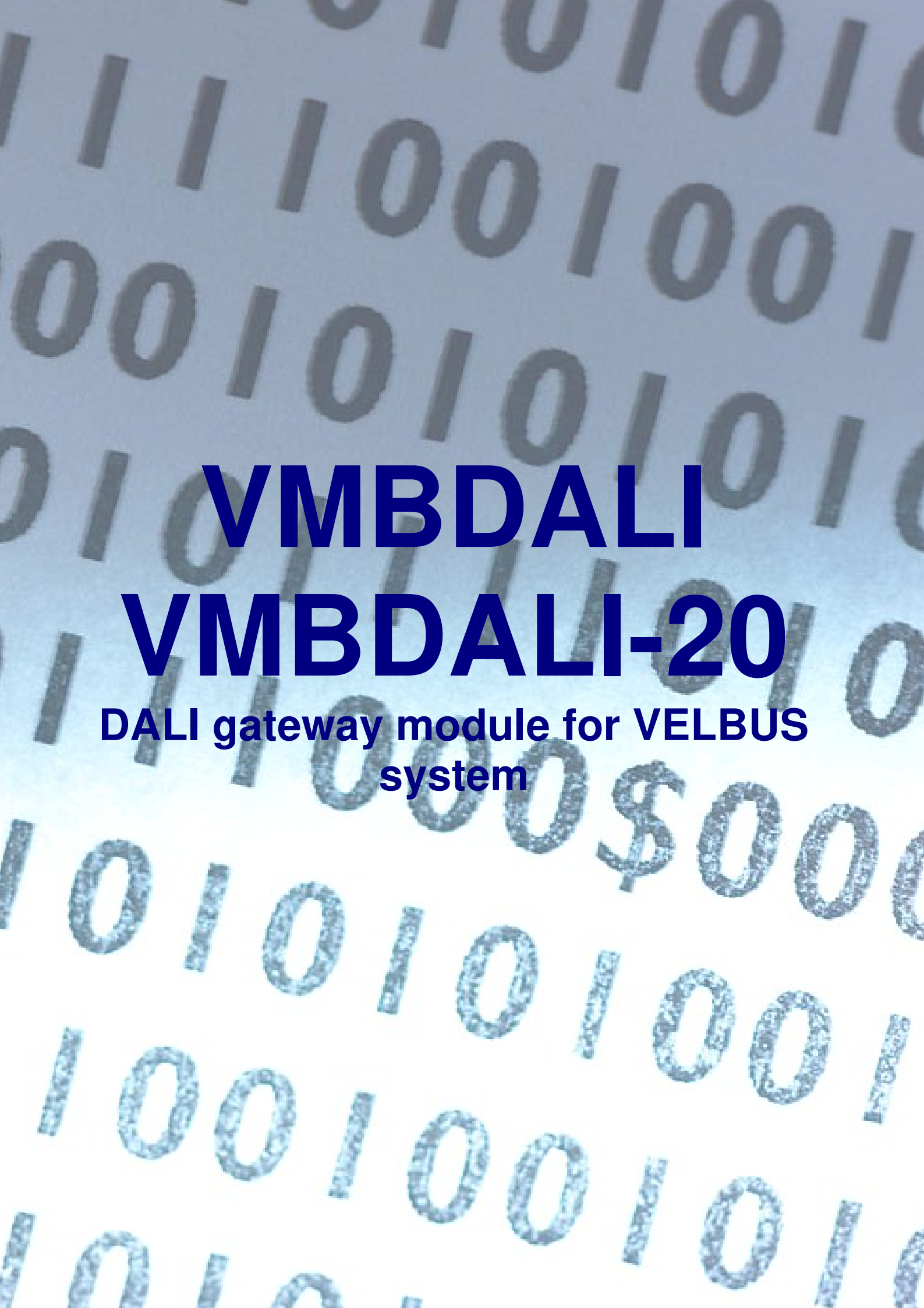

VMBDALI
VMBDALI-20

DALI gateway module for VELBUS system

Binairy format:

<SOF-SID10...SID0-RTR-IDE-r0-DLC3...0-DATABYTE1...DATABYTEn-CRC15...CRC1-CRCDEL-ACK-ACKDEL-EOF7...EOF1-IFS3...IFS1>

bits	***Description***
SOF	Start Of Frame (always 0)
SID10 & SID9	Priority (00: highest … 11: lowest priority)
SID8…SID1	Address
SID0	Always 0
RTR	Remote Transmit Request
IDE	Identifier Extension (always 0)
r0	reserved (always 0)
DLC3…DLC0	Data Length Code (0…8)
Databyte1	Command
Databyte2	Parameter
Databyte3	Parameter
Databyte4	Parameter
Databyte5	Parameter
Databyte6	Parameter
Databyte7	Parameter
Databyte8	Parameter
CRC15…CRC1	Cyclic Redundancy Checksum
CRCDEL	CRC Delimiter (always 1)
ACK	Acknowledge slot (transmit 1 readback 0 if received correctly)
ACKDEL	Acknowledge Delimiter (always 1)
EOF7...EOF1	End Of Frame (always 1111111)
IFS3...IFS1	InterFrame Space (always 111)

The module can transmit the following messages:

- Power up message
- Channel status
- Module status
- Module type and subtype
- Bus error counter status
- First, second and third part of the channel names
- Memory data
- Memory data block (4 bytes)
- Program step info
- Real-time clock status
- Date status
- Daylight savings status
- Real-time clock status request
- Clear linked push button led
- Set linked push button led
- Slow blink linked push button led
- Fast blink linked push button led

The module can receive the following messages:

- Power up

The module can receive the following commands:

- Linked push button status
- Module type request
- Module status request
- Channel name request
- Clear channel led
- Set channel ledA
- Slow blink channel led
- Fast blink channel led
- Very fast channel led
- Update channel leds

- Read memory data
- Read memory data block (4 bytes)
- Memory dump request
- Write memory data
- Write memory data block (4 bytes)
- Read program step info
- Write program step
- Bus error counter status request
- Real-time clock status request
- Set real-time clock
- Set date
- Set daylight savings
- Enable/disable global sunrise/sunset related actions
- Enable/disable local sunrise/sunset related actions
- Set local alarm clock
- Set global alarm clock
- Lock channel
- Unlock channel
- Disable channel program
- Enable channel program
- Select program

Transmits power up message:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = 0x00
RTR = 0
DLC3...DLC0 = 2 data byte to send
DATABYTE1 = COMMAND_POWER_UP (0xAB)
DATABYTE2 = module address

Transmits real time clock status request:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = 0x00
RTR = 0
DLC3...DLC0 = 1 data byte to send
DATABYTE1 = COMMAND_REALTIME_CLOCK_STATUS_REQUEST (0xD7)

Transmits the real time clock status:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_REALTIME_CLOCK_STATUS (0xD8)
DATABYTE2 = Day

Contents	Day
0	Monday
1	Tuesday
2	Wednesday
3	Thursday
4	Friday
5	Saturday
6	Sunday

DATABYTE3 = Hour (0…23)
DATABYTE4 = Minute (0…59)

Transmits the date status:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 5 data bytes to send
DATABYTE1 = COMMAND_DATE_STATUS (0xB7)
DATABYTE2 = Day (1…31)
DATABYTE3 = Month (1…12)
DATABYTE4 = High byte of Year
DATABYTE5 = Low byte of Year

Transmits the daylight savings status:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes to send
DATABYTE1 = COMMAND_DAYLIGHT_SAVING_STATUS (0xAF)
DATABYTE2 = 0 =disabled / 1 = enabled

Transmits the module type:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 8 data bytes to send
DATABYTE1 = COMMAND_MODULE_TYPE (0xFF)
DATABYTE2 = type (0x45 = VMBDALI; 0x5A = VMBDALI-20)
DATABYTE3 = High byte of serial number
DATABYTE4 = Low byte of serial number
DATABYTE5 = Memory map version
DATABYTE6 = Build year
DATABYTE7 = Build week
DATABYTE8 = Properties

Contents	Output channel
B'xxxxxxx0'	Terminator open
B'xxxxxxx1'	Terminator closed
B'xxxx000x'	Hardware version number
B'xxx0xxxx'	Velbus connection type
B'xx0xxxxx'	Only standard CAN allowed
B'xx1xxxxx'	CAN FD support

Transmits the module sub-addresses 1…4:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 8 data bytes to send
DATABYTE1 = COMMAND_SUBTYPE (0xB0)
DATABYTE2 = type (0x45 = VMBDALI; 0x5A = VMBDALI-20)
DATABYTE3 = High byte of serial number
DATABYTE4 = Low byte of serial number
DATABYTE5 = Subaddress1 (0xFF sub-address disabled)
DATABYTE6 = Subaddress2 (0xFF sub-address disabled)
DATABYTE7 = Subaddress3 (0xFF sub-address disabled)
DATABYTE8 = Subaddress4 (0xFF sub-address disabled)

Transmits the module sub-addresses 5…8:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 8 data bytes to send
DATABYTE1 = COMMAND_SUBTYPE_2 (0xA7)
DATABYTE2 = type (0x45 = VMBDALI; 0x5A = VMBDALI-20)
DATABYTE3 = High byte of serial number
DATABYTE4 = Low byte of serial number
DATABYTE5 = Subaddress5 (0xFF sub-address disabled)
DATABYTE6 = Subaddress6 (0xFF sub-address disabled)
DATABYTE7 = Subaddress7 (0xFF sub-address disabled)
DATABYTE8 = Subaddress8 (0xFF sub-address disabled)

