# XDi 144/192 Dual

## Rudder Angle


**Library owner:** DEIF STANDARD LIB

**Library number:** 31

**Library version:** 2016

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**Library description :**

This XDi Dual library contains a selection of rudder indicators (VI), respectively for forward and aft bridge applications.
Each virtual indicators has a selection of input/output setup profiles (VS) covering the most common used combination of XDi-net, CANopen, AX1 analogue and DX1 digital inputs. Some VS profile also supports the NX1 NMEA output extension module.
Default CAN bus setup and dimmer input configurations are available in the selection of product profiles (PP). Contact input on NX module can be setup to act as button 2 and 3 to control the dimmer level also from external buttons.
Select the VS and PP profile that fits your need for CAN, Analogue or Digital inputs and make the necessary adjustments via the XDi installation menu or user menu.
Some indicators present setpoint (commanded rudder) value as default, but this function can be disabled.
NX1 NMEA output support is available on all relevant VS-profiles to make system integration easier. Default NMEA output is off and must be activated via XDi installation menu. NMEA sentence RSA is supported.
Single rudder indicators instance 1 (Single or SB) and dual rudde VI's support both instance 1 (SB) and 2 (PS).
CAN TPDO output are added on all relevant VI's to make integration with XL CAN series easier. VI09 and VI10 has adjustable grey scale sections.
This library are using XDi platform 2 main software and can use the front button dimmer option.

**Library status symbols :**

| | |
|---|---|
| | Released & Locked |
| | Approved |
| | Pending |
| | Draft |
| | Not approved |

Timestamp 13-08-2024 16:04:27

## Library Specification

| | |
|---|---|
| **Library owner no. :** | 000001 |
| **Library owner name :** | DEIF STANDARD LIB |
| **Product type :** | XDi 144/192 |
| **Performance class :** | Dual |
| **Library number :** | 31 |
| **Library name :** | Rudder Angle |
| **Library orientation :** | Landscape |
| **Library status :** | Released & Locked |
| **Library version :** | 2016 |
| **Last changed :** | 13-08-2024 16:04:11 |

### Library default settings :

| | |
|---|---|
| **180 display rotation :** | False |
| **CAN NodeID :** | 30 |

### Library notes :

13-08-2024/ATH, Ver.2016: NMEA setup profiles 10 and 11 added to VI01-10 (3 and 4 already had them).
NMEA setup profile 6 added to VI 11-13. Ver.2015 skipped, due to missing note.
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22-11-2023/JHU, Ver. 2014: Product profiles 9, 10, 11 added for NMEA use. NMEA setup profiles 10 and 11 added to VI 3 and 4..
08-02-2023/MAP, Ver. 2013: XDi main software update to Qt v.3.06.1 and Capp software is updated to v.3.06.0, this version supports presentation of UK MER flag mark in surveyor menu in addition to the wheel marking, no other changes are made.
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13-09-2022/JOL, Ver.2012: Bug in NX1 NMEA output support in: VS03, 04, 05 and 09 in VI003 and VI004 is fixed.
Same bug in VS09 also in VI001, 002, 005, 006, 008 is also fixed. (Help text in VS01 in all VI is updated to mention
that there is NX1 NMEA support).
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06-01-2022/JOL (ATH/JHU), Ver.2011: Added Dual rudder indicators VI011, VI012 and VI013 (Non MED).
SB rudder is instance 1 and PS rudder instance 2.
JOL: v.2010 Was not relsesed for sales (small improvemnet added).
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20-7-2020/JOL, Ver.2009: PP07 and PP07 is added, can be used to get galvanic separtation between VI inputs and Dimmer input.

VS09 for analogue 3-wire input is added to all VI's.
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3-4-2020/JOL, Ver.2008: All 4-20mA analogue input profiles are updated with a new input lost function (AX1 input error) and 2 new VS profiles (VS07 and VS08) for use in a XDi-net (CAN) system where one XDi w/AX1 is connected to a rudder transmitter w/analogue out and a rudder set-point output is connected to another XDi w/AX1, both units are shared their analogue data on XDi-net (CAN). More XDi-net repeaters can be connected using VS01
.....
11-06-2019/MLA, Ver.2007: Update to platform 2 and adding VI009 and VI010 with adjustable grey scale from X to 40 deg.
.....
21-01-2019/JOL, Ver. 6: Max backlight level is reduced from 250 to 225 in XDi192 (only) to increase backlight lifetime at high operating temperatures.
It can be increased to 250 again via XDi user menu.

# Product profiles (PP)

**Default settings of product and system related parameters, as dimmer and CANbus settings are stored in a product profile.**

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| PP No. | PP Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | PP01 XDi-net | **XDi-net Dimmer**<br>or from front buttons<br>(option required)<br><br>XDi-net active<br><br>**Default settings:**<br>Dimmer group 1<br>Dimming via XDi-net<br>Auto Day/Night Shift at 70%<br>Monitoring supply voltage 1 | 🔒 | CANbus and Dimmer settings can be changed from XDi menu |
| 2 | PP02 Analogue | **Analogue Dimmer**<br>Required: AX1 in Slot 1<br><br>Dimmer potmeter<br>(+ term 3, - term 1, wiper term 2)<br>Can be reconfigured to voltage input<br><br>**Default settings:**<br>Dimmer group 1<br>Analogue Potmeter 0 to Vref (max. 30V)<br>Auto Day/Night Shift at 70%<br>Shared on XDi-net<br>Monitoring supply voltage 1 | 🔒 | An external ref. voltage >7.5V can be connected to Vref out overwriting the internal Vref.<br>From the user menu, you can alternatively reconfigure the analogue dimmer input to a normal voltage input. |
| 3 | PP03 CAN | **CAN Dimmer**<br><br>CANopen TPDO dimming<br><br>**Default settings:**<br>Dimmer group 1<br>Auto Day/Night Shift at 70%<br>Monitoring supply voltage 1 | 🔒 | DEIF default TPDO's are predefined and used in all standard libraries.<br>The default TPDO's for dimmer group control can be changed to any TPDO or RPDO via user menu. |
| 4 | PP04 Digital | **Digital Dimmer**<br>Required: DX1 in Slot 1<br><br>Digital input 1 up (+term 11,- term 10)<br>Digital input 2 down (+term 8,- term 7)<br><br>Simultaneous activation of IN1 and IN2<br>for Day/Night Shift<br><br>**Default settings:**<br>Dimmer group 1<br>Shared on XDi-net<br>Monitoring supply voltage 1 | 🔒 | Digital input configuration can be changed from menu. |

| PP No. | PP Name | Description | Status | Notes |
|---|---|---|---|---|
| 5 | PP05 Analogue | **Analogue Dimmer Local**<br>Required: AX1 in Slot 1<br><br>Dimmer potmeter<br>(+ term 3, - term 1, wiper term 2)<br>Can be reconfigured to voltage input<br><br>**Default settings:**<br>Dimmer group: Local<br>Analogue Potmeter 0 to Vref (max. 30V)<br>Auto Day/Night Shift at 70%<br>(Local - Not shared on XDi-net)<br>Monitoring supply voltage 1 |  | The dimmer group is ”Local” and the dimmer input will only affect this unit, dimmer level will not be shared on XDi-net. |
| 6 | PP06 Fixed | **ECR Fixed Dimmer**<br>Adjust via front buttons<br>(Button option avail.)<br><br>XDi-net active<br><br>**Default settings:**<br>Dimmer group: Local<br>Dimmer level 80% to<br>extend backlight life<br>Auto Day/Night Shift at 70%<br>Monitoring supply voltage 1 |  | Default fixed dimmer level is reduced to 75% to extend backlight life. Dimmer level and Day/Night colour can be changed from user menu. |
| 7 | PP07 Analogue | **Analogue Dim (Slot 2)**<br>Required: AX1 in Slot 2<br>Use this PP to get galvanic separation between analogue VI inp. and Dim inp.<br>Dimmer potmeter<br>(+ term 3, - term 1, wiper term 2)<br>Can be reconfigured to voltage input<br><br>**Default settings:**<br>Dimmer group 1<br>Analogue Potmeter 0 to Vref (max. 30V)<br>Auto Day/Night Shift at 70%<br>Shared on XDi-net<br>Monitoring supply voltage 1 |  | An external ref. voltage >7.5V can be connected to Vref out overwriting the internal Vref.<br>From the user menu, you can alternatively reconfigure the analogue dimmer input to a normal voltage input. |
| 8 | PP08 Analogue | **Analog Dim Local (Slot2)**<br>Required: AX1 in Slot 1<br>Use this PP to get galvanic separation between analogue VI inp. and Dim inp.<br><br>Dimmer potmeter<br>(+ term 3, - term 1, wiper term 2)<br>Can be reconfigured to voltage input<br><br>**Default settings:**<br>Dimmer group: Local<br>Analogue Potmeter 0 to Vref (max. 30V)<br>Auto Day/Night Shift at 70%<br>(Local - Not shared on XDi-net)<br>Monitoring supply voltage 1 |  | The dimmer group is ”Local” and the dimmer input will only affect this unit, dimmer level will not be shared on XDi-net. |

