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1 History

| Date | Author | Version | Remarks |
|------------|-----------|---------|-------------|
| 05.10.2006 | A.Maigler | 1.0 | Initial |
| 21.11.2006 | A.Maigler | 1.1 | Update |
| 24.04.2007 | A.Maigler | 2.0 | New Version |
| 12.10.2007 | A.Maigler | 2.02 | New Version |

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2 CAN Controlpanel

- This Controlpanel unit is operated only by CAN.
- No terminal resistance on the can connector is built in
- After "Power On" all LED will be checked
- The direction, damping and error indicator-LEDs are being driven at a CAN-Messages.
- Potentiometerpositions (SetPos, Mixture,Dropspeed and Upperlimit) are transmitted as content of a CAN-Message
- The Controlpanel can be configured by two certain CAN-Messages
- The brightness of dash board illumination can be regulated by CAN.

2.1 Default settings

CAN Broadcast Message = 0x18FF9D31
 CAN Receive Message LED-Status = 0x0CFFA123
 CAN Receive Message Illumination = 0x0CFDCC23

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3 CAN-Messages

The whole communication is covered by J1939 – Specification

3.1 Transmit Messages

3.1.1 Potentiometer Data

| | |
|-----------|-------------------|
| Direction | Tx |
| Name | Panel data |
| Source | Controlpanel |
| Rep.Rate | 5 -250 ms config. |
| ID | Configurable |

3.1.1.1 Data Mode

Two Data modes are available J1939 or proprietary BoschRexroth specification

3.1.1.1.1 Proprietary BoschRexroth Mode

| Byte | Bit | Function | Description |
|------|-----|-------------------------------|--|
| 0 | | Set Potentiometer | 0x00..0xFA Fault 0xFE Not Available 0xFF |
| 1 | | Upper Limit Pot. | 0x00..0xFA Fault 0xFE Not Available 0xFF |
| 2 | | Drop Speed Limit Pot. | 0x00..0xFA Fault 0xFE Not Available 0xFF |
| 3 | | Mixture Pot. | 0x00..0xFA Fault 0xFE Not Available 0xFF |
| 4 | | Rocker Switch/ Damping Key | 0x02=Transport, 0x03=Stop, 0x04=Control, 0x05=Fast Sink OR 0x08=Key Pressed |
| 5 | | | |
| 6 | | | |
| 7 | | | |

| | | | |
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3.1.1.1.2 J1939 Mode


| Byte | Bit | Function | Description |
|------|------|-----------------------|--|
| 0-1 | | Set Potentiometer | 0x00..0x03E8 (1000) Fault 0xFFFFE Not Available 0xFFFF Byte 0 = LSB Byte 1= MSB (Motorola Format) |
| 2 | | Upper Limit Pot. | 0x00..0xFA Fault 0xFE Not Available 0xFF |
| 3 | | Drop Speed Limit Pot. | 0x00..0xFA Fault 0xFE Not Available 0xFF |
| 4 | | Mixture Pot. | 0x00..0xFA Fault 0xFE Not Available 0xFF |
| 5 | 0..3 | Rocker Switch | 0x1=Transport 0x0= Stop 0x2=Control 0x3=Fast Sink Fault 0xE Not Available 0xF |
| 5 | 4..5 | Damping Key | 0x0= Key Released 0x1= Key Pressed 0x2= Fault 0x3=Error |
| 6..7 | | | |

3.1.2 Get Version

| | |
|-----------|--|
| Direction | Tx |
| Name | Version data |
| Source | Controlpanel |
| Rep.Rate | On request |
| ID | 0x??FF89XX XX=Current address of Controlpanel |

3.1.2.1 Data (Example version 1.23)

| Byte | Bit | Function | Description |
|------|-----|------------|-------------------------------|
| 0 | | | |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | SW-Version | Major No in ASCII Example '0' |
| 5 | | SW-Version | Major No in ASCII Example '1' |
| 6 | | SW-Version | Minor No in ASCII Example '2' |
| 7 | | SW-Version | Minor No in ASCII Example '3' |

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3.2 Received Messages

3.2.1 LED Data

| | |
|-----------|--------------|
| Direction | Rx |
| Name | Panel data |
| Source | |
| Rep.Rate | |
| ID | Configurable |

Two Data modes are available J1939 or proprietary BoschRexroth specification

3.2.1.1.1 Proprietary BoschRexroth Mode

| Byte | Bit | Function | Description |
|------|-----|----------------|----------------|
| 0 | 0 | Lift Led | 0= Off , 1= On |
| 0 | 1 | Lower Led | 0= Off , 1= On |
| 0 | 6 | Damping Led | 0= Off , 1= On |
| 0 | 7 | Error/Diag Led | 0= Off , 1= On |
| 1..7 | | Unused so far | |