Transmits the module sub-addresses 9…12:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 8 data bytes to send
DATABYTE1 = COMMAND_SUBTYPE_3 (0xA6)
DATABYTE2 = type (0x45 = VMBDALI; 0x5A = VMBDALI-20)
DATABYTE3 = High byte of serial number
DATABYTE4 = Low byte of serial number
DATABYTE5 = Subaddress9 (x0FF sub-address disabled)
DATABYTE6 = Subaddress10 (always 0xFF – VMBDALI/VMBDAL-20 don't use sub-address 10)
DATABYTE7 = Subaddress11 (always 0xFF - VMBDALI/VMBDAL-20 don't use sub-address 11)
DATABYTE8 = Subaddress12 (always 0xFF - VMBDALI /VMBDAL-20don't use sub-address 12)

Transmit: Bus error counter status

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_BUSERROR_COUNTER_STATUS (0xDA)
DATABYTE2 = Transmit error counter
DATABYTE3 = Receive error counter
DATABYTE4 = Bus off counter

Transmits the memory data:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_MEMORY_DATA (0xFE)
DATABYTE2 = High memory address
DATABYTE3 = LOW memory address
DATABYTE4 = memory data

Remark: address range: 0x0000 to 0x2FFF

Transmits memory data block (4 bytes):

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 7 data bytes to send
DATABYTE1 = COMMAND_MEMORY_DATA_BLOCK (0xCC)
DATABYTE2 = High start address of memory block
DATABYTE3 = LOW start address of memory block
DATABYTE4 = memory data1
DATABYTE5 = memory data2
DATABYTE6 = memory data3
DATABYTE7 = memory data4

Remark: address range: 0x0000 to 0x2FFC

Transmits memory data block (5...60 bytes)(only allowed for CAN FD frames):

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = number of data bytes to send

Contents	*Number of data bytes*
0x09	12 data bytes
0x0A	16 data bytes
0x0B	20 data bytes
0x0C	24 data bytes
0x0D	32 data bytes
0x0E	48 data bytes
0x0F	64 data bytes

DATABYTE1 = COMMAND_MEMORY_DATA_BLOCK (0xCC)
DATABYTE2 = High start address of memory block
DATABYTE3 = LOW start address of memory block
DATABYTE4 = memory block length (5…60)
DATABYTE5 = memory data 1
…
DATABYTE12 = memory data 8 (end of data for DLC3...DLC0 = 0x09)
…
DATABYTE16 = memory data 12 (end of data for DLC3...DLC0 = 0x0A)
…
DATABYTE20 = memory data 16 (end of data for DLC3...DLC0 = 0x0B)
…
DATABYTE24 = memory data 20 (end of data for DLC3...DLC0 = 0x0C)
…
DATABYTE32 = memory data 28 (end of data for DLC3...DLC0 = 0x0D)
…
DATABYTE48 = memory data 44 (end of data for DLC3...DLC0 = 0x0E)
…
DATABYTE64 = memory data 60 (end of data for DLC3...DLC0 = 0x0F)

Remark:
Contents of unused data bytes = 0x55
Address range: 0x0000 to (0x3000 – memory block length)

Transmits the first part of channel name:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 8 data bytes to send
DATABYTE1 = COMMAND_CHANNEL_NAME_PART1 (0xF0)
DATABYTE2 = Channel 1…64 = address A0…63, 65…80 = group G0…15, 81 = broadcast)
DATABYTE3 = Character 1 of the channel name
DATABYTE4 = Character 2 of the channel name
DATABYTE5 = Character 3 of the channel name
DATABYTE6 = Character 4 of the channel name
DATABYTE7 = Character 5 of the channel name
DATABYTE8 = Character 6 of the channel name

Transmits the second part of the channel name:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 8 data bytes to send
DATABYTE1 = COMMAND_CHANNEL_NAME_PART2 (0xF1)
DATABYTE2 = Channel 1…64 = address A0…63, 65…80 = group G0…15, 81 = broadcast)
DATABYTE3 = Character 7 of the channel name
DATABYTE4 = Character 8 of the channel name
DATABYTE5 = Character 9 of the channel name
DATABYTE6 = Character 10 of the channel name
DATABYTE7 = Character 11 of the channel name
DATABYTE8 = Character 12 of the channel name

Transmits the third part of the channel name:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 6 data bytes to send
DATABYTE1 = COMMAND_CHANNEL_NAME_PART3 (0xF2)
DATABYTE2 = Channel 1…64 = address A0…63, 65…80 = group G0…15, 81 = broadcast)
DATABYTE3 = Character 13 of the channel name
DATABYTE4 = Character 14 of the channel name
DATABYTE5 = Character 15 of the channel name
DATABYTE6 = Character 16 of the channel name

Remarks:
Unused characters contain H'FF'.

Transmits the channel A0…7 switch status:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Channel A0…7 just pressed
DATABYTE3 = Channel A0…7 just released
DATABYTE4 = 0

Transmits the channel A8…15 switch status:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Sub-address 1
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Channel A8…15 just pressed
DATABYTE3 = Channel A8…15 just released
DATABYTE4 = 0

Transmits the channel A16…23 switch status:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Sub-address 2
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Channel A16…23 just pressed
DATABYTE3 = Channel A16…23 just released
DATABYTE4 = 0

Transmits the channel A24…31 switch status:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Sub-address 3
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Channel A24…31 just pressed
DATABYTE3 = Channel A24…31 just released
DATABYTE4 = 0

Transmits the channel A32…39 switch status:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Sub-address 4
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Channel A32…39 just pressed
DATABYTE3 = Channel A32…39 just released
DATABYTE4 = 0

Transmits the channel A40…47 switch status:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Sub-address 5
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Channel A40…47 just pressed
DATABYTE3 = Channel A40…47 just released
DATABYTE4 = 0

Transmits the channel A48…55 switch status:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Sub-address 6
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Channel A48…55 just pressed
DATABYTE3 = Channel A48…55 just released
DATABYTE4 = 0

Transmits the channel A56…63 switch status:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Sub-address 7
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Channel A56…63 just pressed
DATABYTE3 = Channel A56…63 just released
DATABYTE4 = 0

Transmits the group G0…7 switch status:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Sub-address 8
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Group G0…7 just pressed
DATABYTE3 = Group G0…7 just released
DATABYTE4 = 0

Transmits the group G8…15 switch status:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Sub-address 9
RTR = 0
DLC3...DLC0 = 4 data bytes to send
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Group G8…15 just pressed
DATABYTE3 = Group G8…15 just released
DATABYTE4 = 0

Transmits the module status:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 8 data bytes to send
DATABYTE1 = COMMAND_DIMMER_STATUS (0xEE)
DATABYTE2 = part nr 1 or 2
DATABYTE3 = channel A0…A7 status for part 1 / channel A16…A23 status for part 2
DATABYTE4 = channel A8…A15 status for part 1 / channel A24…A31 status for part 2
DATABYTE5 = group G0…G7 status for part 1 / channel A32…A39 status for part 2
DATABYTE6 = group G8…G15 status for part 1 / channel A40…A47 status for part 2
DATABYTE7 = alarm & program selection for part 1 / channel A48…A55 status for part 2

Contents	*Selected program*
B'xxxxxx00'	None
B'xxxxxx01'	Program group 1 (Summer)
B'xxxxxx10'	Program group 2 (Winter)
B'xxxxxx11'	Program group 3 (Holiday)
B'xxxxx0xx'	Clock alarm 1 off
B'xxxxx1xx'	Clock alarm 1 on
B'xxxx0xxx'	Local clock alarm 1
B'xxxx1xxx'	Global clock alarm 1
B'xxx0xxxx'	Clock alarm 2 off
B'xxx1xxxx'	Clock alarm 2 on
B'xx0xxxxx'	Local clock alarm 2
B'xx1xxxxx'	Global clock alarm 2
B'x0xxxxxx'	Sunrise disabled
B'x1xxxxxx'	Sunrise enabled
B'0xxxxxxx'	Sunset disabled
B'1xxxxxxx'	Sunset enabled

DATABYTE8 = operating mode for part 1 / channel A56…A63 status for part 2

Contents	*Operating mode flags*
B'xxxxxxx0'	Internal Dali power supply disabled
B'xxxxxxx1'	Internal Dali power supply enabled
B'xxxxxx0x'	Dali bus short
B'xxxxxx1x'	Dali bus voltage ok
B'xxxxx0xx'	Dali configuration idle state
B'xxxxx1xx'	Dali configuration operation in progress
B'xxxx0xxx'	Dali normal operation
B'xxxx1xxx'	Dali test mode active
B'xxx0xxxx'	Substitute 'Go to Last Active Level' disabled
B'xxx1xxxx'	Substitute 'Go to Last Active Level' enabled

Transmits the dim value status (Build2149 or higher):

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 3…8 data bytes to send
DATABYTE1 = COMMAND_DIMVALUE_STATUS (0xA5)
DATABYTE2 = Channel 1…64 = addr A0…A63, 65…80 = group G0…G15, 81 = broadcast
DATABYTE3 = dim value (0…254) of channel x
DATABYTE4 = dim value (0…254) of channel x+1 (optional)
DATABYTE5 = dim value (0…254) of channel x+2 (optional)
DATABYTE6 = dim value (0…254) of channel x+3 (optional)
DATABYTE7 = dim value (0…254) of channel x+4 (optional)
DATABYTE8 = dim value (0…254) of channel x+5 (optional)