| PP No. | PP Name | Description | Status | Notes |
|---|---|---|---|---|
| 9 | PP09 NMEA 1 | **Front but./XDi-net dimmer**<br>NX2 module is required.<br>Default: Dim gr1.<br>Auto day/night at 70%.<br>Shares dimmer value on XDi-net.<br>Supported NMEA sentences:<br>Rudder actual: RSA<br>Rudder set-point: ROR,HTD<br>Default: COM1 or 3, 4.8 kbps<br>Shares selected NMEA data on XDi-net |  | In an XDi-net system any XDi in a group can control the groups dimmer level when it uses this product profile.<br>In the user menu the VI day/night mode can be set to automatic change or fixed night mode can be selected.<br>Actual rudder avaraging filter is default off. Can be changed from menu.<br>Example for Rudder 1 actual:<br>Install->Manual input configuration...->PROPULSION->Angle Rudder->Azi 1->filter. |
| 10 | PP10 NMEA 2 | **NMEA dimmer, auto day/night**<br>NX2 module is required.<br>Default: Dim gr.1, NMEA controlled level<br>Auto day/night at 70%.<br>Supported NMEA sentences:<br>Rudder actual: RSA<br>Rudder set-point: ROR,HTD<br>Default: COM1 or 3, 4.8 kbps<br>Shares selected NMEA data on XDi-net |  | In an XDi-net system any XDi in group 1 can control the groups dimmer level when it uses this product profile.<br>NMEA sentence for dimmer: DDC. The XDi has no color presets (preset parameter don't care).<br>The default dimmer group can be changed from the menue. If the dimmer group is changed and NMEA<br>dimmer control is used, select the dimmer group in the the NMEA settings in the install menu, and deselect<br>dimmer group 1.<br>Actual rudder avaraging filter is default off. Can be changed from menu.<br>Example for Rudder 1 actual:<br>Install->Manual input configuration...->PROPULSION->Angle Rudder->Azi 1->filter. |

| PP No. | PP Name | Description | Status | Notes |
|---|---|---|---|---|
| 11 | PP11 NMEA 3 | **NMEA dimmer, man. day/night**<br>NX2 module is required.<br>Default: Dim gr.1, NMEA controlled level and colour<br>Supported NMEA sentences:<br>Dimmer: DDC<br>Rudder actual: RSA<br>Rudder set-point: ROR, HTD<br>Default: COM1 or 3, 4.8 kbps<br>Shares selected NMEA data on XDi-net |  | In an XDi-net system any XDi in group 1 can control the groups dimmer level when it uses this product profile.<br>NMEA sentence for dimmer: DDC. The XDi has no color presets (preset parameter don't care).<br>The default dimmer group can be changed from the menue. If the dimmer group is changed and NMEA<br>dimmer control is used, select the dimmer group in the the NMEA settings in the install menu, and deselect<br>dimmer group 1.<br>Actual rudder avaraging filter is default off. Can be changed from menu.<br>Example for Rudder 1 actual:<br>Install->Manual input configuration...->PROPULSION->Angle Rudder->Azi 1->filter. |

# Virtual Indicators (VI)

**The VI contains the graphical layout of and indicator and defines all data types that are presented on the indicator.**

**Each VI has at least one VI-setup profile (VS) that defines the input types and default parameter settings.**

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| VI No. | Name | VI-setup profiles (VS) | Approvals | Status |
|---|---|---|---|---|
| 001 | ±40 deg FWD | 11 | | |
| 002 | ±40 deg AFT | 11 | | |
| 003 | ±45 deg FWD | 11 | | |
| 004 | ±45 deg AFT | 11 | | |
| 005 | ±50 deg FWD | 11 | | |
| 006 | ±50 deg AFT | 11 | | |
| 007 | ±70 deg FWD | 11 | | |
| 008 | ±70 deg AFT | 11 | | |
| 009 | ±40 deg Adjust | 11 | | |
| 010 | ±40 deg Adjust | 11 | | |
| 011 | 2x±45 deg FWD | 6 | | |
| 012 | 2x±45 deg AFT | 6 | | |
| 013 | 2xRudder FWD | 6 | | |

Approvals only apply for XDi 192.

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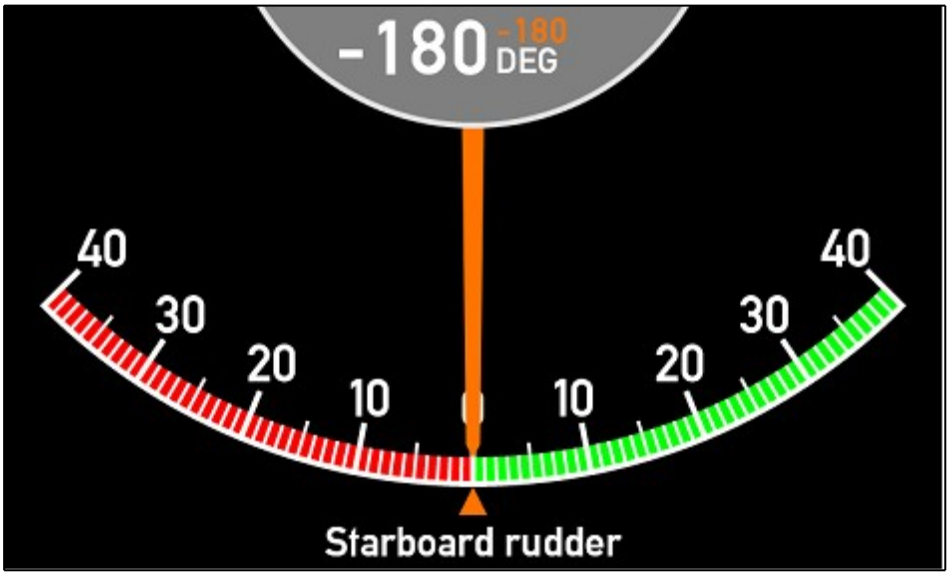
**VI 001** **±40 deg FWD**




**Description :** **RUDDER FWD ±40 DEG**

Rudder 40-0-40 deg.
Rudder ±180 deg. digital readout

All with set point

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI001

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: XDi-net<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | The XDi-net profile is used when the indicator is a repeater, receiving data from other XDi units<br>or from a CAN controller providing data in XDi-net format.<br>Please note that TPDO's or RPDO's are not retransmitted in XDi-net format, but are used directly by all indicators<br>(e.g. Angle transmitted CAN data), zero or scaling adjustments can be synchronized via XDi-net.<br>Use VS02 if a combination of XDi-net and TPDO inputs (e.g. CAN encoder) are used.<br>Support for NX1 NMEA output module. |
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activate only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | Default setup to match DEIF RTC 300 or RTC 600 CANopen angle transmitters and they are MED approved with XDi.<br>TPDO COBID can be changed to any valid TPDO or RPDO COBID via the XDi installation menu.<br>TPDO input can be scaled from menu.<br>This profile can also be used for XDi-net input, if a combination of TPDO and XDi-net is used.<br>TPDO input can be disabled to run pure XDi-net.<br>Support for NX1 NMEA output module.<br>TPDO output:<br>TPDO 0x18A (ruder angle) is default on and tranmitted. It is intended for systems with XL indicators.<br>TPDO 0x18A can be disabled from output menu so the TPDO is not transmitted if TPDO data is conflicting with other equiptment. |

## VI-setup profiles (VS) for VI001

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 3 | VS03 CAN/Analog | **Analogue set point**<br>Requried: AX1 in Slot 1<br>Rudder angle: CAN TPDO (RTC)/(XDi-net)<br>TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | Default setup to match DEIF RTC 300 or RTC 600 CANopen angle transmitters and they are MED approved with XDi.<br>TPDO COBID and input data scaling can be changed from the XDi installation menu.<br>The TPDO input can be disabled to use XDi-net instead.<br>Analogue input type and scaling can be changes from XDi installation menu.<br>Support fro NX1 NMEA output module.<br>TPDO output:<br>TPDO 0x18A (ruder angle) is default on and tranmitted. It is intended for systems with XL indicators.<br>TPDO 0x18A can be disabled from output menu so the TPDO is not transmitted if TPDO data is conflicting with other equiptment. |
| 4 | VS04 Analogue | **Analogue System**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | The DEIF RTA 602 4-20mA rudder transmitter is MED approved with XDi.<br>Analogue input type and scaling can be changes from XDi installation menu.<br>Support fro NX1 NMEA output module.<br>TPDO output:<br>TPDO 0x18A (ruder angle) is default on and tranmitted. It is intended for systems with XL indicators.<br>TPDO 0x18A can be disabled from output menu so the TPDO is not transmitted if TPDO data is conflicting with other equiptment. |