3.2.1.1.2 J1939 Mode

| Byte | Bit | Function | Description |
|------|------|----------------|--|
| 0 | 0..1 | Lift Led | 0x0 = Off 0x1 = On 0x2 = Error 0x3 =Not Available |
| 0 | 2..3 | Lower Led | 0x0 = Off 0x1 = On 0x2 = Error 0x3 =Not Available |
| 0 | 4..5 | Damping Led | 0x0 = Off 0x1 = On 0x2 = Error 0x3 =Not Available |
| 0 | 6..7 | Error/Diag Led | 0x0 = Off 0x1 = On 0x2 = Error 0x3 =Not Available |
| 1..7 | | Not used | |

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3.2.2 Request Version

| | |
|-----------|--|
| Direction | Rx |
| Name | GetVersion |
| Source | |
| Rep.Rate | On Request |
| PGN | 0xEAXX XX=current Address of Controlpanel |

| Byte | Bit | Function | Description |
|------|-----|-----------------|-------------|
| 0 | | Request Version | 0x89 |
| 1 | | Request Version | 0xFF |
| 2 | | Don't care | |
| 3 | | Don't care | |
| 4 | | Don't care | |
| 5 | | Don't care | |
| 6 | | Don't care | |
| 7 | | Don't care | |

3.2.3

3.2.4 Illumination Data

| | |
|-----------|--------------|
| Direction | Rx |
| Name | Illumination |
| Source | |
| Rep.Rate | On change |
| ID | Configurable |

| Byte | Bit | Function | Description |
|------|-----|------------|-------------------------------|
| 0 | | Don't care | |
| 1 | | Don't care | |
| 2 | | Brightness | 0..100 % = 0.4%/Bit -> 0..250 |
| 3 | | Don't care | |
| 4 | | Don't care | |
| 5 | | Don't care | |
| 6 | | Don't care | |
| 7 | | Don't care | |

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3.2.5 Enable Configure

This Message has to be send every 100ms to enable the configuration mode of the control panel
 If the message is missing for more than 100ms the control panel leaves automatically the configuration mode

| | |
|-----------|------------------------|
| Direction | Rx |
| Name | Enable Configure |
| Source | |
| Rep.Rate | 100 ms |
| ID | 0x110 (29bit Extended) |

| Byte | Bit | Function | Description |
|------|-----|---------------------------------|------------------|
| 0 | | Identification of Configuration | 0xA5 |
| 1 | | Identification of Configuration | 0x42 = ASCII 'B' |
| 2 | | Identification of Configuration | 0x4F = ASCII 'O' |
| 3 | | Identification of Configuration | 0x53 = ASCII 'S' |
| 4 | | Identification of Configuration | 0x43 = ASCII 'C' |
| 5 | | Identification of Configuration | 0x48 = ASCII 'H' |
| 6 | | Identification of Configuration | 0x5A |
| 7 | | Identification of Configuration | 0x10 |

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3.2.6 Configuration Data

According the ID-byte the data bytes have different meanings

| | |
|-----------|------------------------|
| Direction | Rx |
| Name | Configuration Data |
| Source | |
| Rep.Rate | On change |
| ID | 0x111 (29bit Extended) |

3.2.6.1 Default Dashboard Illumination

| Byte | Bit | Function | Description |
|------|-----|--------------------------------|------------------------------|
| 0 | | Default Dashboard Illumination | 0..100 % = 0.4%bit -> 0..250 |
| 1 | | Don't care | 0x00 |
| 2 | | Don't care | 0x00 |
| 3 | | Don't care | 0x00 |
| 4 | | Don't care | 0x00 |
| 5 | | Don't care | 0x00 |
| 6 | | Don't care | 0x00 |
| 7 | | Identification | 0x01 |

3.2.6.2 Normalize Rockerswitch

The Rockerswitch has to be set to CONTROL Position!!

| Byte | Bit | Function | Description |
|------|-----|----------------|-------------|
| 0 | | Don't care | 0x00 |
| 1 | | Don't care | 0x00 |
| 2 | | Don't care | 0x00 |
| 3 | | Don't care | 0x00 |
| 4 | | Don't care | 0x00 |
| 5 | | Don't care | 0x00 |
| 6 | | Don't care | 0x00 |
| 7 | | Identification | 0x02 |

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3.2.6.3 Data Broadcast Mode (J1939 or Proprietary BoschRexroth Mode available)

| Byte | Bit | Function | Description |
|------|-----|----------------|---|
| 0 | | Data Mode | 0x00 = J1939 0x01 = Proprietary BoschRexroth |
| 1 | | Don't care | 0x00 |
| 2 | | Don't care | 0x00 |
| 3 | | Don't care | 0x00 |
| 4 | | Don't care | 0x00 |
| 5 | | Don't care | 0x00 |
| 6 | | Don't care | 0x00 |
| 7 | | Identification | 0x08 |

