steer_Rear_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 7	B4	60	PC_CAN_Command_Steer_Rear_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 7	B5	61	PC_CAN_Command_Steer_Rear_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 7	B6	62	PC_CAN_Command_Steer_Rear_Rad_(MSB)									
Navigation PC	CURTIS_1238		0x193	8	Byte 7	B7	63	PC_CAN_Command_Steer_Rear_Rad_(MSB)									
Navigation PC	CURTIS_1310	Recv_from_PC_2	0x293	8	Byte 0	B0	0	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 0	B1	1	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 0	B2	2	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 0	B3	3	PC_CAN_Left_Blinker	Boolean	Boolean	NA	NA	NA	NA			1 = Request Left Blinker

From	To	Message	ID	DLC	Byte	Bit	Position	Data	Type	Type 2	Unit	Factor	Raw Data	Display Data	Cyclic or Event	Frequency	Description
Navigation PC	CURTIS_1310		0x293	8	Byte 0	B4	4	PC_CAN_Right_Blinker	Boolean	Boolean	NA	NA	NA	NA			1 = Request Right Blinker
Navigation PC	CURTIS_1310		0x293	8	Byte 0	B5	5	PC_CAN_Hazard_Warning_Lights	Boolean	Boolean	NA	NA	NA	NA			1 = Request Hazard Warning lights
Navigation PC	CURTIS_1310		0x293	8	Byte 0	B6	6	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 0	B7	7	(Reserved)									
Navigation PC	CURTIS_1310	Recv_from_PC_2	0x293	8	Byte 1	B0	8	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 1	B1	9	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 1	B2	10										
Navigation PC	CURTIS_1310		0x293	8	Byte 1	B3	11										
Navigation PC	CURTIS_1310		0x293	8	Byte 1	B4	12										
Navigation PC	CURTIS_1310		0x293	8	Byte 1	B5	13										
Navigation PC	CURTIS_1310		0x293	8	Byte 1	B6	14										
Navigation PC	CURTIS_1310		0x293	8	Byte 1	B7	15										
Navigation PC	CURTIS_1310	Recv_from_PC_2	0x293	8	Byte 2	B0	16	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 2	B1	17	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 2	B2	18	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 2	B3	19	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 2	B4	20	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 2	B5	21	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 2	B6	22	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 2	B7	23										
Navigation PC	CURTIS_1310	Recv_from_PC_2	0x293	8	Byte 3	B0	24	PC_CAN_Config_Param	Boolean	Boolean	NA	NA	NA	NA	Cyclic	20 ms < 200 ms or watchdog will be triggered	1 = We want to force parameterization using CAN
Navigation PC	CURTIS_1310		0x293	8	Byte 3	B1	25	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 3	B2	26	PC_CAN_PAR_Warning_On_Null_Speed	Boolean	Boolean							
Navigation PC	CURTIS_1310		0x293	8	Byte 3	B3	27	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 3	B4	28	(Reserved)									
Navigation PC	CURTIS_1310		0x293	8	Byte 3	B5	29	PC_CAN_PAR_Use_Ramp	Boolean	Boolean	NA	NA	NA	NA			1 = Use the ramp to be used with "PC_CAN_Config_Param"=1
Navigation PC	CURTIS_1310		0x293	8	Byte 3	B6	30	PC_CAN_PAR_Use_Led_Column	Boolean	Boolean	NA	NA	NA	NA			1 = Use led column to be used with "PC_CAN_Config_Param"=1
Navigation PC	CURTIS_1310		0x293	8	Byte 3	B7	31	(Reserved)									
Navigation PC	CURTIS_1310	Recv_from_PC_2	0x293	8	Byte 4	B0	32										
Navigation PC	CURTIS_1310		0x293	8	Byte 4	B1	33										
Navigation PC	CURTIS_1310		0x293	8	Byte 4	B2	34										
Navigation PC	CURTIS_1310		0x293	8	Byte 4	B3	35										
Navigation PC	CURTIS_1310		0x293	8	Byte 4	B4	36										
Navigation PC	CURTIS_1310		0x293	8	Byte 4	B5	37										
Navigation PC	CURTIS_1310		0x293	8	Byte 4	B6	38										
Navigation PC	CURTIS_1310		0x293	8	Byte 4	B7	39										
Navigation PC	CURTIS_1310	Recv_from_PC_2	0x293	8	Byte 5	B0	40										
Navigation PC	CURTIS_1310		0x293	8	Byte 5	B1	41										
Navigation PC	CURTIS_1310		0x293	8	Byte 5	B2	42										
Navigation PC	CURTIS_1310		0x293	8	Byte 5	B3	43										
Navigation PC	CURTIS_1310		0x293	8	Byte 5	B4	44										
Navigation PC	CURTIS_1310		0x293	8	Byte 5	B5	45										
Navigation PC	CURTIS_1310		0x293	8	Byte 5	B6	46										
Navigation PC	CURTIS_1310		0x293	8	Byte 5	B7	47										
Navigation PC	CURTIS_1310	Recv_from_PC_2	0x293	8	Byte 6	B0	48										
Navigation PC	CURTIS_1310		0x293	8	Byte 6	B1	49										
Navigation PC	CURTIS_1310		0x293	8	Byte 6	B2	50										
Navigation PC	CURTIS_1310		0x293	8	Byte 6	B3	51										
Navigation PC	CURTIS_1310		0x293	8	Byte 6	B4	52										
Navigation PC	CURTIS_1310		0x293	8	Byte 6	B5	53										
Navigation PC	CURTIS_1310		0x293	8	Byte 6	B6	54										
Navigation PC	CURTIS_1310		0x293	8	Byte 6	B7	55										
Navigation PC	CURTIS_1310	Recv_from_PC_2	0x293	8	Byte 7	B0	56										
Navigation PC	CURTIS_1310		0x293	8	Byte 7	B1	57										
Navigation PC	CURTIS_1310		0x293	8	Byte 7	B2	58										
Navigation PC	CURTIS_1310		0x293	8	Byte 7	B3	59										
Navigation PC	CURTIS_1310		0x293	8	Byte 7	B4	60										
Navigation PC	CURTIS_1310		0x293	8	Byte 7	B5	61										
Navigation PC	CURTIS_1310		0x293	8	Byte 7	B6	62										
Navigation PC	CURTIS_1310		0x293	8	Byte 7	B7	63										
Navigation PC	SAFETY_PLC	PC_AUTONOMOUS_ACCESSORIES_COMMAND	0x214	8	Byte 0	B0	0	Doors_Request	Bool	Bool	NA	NA	NA	NA	Cyclic	50ms	1 = Door request