## VI-setup profiles (VS) for VI001

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 5 | VS05 SIN/COS | **SIN/COS - CAN**<br>Required: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | SIN/COS input can be adjusted from menu and zero point can be changed.<br>TPDO COBID and input data scaling can be changed from the XDi installation menu or TPDO input can be disabled allowing only XDi-net.<br>Support fro NX1 NMEA output module. |
| 6 | VS06 SIN/COS | **Analogue set point**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder angle set-point: AX1 S2i1:<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10) |  | SIN/COS input can be adjusted from menu and zero point can be changed.<br>Analogue input type and scaling can be changes from XDi installation menu.<br>TPDO output:<br>TPDO 0x18A (ruder angle) is default on and tranmitted. It is intended for systems with XL indicators.<br>TPDO 0x18A can be disabled from output menu so the TPDO is not transmitted if TPDO data is conflicting with other equiptment. |

## VI-setup profiles (VS) for VI001

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 7 | VS07 Analog/CAN | **Analog/CAN set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br><br>Rudder angle set-point: XDi-net<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | Use this VS in systems where set-point data is received from another XDi using VS08.<br>The DEIF RTA 602 4-20mA rudder transmitter is MED approved with XDi.<br>Analogue input type and scaling can be changes from XDi installation menu.<br>Support fro NX1 NMEA output module.<br>TPDO output:<br>TPDO 0x18A (ruder angle) is default on and tranmitted. It is intended for systems with XL indicators.<br>TPDO 0x18A can be disabled from output menu so the TPDO is not transmitted if TPDO data is conflicting with other equiptment. |
| 8 | VS08 CAN/Analog | **CAN/Analog set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br><br>**Output**<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | Use this VS profile in systems where the rudder angle is received from another XDi using VS07.<br>Analogue input type and scaling can be changes from XDi installation menu.<br>Support fro NX1 NMEA output module. |

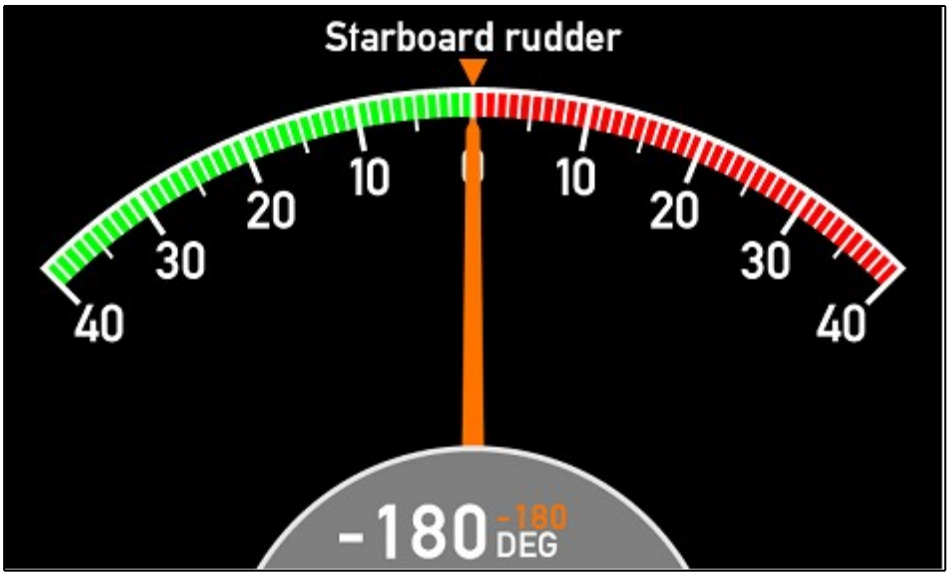
## VI-setup profiles (VS) for VI001

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 9 | VS09 Analog 3-wire | **3-wire system**<br>Requried: AX1 in Slot 1<br>Rudder angle:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Witper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection is active<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | 3-wire input use a potentiometer connected between AGND and Vref. The input is measured relative<br>to Vref and is scaled between 0 and 10,000. If Vref is overwritten by an ext. voltage the input is still scaled to 10,000. This means that voltage fluctuation on the ext. supply V is ilinminated.<br>This profile is setup to use an external +24V DC supply connected to Vref (tern.3) and<br>the input signal swing is +/-9V relative to ½Vref. This means: 3.0V = in val. 1250 = -400 (-40.0deg PS)<br>12.0V = in val. 5000 = 0 (0deg) 21.0V = in val. 8750 = +400 (40.0deg SB)<br>AX1 S1 input error is indicated if input voltage <0.1V or >30V (Can be changed in menu)<br>You can calibrate the rudder from the XDi menu.<br>Support for NX1 NMEA output module and CAN TPDO se description in VS04. |
| 10 | VS10 NMEA 1 | **Input NMEA/XDi-net**<br>For single/starboard rudder<br>(instance 1)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines |  | Use this VS for Starboard rudder or Single rudder. If the NMEA data (RSA, ROR) contains portside data, they will also be converted and sent through XDi-net:<br>STBD: 0x3001<br>PORT: 0x3002<br><br>If a port rudder data is received via RSA as starboard/single data:<br><br>- Portside indicator for system WITHOUT XDi-net: Use this VS and select the Port rudder headline in the install menu.<br><br>- Portside indicator for system WITH XDi-net: Use VS 010. |

## VI-setup profiles (VS) for VI001

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 11 | VS11 NMEA 2 | **Input NMEA/XDi-net**<br>For Portside rudder<br>(instance 2)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br><br>Selectable headlines |  | This VS is used to show Port rudder.<br>If the data comes in RSA/ROR sentence containing both Starboard and Port data no changes are required.<br>If the data comes in RSA/ROR sentence containing only single data from the Port rudder sensor (RSA,x.x,A,,V where x.x is single or STBD angle data) the NMEA settings need to be changed:<br>- Go to "Install" menu/"NMEA setup"/"NMEA input setup…"<br>- Press OK to "Auto scan and input selection…"<br>- Select "Stop scan – manual select…", press OK<br>- Press OK to "PROPULSION"<br>- Set "Angle Rudder/Azi 2" to ….RSAs<br>- Set "Ang. Rud/Azi Com 2" to ….RORs<br>- Set "Angle Rudder/Azi 1" to XDi-net<br>- Set "Ang. Rud/Azi Com 1" to XDi-net<br>- Press repeatedly on back button |

**VI 002** **±40 deg AFT**




**Description :** **RUDDER AFT ±40 DEG**

Rudder 40-0-40 deg.
Rudder ±180 deg. digital readout

All with set point

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI002

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: XDi-net<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI002

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activate only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 3 | VS03 CAN/Analog | **Analogue set point**<br>Requried: AX1 in Slot 1<br>Rudder angle: CAN TPDO (RTC)/(XDi-net)<br>TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 4 | VS04 Analogue | **Analogue System**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI002

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 5 | VS05 SIN/COS | **SIN/COS - CAN**<br>Required: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | See similar VS profile for VI001 |
| 6 | VS06 SIN/COS | **Analogue set point**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder angle set-point: AX1 S2i1:<br>4-20mA (+term9, -term8)<br><br>Output<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10) | 🔒 | See similar VS profile for VI001 |
| 7 | VS07 Analog/CAN | **Analog/CAN set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br><br>Rudder angle set-point: XDi-net<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | See similar VS profile for VI001 |