Remark: dimvalue of 255 = unchanged

Transmit: Clears LEDs on a linked push button module:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Address of the linked push button module for clearing LEDs
RTR = 0
DLC3...DLC0 = 2 data bytes to send
DATABYTE1 = COMMAND_CLEAR_LED (0xF5)
DATABYTE2 = LED bit numbers (1 = clear LED)

Transmit: Sets LEDs on a linked push button module:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Address of the linked push button module for setting LEDs on
RTR = 0
DLC3...DLC0 = 2 data bytes to send
DATABYTE1 = COMMAND_SET_LED (0xF6)
DATABYTE2 = LED bit numbers (1 = set LED)

Transmit: Blinks LEDs slowly on a linked push button module:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Address of the linked push button module for slowly blinking LEDs
RTR = 0
DLC3...DLC0 = 2 data bytes to send
DATABYTE1 = COMMAND_SLOW_BLINKING_LED (0xF7)
DATABYTE2 = LED bit numbers (1 = slow blink LED)

Transmit: Blinks LEDs fast on a linked push button module:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Address of the linked push button module for fast blinking LEDs
RTR = 0
DLC3...DLC0 = 2 data bytes to send
DATABYTE1 = COMMAND_FAST_BLINKING_LED (0xF8)
DATABYTE2 = LED bit numbers (1 = fast blink LED)

Transmit Dali device settings:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = data bytes to send
DATABYTE1 = COMMAND_TEMP_SENSOR_SETTINGS_P1 (0xE8)
DATABYTE2 = Channel 1…64 = addr A0…A63, 65…80 = group G0…G15, 81…96 = scene S0…S15
DATABYTE3 = setting index (0…28)

index	Configuration	DLC3…0 (# of data bytes)
0	Scene S0 level (+ RGBW for color control device)	4 (or 8 for color control device)
1	Scene S1 level (+ RGBW for color control device)	4 (or 8 for color control device)
2	Scene S2 level (+ RGBW for color control device)	4 (or 8 for color control device)
3	Scene S3 level (+ RGBW for color control device)	4 (or 8 for color control device)
4	Scene S4 level (+ RGBW for color control device)	4 (or 8 for color control device)
5	Scene S5 level (+ RGBW for color control device)	4 (or 8 for color control device)
6	Scene S6 level (+ RGBW for color control device)	4 (or 8 for color control device)

7	Scene S7 level (+ RGBW for color control device)	4 (or 8 for color control device)
8	Scene S8 level (+ RGBW for color control device)	4 (or 8 for color control device)
9	Scene S9 level (+ RGBW for color control device)	4 (or 8 for color control device)
10	Scene S10 level (+ RGBW for color control device)	4 (or 8 for color control device)
11	Scene S11 level (+ RGBW for color control device)	4 (or 8 for color control device)
12	Scene S12 level (+ RGBW for color control device)	4 (or 8 for color control device)
13	Scene S13 level (+ RGBW for color control device)	4 (or 8 for color control device)
14	Scene S14 level (+ RGBW for color control device)	4 (or 8 for color control device)
15	Scene S15 level (+ RGBW for color control device)	4 (or 8 for color control device)
16	Power-on level (+ RGBW for color control device)	4 (or 8 for color control device)
17	System failure level (+ RGBW for color control device)	4 (or 8 for color control device)
18	Minimum level	4
19	Maximum level	4
20	Fade time & fade rate	4
21	Group members G0…15	5
22	Group Gx members A0…31 (only allowed for group addresses)	7
23	Group Gx members A32…63 (only allowed for group addresses)	7
24	-	-
25	Device type	4
26	Actual level (+ RGBW for color control device)	4 (or 8 for color control device)

DATABYTE4 = level (raw data 0…254, 255 = no change)

RAW	%	RAW	%	RAW	%	RAW	%	RAW	%	RAW	%	RAW	%
0	0	40	0.290	80	0.864	120	2.58	160	7.68	200	22.89	240	68.23
1	0.1	41	0.298	81	0.888	121	2.65	161	7.89	201	23.53	241	70.12
2	0.103	42	0.306	82	0.913	122	2.72	162	8.11	202	24.18	242	72.06
3	0.106	43	0.315	83	0.938	123	2.80	163	8.34	203	24.85	243	74.06
4	0.109	44	0.324	84	0.964	124	2.87	164	8.57	204	25.53	244	76.11
5	0.112	45	0.332	85	0.991	125	2.95	165	8.80	205	26.24	245	78.21
6	0.115	46	0.342	86	1.018	126	3.04	166	9.05	206	26.97	246	80.38
7	0.118	47	0.351	87	1.047	127	3.12	167	9.30	207	27.71	247	82.60
8	0.121	48	0.361	88	1.076	128	3.21	168	9.56	208	28.48	248	84.89
9	0.124	49	0.371	89	1.105	129	3.29	169	9.82	209	29.27	249	87.24
10	0.128	50	0.381	90	1.136	130	3.39	170	10.09	210	30.08	250	89.65
11	0.131	51	0.392	91	1.167	131	3.48	171	10.37	211	30.91	251	92.14
12	0.135	52	0.402	92	1.200	132	3.58	172	10.66	212	31.77	252	94.69
13	0.139	53	0.414	93	1.233	133	3.67	173	10.95	213	32.65	253	97.31
14	0.143	54	0.425	94	1.267	134	3.78	174	11.26	214	33.55	254	100
15	0.147	55	0.437	95	1.302	135	3.88	175	11.57	215	34.48	255	No change
16	0.151	56	0.449	96	1.338	136	3.99	176	11.89	216	35.43		
17	0.155	57	0.461	97	1.375	137	4.10	177	12.22	217	36.41		
18	0.159	58	0.474	98	1.413	138	4.21	178	12.55	218	37.42		
19	0.163	59	0.487	99	1.452	139	4.33	179	12.90	219	38.46		
20	0.168	60	0.501	100	1.492	140	4.45	180	13.26	220	39.52		
21	0.173	61	0.515	101	1.534	141	4.57	181	13.63	221	40.62		
22	0.177	62	0.529	102	1.576	142	4.70	182	14.00	222	41.74		
23	0.182	63	0.543	103	1.620	143	4.83	183	14.39	223	42.90		
24	0.187	64	0.559	104	1.665	144	4.96	184	14.79	224	44.08		
25	0.193	65	0.574	105	1.711	145	5.10	185	15.20	225	45.30		
26	0.198	66	0.590	106	1.758	146	5.24	186	15.62	226	46.56		
27	0.203	67	0.606	107	1.807	147	5.39	187	16.05	227	47.85		
28	0.209	68	0.623	108	1.857	148	5.53	188	16.50	228	49.17		
29	0.215	69	0.640	109	1.908	149	5.69	189	16.95	229	50.53		
30	0.221	70	0.658	110	1.961	150	5.85	190	17.42	230	51.93		
31	0.227	71	0.676	111	2.02	151	6.01	191	17.90	231	53.37		
32	0.233	72	0.695	112	2.07	152	6.17	192	18.40	232	54.84		
33	0.240	73	0.714	113	2.13	153	6.34	193	18.91	233	56.36		
34	0.246	74	0.734	114	2.19	154	6.52	194	19.43	234	57.92		
35	0.253	75	0.754	115	2.25	155	6.70	195	19.97	235	59.53		
36	0.260	76	0.775	116	2.31	156	6.89	196	20.52	236	61.17		
37	0.267	77	0.796	117	2.37	157	7.08	197	21.09	237	62.87		
38	0.275	78	0.819	118	2.44	158	7.27	198	21.68	238	64.61		
39	0.282	79	0.841	119	2.51	159	7.47	199	22.28	239	66.39		

DATABYTE5 = red value (0…254, 255 = no change)
DATABYTE6 = green value (0…254, 255 = no change)
DATABYTE7 = blue value (0…254, 255 = no change)
DATABYTE8 = white value (0…254, 255 = no change)
DATABYTE4 = fade time (raw data 0…15)

Fade raw data	Fade time / rate
H'0x'	No fade
H'1x'	Fade time 0.7 s

H’2x’	Fade time 1.0 s
H’3x’	Fade time 1.4 s
H’4x’	Fade time 2.0 s
H’5x’	Fade time 2.8 s
H’6x’	Fade time 4.0 s
H’7x’	Fade time 5.7 s
H’8x’	Fade time 8.0 s
H’9x’	Fade time 11.3 s
H’Ax’	Fade time 16.0 s
H’Bx’	Fade time 22.6 s
H’Cx’	Fade time 32.0 s
H’Dx’	Fade time 45.3 s
H’Ex’	Fade time 64.0 s
H’Fx’	Fade time 90.5 s
H’x0’	Fade rate not applicable
H’x1’	Fade rate 358.0 steps/s
H’x2’	Fade rate 253.0 steps/s
H’x3’	Fade rate 179.0 steps/s
H’x4’	Fade rate 127.0 steps/s
H’x5’	Fade rate 89.4 steps/s
H’x6’	Fade rate 63.3 steps/s
H’x7’	Fade rate 44.7 steps/s
H’x8’	Fade rate 31.6 steps/s
H’x9’	Fade rate 22.4 steps/s
H’xA’	Fade rate 15.8 steps/s
H’xB’	Fade rate 11.2 steps/s
H’xC’	Fade rate 7.9 steps/s
H’xD’	Fade rate 5.6 steps/s
H’xE’	Fade rate 4.0 steps/s
H’xF’	Fade rate 2.8 steps/s