Navigation PC	SAFETY_PLC		0x214	8	Byte 0	B1	1	Ramp_Request	Bool	Bool	NA	NA	NA	NA	Cyclic	50ms	1 = Ramp request (implies automatical door request)
Navigation PC	SAFETY_PLC		0x214	8	Byte 0	B2	2	Stop_Station	Bool	Bool	NA	NA	NA	NA	Cyclic	50ms	1 = Stop Station
Navigation PC	SAFETY_PLC		0x214	8	Byte 0	B3	3	Nav_PC_Hearbeat	Bool	Bool	NA	NA	NA	NA	Cyclic	50ms	Should be a square with maximum 150 ms ON and 150 ms OFF. Ideally 100 ms ON and 100 ms OFF
Navigation PC	SAFETY_PLC		0x214	8	Byte 0	B4	4	Pedestrian_Alert	Bool	Bool	NA	NA	NA	NA	Cyclic	50ms	1 = Tram bell request (continuous)
Navigation PC	SAFETY_PLC		0x214	8	Byte 0	B5	5	HeadLight_Flash_Request	Bool	Bool	NA	NA	NA	NA	Cyclic	50ms	1 = Headlight Flash request (continuous)
Navigation PC	SAFETY_PLC		0x214	8	Byte 0	B6	6	(Reserved)									
Navigation PC	SAFETY_PLC		0x214	8	Byte 0	B7	7	c_EStop_PCNav_Not_Requested	Bool	Bool	NA	NA	NA	NA	Cyclic	50ms	1 = No Estop Requested; 0 = Estop requested
Navigation PC	SAFETY_PLC	PC_AUTONOMOUS_ACCESSORIES_COMMAND	0x214	8	Byte 1	B0	8	(Reserved)									

From	To	Message	ID	DLC	Byte	Bit	Position	Data	Type	Type 2	Unit	Factor	Raw Data	Display Data	Cyclic or Event	Frequency	Description
Navigation PC	SAFETY_PLC		0x214	8	Byte 1	B1	9	(Reserved)									
Navigation PC	SAFETY_PLC		0x214	8	Byte 1	B2	10	(Reserved)									
Navigation PC	SAFETY_PLC		0x214	8	Byte 1	B3	11	(Reserved)									
Navigation PC	SAFETY_PLC		0x214	8	Byte 1	B4	12	(Reserved)									
Navigation PC	SAFETY_PLC		0x214	8	Byte 1	B5	13	(Reserved)									
Navigation PC	SAFETY_PLC		0x214	8	Byte 1	B6	14	(Reserved)									
Navigation PC	SAFETY_PLC		0x214	8	Byte 1	B7	15	(Reserved)									

From	To	Message	ID	DLC	Byte	Bit	Position	Data	Type	Type 2	Unit	Factor	Raw Data	Display Data	Cyclic or Event	Frequency	Description
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 0	B0	0	Battery_Current_(LSB)	Int 16 bits	Signed	100mA			-5000 - 2500	Cyclic	100 ms	
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 0	B1	1	Battery_Current_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 0	B2	2	Battery_Current_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 0	B3	3	Battery_Current_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 0	B4	4	Battery_Current_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 0	B5	5	Battery_Current_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 0	B6	6	Battery_Current_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 0	B7	7	Battery_Current_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 1	B0	8	Battery_Current_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 1	B1	9	Battery_Current_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 1	B2	10	Battery_Current_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 1	B3	11	Battery_Current_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 1	B4	12	Battery_Current_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 1	B5	13	Battery_Current_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 1	B6	14	Battery_Current_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 1	B7	15	Battery_Current_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 2	B0	16	Battery_Voltage_(LSB)	Int 16 bits	Unsigned ?	10mV			0 - 15000	Cyclic	100 ms	
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 2	B1	17	Battery_Voltage_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 2	B2	18	Battery_Voltage_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 2	B3	19	Battery_Voltage_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 2	B4	20	Battery_Voltage_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 2	B5	21	Battery_Voltage_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 2	B6	22	Battery_Voltage_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 2	B7	23	Battery_Voltage_(LSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 3	B0	24	Battery_Voltage_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 3	B1	25	Battery_Voltage_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 3	B2	26	Battery_Voltage_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 3	B3	27	Battery_Voltage_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 3	B4	28	Battery_Voltage_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 3	B5	29	Battery_Voltage_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 3	B6	30	Battery_Voltage_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 3	B7	31	Battery_Voltage_(MSB)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 4	B0	32	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 4	B1	33	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 4	B2	34	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 4	B3	35	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 4	B4	36	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 4	B5	37	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 4	B6	38	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 4	B7	39	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 5	B0	40	Battery percentage	Int 8 bits	Unsigned ?	%	1	0 - 100	0 - 100	Cyclic	100 ms	