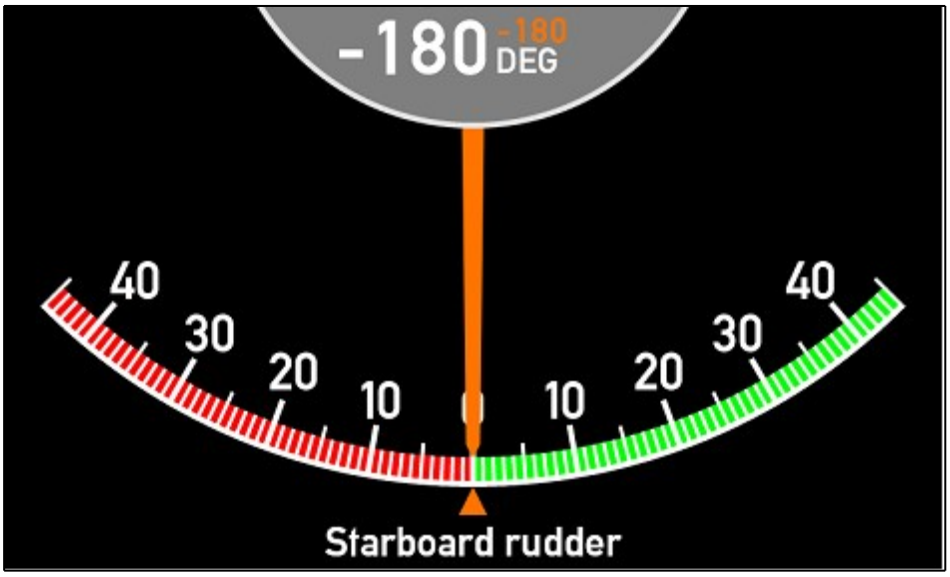
## VI-setup profiles (VS) for VI002

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 8 | VS08 CAN/Analog | **CAN/Analog set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br><br>**Output**<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001. |
| 9 | VS09 Analog 3-wire | **3-wire system**<br>Requried: AX1 in Slot 1<br>Rudder angle:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Witper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection is active<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | 3-wire input use a potentiometer connected between AGND and Vref. The input is measured relative<br>to Vref and is scaled between 0 and 10,000. If Vref is overwritten by an ext. voltage the input is still scaled to 10,000. This means that voltage fluctuation on the ext. supply V is ilinminated.<br>This profile is setup to use an external +24V DC supply connected to Vref (tern.3) and<br>the input signal swing is +/-9V relative to ½Vref. This means: 3.0V = in val. 1250 = -400 (-40.0deg PS)<br>12.0V = in val. 5000 = 0 (0deg) 21.0V = in val. 8750 = +400 (40.0deg SB)<br>AX1 S1 input error is indicated if input voltage <0.1V or >30V (Can be changed in menu)<br>You can calibrate the rudder from the XDi menu.<br>Support for NX1 NMEA output module and CAN TPDO se description in VS04. |

## VI-setup profiles (VS) for VI002

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 10 | VS10 NMEA 1 | **Input NMEA/XDi-net**<br>For single/starboard rudder<br>(instance 1)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines |  | Use this VS for Starboard rudder or Single rudder. If the NMEA data (RSA, ROR) contains portside data, they will also be converted and sent through XDi-net:<br>STBD: 0x3001<br>PORT: 0x3002<br><br>If a port rudder data is received via RSA as starboard/single data:<br><br>- Portside indicator for system WITHOUT XDi-net: Use this VS and select the Port rudder headline in the install menu.<br><br>- Portside indicator for system WITH XDi-net: Use VS 010. |
| 11 | VS11 NMEA 2 | **Input NMEA/XDi-net**<br>For Portside rudder<br>(instance 2)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br><br>Selectable headlines |  | This VS is used to show Port rudder.<br>If the data comes in RSA/ROR sentence containing both Starboard and Port data no changes are required.<br>If the data comes in RSA/ROR sentence containing only single data from the Port rudder sensor (RSA,x.x,A,,V where x.x is single or STBD angle data) the NMEA settings need to be changed:<br>- Go to "Install" menu/"NMEA setup"/"NMEA input setup…"<br>- Press OK to "Auto scan and input selection…"<br>- Select "Stop scan – manual select…", press OK<br>- Press OK to "PROPULSION"<br>- Set "Angle Rudder/Azi 2" to ….RSAs<br>- Set "Ang. Rud/Azi Com 2" to ….RORs<br>- Set "Angle Rudder/Azi 1" to XDi-net<br>- Set "Ang. Rud/Azi Com 1" to XDi-net<br>- Press repeatedly on back button |

**VI 003** **±45 deg FWD**




**Description :** **RUDDER FWD ±45 DEG**

Rudder 45-0-45 deg.
Rudder ±180 deg. digital readout

All with set point

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI003

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: XDi-net<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | The XDi-net profile is used when the indicator is a repeater, receiving data from other XDi units<br>or from a CAN controller providing data in XDi-net format.<br>Please note that TPDO's or RPDO's are not retransmitted in XDi-net format, but are used directly by all indicators<br>(e.g. Angle transmitted CAN data), zero or scaling adjustments can be synchronized via XDi-net.<br>Use VS02 if a combination of XDi-net and TPDO inputs (e.g. CAN encoder) are used.<br>Support fro NX1 NMEA output module |
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activate only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | Default setup to match DEIF RTC 300 or RTC 600 CANopen angle transmitters and they are MED approved with XDi.<br>TPDO COBID can be changed to any valid TPDO or RPDO COBID via the XDi installation menu.<br>TPDO input can be scaled from menu.<br>This profile can also be used for XDi-net input, if a combination of TPDO and XDi-net is used.<br>TPDO input can be disabled to run pure XDi-net.<br>Support for NX1 NMEA output module.<br>TPDO output:<br>TPDO 0x18A (ruder angle) is default on and tranmitted. It is intended for systems with XL indicators.<br>TPDO 0x18A can be disabled from output menu so the TPDO is not transmitted if TPDO data is conflicting with other equiptment. |

## VI-setup profiles (VS) for VI003

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 3 | VS03 CAN/Analog | **Analogue set point**<br>Requried: AX1 in Slot 1<br>Rudder angle: CAN TPDO (RTC)/(XDi-net)<br>TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | Default setup to match DEIF RTC 300 or RTC 600 CANopen angle transmitters and they are MED approved with XDi.<br>TPDO COBID and input data scaling can be changed from the XDi installation menu.<br>The TPDO input can be disabled to use XDi-net instead.<br>Analogue input type and scaling can be changes from XDi installation menu.<br>Support fro NX1 NMEA output module. |
| 4 | VS04 Analogue | **Analogue System**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | The DEIF RTA 602 4-20mA rudder transmitter is MED approved with XDi.<br>Analogue input type and scaling can be changes from XDi installation menu.<br>Support fro NX1 NMEA output module.<br>TPDO output:<br>TPDO 0x18A (ruder angle) is default on and tranmitted. It is intended for systems with XL indicators.<br>TPDO 0x18A can be disabled from output menu so the TPDO is not transmitted if TPDO data is conflicting with other equiptment. |
| 5 | VS05 SIN/COS | **SIN/COS - CAN**<br>Required: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | Support fro NX1 NMEA output module.<br>TPDO output:<br>TPDO 0x18A (ruder angle) is default on and tranmitted. It is intended for systems with XL indicators.<br>TPDO 0x18A can be disabled from output menu so the TPDO is not transmitted if TPDO data is conflicting with other equiptment. |

## VI-setup profiles (VS) for VI003

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 6 | VS06 SIN/COS | **Analogue set point**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder angle set-point: AX1 S2i1:<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10) |  | see VI001 |
| 7 | VS07 Analog/CAN | **Analog/CAN set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br><br>Rudder angle set-point: XDi-net<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 8 | VS08 CAN/Analog | **CAN/Analog set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br><br>**Output**<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