3.2.6.4 Change Light Receive CAN ID

| Byte | Bit | Function | Description |
|------|-----|--------------------------------|--------------|
| 0 | | Byte 0 (MSB) of new Identifier | 0x00 .. 0xFF |
| 1 | | Byte 1 of new Identifier | 0x00 .. 0xFF |
| 2 | | Byte 2 of new Identifier | 0x00 .. 0xFF |
| 3 | | Byte 3 (LSB) of new Identifier | 0x00 .. 0xFF |
| 4 | | Don't care | 0x00 |
| 5 | | Don't care | 0x00 |
| 6 | | Don't care | 0x00 |
| 7 | | Identification | 0x30 |

Example: NewID_u32 = (Byte 0 << 24) + (Byte 1 << 16) + (Byte 2 << 8) + (Byte 3 << 0);

3.2.6.5 Change Receive CAN ID

| Byte | Bit | Function | Description |
|------|-----|--------------------------------|--------------|
| 0 | | Byte 0 (MSB) of new Identifier | 0x00 .. 0xFF |
| 1 | | Byte 1 of new Identifier | 0x00 .. 0xFF |
| 2 | | Byte 2 of new Identifier | 0x00 .. 0xFF |
| 3 | | Byte 3 (LSB) of new Identifier | 0x00 .. 0xFF |
| 4 | | Don't care | 0x00 |
| 5 | | Don't care | 0x00 |
| 6 | | Don't care | 0x00 |
| 7 | | Identification | 0x20 |

Example: NewID_u32 = (Byte 0 << 24) + (Byte 1 << 16) + (Byte 2 << 8) + (Byte 3 << 0);

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3.2.6.6 Change Send CAN ID

| Byte | Bit | Function | Description |
|------|-----|--------------------------------|--------------|
| 0 | | Byte 0 (MSB) of new Identifier | 0x00 .. 0xFF |
| 1 | | Byte 1 of new Identifier | 0x00 .. 0xFF |
| 2 | | Byte 2 of new Identifier | 0x00 .. 0xFF |
| 3 | | Byte 3 (LSB) of new Identifier | 0x00 .. 0xFF |
| 4 | | Don't care | 0x00 |
| 5 | | Don't care | 0x00 |
| 6 | | Don't care | 0x00 |
| 7 | | Identification | 0x40 |

Example: NewID_u32 = (Byte 0 << 24) + (Byte 1 << 16) + (Byte 2 << 8) + (Byte 3 << 0);

| | | | |
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3.2.6.7 Change repetition rate of CAN Send Message

| Byte | Bit | Function | Description |
|------|-----|-----------------|--------------------------------|
| 0 | | Repetition Rate | 0...1.250 ms 5ms/bit -> 0..250 |
| 1 | | Don't care | 0x00 |
| 2 | | Don't care | 0x00 |
| 3 | | Don't care | 0x00 |
| 4 | | Don't care | 0x00 |
| 5 | | Don't care | 0x00 |
| 6 | | Don't care | 0x00 |
| 7 | | Identification | 0x80 |

3.2.6.8 Permanent store of changed data in the non volatile memory

| Byte | Bit | Function | Description |
|------|-----|-----------------|-------------|
| 0 | | Repetition Rate | 0x00 |
| 1 | | Don't care | 0x00 |
| 2 | | Don't care | 0x00 |
| 3 | | Don't care | 0x00 |
| 4 | | Don't care | 0x00 |
| 5 | | Don't care | 0x00 |
| 6 | | Don't care | 0x00 |
| 7 | | Identification | 0xFF |

3.2.6.9 Reset to default settings

| Byte | Bit | Function | Description |
|------|-----|----------------|-------------|
| 0 | | Don't care | 0x00 |
| 1 | | Don't care | 0x00 |
| 2 | | Don't care | 0x00 |
| 3 | | Don't care | 0x00 |
| 4 | | Don't care | 0x00 |
| 5 | | Don't care | 0x00 |
| 6 | | Don't care | 0x00 |
| 7 | | Identification | 0xA3 |

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4 Dimensions and Connector

RD 95 255/07.06 | Bedienteil

Bosch Rexroth AG

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CAN-Bedienteil

Steckerbelegung

| Steckerbelegung | Funktionen |
|-----------------|------------|
| 1 | Versorgung |
| 2 | CAN Low |
| 3 | CAN High |
| 4 | Masse |

Kenngößen

| | |
|---------------------|-----------------|
| Umgebungstemperatur | -20 ... +80 °C |
| Einbaulage | beliebig |
| Schutzart | IP 66 |
| Symbole | beleuchtet |
| Elektr. Anschluss | Stecker 4 polig |
| Masse | 1,8 kg |

Bestellnummer

Material Nr.: R917000349

Abmessungen