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 5	B1	41	Battery percentage									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 5	B2	42	Battery percentage									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 5	B3	43	Battery percentage									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 5	B4	44	Battery percentage									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 5	B5	45	Battery percentage									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 5	B6	46	Battery percentage									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 5	B7	47	Battery percentage									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 6	B0	48	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 6	B1	49	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 6	B2	50	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 6	B3	51	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 6	B4	52	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 6	B5	53	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 6	B6	54	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 6	B7	55	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 7	B0	56	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 7	B1	57	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 7	B2	58	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 7	B3	59	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 7	B4	60	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 7	B5	61	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 7	B6	62	(Reserved)									
E4V_BMS	CURTIS_1310	E4V_DATA_ECU_1	0x580	8	Byte 7	B7	63	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 0	B0	0	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 0	B1	1	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 0	B2	2	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 0	B3	3	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 0	B4	4	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 0	B5	5	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 0	B6	6	(Reserved)									

From	To	Message	ID	DLC	Byte	Bit	Position	Data	Type	Type 2	Unit	Factor	Raw Data	Display Data	Cyclic or Event	Frequency	Description
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 0	B7	7	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 1	B0	8	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 1	B1	9	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 1	B2	10	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 1	B3	11	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 1	B4	12	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 1	B5	13	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 1	B6	14	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 1	B7	15	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 2	B0	16	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 2	B1	17	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 2	B2	18	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 2	B3	19	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 2	B4	20	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 2	B5	21	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 2	B6	22	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 2	B7	23	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 3	B0	24	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 3	B1	25	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 3	B2	26	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 3	B3	27	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 3	B4	28	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 3	B5	29	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 3	B6	30	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 3	B7	31	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 4	B0	32	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 4	B1	33	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 4	B2	34	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 4	B3	35	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 4	B4	36	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 4	B5	37	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 4	B6	38	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 4	B7	39	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 5	B0	40	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 5	B1	41	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 5	B2	42	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 5	B3	43	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 5	B4	44	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 5	B5	45	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 5	B6	46	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 5	B7	47	(Reserved)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 6	B0	48	Current_RMS_(LSB)	Int 16 Bits	Unsigned	A	0.1	0-10000	0-1000.0	Cyclic	20 ms	RMS current of the controller, taking all three phases into account