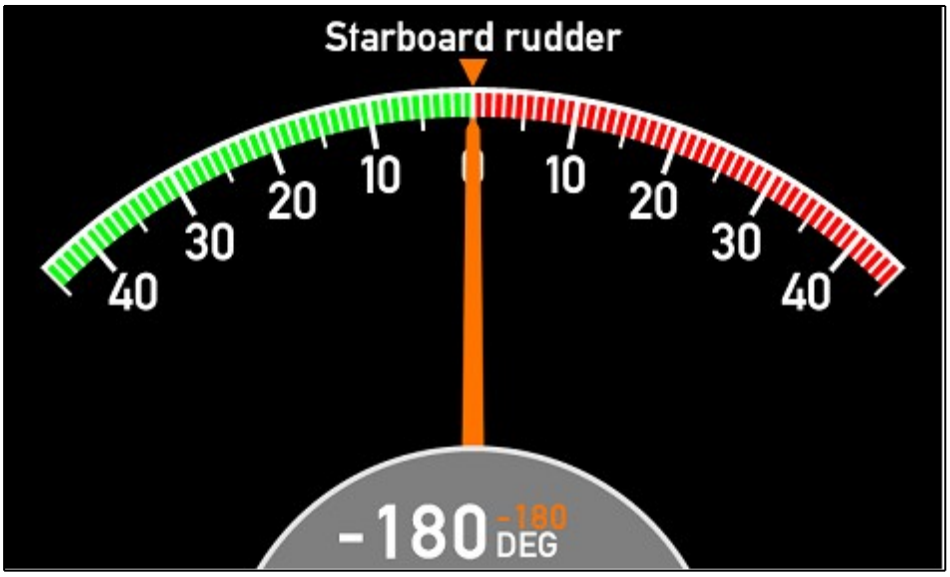
## VI-setup profiles (VS) for VI003

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 9 | VS09 Analog 3-wire | **3-wire system**<br>Requried: AX1 in Slot 1<br>Rudder angle:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Witper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection is active<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | 3-wire input use a potentiometer connected between AGND and Vref. The input is measured relative<br>to Vref and is scaled between 0 and 10,000. If Vref is overwritten by an ext. voltage the input is still scaled to 10,000. This means that voltage fluctuation on the ext. supply V is ilinminated.<br>This profile is setup to use an external +24V DC supply connected to Vref (tern.3) and<br>the input signal swing is +/-9V relative to ½Vref. This means: 3.0V = in val. 1250 = -450 (-45.0deg PS)<br>12.0V = in val. 5000 = 0 (0deg) 21.0V = in val. 8750 = +450 (45.0deg SB)<br>AX1 S1 input error is indicated if input voltage <0.1V or >30V (Can be changed in menu)<br>You can calibrate the rudder from the XDi menu.<br>Support for NX1 NMEA output module and CAN TPDO se description in VS04. |
| 10 | VS10 NMEA 1 | **Input NMEA/XDi-net**<br>For single/starboard rudder<br>(instance 1)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines |  | Use this VS for Starboard rudder or Single rudder. If the NMEA data (RSA, ROR) contains portside data, they will also be converted and sent through XDi-net:<br>STBD: 0x3001<br>PORT: 0x3002<br><br>If a port rudder data is received via RSA as starboard/single data:<br><br>- Portside indicator for system WITHOUT XDi-net: Use this VS and select the Port rudder headline in the install menu.<br><br>- Portside indicator for system WITH XDi-net: Use VS 010. |

## VI-setup profiles (VS) for VI003

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 11 | VS11 NMEA 2 | **Input NMEA/XDi-net**<br>For Portside rudder<br>(instance 2)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br><br>Selectable headlines |  | This VS is used to show Port rudder.<br>If the data comes in RSA/ROR sentence containing both Starboard and Port data no changes are required.<br>If the data comes in RSA/ROR sentence containing only single data from the Port rudder sensor (RSA,x.x,A,,V where x.x is single or STBD angle data) the NMEA settings need to be changed:<br>- Go to "Install" menu/"NMEA setup"/"NMEA input setup…"<br>- Press OK to "Auto scan and input selection…"<br>- Select "Stop scan – manual select…", press OK<br>- Press OK to "PROPULSION"<br>- Set "Angle Rudder/Azi 2" to ….RSAs<br>- Set "Ang. Rud/Azi Com 2" to ….RORs<br>- Set "Angle Rudder/Azi 1" to XDi-net<br>- Set "Ang. Rud/Azi Com 1" to XDi-net<br>- Press repeatedly on back button |

**VI 004** **±45 deg AFT**




**Description :** **RUDDER AFT ±45 DEG**

Rudder 45-0-45 deg.
Rudder ±180 deg. digital readout

All with set point

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI004

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: XDi-net<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI004

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>Outputs<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | Default setup to match DEIF RTC 300 or RTC 600 CANopen angle transmitters and they are MED approved with XDi.<br>TPDO COBID can be changed to any valid TPDO or RPDO COBID via the XDi installation menu.<br>TPDO input can be scaled from menu.<br>This profile can also be used for XDi-net input, if a combination of TPDO and XDi-net is used.<br>TPDO input can be disabled to run pure XDi-net.<br>Support for NX1 NMEA output module. |
| 3 | VS03 CAN/Analog | **Analogue set point**<br>Requried: AX1 in Slot 1<br>Rudder angle: CAN TPDO (RTC)/(XDi-net)<br>TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | Default setup to match DEIF RTC 300 or RTC 600 CANopen angle transmitters and they are MED approved with XDi.<br>TPDO COBID and input data scaling can be changed from the XDi installation menu.<br>The TPDO input can be disabled to use XDi-net instead.<br>Analogue input type and scaling can be changes from XDi installation menu.<br>Support fro NX1 NMEA output module. |
| 4 | VS04 Analogue | **Analogue System**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | The DEIF RTA 602 4-20mA rudder transmitter is MED approved with XDi.<br>Analogue input type and scaling can be changes from XDi installation menu.<br>Support fro NX1 NMEA output module. |

## VI-setup profiles (VS) for VI004

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 5 | VS05 SIN/COS | **SIN/COS - CAN**<br>Required: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | Support fro NX1 NMEA output module. |
| 6 | VS06 SIN/COS | **Analogue set point**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder angle set-point: AX1 S2i1:<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10) | 🔒 | See similar VS profile for VI001 |
| 7 | VS07 Analog/CAN | **Analog/CAN set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br><br>Rudder angle set-point: XDi-net<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | See similar VS profile for VI001 |

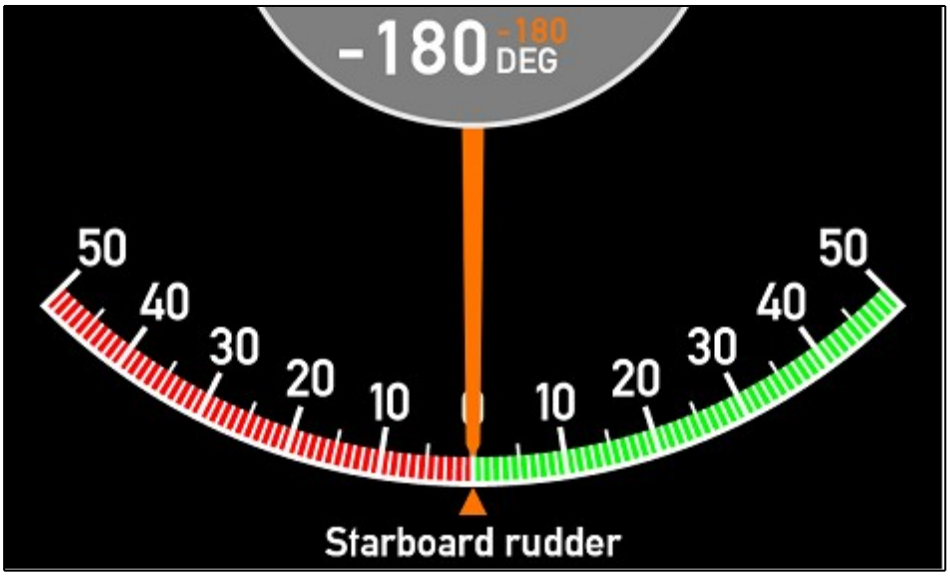
## VI-setup profiles (VS) for VI004

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 8 | VS08 CAN/Analog | **CAN/Analog set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br><br>**Output**<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 9 | VS09 Analog 3-wire | **3-wire system**<br>Requried: AX1 in Slot 1<br>Rudder angle:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Witper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection is active<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | 3-wire input use a potentiometer connected between AGND and Vref. The input is measured relative<br>to Vref and is scaled between 0 and 10,000. If Vref is overwritten by an ext. voltage the input is still scaled to 10,000. This means that voltage fluctuation on the ext. supply V is ilinminated.<br>This profile is setup to use an external +24V DC supply connected to Vref (tern.3) and<br>the input signal swing is +/-9V relative to ½Vref. This means: 3.0V = in val. 1250 = -450 (-45.0deg PS)<br>12.0V = in val. 5000 = 0 (0deg) 21.0V = in val. 8750 = +450 (45.0deg SB)<br>AX1 S1 input error is indicated if input voltage <0.1V or >30V (Can be changed in menu)<br>You can calibrate the rudder from the XDi menu.<br>Support for NX1 NMEA output module and CAN TPDO se description in VS04. |

## VI-setup profiles (VS) for VI004

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 10 | VS10 NMEA 1 | **Input NMEA/XDi-net**<br>For single/starboard rudder<br>(instance 1)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines |  | Use this VS for Starboard rudder or Single rudder. If the NMEA data (RSA, ROR) contains portside data, they will also be converted and sent through XDi-net:<br>STBD: 0x3001<br>PORT: 0x3002<br><br>If a port rudder data is received via RSA as starboard/single data:<br><br>- Portside indicator for system WITHOUT XDi-net: Use this VS and select the Port rudder headline in the install menu.<br><br>- Portside indicator for system WITH XDi-net: Use VS 010. |
| 11 | VS11 NMEA 2 | **Input NMEA/XDi-net**<br>For Portside rudder<br>(instance 2)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br><br>Selectable headlines |  | This VS is used to show Port rudder.<br>If the data comes in RSA/ROR sentence containing both Starboard and Port data no changes are required.<br>If the data comes in RSA/ROR sentence containing only single data from the Port rudder sensor (RSA,x.x,A,,V where x.x is single or STBD angle data) the NMEA settings need to be changed:<br>- Go to "Install" menu/"NMEA setup"/"NMEA input setup…"<br>- Press OK to "Auto scan and input selection…"<br>- Select "Stop scan – manual select…", press OK<br>- Press OK to "PROPULSION"<br>- Set "Angle Rudder/Azi 2" to ….RSAs<br>- Set "Ang. Rud/Azi Com 2" to ….RORs<br>- Set "Angle Rudder/Azi 1" to XDi-net<br>- Set "Ang. Rud/Azi Com 1" to XDi-net<br>- Press repeatedly on back button |