DATABYTE4 = group G0…G7 member bits

Contents	Group member
B’xxxxxxx0’	Not a member of group G0
B’xxxxxxx1’	Member of group G0
B’xxxxxx0x’	Not a member of group G1
B’xxxxxx1x’	Member of group G1
B’xxxxx0xx’	Not a member of group G2
B’xxxxx1xx’	Member of group G2
B’xxxx0xxx’	Not a member of group G3
B’xxxx1xxx’	Member of group G3
B’xxx0xxxx’	Not a member of group G4
B’xxx1xxxx’	Member of group G4
B’xx0xxxxx’	Not a member of group G5
B’xx1xxxxx’	Member of group G5
B’x0xxxxxx’	Not a member of group G6
B’x1xxxxxx’	Member of group G6
B’0xxxxxxx’	Not a member of group G7
B’1xxxxxxx’	Member of group G7

DATABYTE5 = group G8…G15 member bits

Contents	Group member
B’xxxxxxx0’	Not a member of group G8
B’xxxxxxx1’	Member of group G8
B’xxxxxx0x’	Not a member of group G9
B’xxxxxx1x’	Member of group G9
B’xxxxx0xx’	Not a member of group G10
B’xxxxx1xx’	Member of group G10
B’xxxx0xxx’	Not a member of group G11
B’xxxx1xxx’	Member of group G11
B’xxx0xxxx’	Not a member of group G12
B’xxx1xxxx’	Member of group G12
B’xx0xxxxx’	Not a member of group G13
B’xx1xxxxx’	Member of group G13

B’x0xxxxxx’	Not a member of group G14
B’x1xxxxxx’	Member of group G14
B’0xxxxxxx’	Not a member of group G15
B’1xxxxxxx’	Member of group G15

DATABYTE4 = group Gx member channel A0…A7 / A32…A39 bits

Contents	Member of group Gx
B’xxxxxxx0’	Dali device A0 / A32 is not a member of group Gx
B’xxxxxxx1’	Dali device A0 / A32 is a member of group Gx
B’xxxxxx0x’	Dali device A1 / A33 is not a member of group Gx
B’xxxxxx1x’	Dali device A1 / A33 is a member of group Gx
B’xxxxx0xx’	Dali device A2 / A34 is not a member of group Gx
B’xxxxx1xx’	Dali device A2 / A34 is a member of group Gx
B’xxxx0xxx’	Dali device A3 / A35 is not a member of group Gx
B’xxxx1xxx’	Dali device A3 / A35 is a member of group Gx
B’xxx0xxxx’	Dali device A4 / A36 is not a member of group Gx
B’xxx1xxxx’	Dali device A4 / A36 is a member of group Gx
B’xx0xxxxx’	Dali device A5 / A37 is not a member of group Gx
B’xx1xxxxx’	Dali device A5 / A37 is a member of group Gx
B’x0xxxxxx’	Dali device A6 / A38 is not a member of group Gx
B’x1xxxxxx’	Dali device A6 / A38 is a member of group Gx
B’0xxxxxxx’	Dali device A7 / A39 is not a member of group Gx
B’1xxxxxxx’	Dali device A7 / A39 is a member of group Gx

DATABYTE5 = group Gx member channel A8…A15 / A40…A47 bits

Contents	Member of group Gx
B’xxxxxxx0’	Dali device A8 / A40 is not a member of group Gx
B’xxxxxxx1’	Dali device A8 / A40 is a member of group Gx
B’xxxxxx0x’	Dali device A9 / A41 is not a member of group Gx
B’xxxxxx1x’	Dali device A9 / A41 is a member of group Gx
B’xxxxx0xx’	Dali device A10 / A42 is not a member of group Gx
B’xxxxx1xx’	Dali device A10 / A42 is a member of group Gx
B’xxxx0xxx’	Dali device A11 / A43 is not a member of group Gx
B’xxxx1xxx’	Dali device A11 / A43 is a member of group Gx
B’xxx0xxxx’	Dali device A12 / A44 is not a member of group Gx
B’xxx1xxxx’	Dali device A12 / A44 is a member of group Gx
B’xx0xxxxx’	Dali device A13 / A45 is not a member of group Gx
B’xx1xxxxx’	Dali device A13 / A45 is a member of group Gx
B’x0xxxxxx’	Dali device A14 / A46 is not a member of group Gx
B’x1xxxxxx’	Dali device A14 / A46 is a member of group Gx
B’0xxxxxxx’	Dali device A15 / A47 is not a member of group Gx
B’1xxxxxxx’	Dali device A15 / A47 is a member of group Gx

DATABYTE6 = group Gx member channel A16…A23 / A48…A55 bits

Contents	Member of group Gx
B’xxxxxxx0’	Dali device A16 / A48 is not a member of group Gx
B’xxxxxxx1’	Dali device A16 / A48 is a member of group Gx
B’xxxxxx0x’	Dali device A17 / A49 is not a member of group Gx
B’xxxxxx1x’	Dali device A17 / A49 is a member of group Gx
B’xxxxx0xx’	Dali device A18 / A50 is not a member of group Gx
B’xxxxx1xx’	Dali device A18 / A50 is a member of group Gx
B’xxxx0xxx’	Dali device A19 / A51 is not a member of group Gx
B’xxxx1xxx’	Dali device A19 / A51 is a member of group Gx
B’xxx0xxxx’	Dali device A20 / A52 is not a member of group Gx
B’xxx1xxxx’	Dali device A20 / A52 is a member of group Gx
B’xx0xxxxx’	Dali device A21 / A53 is not a member of group Gx
B’xx1xxxxx’	Dali device A21 / A53 is a member of group Gx
B’x0xxxxxx’	Dali device A22 / A54 is not a member of group Gx
B’x1xxxxxx’	Dali device A22 / A54 is a member of group Gx
B’0xxxxxxx’	Dali device A23 / A55 is not a member of group Gx
B’1xxxxxxx’	Dali device A23 / A55 is a member of group Gx

DATABYTE7 = group Gx member channel A24…A31 / A56…A63 bits

Contents	Member of group Gx
B’xxxxxxx0’	Dali device A24 / A56 is not a member of group Gx
B’xxxxxxx1’	Dali device A24 / A56 is a member of group Gx

B’xxxxxx0x’	Dali device A25 / A57 is not a member of group Gx
B’xxxxxx1x’	Dali device A25 / A57 is a member of group Gx
B’xxxxx0xx’	Dali device A26 / A58 is not a member of group Gx
B’xxxxx1xx’	Dali device A26 / A58 is a member of group Gx
B’xxxx0xxx’	Dali device A27 / A59 is not a member of group Gx
B’xxxx1xxx’	Dali device A27 / A59 is a member of group Gx
B’xxx0xxxx’	Dali device A28 / A60 is not a member of group Gx
B’xxx1xxxx’	Dali device A28 / A60 is a member of group Gx
B’xx0xxxxx’	Dali device A29 / A61 is not a member of group Gx
B’xx1xxxxx’	Dali device A29 / A61 is a member of group Gx
B’x0xxxxxx’	Dali device A30 / A62 is not a member of group Gx
B’x1xxxxxx’	Dali device A30 / A62 is a member of group Gx
B’0xxxxxxx’	Dali device A31 / A63 is not a member of group Gx
B’1xxxxxxx’	Dali device A31 / A63 is a member of group Gx

DATABYTE4 = device type

contents	Device type
0	Fluorescent lamp
1	Emergency lamp
2	Discharge lamp
3	Low voltage lamp
4	Dimmer
5	Conversion to dc
6	Led module
7	Relay
8	Color control
9	Sequencer
127	Device present
254	Device address conflict
255	No device present

Transmits program step info:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 8 data bytes to send
DATABYTE1 = COMMAND_PROGRAM_STEP_INFO (0xC1)
DATABYTE2 = Program step number (1…254 / 255 step not found)
DATABYTE3 = Program reference

Contents	*Description*
000xxxxx	*Disable program step*
001xxxxx	*Absolute time*
010xxxxx	*Wake up time 1 + relative time*
011xxxxx	*Go to bed time 1 + relative time*
100xxxxx	*Wake up time 2 + relative time*
101xxxxx	*Go to bed time 2 + relative time*
110xxxxx	*Sunrise + relative time*
111xxxxx	*Sunset + relative time*
xxx01111	*Rel. time = 3h45min*
…	
xxx00001	*Rel. time = 15min*
xxx00000	*Rel. time = 0*
xxx11111	*Rel. time = -15min*
…	
xxx10000	*Rel. time = -4h*

DATABYTE4 = Program step month & four least significant bits of day

Contents	*Description*
xxxx0000	*Weekly program*
xxxx0001	*January*
xxxx0010	*February*
xxxx0011	*March*

xxxx0100	April
xxxx0101	May
xxxx0110	June
xxxx0111	July
xxxx1000	August
xxxx1001	September
xxxx1010	October
xxxx1011	November
xxxx1100	December
xxxx1101	Monthly program
xxxx1110	Monthly program
xxxx1111	Monthly program

Contents byte6	Contents byte4	Description
00xxxxxx	0000xxxx	Never
00xxxxxx	0001xxxx	Day 1of the month
00xxxxxx	0010xxxx	Day 2of the month
...	...	...
01xxxxxx	1111xxxx	Day 31of the month
10xxxxxx	0000xxxx	Never
10xxxxxx	0001xxxx	Every Monday
10xxxxxx	0010xxxx	Every Tuesday
...	...	...
10xxxxxx	0111xxxx	Every Sunday
10xxxxxx	1000xxxx	Every weekend (sa & su)
10xxxxxx	1001xxxx	Every working day (mo...fr)
10xxxxxx	1010xxxx	Every day except Sunday
10xxxxxx	1011xxxx	Every day
10xxxxxx	1100xxxx	Never
...	...	...
11xxxxxx	1111xxxx	Never