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 6	B1	49	Current_RMS_(LSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 6	B2	50	Current_RMS_(LSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 6	B3	51	Current_RMS_(LSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 6	B4	52	Current_RMS_(LSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 6	B5	53	Current_RMS_(LSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 6	B6	54	Current_RMS_(LSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 6	B7	55	Current_RMS_(LSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 7	B0	56	Current_RMS_(MSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 7	B1	57	Current_RMS_(MSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 7	B2	58	Current_RMS_(MSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 7	B3	59	Current_RMS_(MSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 7	B4	60	Current_RMS_(MSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 7	B5	61	Current_RMS_(MSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 7	B6	62	Current_RMS_(MSB)									
CURTIS_1238	E4V_BMS	SEND_TO_E4V	0x1A6	8	Byte 7	B7	63	Current_RMS_(MSB)									
CURTIS_1238	Navigation PC	Send_To_PC	0x213	8	Byte 0	B0	0	Fb_Speed_(LSB)	Int 16 Bits	Signed	m/s	0.001	-32768 - 32767	-32.768 - 32.767	Cyclic	20 ms	Measure of the vehicle speed (in mm/s) (Precision = 0,001 m/s)
CURTIS_1238	Navigation PC		0x213	8	Byte 0	B1	1	Fb_Speed_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 0	B2	2	Fb_Speed_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 0	B3	3	Fb_Speed_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 0	B4	4	Fb_Speed_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 0	B5	5	Fb_Speed_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 0	B6	6	Fb_Speed_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 0	B7	7	Fb_Speed_(LSB)									
CURTIS_1238	Navigation PC	Send_To_PC	0x213	8	Byte 1	B0	8	Fb_Speed_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 1	B1	9	Fb_Speed_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 1	B2	10	Fb_Speed_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 1	B3	11	Fb_Speed_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 1	B4	12	Fb_Speed_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 1	B5	13	Fb_Speed_(MSB)									

From	To	Message	ID	DLC	Byte	Bit	Position	Data	Type	Type 2	Unit	Factor	Raw Data	Display Data	Cyclic or Event	Frequency	Description
CURTIS_1238	Navigation PC		0x213	8	Byte 1	B6	14	Fb_Speed_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 1	B7	15	Fb_Speed_(MSB)									
CURTIS_1238	Navigation PC	Send_To_PC	0x213	8	Byte 2	B0	16	Fb_Steering_AV_(LSB)	Int 16 Bits	Signed	Rad	0.0001	-32768 - 32767	-3.2768 - 3.2767	Cyclic	20 ms	Measure of the front steering angle (in rad*10 000) (Precision = 0,0001 rad)
CURTIS_1238	Navigation PC		0x213	8	Byte 2	B1	17	Fb_Steering_AV_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 2	B2	18	Fb_Steering_AV_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 2	B3	19	Fb_Steering_AV_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 2	B4	20	Fb_Steering_AV_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 2	B5	21	Fb_Steering_AV_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 2	B6	22	Fb_Steering_AV_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 2	B7	23	Fb_Steering_AV_(LSB)									
CURTIS_1238	Navigation PC	Send_To_PC	0x213	8	Byte 3	B0	24	Fb_Steering_AV_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 3	B1	25	Fb_Steering_AV_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 3	B2	26	Fb_Steering_AV_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 3	B3	27	Fb_Steering_AV_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 3	B4	28	Fb_Steering_AV_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 3	B5	29	Fb_Steering_AV_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 3	B6	30	Fb_Steering_AV_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 3	B7	31	Fb_Steering_AV_(MSB)									
CURTIS_1238	Navigation PC	Send_To_PC	0x213	8	Byte 4	B0	32	Fb_Steering_AR_(LSB)	Int 16 Bits	Signed	Rad	0.0001	-32768 - 32767	-3.2768 - 3.2767	Cyclic	20 ms	Measure of the rear steering angle (in rad*10 000) (Precision = 0,0001 rad)
CURTIS_1238	Navigation PC		0x213	8	Byte 4	B1	33	Fb_Steering_AR_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 4	B2	34	Fb_Steering_AR_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 4	B3	35	Fb_Steering_AR_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 4	B4	36	Fb_Steering_AR_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 4	B5	37	Fb_Steering_AR_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 4	B6	38	Fb_Steering_AR_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 4	B7	39	Fb_Steering_AR_(LSB)									
CURTIS_1238	Navigation PC	Send_To_PC	0x213	8	Byte 5	B0	40	Fb_Steering_AR_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 5	B1	41	Fb_Steering_AR_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 5	B2	42	Fb_Steering_AR_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 5	B3	43	Fb_Steering_AR_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 5	B4	44	Fb_Steering_AR_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 5	B5	45	Fb_Steering_AR_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 5	B6	46	Fb_Steering_AR_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 5	B7	47	Fb_Steering_AR_(MSB)									
CURTIS_1238	Navigation PC	Send_To_PC	0x213	8	Byte 6	B0	48	Odometer_(LSB)	Int 16 Bits	Unsigned	km	1	0 - 4294967295	0 - 4294967295	Cyclic	20 ms	Distance travelled by the vehicle since its first entry into service (in km)