**VI 005** **±50 deg FWD**




**Description :** **RUDDER FWD ±50 DEG**

Rudder 50-0-50 deg.
Rudder ±180 deg. digital readout

All with set point

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI005

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: XDi-net<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI005

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activate only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 3 | VS03 CAN/Analog | **Analogue set point**<br>Requried: AX1 in Slot 1<br>Rudder angle: CAN TPDO (RTC)/(XDi-net)<br>TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 4 | VS04 Analogue | **Analogue System**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI005

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 5 | VS05 SIN/COS | **SIN/COS - CAN**<br>Required: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 6 | VS06 SIN/COS | **Analogue set point**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder angle set-point: AX1 S2i1:<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10) |  | See similar VS profile for VI001 |
| 7 | VS07 Analog/CAN | **Analog/CAN set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br><br>Rudder angle set-point: XDi-net<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

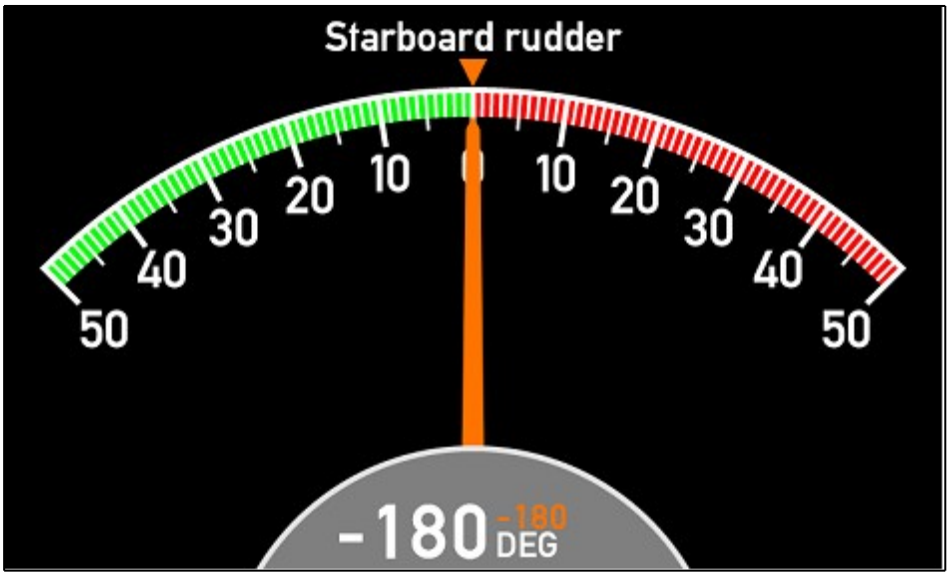
## VI-setup profiles (VS) for VI005

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 8 | VS08 CAN/Analog | **CAN/Analog set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br><br>**Output**<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 9 | VS09 Analog 3-wire | **3-wire system**<br>Requried: AX1 in Slot 1<br>Rudder angle:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Witper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection is active<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | 3-wire input use a potentiometer connected between AGND and Vref. The input is measured relative<br>to Vref and is scaled between 0 and 10,000. If Vref is overwritten by an ext. voltage the input is still scaled to 10,000. This means that voltage fluctuation on the ext. supply V is ilinminated.<br>This profile is setup to use an external +24V DC supply connected to Vref (tern.3) and<br>the input signal swing is +/-9V relative to ½Vref. This means: 3.0V = in val. 1250 = -500 (-50.0deg PS)<br>12.0V = in val. 5000 = 0 (0deg) 21.0V = in val. 8750 = +500 (50.0deg SB)<br>AX1 S1 input error is indicated if input voltage <0.1V or >30V (Can be changed in menu)<br>You can calibrate the rudder from the XDi menu.<br>Support for NX1 NMEA output module and CAN TPDO se description in VS04. |

## VI-setup profiles (VS) for VI005

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 10 | VS10 NMEA 1 | **Input NMEA/XDi-net**<br>For single/starboard rudder<br>(instance 1)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines |  | Use this VS for Starboard rudder or Single rudder. If the NMEA data (RSA, ROR) contains portside data, they will also be converted and sent through XDi-net:<br>STBD: 0x3001<br>PORT: 0x3002<br><br>If a port rudder data is received via RSA as starboard/single data:<br><br>- Portside indicator for system WITHOUT XDi-net: Use this VS and select the Port rudder headline in the install menu.<br><br>- Portside indicator for system WITH XDi-net: Use VS 010. |
| 11 | VS11 NMEA 2 | **Input NMEA/XDi-net**<br>For Portside rudder<br>(instance 2)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br><br>Selectable headlines |  | This VS is used to show Port rudder.<br>If the data comes in RSA/ROR sentence containing both Starboard and Port data no changes are required.<br>If the data comes in RSA/ROR sentence containing only single data from the Port rudder sensor (RSA,x.x,A,,V where x.x is single or STBD angle data) the NMEA settings need to be changed:<br>- Go to "Install" menu/"NMEA setup"/"NMEA input setup…"<br>- Press OK to "Auto scan and input selection…"<br>- Select "Stop scan – manual select…", press OK<br>- Press OK to "PROPULSION"<br>- Set "Angle Rudder/Azi 2" to ….RSAs<br>- Set "Ang. Rud/Azi Com 2" to ….RORs<br>- Set "Angle Rudder/Azi 1" to XDi-net<br>- Set "Ang. Rud/Azi Com 1" to XDi-net<br>- Press repeatedly on back button |

**VI 006** **±50 deg AFT**




**Description :** **RUDDER AFT ±50 DEG**

Rudder 50-0-50 deg.
Rudder ±180 deg. digital readout

All with set point

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI006

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: XDi-net<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI006

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activate only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 3 | VS03 CAN/Analog | **Analogue set point**<br>Requried: AX1 in Slot 1<br>Rudder angle: CAN TPDO (RTC)/(XDi-net)<br>TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 4 | VS04 Analogue | **Analogue System**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI006

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 5 | VS05 SIN/COS | **SIN/COS - CAN**<br>Required: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | See similar VS profile for VI001 |
| 6 | VS06 SIN/COS | **Analogue set point**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder angle set-point: AX1 S2i1:<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10) | 🔒 | See similar VS profile for VI001 |
| 7 | VS07 Analog/CAN | **Analog/CAN set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br><br>Rudder angle set-point: XDi-net<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | See similar VS profile for VI001 |