DATABYTE5 = Program step hour & group number

Contents	Description
xxx00000	0h
xxx00001	1h
...	...
xxx10111	23h
xx1xxxxx	Program group 1 (Summer program)
x1xxxxxx	Program group 2 (Winter program)
1xxxxxxx	Program group 3 (Holiday program)

DATABYTE6 = Program step minute & every flag & msb of day

Contents	Description
xx000000	0min
xx000001	1min
...	...
xx111011	59min

Contents byte6	Contents byte4	Description
00xxxxxx	0000xxxx	Never
00xxxxxx	0001xxxx	Day 1of the month
00xxxxxx	0010xxxx	Day 2of the month
...	...	...
01xxxxxx	1111xxxx	Day 31of the month
10xxxxxx	0000xxxx	Never
10xxxxxx	0001xxxx	Every Monday
10xxxxxx	0010xxxx	Every Tuesday
...	...	...
10xxxxxx	0111xxxx	Every Sunday
10xxxxxx	1000xxxx	Every weekend (sa & su)

10xxxxxx	1001xxxx	Every working day (mo…fr)
10xxxxxx	1010xxxx	Every day except Sunday
10xxxxxx	1011xxxx	Every day
10xxxxxx	1100xxxx	Never
…	…	…
11xxxxxx	1111xxxx	Never

DATABYTE7 = Program step action

Contents	Action
0	Not yet implemented

DATABYTE8 = Channel

Contents	Channel
1	Channel address 0
…	…
64	Channel address 63
65	Group 0
…	…
80	Group 15
81	Broadcast

'Linked push button status' received:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Address of the linked push button module
RTR = 0
DLC3...DLC0 = 4 data bytes received
DATABYTE1 = COMMAND_PUSH_BUTTON_STATUS (0x00)
DATABYTE2 = Linked push buttons just pressed (1 = just pressed)
DATABYTE3 = Linked push buttons just released (1 = just released)
DATABYTE4 = linked push buttons long pressed (1 = longer than 0.85s pressed)

Power up message' received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = 0x00
RTR = 0
DLC3...DLC0 = 2 data byte received
DATABYTE1 = COMMAND_POWER_UP (0xAB)
DATABYTE2 = module address

'CAN FD enable command' received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = 0x00
RTR = 0
DLC3...DLC0 = 2 data byte received
DATABYTE1 = COMMAND_SET_CLR_LEARN_RF_CODE (0xB5)
DATABYTE2 = enable/disable (0 = disable CAN FD / 1 = enable CAN FD)

'Real time clock status request' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = 0x00
RTR = 0
DLC3...DLC0 = 1 data byte to send
DATABYTE1 = COMMAND_REALTIME_CLOCK_STATUS_REQUEST (0xD7)

'Real time clock status request' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 1 data byte to send
DATABYTE1 = COMMAND_REALTIME_CLOCK_STATUS_REQUEST (0xD7)

'Set real time clock' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = 0x00
RTR = 0
DLC3...DLC0 = 4 data bytes received
DATABYTE1 = COMMAND_SET_REALTIME_CLOCK (0xD8)
DATABYTE2 = Day of week

Contents day of week'	*Description*
H'00'	Monday
H'01'	Tuesday
H'02'	Wednesday
H'03'	Thursday
H'04'	Friday
H'05'	Saterday
H'06'	Sunday

DATABYTE3 = Hours (0…23)
DATABYTE4 = Minutes (0…59)

'Set date' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = 0x00
RTR = 0
DLC3...DLC0 = 5 data bytes received
DATABYTE1 = COMMAND_SET_REALTIME_DATE (0xB7)

DATABYTE2 = Day (1…31)
DATABYTE3 = Month (1…12)
DATABYTE4 = High byte of Year
DATABYTE5 = Low byte of Year

'Set daylight savings' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = 0x00
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_SET_DAYLIGHT_SAVING (0xAF)
DATABYTE2 = 0 =disabled / 1 = enabled

'Enable/disable global sunrise/sunset related actions' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = 0x00
RTR = 0
DLC3...DLC0 = 3 data bytes received
DATABYTE1 = COMMAND_ENA_DIS_SUNRISE_SUNSET (0xAE)
DATABYTE2 = Channel (0xFF)
DATABYTE3 = enable/disable flags

Contents	*Description*
B'xxxxxxx0'	Disable sunrise related actions
B'xxxxxxx1'	Enable sunrise related actions
B'xxxxxx0x'	Disable sunset related actions
B'xxxxxx1x'	Enable sunset related actions

'Enable/disable local sunrise/sunset related actions' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 3 data bytes received
DATABYTE1 = COMMAND_ENA_DIS_SUNRISE_SUNSET (0xAE)
DATABYTE2 = Channel (0xFF)
DATABYTE3 = enable/disable flags

Contents	*Description*
B'xxxxxxx0'	Disable sunrise related actions
B'xxxxxxx1'	Enable sunrise related actions
B'xxxxxx0x'	Disable sunset related actions
B'xxxxxx1x'	Enable sunset related actions

'Set global clock alarm' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = 0x00
RTR = 0
DLC3...DLC0 = 7 data bytes received
DATABYTE1 = COMMAND_SET_ALARM_CLOCK (0xC3)
DATABYTE2 = Alarm number (1 or 2)
DATABYTE3 = Wake up hour (0…23)
DATABYTE4 = Wake up minute (0…59)
DATABYTE5 = Go to bed hour (0…23)
DATABYTE6 = Go to bed minute (0…59)
DATABYTE7 = Clock alarm enable flag (0 = disabled / 1 = enabled)

'Set local clock alarm' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 7 data bytes received
DATABYTE1 = COMMAND_SET_ALARM_CLOCK (0xC3)
DATABYTE2 = Alarm number (1 or 2)
DATABYTE3 = Wake up hour (0…23)
DATABYTE4 = Wake up minute (0…59)
DATABYTE5 = Go to bed hour (0…23)

DATABYTE6 = Go to bed minute (0…59)
DATABYTE7 = Clock alarm enable flag (0 = disabled / 1 = enabled)

'Module type request' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 1
DLC3...DLC0 = 0 data bytes received

'Module status request' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_MODULE_STATUS_REQUEST (0xFA)
DATABYTE2 = don't care

'Channel name request' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_CHANNEL_NAME_REQUEST (0xEF)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 81 = broadcast

Remark: channel = 0xFF for all channels, groups and broadcast names

'Clear channel LED' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_CLEAR_LED (0xF5)
DATABYTE2 = LEDs to clear (a one clears the corresponding LED of channel 1 to 8)

'Set channel LED' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_SET_LED (0xF6)
DATABYTE2 = LEDs to set (a one sets the corresponding LED of channel 1 to 8)

'Slow blink channel LED' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_SLOW_BLINK_LED (0xF7)
DATABYTE2 = LEDs to blink slow (a one blinks slow the corresponding LED of channel 1 to 8)

'Fast blink channel LED' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_FAST_BLINK_LED (0xF8)
DATABYTE2 = LEDs to blink fast (a one blinks fast the corresponding LED of channel 1 to 8)

'Very fast blink channel LED' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_VERY_FAST_BLINK_LED (0xF9)

DATABYTE2 = LEDs to blink very fast (a one blinks very fast the corresponding LED of channel 1 to 8)

'Update channel LEDs' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 4 data bytes received
DATABYTE1 = COMMAND_UPDATE_LED_STATUS (0xF4)
DATABYTE2 = LEDs to set (a one sets the corresponding LED of channel 1 to 8)
DATABYTE3 = LEDs to blink slow (a one blinks slow the corresponding LED of channel 1 to 8)
DATABYTE4 = LEDs to blink fast (a one blinks very fast the corresponding LED of channel 1 to 8)

Remark:
The 'LEDs to set' status overrides the blinking modes.
Very fast blinking if slow & fast blinking are set.

'Read data from memory' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 3 data bytes received
DATABYTE1 = COMMAND_READ_DATA_FROM_MEMORY (0xFD)
DATABYTE2 = High memory address
DATABYTE3 = LOW memory address

Remark: address range: 0x0000 to 0x2FFF

'Read data block from memory' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 3 data bytes received / 4 data bytes for CAN FD response
DATABYTE1 = COMMAND_READ_MEMORY_BLOCK (0xC9)
DATABYTE2 = High memory address
DATABYTE3 = LOW memory address
DATABYTE4 = memory block length (5…60)

Remark:
address range: 0x0000 to 0x2FFC
address range: 0x0000 to (0x3000 – memory block length) for CAN FD response

'Memory dump request' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 1 data bytes received
DATABYTE1 = COMMAND_MEMORY_DUMP_REQUEST (0xCB)

'Write data to memory' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 4 data bytes received
DATABYTE1 = COMMAND_WRITE_DATA_TO_MEMORY (0xFC)
DATABYTE2 = High memory address
DATABYTE3 = LOW memory address
DATABYTE4 = memory data to write

Remark:
Wait for 'memory data' feedback before sending a next command on the velbus.
Address range: 0x0000 to 0x2FFF
Read only location cannot be changed
Terminate always with a write command at the last memory location.

