CanNode protocol documentation

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General settings

Baudrate: 125kbps

Message identifier: standard 11bit

Message identifier

Bits:

10	9	8	7	6	5	4	3	2	1	0
A	Command					Address				

A the ack bit. For commands that need to be ack'ed, this can be used for the returning package. The ack package should have dlc set to 0.

Address the node address from 0 to 32. 0 to 3 should be reserved for masters (pc). Address can be source or destination.

Command explained in the “Commands” section. It ranges from 0 to 32.

Commands

Short table

ID	Name	Length	Cyclic	Master/Slave sends	Needs Ack	Comment
0	MSG_STATUS_UPTIME	6	1s	Slave	No	
1	MSG_STATUS_RELAIS	1	250ms	Slave	No	
2	MSG_STATUS_HR20_TEMPS	5	1s	Slave	No	Only if HR20 enabled
3	MSG_STATUS_HR20_MISC	5	1s	Slave	No	Only if HR20 enabled
4	MSG_STATUS_CONFIG	2	No	Slave	No	On request
7	MSG_CMD_BOOTLOADER	0	No	Master	No	Bootloader vector jump
8	MSG_CMD_RESET	0	No	Master	No	Reset vector jump
9	MSG_CMD_RELAIS	2	No	Both	Yes	Set relais
10	MSG_CMD_CONFIG_SET	2	No	Master	Yes	Set config (eeprom)
11	MSG_CMD_CONFIG_GET	1	No	Master	No	Get config
12	MSG_HR20_SET_T	1	No	Master	Yes	
13	MSG_HR20_SET_MODE_MANU	0	No	Master	Yes	
14	MSG_HR20_SET_MODE_AUTO	0	No	Master	Yes	
15	MSG_HR20_SET_TIME_DATE	6	No	Master	Yes	

MSG_STATUS_UPTIME

Identifier 0

Data Length Code 6

Cyclic every second

Slave

Data bytes:

0	1	2	3	4	5
Version	Uptime[31..24]	Uptime[23..16]	Uptime[15..8]	Uptime[7..0]	Voltage

Version uint8_t anything allowed

Uptime uint32_t in seconds

Voltage uint8_t measured voltage in volts * 10 (50 = 5V)

MSG_STATUS_RELAIS

Identifier 1

Data Length Code 1

Cyclic every 250ms

Slave

0					
Relais					

Relais uint8_t status of the four relais (bits 3..0)

Other nodes can parse this packet to show the status of a relais on its LEDs.

MSG_STATUS_HR20_TEMPS TBD

Identifier 2

Data Length Code 1

Cyclic Yes, every 250ms

Slave

0					
Relais					

Relais uint8_t status of the four relais (bits 3..0)

MSG_STATUS_HR20_MISC TBD

Identifier 2

Data Length Code 1

Cyclic Yes, every 250ms

Slave

0					
Relais					

Relais uint8_t status of the four relais (bits 3..0)

MSG_STATUS_CONFIG

Identifier 4

Data Length Code 2

Cyclic No

Slave

0	1				
Type	Value				

Type See section “Configurable stuff”

Value Value of type

MSG_CMD_CONFIG_SET

Identifier 10

Data Length Code 2

Cyclic No

Master

0	1				
Type	Value				

Type See section “Configurable stuff”

Value Value of type

Sets some configurables like the node address or mode. More usally one will want to set the destination node addresses and relais for the six buttons.

MSG_CMD_CONFIG_GET

Identifier 11

Data Length Code 1

Cyclic No

Master

0					
Type					

Type See section “Configurable stuff”

Get a configurable. This will force the node to send back MSG_STATUS_CONFIG

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Configurable stuff

ID	Name	Description
0	CONF_NODE_ADDRESS	Address of the node
1	CONF_MODE	Mode of the node (see section “Modes”)
2	CONF_BANDGAP	Calibrate bandgap voltage
3	CONF_BUTTON_1_ADDRESS	Destination address for button 1
4	CONF_BUTTON_1_RELAIS	Destination relais at address for button 1
5	CONF_BUTTON_2_ADDRESS	
6	CONF_BUTTON_2_RELAIS	
7	CONF_BUTTON_3_ADDRESS	
8	CONF_BUTTON_3_RELAIS	
9	CONF_BUTTON_4_ADDRESS	
10	CONF_BUTTON_4_RELAIS	
11	CONF_BUTTON_5_ADDRESS	
12	CONF_BUTTON_5_RELAIS	
13	CONF_BUTTON_6_ADDRESS	
14	CONF_BUTTON_6_RELAIS	

Modes

ID	Name	Description
1	MODE_HR20	Node has connection to hr20 (excludes uart master)
2	MODE_UART_MASTER	Node has USB PC connection (excludes hr20)
4	MODE_HEINZUNGS_MASTER	Node is HEINZUNG_MASTER
8	MODE_BLUBB_COUNTER	Node is BLUBB_COUNTER