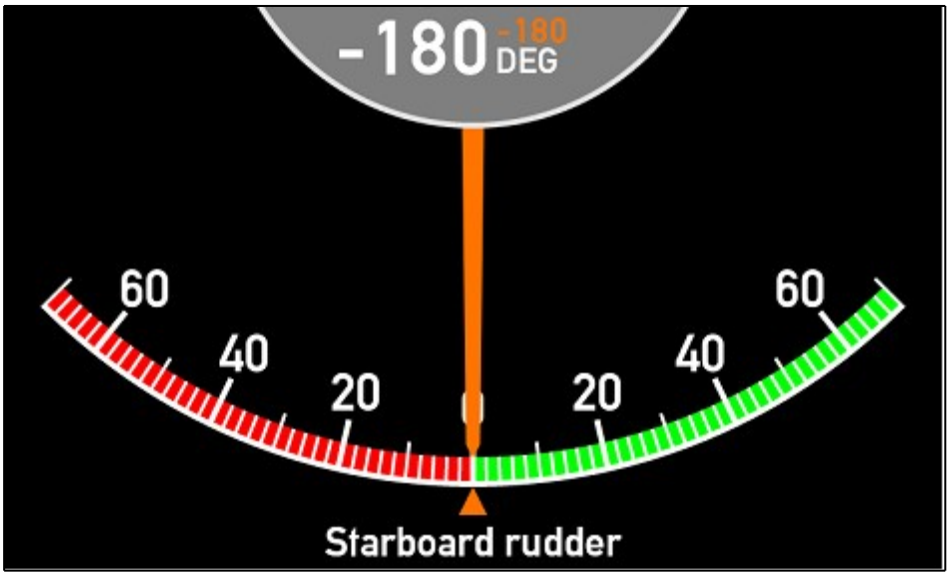
## VI-setup profiles (VS) for VI006

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 8 | VS08 CAN/Analog | **CAN/Analog set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br><br>**Output**<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 9 | VS09 Analog 3-wire | **3-wire system**<br>Requried: AX1 in Slot 1<br>Rudder angle:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Witper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection is active<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | 3-wire input use a potentiometer connected between AGND and Vref. The input is measured relative<br>to Vref and is scaled between 0 and 10,000. If Vref is overwritten by an ext. voltage the input is still scaled to 10,000. This means that voltage fluctuation on the ext. supply V is ilinminated.<br>This profile is setup to use an external +24V DC supply connected to Vref (tern.3) and<br>the input signal swing is +/-9V relative to ½Vref. This means: 3.0V = in val. 1250 = -500 (-50.0deg PS)<br>12.0V = in val. 5000 = 0 (0deg) 21.0V = in val. 8750 = +500 (50.0deg SB)<br>AX1 S1 input error is indicated if input voltage <0.1V or >30V (Can be changed in menu)<br>You can calibrate the rudder from the XDi menu.<br>Support for NX1 NMEA output module and CAN TPDO se description in VS04. |

## VI-setup profiles (VS) for VI006

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 10 | VS10 NMEA 1 | **Input NMEA/XDi-net**<br>For single/starboard rudder<br>(instance 1)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines |  | Use this VS for Starboard rudder or Single rudder. If the NMEA data (RSA, ROR) contains portside data, they will also be converted and sent through XDi-net:<br>STBD: 0x3001<br>PORT: 0x3002<br><br>If a port rudder data is received via RSA as starboard/single data:<br><br>- Portside indicator for system WITHOUT XDi-net: Use this VS and select the Port rudder headline in the install menu.<br><br>- Portside indicator for system WITH XDi-net: Use VS 010. |
| 11 | VS11 NMEA 2 | **Input NMEA/XDi-net**<br>For Portside rudder<br>(instance 2)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br><br>Selectable headlines |  | This VS is used to show Port rudder.<br>If the data comes in RSA/ROR sentence containing both Starboard and Port data no changes are required.<br>If the data comes in RSA/ROR sentence containing only single data from the Port rudder sensor (RSA,x.x,A,,V where x.x is single or STBD angle data) the NMEA settings need to be changed:<br>- Go to "Install" menu/"NMEA setup"/"NMEA input setup…"<br>- Press OK to "Auto scan and input selection…"<br>- Select "Stop scan – manual select…", press OK<br>- Press OK to "PROPULSION"<br>- Set "Angle Rudder/Azi 2" to ….RSAs<br>- Set "Ang. Rud/Azi Com 2" to ….RORs<br>- Set "Angle Rudder/Azi 1" to XDi-net<br>- Set "Ang. Rud/Azi Com 1" to XDi-net<br>- Press repeatedly on back button |

**VI 007** **±70 deg FWD**




**Description :** **RUDDER FWD ±70 DEG**

Rudder 70-0-70 deg.
Rudder ±180 deg. digital readout

All with set point

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI007

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: XDi-net<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI007

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activate only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 3 | VS03 CAN/Analog | **Analogue set point**<br>Requried: AX1 in Slot 1<br>Rudder angle: CAN TPDO (RTC)/(XDi-net)<br>TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 4 | VS04 Analogue | **Analogue System**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI007

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 5 | VS05 SIN/COS | **SIN/COS - CAN**<br>Required: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 6 | VS06 SIN/COS | **Analogue set point**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder angle set-point: AX1 S2i1:<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10) |  | See similar VS profile for VI001 |
| 7 | VS07 Analog/CAN | **Analog/CAN set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br><br>Rudder angle set-point: XDi-net<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

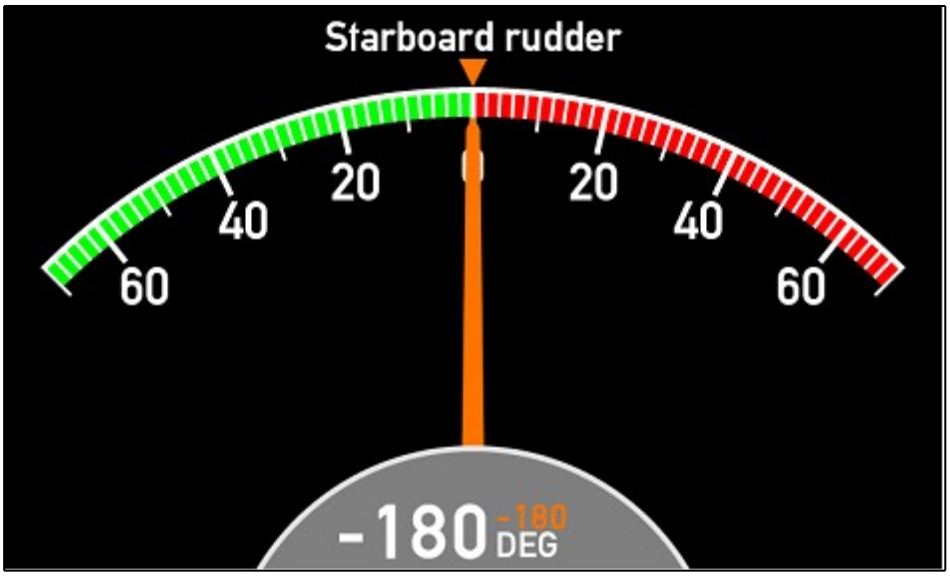
## VI-setup profiles (VS) for VI007

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 8 | VS08 CAN/Analog | **CAN/Analog set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br><br>**Output**<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 9 | VS09 Analog 3-wire | **3-wire system**<br>Requried: AX1 in Slot 1<br>Rudder angle:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Witper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection is active<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | 3-wire input use a potentiometer connected between AGND and Vref. The input is measured relative<br>to Vref and is scaled between 0 and 10,000. If Vref is overwritten by an ext. voltage the input is still scaled to 10,000. This means that voltage fluctuation on the ext. supply V is ilinminated.<br>This profile is setup to use an external +24V DC supply connected to Vref (tern.3) and<br>the input signal swing is +/-9V relative to ½Vref. This means: 3.0V = in val. 1250 = -700 (-70.0deg PS)<br>12.0V = in val. 5000 = 0 (0deg) 21.0V = in val. 8750 = +700 (70.0deg SB)<br>AX1 S1 input error is indicated if input voltage <0.1V or >30V (Can be changed in menu)<br>You can calibrate the rudder from the XDi menu.<br>Support for NX1 NMEA output module and CAN TPDO se description in VS04. |

## VI-setup profiles (VS) for VI007

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 10 | VS10 NMEA 1 | **Input NMEA/XDi-net**<br>For single/starboard rudder<br>(instance 1)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines |  | Use this VS for Starboard rudder or Single rudder. If the NMEA data (RSA, ROR) contains portside data, they will also be converted and sent through XDi-net:<br>STBD: 0x3001<br>PORT: 0x3002<br><br>If a port rudder data is received via RSA as starboard/single data:<br><br>- Portside indicator for system WITHOUT XDi-net: Use this VS and select the Port rudder headline in the install menu.<br><br>- Portside indicator for system WITH XDi-net: Use VS 010. |
| 11 | VS11 NMEA 2 | **Input NMEA/XDi-net**<br>For Portside rudder<br>(instance 2)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br><br>Selectable headlines |  | This VS is used to show Port rudder.<br>If the data comes in RSA/ROR sentence containing both Starboard and Port data no changes are required.<br>If the data comes in RSA/ROR sentence containing only single data from the Port rudder sensor (RSA,x.x,A,,V where x.x is single or STBD angle data) the NMEA settings need to be changed:<br>- Go to "Install" menu/"NMEA setup"/"NMEA input setup…"<br>- Press OK to "Auto scan and input selection…"<br>- Select "Stop scan – manual select…", press OK<br>- Press OK to "PROPULSION"<br>- Set "Angle Rudder/Azi 2" to ….RSAs<br>- Set "Ang. Rud/Azi Com 2" to ….RORs<br>- Set "Angle Rudder/Azi 1" to XDi-net<br>- Set "Ang. Rud/Azi Com 1" to XDi-net<br>- Press repeatedly on back button |

**VI 008** **±70 deg AFT**




**Description :** **RUDDER AFT ±70 DEG**

Rudder 70-0-70 deg.
Rudder ±180 deg. digital readout

All with set point

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI008

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: XDi-net<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI008