CURTIS_1238	Navigation PC		0x213	8	Byte 6	B1	49	Odometer_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 6	B2	50	Odometer_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 6	B3	51	Odometer_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 6	B4	52	Odometer_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 6	B5	53	Odometer_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 6	B6	54	Odometer_(LSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 6	B7	55	Odometer_(LSB)									
CURTIS_1238	Navigation PC	Send_To_PC	0x213	8	Byte 7	B0	56	Odometer_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 7	B1	57	Odometer_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 7	B2	58	Odometer_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 7	B3	59	Odometer_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 7	B4	60	Odometer_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 7	B5	61	Odometer_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 7	B6	62	Odometer_(MSB)									
CURTIS_1238	Navigation PC		0x213	8	Byte 7	B7	63	Odometer_(MSB)									
SAFETY_PLC	Navigation PC	PC_AUTONOMOUS_ACCESSORIES_FEEDBACK	0x194	8	Byte 0	B0	0	LMS_FrontLeft_Detection	Bool	Bool					Cyclic	100 ms	0 = FL LMS detects an obstacle (OUT1)
SAFETY_PLC	Navigation PC		0x194	8	Byte 0	B1	1	LMS_FrontRight_Detection	Bool	Bool					Cyclic	100 ms	0 = FR LMS detects an obstacle (OUT1)
SAFETY_PLC	Navigation PC		0x194	8	Byte 0	B2	2	LMS_RearLeft_Detection	Bool	Bool					Cyclic	100 ms	0 = RL LMS detects an obstacle (OUT1)
SAFETY_PLC	Navigation PC		0x194	8	Byte 0	B3	3	LMS_RearRight_Detection	Bool	Bool					Cyclic	100 ms	0 = RR LMS detects an obstacle (OUT1)
SAFETY_PLC	Navigation PC		0x194	8	Byte 0	B4	4	Obstacle_Detected	Bool	Bool					Cyclic	100 ms	Obstacle detected by LMS and generating a stop => Safety chain active
SAFETY_PLC	Navigation PC		0x194	8	Byte 0	B5	5	LMS_Operational	Bool	Bool					Cyclic	100 ms	1 = LMS Operational, 0 = LMS Not operational
SAFETY_PLC	Navigation PC		0x194	8	Byte 0	B6	6	Obstacle_Detected_NoSafety	Bool	Bool					Cyclic	100 ms	Obstacle detected by LMS and not generating a stop => Safety chain not active (In case of safety chain disabled, it is to inform that LMS have detected an obstacle. As the safety chain is disabled it will not trigger an Estop.)
SAFETY_PLC	Navigation PC		0x194	8	Byte 0	B7	7	Rearming authorized	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = Rearming the vehicle is not authorized (when the EStop cause is still present. For exemple an EStop button is still pressed or a LMS is not operational,...)
SAFETY_PLC	Navigation PC	PC_AUTONOMOUS_ACCESSORIES_FEEDBACK	0x194	8	Byte 1	B0	8	Doors_Opened	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = Doors Not Opened (XTIO6.I3)
SAFETY_PLC	Navigation PC		0x194	8	Byte 1	B1	9	Doors_Closed	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = Doors Not Closed (XTIO6.I2)
SAFETY_PLC	Navigation PC		0x194	8	Byte 1	B2	10	Doors_Obstacle	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = No obstcale detected by doors
SAFETY_PLC	Navigation PC		0x194	8	Byte 1	B3	11	Doors_Fatal_Failure	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = No error on door system
SAFETY_PLC	Navigation PC		0x194	8	Byte 1	B4	12	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 1	B5	13	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 1	B6	14	DoorsNOKforTraction	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = Doors authorizing traction
SAFETY_PLC	Navigation PC		0x194	8	Byte 1	B7	15	Doors_Defaults	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = No doors defaults (XTIO6.I1) Doors obstacle detected or doors cannot be operated due to an internal issue
SAFETY_PLC	Navigation PC	PC_AUTONOMOUS_ACCESSORIES_FEEDBACK	0x194	8	Byte 2	B0	16	EStop_Button	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Estop buttons not pushed (XTIO1.I1/I2)

From	To	Message	ID	DLC	Byte	Bit	Position	Data	Type	Type 2	Unit	Factor	Raw Data	Display Data	Cyclic or Event	Frequency	Description
SAFETY_PLC	Navigation PC		0x194	8	Byte 2	B1	17	EStop_Manual_State	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Estop button from remote control not activated in manual mode
SAFETY_PLC	Navigation PC		0x194	8	Byte 2	B2	18	Estop_Manual_Button	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Estop button of the Remote Control not pushed. This signal reflect the physic state of this button and not implies that the vehicle will be in EStop. In fact this button triggers a vehicle EStop only if we are in manual mode. (XTIO2.I1/I2)
SAFETY_PLC	Navigation PC		0x194	8	Byte 2	B3	19	Safety_Disabled	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = Safety ON
SAFETY_PLC	Navigation PC		0x194	8	Byte 2	B4	20	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 2	B5	21	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 2	B6	22	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 2	B7	23	Manual_Mode_On	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = Manual mode not activated (XTIO5.I7)
SAFETY_PLC	Navigation PC	PC_AUTONOMOUS_ACCESSORIES_FEEDBACK	0x194	8	Byte 3	B0	24	Front_Steering_No_Fault	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = Fault on Front Steering controler (XTIO4.I2)