'Write memory block' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 7 data bytes received
DATABYTE1 = COMMAND_WRITE_MEMORY_BLOCK (0xCA)
DATABYTE2 = High memory address
DATABYTE3 = LOW memory address
DATABYTE4 = memory databyte1 to write
DATABYTE5 = memory databyte2 to write
DATABYTE6 = memory databyte3 to write
DATABYTE7 = memory databyte4 to write

Or

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Address of the module
RTR = 0
DLC3...DLC0 = number of data bytes to send

Contents	*Number of data bytes*
0x09	12 data bytes
0x0A	16 data bytes
0x0B	20 data bytes
0x0C	24 data bytes
0x0D	32 data bytes
0x0E	48 data bytes
0x0F	64 data bytes

DATABYTE1 = COMMAND_WRITE_MEMORY_BLOCK (0xCA)
DATABYTE2 = High memory address
DATABYTE3 = LOW memory address
DATABYTE4 = memory block length (5…60)
DATABYTE5 = memory data 1 to write
…
DATABYTE12 = memory data 8 to write (end of data for DLC3...DLC0 = 0x09)
…
DATABYTE16 = memory data 12 to write (end of data for DLC3...DLC0 = 0x0A)
…
DATABYTE20 = memory data 16 to write (end of data for DLC3...DLC0 = 0x0B)
…
DATABYTE24 = memory data 20 to write (end of data for DLC3...DLC0 = 0x0C)
…
DATABYTE32 = memory data 28 to write (end of data for DLC3...DLC0 = 0x0D)
…
DATABYTE48 = memory data 44 to write (end of data for DLC3...DLC0 = 0x0E)
…
DATABYTE64 = memory data 60 to write (end of data for DLC3...DLC0 = 0x0F)

Remark:
Wait for 'memory data block' feedback before sending a next command on the velbus.
address range: 0x0000 to 0x2FFC for standard CAN response
address range: 0x0000 to (0x5000 – memory block length) for CAN FD response
Contents of unused data bytes = 0x55
Terminate always with a write command at the last memory location.

'Bus error counter status request' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 1 data byte received
DATABYTE1 = COMMAND_BUS_ERROR_COUNTER_STATUS_REQUEST (H'D9')

'Set dim value' command received:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Module address

RTR = 0
DLC3...DLC0 = 5 data bytes received
DATABYTE1 = COMMAND_SET_DIMVALUE (0x07)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 81 = broadcast
DATABYTE3 = Dim value (0 to 254, 255 = unchanged)
DATABYTE4 = high byte of dim speed = don't care
DATABYTE5 = low byte of dim speed = don't care

'Set to last used dim value' command received:
SID10-SID9 = 00 (highest priority)
SID8...SID1 = Address of the module
RTR = 0
DLC3...DLC0 = 5 data bytes received
DATABYTE1 = COMMAND_RESTORE_LAST_DIMVALUE (0x11)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 81 = broadcast
DATABYTE3 = don't care
DATABYTE4 = high byte of dim speed = don't care
DATABYTE5 = low byte of dim speed = don't care

'Start timer' command received:
SID10-SID9 = 00 (highest priority)
SID8...SID1 = Address of the module
RTR = 0
DLC3...DLC0 = 5 data bytes received
DATABYTE1 = COMMAND_START_DIMMER_TIMER (0x08)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 81 = broadcast
DATABYTE3 = high byte of time-out time
DATABYTE4 = mid byte of time-out time
DATABYTE5 = low byte of time-out time

Remark: [DATABYTE3][DATABYTE4][DATABYTE5] contains a 24-bit time-out time in seconds.
If the time-out parameter contains zero then no timer starts.
If the time-out parameter contains 0xFFFFFF then the light switches permanently on (no time-out).

'Stop channel dimming' command received (build 2227 or higher):
SID10-SID9 = 00 (highest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_STOP_DIMMING (0x10)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 81 = broadcast

'Go to scene' command received:
SID10-SID9 = 00 (highest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 3 data bytes received
DATABYTE1 = COMMAND_SET_DIMSCENE (0x1D)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 81 = broadcast
DATABYTE3 = Scene number (0 to 15)

'Set color value' command received:
SID10-SID9 = 00 (highest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 7 data bytes received
DATABYTE1 = COMMAND_SET_COLOR (0x1E)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 81 = broadcast
DATABYTE3 = Dim value (0 to 254, 255 = unchanged)
DATABYTE4 = Red value 0…254, 255 = unchanged)
DATABYTE5 = Green value 0…254, 255 = unchanged)
DATABYTE6 = Blue value 0…254, 255 = unchanged)
DATABYTE7 = White value 0…254, 255 = unchanged)

'Unlock channel' command received:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_CANCEL_FORCED_OFF (0x13)
DATABYTE2 = Channel 1…97 (1…64 = addr 0…63, 65…80 = group 0…15, 81…96 = scene 0…15, 97 = broadcast)

Remark: channel number = 0xFF for all channels

'Lock channel' command received:

SID10-SID9 = 00 (highest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 5 data bytes received
DATABYTE1 = COMMAND_FORCED_OFF (0x12)
DATABYTE2 = Channel 1…97 (1…64 = addr 0…63, 65…80 = group 0…15, 81…96 = scene 0…15, 97 = broadcast)
DATABYTE3 = high byte of delay time
DATABYTE4 = mid byte of delay time
DATABYTE5 = low byte of delay time

Remark:
Channel number = 0xFF for all channels
[DATABYTE3][DATABYTE4][DATABYTE5] contain a 24-bit time in seconds
The command will be skipped when the time parameter contains zero.
When the time parameter contains 0xFFFFFF then the channel will be permanently locked.

'Write dali device settings' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 3, 4, 5, 7 or 8 data bytes received
DATABYTE1 = COMMAND_SET_TEMP (0xE4)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 81 = broadcast
DATABYTE3 = setting index (0…28)

index	Configuration	DLC3…0 (# of data bytes)
0	Scene S0 level (+ RGBW for color control device)	4 (or 8 for color control device)
1	Scene S1 level (+ RGBW for color control device)	4 (or 8 for color control device)
2	Scene S2 level (+ RGBW for color control device)	4 (or 8 for color control device)
3	Scene S3 level (+ RGBW for color control device)	4 (or 8 for color control device)
4	Scene S4 level (+ RGBW for color control device)	4 (or 8 for color control device)
5	Scene S5 level (+ RGBW for color control device)	4 (or 8 for color control device)
6	Scene S6 level (+ RGBW for color control device)	4 (or 8 for color control device)
7	Scene S7 level (+ RGBW for color control device)	4 (or 8 for color control device)
8	Scene S8 level (+ RGBW for color control device)	4 (or 8 for color control device)
9	Scene S9 level (+ RGBW for color control device)	4 (or 8 for color control device)
10	Scene S10 level (+ RGBW for color control device)	4 (or 8 for color control device)
11	Scene S11 level (+ RGBW for color control device)	4 (or 8 for color control device)
12	Scene S12 level (+ RGBW for color control device)	4 (or 8 for color control device)
13	Scene S13 level (+ RGBW for color control device)	4 (or 8 for color control device)
14	Scene S14 level (+ RGBW for color control device)	4 (or 8 for color control device)
15	Scene S15 level (+ RGBW for color control device)	4 (or 8 for color control device)
16	Power-on level (+ RGBW for color control device)	4 (or 8 for color control device)
17	System failure level (+ RGBW for color control device)	4 (or 8 for color control device)
18	Minimum level	4
19	Maximum level	4
20	Fade time & fade rate	4
21	Group members G0…G15	5
22	Group Gx member A31…0 (only allowed for group addresses)	7
23	Group Gx member A63…32 (only allowed for group addresses)	7
24	Start addressing devices (only allowed for broadcast address)	4
25	-	4
26	-	4

27	Config Dali power supply (only allowed for broadcast address)	4
28	Config Substitute 'Go to Last Active Level' (only allowed for broadcast address)	4
29	Delete dali device address	3

DATABYTE4 = level (raw data 0…254, 255 = no change)

RAW	%	RAW	%	RAW	%	RAW	%	RAW	%	RAW	%	RAW	%
0	0	40	0.290	80	0.864	120	2.58	160	7.68	200	22.89	240	68.23
1	0.1	41	0.298	81	0.888	121	2.65	161	7.89	201	23.53	241	70.12
2	0.103	42	0.306	82	0.913	122	2.72	162	8.11	202	24.18	242	72.06
3	0.106	43	0.315	83	0.938	123	2.80	163	8.34	203	24.85	243	74.06
4	0.109	44	0.324	84	0.964	124	2.87	164	8.57	204	25.53	244	76.11
5	0.112	45	0.332	85	0.991	125	2.95	165	8.80	205	26.24	245	78.21
6	0.115	46	0.342	86	1.018	126	3.04	166	9.05	206	26.97	246	80.38
7	0.118	47	0.351	87	1.047	127	3.12	167	9.30	207	27.71	247	82.60
8	0.121	48	0.361	88	1.076	128	3.21	168	9.56	208	28.48	248	84.89
9	0.124	49	0.371	89	1.105	129	3.29	169	9.82	209	29.27	249	87.24
10	0.128	50	0.381	90	1.136	130	3.39	170	10.09	210	30.08	250	89.65
11	0.131	51	0.392	91	1.167	131	3.48	171	10.37	211	30.91	251	92.14
12	0.135	52	0.402	92	1.200	132	3.58	172	10.66	212	31.77	252	94.69
13	0.139	53	0.414	93	1.233	133	3.67	173	10.95	213	32.65	253	97.31
14	0.143	54	0.425	94	1.267	134	3.78	174	11.26	214	33.55	254	100
15	0.147	55	0.437	95	1.302	135	3.88	175	11.57	215	34.48	255	No change
16	0.151	56	0.449	96	1.338	136	3.99	176	11.89	216	35.43		
17	0.155	57	0.461	97	1.375	137	4.10	177	12.22	217	36.41		
18	0.159	58	0.474	98	1.413	138	4.21	178	12.55	218	37.42		
19	0.163	59	0.487	99	1.452	139	4.33	179	12.90	219	38.46		
20	0.168	60	0.501	100	1.492	140	4.45	180	13.26	220	39.52		
21	0.173	61	0.515	101	1.534	141	4.57	181	13.63	221	40.62		
22	0.177	62	0.529	102	1.576	142	4.70	182	14.00	222	41.74		
23	0.182	63	0.543	103	1.620	143	4.83	183	14.39	223	42.90		
24	0.187	64	0.559	104	1.665	144	4.96	184	14.79	224	44.08		
25	0.193	65	0.574	105	1.711	145	5.10	185	15.20	225	45.30		
26	0.198	66	0.590	106	1.758	146	5.24	186	15.62	226	46.56		
27	0.203	67	0.606	107	1.807	147	5.39	187	16.05	227	47.85		
28	0.209	68	0.623	108	1.857	148	5.53	188	16.50	228	49.17		
29	0.215	69	0.640	109	1.908	149	5.69	189	16.95	229	50.53		
30	0.221	70	0.658	110	1.961	150	5.85	190	17.42	230	51.93		
31	0.227	71	0.676	111	2.02	151	6.01	191	17.90	231	53.37		
32	0.233	72	0.695	112	2.07	152	6.17	192	18.40	232	54.84		
33	0.240	73	0.714	113	2.13	153	6.34	193	18.91	233	56.36		
34	0.246	74	0.734	114	2.19	154	6.52	194	19.43	234	57.92		
35	0.253	75	0.754	115	2.25	155	6.70	195	19.97	235	59.53		
36	0.260	76	0.775	116	2.31	156	6.89	196	20.52	236	61.17		
37	0.267	77	0.796	117	2.37	157	7.08	197	21.09	237	62.87		
38	0.275	78	0.819	118	2.44	158	7.27	198	21.68	238	64.61		
39	0.282	79	0.841	119	2.51	159	7.47	199	22.28	239	66.39		

DATABYTE5 = red value (0…254, 255 = no change)
DATABYTE6 = green value (0…254, 255 = no change)
DATABYTE7 = blue value (0…254, 255 = no change)
DATABYTE8 = white value (0…254, 255 = no change)
DATABYTE4 = fade time / rate

Fade raw data	Fade time / rate
H'0x'	No fade
H'1x'	Fade time 0.7 s
H'2x'	Fade time 1.0 s
H'3x'	Fade time 1.4 s
H'4x'	Fade time 2.0 s
H'5x'	Fade time 2.8 s
H'6x'	Fade time 4.0 s
H'7x'	Fade time 5.7 s
H'8x'	Fade time 8.0 s
H'9x'	Fade time 11.3 s
H'Ax'	Fade time 16.0 s
H'Bx'	Fade time 22.6 s
H'Cx'	Fade time 32.0 s
H'Dx'	Fade time 45.3 s
H'Ex'	Fade time 64.0 s
H'Fx'	Fade time 90.5 s
H'x0'	Fade rate not applicable
H'x1'	Fade rate 358.0 steps/s

H’x2’	Fade rate 253.0 steps/s
H’x3’	Fade rate 179.0 steps/s
H’x4’	Fade rate 127.0 steps/s
H’x5’	Fade rate 89.4 steps/s
H’x6’	Fade rate 63.3 steps/s
H’x7’	Fade rate 44.7 steps/s
H’x8’	Fade rate 31.6 steps/s
H’x9’	Fade rate 22.4 steps/s
H’xA’	Fade rate 15.8 steps/s
H’xB’	Fade rate 11.2 steps/s
H’xC’	Fade rate 7.9 steps/s
H’xD’	Fade rate 5.6 steps/s
H’xE’	Fade rate 4.0 steps/s
H’xF’	Fade rate 2.8 steps/s

DATABYTE4 = addressing mode

Contents	Addressing mode
0	Complete new installation (all devices)
1	Installation extension (only unaddressed devices)

DATABYTE4 = dali power supply mode

Contents	Dali power supply
0	Disabled
1	Enabled

DATABYTE4 = substitute ‘Go to Last Active Level’

Contents	Substitute
0	Disabled
1	Enabled

DATABYTE4 = group G0…7 member bits

Contents	Group member
B’xxxxxxx0’	Not a member of group G0
B’xxxxxxx1’	Member of group G0
B’xxxxxx0x’	Not a member of group G1
B’xxxxxx1x’	Member of group G1
B’xxxxx0xx’	Not a member of group G2
B’xxxxx1xx’	Member of group G2
B’xxxx0xxx’	Not a member of group G3
B’xxxx1xxx’	Member of group G3
B’xxx0xxxx’	Not a member of group G4
B’xxx1xxxx’	Member of group G4
B’xx0xxxxx’	Not a member of group G5
B’xx1xxxxx’	Member of group G5
B’x0xxxxxx’	Not a member of group G6
B’x1xxxxxx’	Member of group G6
B’0xxxxxxx’	Not a member of group G7
B’1xxxxxxx’	Member of group G7

DATABYTE5 = group G8…G15 member bits

Contents	Group member
B’xxxxxxx0’	Not a member of group G8
B’xxxxxxx1’	Member of group G8
B’xxxxxx0x’	Not a member of group G9
B’xxxxxx1x’	Member of group G9
B’xxxxx0xx’	Not a member of group G10
B’xxxxx1xx’	Member of group G10
B’xxxx0xxx’	Not a member of group G11
B’xxxx1xxx’	Member of group G11
B’xxx0xxxx’	Not a member of group G12
B’xxx1xxxx’	Member of group G12
B’xx0xxxxx’	Not a member of group G13
B’xx1xxxxx’	Member of group G13
B’x0xxxxxx’	Not a member of group G14
B’x1xxxxxx’	Member of group G14
B’0xxxxxxx’	Not a member of group G15
B’1xxxxxxx’	Member of group G15

DATABYTE4 = group Gx member channel A0…A7 / A32…A39 bits

Contents	Member of group Gx
B'xxxxxxx0'	Dali device A0 / A32 is not a member of group Gx
B'xxxxxxx1'	Dali device A0 / A32 is a member of group Gx
B'xxxxxx0x'	Dali device A1 / A33 is not a member of group Gx
B'xxxxxx1x'	Dali device A1 / A33 is a member of group Gx
B'xxxxx0xx'	Dali device A2 / A34 is not a member of group Gx
B'xxxxx1xx'	Dali device A2 / A34 is a member of group Gx
B'xxxx0xxx'	Dali device A3 / A35 is not a member of group Gx
B'xxxx1xxx'	Dali device A3 / A35 is a member of group Gx
B'xxx0xxxx'	Dali device A4 / A36 is not a member of group Gx
B'xxx1xxxx'	Dali device A4 / A36 is a member of group Gx
B'xx0xxxxx'	Dali device A5 / A37 is not a member of group Gx
B'xx1xxxxx'	Dali device A5 / A37 is a member of group Gx
B'x0xxxxxx'	Dali device A6 / A38 is not a member of group Gx
B'x1xxxxxx'	Dali device A6 / A38 is a member of group Gx
B'0xxxxxxx'	Dali device A7 / A39 is not a member of group Gx
B'1xxxxxxx'	Dali device A7 / A39 is a member of group Gx

DATABYTE5 = group Gx member channel A8…A15 / A40…A47 bits

Contents	Member of group Gx
B'xxxxxxx0'	Dali device A8 / A40 is not a member of group Gx
B'xxxxxxx1'	Dali device A8 / A40 is a member of group Gx
B'xxxxxx0x'	Dali device A9 / A41 is not a member of group Gx
B'xxxxxx1x'	Dali device A9 / A41 is a member of group Gx
B'xxxxx0xx'	Dali device A10 / A42 is not a member of group Gx
B'xxxxx1xx'	Dali device A10 / A42 is a member of group Gx
B'xxxx0xxx'	Dali device A11 / A43 is not a member of group Gx
B'xxxx1xxx'	Dali device A11 / A43 is a member of group Gx
B'xxx0xxxx'	Dali device A12 / A44 is not a member of group Gx
B'xxx1xxxx'	Dali device A12 / A44 is a member of group Gx
B'xx0xxxxx'	Dali device A13 / A45 is not a member of group Gx
B'xx1xxxxx'	Dali device A13 / A45 is a member of group Gx
B'x0xxxxxx'	Dali device A14 / A46 is not a member of group Gx
B'x1xxxxxx'	Dali device A14 / A46 is a member of group Gx
B'0xxxxxxx'	Dali device A15 / A47 is not a member of group Gx
B'1xxxxxxx'	Dali device A15 / A47 is a member of group Gx