SAFETY_PLC	Navigation PC		0x194	8	Byte 3	B1	25	Rear_Steering_No_Fault	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = Fault on Back Steering controler (XTIO4.I3)
SAFETY_PLC	Navigation PC		0x194	8	Byte 3	B2	26	Brake_Controller_Fault	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = No fault on brake controler
SAFETY_PLC	Navigation PC		0x194	8	Byte 3	B3	27	Traction_Authorized	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = No power in Controlers (Traction, Steering and Brake)
SAFETY_PLC	Navigation PC		0x194	8	Byte 3	B4	28	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 3	B5	29	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 3	B6	30	Coders_Indicate_Vehicle_Stopped	Bool	Bool	-	-	-	-	Cyclic	100 ms	0 = Coders Indicate Vehicle Not Stopped (from PLC coders)
SAFETY_PLC	Navigation PC		0x194	8	Byte 3	B7	31	Vehicle_Stopped_3_States	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = failsafe brake is not released and the main ECU indicates that the vehicle is at null speed and the wheel encoders indicates a null speed) 0 = FSB is released or main ecu is indicating the vehicle is not at null speed or wheel encoders detect a speed different from 0
SAFETY_PLC	Navigation PC	PC_AUTONOMOUS_ACCESSORIES_FEEDBACK	0x194	8	Byte 4	B0	32	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 4	B1	33	Vehicle_Stopped_4_States	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Vehicle stopped 4 States <=> Vehicle_Stopped_3_States = ON OR Electric brakes calipers are engaged
SAFETY_PLC	Navigation PC		0x194	8	Byte 4	B2	34	EL_Pkg_Brk_Engaged	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Electric parking brake engaged (XTIO7.I7)
SAFETY_PLC	Navigation PC		0x194	8	Byte 4	B3	35	EM_Brake_Engaged	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = EM brake engaged (XTIO3.I3)
SAFETY_PLC	Navigation PC		0x194	8	Byte 4	B4	36	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 4	B5	37	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 4	B6	38	EStop_Not_Required	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Estop Controlled Required (one cause of Estop has been triggered)
SAFETY_PLC	Navigation PC		0x194	8	Byte 4	B7	39	(Reserved)									
SAFETY_PLC	Navigation PC	PC_AUTONOMOUS_ACCESSORIES_FEEDBACK	0x194	8	Byte 5	B0	40	Ramp_In	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Ramp In
SAFETY_PLC	Navigation PC		0x194	8	Byte 5	B1	41	Ramp_Out	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Ramp Out (XTIO7.I3)
SAFETY_PLC	Navigation PC		0x194	8	Byte 5	B2	42	Ramp_Moving	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Ramp Moving (XTIO7.I4)
SAFETY_PLC	Navigation PC		0x194	8	Byte 5	B3	43	Ramp_Defaults	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Ramp in default (XTIO7.I1)
SAFETY_PLC	Navigation PC		0x194	8	Byte 5	B4	44	Ramp_NOK_for_Traction	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Ramp Not Authorizing traction
SAFETY_PLC	Navigation PC		0x194	8	Byte 5	B5	45	Suspension_enabled	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Suspension activated (when the PLC commands to lower suspension.)
SAFETY_PLC	Navigation PC		0x194	8	Byte 5	B6	46	Ramp_Not_In	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Ramp Not In (XTIO7.I5)
SAFETY_PLC	Navigation PC		0x194	8	Byte 5	B7	47	Ramp_Not_Out	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Ramp Not Out (XTIO7.I6)
SAFETY_PLC	Navigation PC	PC_AUTONOMOUS_ACCESSORIES_FEEDBACK	0x194	8	Byte 6	B0	48	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 6	B1	49	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 6	B2	50	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 6	B3	51	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 6	B4	52	Alert_Battery_Low	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Battery level low
SAFETY_PLC	Navigation PC		0x194	8	Byte 6	B5	53	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 6	B6	54	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 6	B7	55	Soft_Stop_Battery_Low	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Soft stop required because battery is low
SAFETY_PLC	Navigation PC	PC_AUTONOMOUS_ACCESSORIES_FEEDBACK	0x194	8	Byte 7	B0	56	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 7	B1	57	Rearming_Required	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Rearming wished
SAFETY_PLC	Navigation PC		0x194	8	Byte 7	B2	58	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 7	B3	59	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 7	B4	60	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 7	B5	61	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 7	B6	62	(Reserved)									
SAFETY_PLC	Navigation PC		0x194	8	Byte 7	B7	63	(Reserved)									
SAFETY_PLC	Navigation PC	PLC_STATE_2	0x294	8	Byte 0	B0	0	Out2_RL	Bool	Bool					Cyclic	100 ms	1 = Out 2 RL Lms activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 0	B1	1	Out2_RR	Bool	Bool					Cyclic	100 ms	1 = Out 2 RR Lms activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 0	B2	2	Out2_FL	Bool	Bool					Cyclic	100 ms	1 = Out 2 FL Lms activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 0	B3	3	Out2_FR	Bool	Bool					Cyclic	100 ms	1 = Out 2 FR Lms activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 0	B4	4	Out3_RL	Bool	Bool					Cyclic	100 ms	1 = Out 3 RL Lms activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 0	B5	5	Out3_RR	Bool	Bool					Cyclic	100 ms	1 = Out 3 RR Lms activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 0	B6	6	Out3_FL	Bool	Bool					Cyclic	100 ms	1 = Out 3 FL Lms activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 0	B7	7	Out3_FR	Bool	Bool					Cyclic	100 ms	1 = Out 3 FR Lms activated