DATABYTE6 = group Gx member channel A16…A23 / A48…A55 bits

Contents	Member of group Gx
B'xxxxxxx0'	Dali device A16 / A48 is not a member of group Gx
B'xxxxxxx1'	Dali device A16 / A48 is a member of group Gx
B'xxxxxx0x'	Dali device A17 / A49 is not a member of group Gx
B'xxxxxx1x'	Dali device A17 / A49 is a member of group Gx
B'xxxxx0xx'	Dali device A18 / A50 is not a member of group Gx
B'xxxxx1xx'	Dali device A18 / A50 is a member of group Gx
B'xxxx0xxx'	Dali device A19 / A51 is not a member of group Gx
B'xxxx1xxx'	Dali device A19 / A51 is a member of group Gx
B'xxx0xxxx'	Dali device A20 / A52 is not a member of group Gx
B'xxx1xxxx'	Dali device A20 / A52 is a member of group Gx
B'xx0xxxxx'	Dali device A21 / A53 is not a member of group Gx
B'xx1xxxxx'	Dali device A21 / A53 is a member of group Gx
B'x0xxxxxx'	Dali device A22 / A54 is not a member of group Gx
B'x1xxxxxx'	Dali device A22 / A54 is a member of group Gx
B'0xxxxxxx'	Dali device A23 / A55 is not a member of group Gx
B'1xxxxxxx'	Dali device A23 / A55 is a member of group Gx

DATABYTE7 = group Gx member channel A24…A31 / A56…A63 bits

Contents	Member of group Gx
B'xxxxxxx0'	Dali device A24 / A56 is not a member of group Gx
B'xxxxxxx1'	Dali device A24 / A56 is a member of group Gx
B'xxxxxx0x'	Dali device A25 / A57 is not a member of group Gx
B'xxxxxx1x'	Dali device A25 / A57 is a member of group Gx
B'xxxxx0xx'	Dali device A26 / A58 is not a member of group Gx
B'xxxxx1xx'	Dali device A26 / A58 is a member of group Gx

B'xxxx0xxx'	Dali device A27 / A59 is not a member of group Gx
B'xxxx1xxx'	Dali device A27 / A59 is a member of group Gx
B'xxx0xxxx'	Dali device A28 / A60 is not a member of group Gx
B'xxx1xxxx'	Dali device A28 / A60 is a member of group Gx
B'xx0xxxxx'	Dali device A29 / A61 is not a member of group Gx
B'xx1xxxxx'	Dali device A29 / A61 is a member of group Gx
B'x0xxxxxx'	Dali device A30 / A62 is not a member of group Gx
B'x1xxxxxx'	Dali device A30 / A62 is a member of group Gx
B'0xxxxxxx'	Dali device A31 / A63 is not a member of group Gx
B'1xxxxxxx'	Dali device A31 / A63 is a member of group Gx

'Dali device settings request' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 3 data bytes received for all settings request
4 data bytes received for individual setting request
DATABYTE1 = COMMAND_TEMP_SENSOR_SETTINGS_REQUEST (0xE7)
DATABYTE2 = Channel 1…64 = addr A0…63, 65…80 = group G0…15, 81 = all channels
DATABYTE3 = access settings from the gateway or the Dali devices (only important for channels 1…64)

Contents	Access
0	Access the settings stored in the gateway (fast way)
1	Access the settings from the Dali devices (only allowed for all settings)

DATABYTE4 = individual setting request index (0…26)

index	Configuration
0	Scene S0 level (+ RGBW for color control device)
1	Scene S1 level (+ RGBW for color control device)
2	Scene S2 level (+ RGBW for color control device)
3	Scene S3 level (+ RGBW for color control device)
4	Scene S4 level (+ RGBW for color control device)
5	Scene S5 level (+ RGBW for color control device)
6	Scene S6 level (+ RGBW for color control device)
7	Scene S7 level (+ RGBW for color control device)
8	Scene S8 level (+ RGBW for color control device)
9	Scene S9 level (+ RGBW for color control device)
10	Scene S10 level (+ RGBW for color control device)
11	Scene S11 level (+ RGBW for color control device)
12	Scene S12 level (+ RGBW for color control device)
13	Scene S13 level (+ RGBW for color control device)
14	Scene S14 level (+ RGBW for color control device)
15	Scene S15 level (+ RGBW for color control device)
16	Power-on level (+ RGBW for color control device)
17	System failure level (+ RGBW for color control device)
18	Minimum level
19	Maximum level
20	Fade time & fade rate
21	Group members G0…G15
22	-
23	-
24	-
25	Device type
26	Actual level (+ RGBW for color control device)

'Set Dali blinking test mode' command received:

SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_SET_CLR_LEARN_RF_CODE (0xB5)
DATABYTE2 = 0 = normal, 1…64 = blinking channel A0…63, 65…80 = blinking group G0…15, 81 = all blinking

'Enable Channel Program' command received:

SID10-SID9 = 11 (lowest priority)

SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_ENABLE_PROGRAM (0xB2)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 81 = broadcast

Remark: channel number = 0xFF for all channels

'Disable Channel Program' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 5 data bytes received
DATABYTE1 = COMMAND_DISABLE_PROGRAM (0xB1)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 817 = broadcast
DATABYTE3 = high byte of delay time
DATABYTE4 = mid byte of delay time
DATABYTE5 = low byte of delay time

Remark:
Channel number = 0xFF for all channels
[DATABYTE3][DATABYTE4][DATABYTE5] contain a 24-bit time in seconds
The command will be skipped when the time parameter contains zero.
When the time parameter contains 0xFFFFFF then the channel program will be permanently disabled.

'Select Program' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 2 data bytes received
DATABYTE1 = COMMAND_SELECT_PROGRAM (0xB3)
DATABYTE2 = Program mode

Contents	*Selected program*
0	None
1	Program group 1 (Summer)
2	Program group 2 (Winter)
3	Program group 3 (Holiday)

'Read program step' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 5 data bytes received
DATABYTE1 = COMMAND_READ_PROGRAM_STEP (0xC0)
DATABYTE2 = Start program step number (1…254)
DATABYTE3 = Program group number (1…3)
DATABYTE2 = Channel 1…64 = device A0…63, 65…80 = group G0…15, 81 = broadcast
DATABYTE5 = Search direction (1 = search for next matched step / 0 = search for previous matched program step)

'Write program step' command received:
SID10-SID9 = 11 (lowest priority)
SID8...SID1 = Module address
RTR = 0
DLC3...DLC0 = 8 data bytes received
DATABYTE1 = COMMAND_WRITE_PROGRAM_STEP (0xC2)
DATABYTE2 = Program step number (1…254)
DATABYTE3 = Program reference

Contents	*Description*
000xxxxx	Disable program step
001xxxxx	Absolute time
010xxxxx	Wake up time 1 + relative time
011xxxxx	Go to bed time 1 + relative time
100xxxxx	Wake up time 2 + relative time
101xxxxx	Go to bed time 2 + relative time

110xxxxx	Sunrise + relative time
111xxxxx	Sunset + relative time
xxx01111	Rel. time = 3h45min
...	
xxx00001	Rel. time = 15min
xxx00000	Rel. time = 0
xxx11111	Rel. time = -15min
...	
xxx10000	Rel. time = -4h

DATABYTE4 = Program step month & four least significant bits of day

Contents	*Description*
xxxx0000	Weekly program
xxxx0001	January
xxxx0010	February
xxxx0011	March
xxxx0100	April
xxxx0101	May
xxxx0110	June
xxxx0111	July
xxxx1000	August
xxxx1001	September
xxxx1010	October
xxxx1011	November
xxxx1100	December
xxxx1101	Monthly program
xxxx1110	Monthly program
xxxx1111	Monthly program

Contents byte6	*Contents byte4*	*Description*
00xxxxxx	0000xxxx	Never
00xxxxxx	0001xxxx	Day 1of the month
00xxxxxx	0010xxxx	Day 2of the month
...	...	...
01xxxxxx	1111xxxx	Day 31of the month
10xxxxxx	0000xxxx	Never
10xxxxxx	0001xxxx	Every Monday
10xxxxxx	0010xxxx	Every Tuesday
...	...	...
10xxxxxx	0111xxxx	Every Sunday
10xxxxxx	1000xxxx	Every weekend (sa & su)
10xxxxxx	1001xxxx	Every working day (mo...fr)
10xxxxxx	1010xxxx	Every day except Sunday
10xxxxxx	1011xxxx	Every day
10xxxxxx	1100xxxx	Never
...	...	...
11xxxxxx	1111xxxx	Never

DATABYTE5 = Program step hour & group number

Contents	*Description*
xxx00000	0h
xxx00001	1h
...	...
xxx10111	23h
xx1xxxxx	Program group 1 (Summer program)
x1xxxxxx	Program group 2 (Winter program)
1xxxxxxx	Program group 3 (Holiday program)

DATABYTE6 = Program step minute & msb of day & every flag

Contents	*Description*
xx000000	0min

xx000001	1min
…	…
xx111011	59min

Contents byte6	*Contents byte4*	*Description*
00xxxxxx	0000xxxx	Never
00xxxxxx	0001xxxx	Day 1of the month
00xxxxxx	0010xxxx	Day 2of the month
…	…	…
01xxxxxx	1111xxxx	Day 31of the month
10xxxxxx	0000xxxx	Never
10xxxxxx	0001xxxx	Every Monday
10xxxxxx	0010xxxx	Every Tuesday
…	…	…
10xxxxxx	0111xxxx	Every Sunday
10xxxxxx	1000xxxx	Every weekend (sa & su)
10xxxxxx	1001xxxx	Every working day (mo…fr)
10xxxxxx	1010xxxx	Every day except Sunday
10xxxxxx	1011xxxx	Every day
10xxxxxx	1100xxxx	Never
…	…	…
11xxxxxx	1111xxxx	Never

DATABYTE7 = Program step action

Contents	**Action**

DATABYTE8 = Channel

Contents	Channel
1	Channel address 0
…	…
64	Channel address 63
65	Group 0
…	…
80	Group 15
81	Broadcast

Remark:
Erase program step if channel parameter is equal with zero.