SAFETY_PLC	Navigation PC	PLC_STATE_2	0x294	8	Byte 1	B0	8	Front_I1	Bool	Bool					Cyclic	100 ms	1 = Front I1 should be activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 1	B1	9	Front_I2	Bool	Bool					Cyclic	100 ms	1 = Front I2 should be activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 1	B2	10	Front_I3	Bool	Bool					Cyclic	100 ms	1 = Front I3 should be activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 1	B3	11	Front_I4	Bool	Bool					Cyclic	100 ms	1 = Front I4 should be activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 1	B4	12	Rear_I1	Bool	Bool					Cyclic	100 ms	1 = Rear I1 should be activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 1	B5	13	Rear_I2	Bool	Bool					Cyclic	100 ms	1 = Rear I2 should be activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 1	B6	14	Rear_I3	Bool	Bool					Cyclic	100 ms	1 = Rear I3 should be activated
SAFETY_PLC	Navigation PC		0x294	8	Byte 1	B7	15	Rear_I4	Bool	Bool					Cyclic	100 ms	1 = Rear I4 should be activated
SAFETY_PLC	Navigation PC	PLC_STATE_2	0x294	8	Byte 2	B0	16	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 2	B1	17	(Reserved)									

From	To	Message	ID	DLC	Byte	Bit	Position	Data	Type	Type 2	Unit	Factor	Raw Data	Display Data	Cyclic or Event	Frequency	Description
SAFETY_PLC	Navigation PC		0x294	8	Byte 2	B2	18	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 2	B3	19	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 2	B4	20	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 2	B5	21	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 2	B6	22	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 2	B7	23	(Reserved)									
SAFETY_PLC	Navigation PC	PLC_STATE_2	0x294	8	Byte 3	B0	24	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 3	B1	25	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 3	B2	26	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 3	B3	27	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 3	B4	28	Automatic_Mode_EStop	Bool	Bool					Cyclic	100 ms	1 = Automatic_Mode_EStop
SAFETY_PLC	Navigation PC		0x294	8	Byte 3	B5	29	Automatic_Mode_EStop_Source	Bool	Bool					Cyclic	100 ms	1 = Automatic_Mode_EStop_Source
SAFETY_PLC	Navigation PC		0x294	8	Byte 3	B6	30	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 3	B7	31	(Reserved)									
SAFETY_PLC	Navigation PC	PLC_STATE_2	0x294	8	Byte 4	B0	32	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 4	B1	33	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 4	B2	34	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 4	B3	35	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 4	B4	36	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 4	B5	37	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 4	B6	38	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 4	B7	39	(Reserved)									
SAFETY_PLC	Navigation PC	PLC_STATE_2	0x294	8	Byte 5	B0	40	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 5	B1	41	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 5	B2	42	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 5	B3	43	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 5	B4	44	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 5	B5	45	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 5	B6	46	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 5	B7	47	(Reserved)									
SAFETY_PLC	Navigation PC	PLC_STATE_2	0x294	8	Byte 6	B0	48	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 6	B1	49	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 6	B2	50	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 6	B3	51	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 6	B4	52	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 6	B5	53	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 6	B6	54	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 6	B7	55	(Reserved)									
SAFETY_PLC	Navigation PC	PLC_STATE_2	0x294	8	Byte 7	B0	56	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 7	B1	57	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 7	B2	58	High_Level_HeadLight_Flash_Command	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = High_Level_HeadLight_Flash_Command
SAFETY_PLC	Navigation PC		0x294	8	Byte 7	B3	59	High_Level_Tram_Bell_Command	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = High_Level_Tram_Bell_Command
SAFETY_PLC	Navigation PC		0x294	8	Byte 7	B4	60	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 7	B5	61	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 7	B6	62	(Reserved)									
SAFETY_PLC	Navigation PC		0x294	8	Byte 7	B7	63	(Reserved)									
SAFETY_PLC	Navigation PC	PLC_STATE_3	0x394	8	Byte 0	B0	0	Doors_High_Level_Request	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = High Level Request Door movement
SAFETY_PLC	Navigation PC		0x394	8	Byte 0	B1	1	Doors_Mvt_Required	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = A door request has been triggered
SAFETY_PLC	Navigation PC		0x394	8	Byte 0	B2	2	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 0	B3	3	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 0	B4	4	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 0	B5	5	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 0	B6	6	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 0	B7	7	Light_Door_Button	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Light door button is ON
SAFETY_PLC	Navigation PC	PLC_STATE_3	0x394	8	Byte 1	B0	8	Ramp_High_Level_Request	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = High Level Request Ramp Movement
SAFETY_PLC	Navigation PC		0x394	8	Byte 1	B1	9	Ramp_Mvt_Required	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = A ramp request has been triggered by the PLC
SAFETY_PLC	Navigation PC		0x394	8	Byte 1	B2	10	Ramp_Mat_Activated	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Ramp Mat has been activated
SAFETY_PLC	Navigation PC		0x394	8	Byte 1	B3	11	Ramp_In_or_Bumper_Activ	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Ramp is IN or bumper has been activated
SAFETY_PLC	Navigation PC		0x394	8	Byte 1	B4	12	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 1	B5	13	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 1	B6	14	Light_Ramp_Button	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Light ramp button ON
SAFETY_PLC	Navigation PC		0x394	8	Byte 1	B7	15	Ramp_Button_Authorized	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Action on ramp button will be taken into account
SAFETY_PLC	Navigation PC	PLC_STATE_3	0x394	8	Byte 2	B0	16	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 2	B1	17	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 2	B2	18	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 2	B3	19	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 2	B4	20	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 2	B5	21	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 2	B6	22	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 2	B7	23	(Reserved)									
SAFETY_PLC	Navigation PC	PLC_STATE_3	0x394	8	Byte 3	B0	24	(Reserved)									

From	To	Message	ID	DLC	Byte	Bit	Position	Data	Type	Type 2	Unit	Factor	Raw Data	Display Data	Cyclic or Event	Frequency	Description
SAFETY_PLC	Navigation PC		0x394	8	Byte 3	B1	25	Use_Ramp	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = We can use the ramp
SAFETY_PLC	Navigation PC		0x394	8	Byte 3	B2	26	Use_Led_Column	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = We should use led columns
SAFETY_PLC	Navigation PC		0x394	8	Byte 3	B3	27	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 3	B4	28	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 3	B5	29	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 3	B6	30	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 3	B7	31	(Reserved)									
SAFETY_PLC	Navigation PC	PLC_STATE_3	0x394	8	Byte 4	B0	32	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 4	B1	33	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 4	B2	34	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 4	B3	35	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 4	B4	36	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 4	B5	37	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 4	B6	38	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 4	B7	39	(Reserved)									
SAFETY_PLC	Navigation PC	PLC_STATE_3	0x394	8	Byte 5	B0	40	Door_Button_Authorized	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Action on door button will be taken into account
SAFETY_PLC	Navigation PC		0x394	8	Byte 5	B1	41	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 5	B2	42	(Reserved)									
SAFETY_PLC	Navigation PC		0x394	8	Byte 5	B3	43	Safety Disabled	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Safety chain is disabled
SAFETY_PLC	Navigation PC		0x394	8	Byte 5	B4	44	Safety Button OFF	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Safety Button is on safety chain OFF (XTIO5.I1)
SAFETY_PLC	Navigation PC		0x394	8	Byte 5	B5	45										
SAFETY_PLC	Navigation PC		0x394	8	Byte 5	B6	46										
SAFETY_PLC	Navigation PC		0x394	8	Byte 5	B7	47	s_EStop_PCNav_Not_Requested	Bool	Bool	-	-	-	-	Cyclic	100 ms	1 = Estop requested by navigation computer
SAFETY_PLC	Navigation PC	PLC_STATE_3	0x394	8	Byte 6	B0	48										
SAFETY_PLC	Navigation PC		0x394	8	Byte 6	B1	49										
SAFETY_PLC	Navigation PC		0x394	8	Byte 6	B2	50										
SAFETY_PLC	Navigation PC		0x394	8	Byte 6	B3	51										
SAFETY_PLC	Navigation PC		0x394	8	Byte 6	B4	52										
SAFETY_PLC	Navigation PC		0x394	8	Byte 6	B5	53										
SAFETY_PLC	Navigation PC		0x394	8	Byte 6	B6	54										
SAFETY_PLC	Navigation PC		0x394	8	Byte 6	B7	55										
SAFETY_PLC	Navigation PC	PLC_STATE_3	0x394	8	Byte 7	B0	56										
SAFETY_PLC	Navigation PC		0x394	8	Byte 7	B1	57										
SAFETY_PLC	Navigation PC		0x394	8	Byte 7	B2	58										
SAFETY_PLC	Navigation PC		0x394	8	Byte 7	B3	59										
SAFETY_PLC	Navigation PC		0x394	8	Byte 7	B4	60										
SAFETY_PLC	Navigation PC		0x394	8	Byte 7	B5	61										
SAFETY_PLC	Navigation PC		0x394	8	Byte 7	B6	62										
SAFETY_PLC	Navigation PC		0x394	8	Byte 7	B7	63										