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activate only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 3 | VS03 CAN/Analog | **Analogue set point**<br>Requried: AX1 in Slot 1<br>Rudder angle: CAN TPDO (RTC)/(XDi-net)<br>TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 4 | VS04 Analogue | **Analogue System**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI008

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 5 | VS05 SIN/COS | **SIN/COS - CAN**<br>Required: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | See similar VS profile for VI001 |
| 6 | VS06 SIN/COS | **Analogue set point**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder angle set-point: AX1 S2i1:<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10) | 🔒 | See similar VS profile for VI001 |
| 7 | VS07 Analog/CAN | **Analog/CAN set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br><br>Rudder angle set-point: XDi-net<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | See similar VS profile for VI001 |

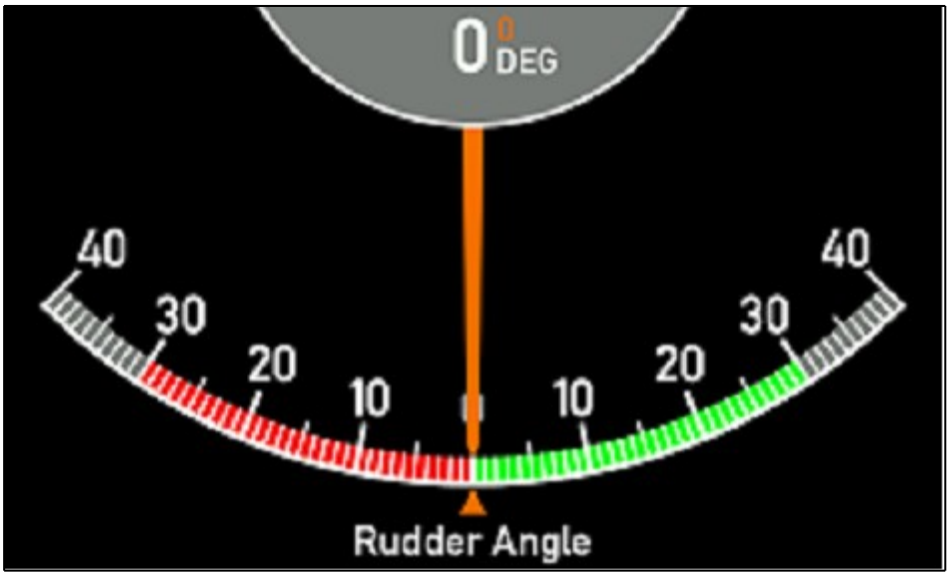
## VI-setup profiles (VS) for VI008

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 8 | VS08 CAN/Analog | **CAN/Analog set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br><br>**Output**<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 9 | VS09 Analog 3-wire | **3-wire system**<br>Requried: AX1 in Slot 1<br>Rudder angle:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Witper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection is active<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | 3-wire input use a potentiometer connected between AGND and Vref. The input is measured relative<br>to Vref and is scaled between 0 and 10,000. If Vref is overwritten by an ext. voltage the input is still scaled to 10,000. This means that voltage fluctuation on the ext. supply V is ilinminated.<br>This profile is setup to use an external +24V DC supply connected to Vref (tern.3) and<br>the input signal swing is +/-9V relative to ½Vref. This means: 3.0V = in val. 1250 = -700 (-70.0deg PS)<br>12.0V = in val. 5000 = 0 (0deg) 21.0V = in val. 8750 = +700 (70.0deg SB)<br>AX1 S1 input error is indicated if input voltage <0.1V or >30V (Can be changed in menu)<br>You can calibrate the rudder from the XDi menu.<br>Support for NX1 NMEA output module and CAN TPDO se description in VS04. |

## VI-setup profiles (VS) for VI008

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 10 | VS10 NMEA 1 | **Input NMEA/XDi-net**<br>For single/starboard rudder<br>(instance 1)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines |  | Use this VS for Starboard rudder or Single rudder. If the NMEA data (RSA, ROR) contains portside data, they will also be converted and sent through XDi-net:<br>STBD: 0x3001<br>PORT: 0x3002<br><br>If a port rudder data is received via RSA as starboard/single data:<br><br>- Portside indicator for system WITHOUT XDi-net: Use this VS and select the Port rudder headline in the install menu.<br><br>- Portside indicator for system WITH XDi-net: Use VS 010. |
| 11 | VS11 NMEA 2 | **Input NMEA/XDi-net**<br>For Portside rudder<br>(instance 2)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br><br>Selectable headlines |  | This VS is used to show Port rudder.<br>If the data comes in RSA/ROR sentence containing both Starboard and Port data no changes are required.<br>If the data comes in RSA/ROR sentence containing only single data from the Port rudder sensor (RSA,x.x,A,,V where x.x is single or STBD angle data) the NMEA settings need to be changed:<br>- Go to "Install" menu/"NMEA setup"/"NMEA input setup…"<br>- Press OK to "Auto scan and input selection…"<br>- Select "Stop scan – manual select…", press OK<br>- Press OK to "PROPULSION"<br>- Set "Angle Rudder/Azi 2" to ….RSAs<br>- Set "Ang. Rud/Azi Com 2" to ….RORs<br>- Set "Angle Rudder/Azi 1" to XDi-net<br>- Set "Ang. Rud/Azi Com 1" to XDi-net<br>- Press repeatedly on back button |

**VI 009** **±40 deg Adjust**




**Description :** **RUDDER Adjustable**

Adjustable endpoints using warningsmark to control grey section to make rudder below ±40 degrees

Rudder max 40-0-40 deg.
Rudder ±180 deg. digital readout
All with set point

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI009

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: XDi-net<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI009

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activate only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 3 | VS03 CAN/Analog | **Analogue set point**<br>Requried: AX1 in Slot 1<br>Rudder angle: CAN TPDO (RTC)/(XDi-net)<br>TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 4 | VS04 Analogue | **Analogue System**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI009

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 5 | VS05 SIN/COS | **SIN/COS - CAN**<br>Required: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 6 | VS06 SIN/COS | **Analogue set point**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder angle set-point: AX1 S2i1:<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10) |  | See similar VS profile for VI001 |
| 7 | VS07 Analog/CAN | **Analog/CAN set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br><br>Rudder angle set-point: XDi-net<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

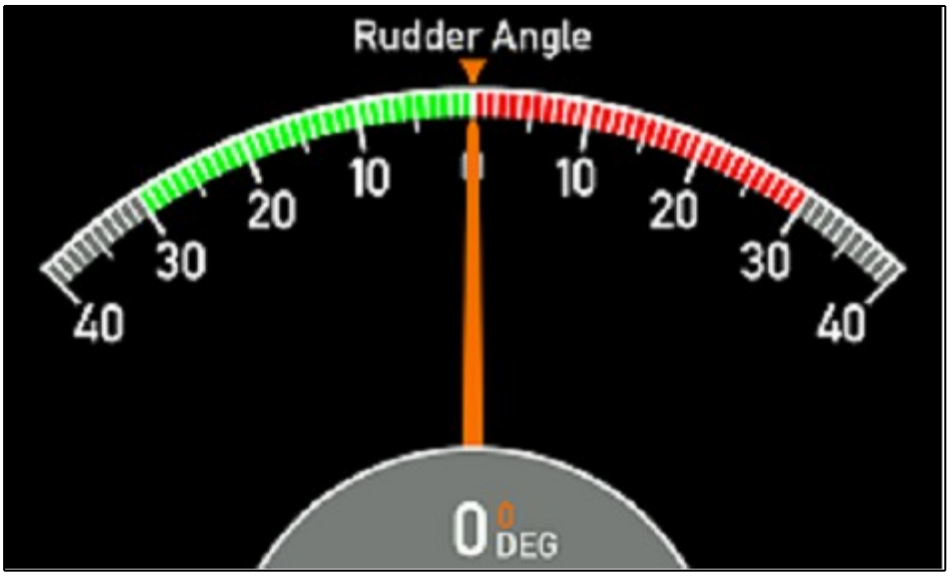
## VI-setup profiles (VS) for VI009

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 8 | VS08 CAN/Analog | **CAN/Analog set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br><br>**Output**<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 9 | VS09 Analog 3-wire | **3-wire system**<br>Requried: AX1 in Slot 1<br>Rudder angle:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Witper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection is active<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | 3-wire input use a potentiometer connected between AGND and Vref. The input is measured relative<br>to Vref and is scaled between 0 and 10,000. If Vref is overwritten by an ext. voltage the input is still scaled to 10,000. This means that voltage fluctuation on the ext. supply V is ilinminated.<br>This profile is setup to use an external +24V DC supply connected to Vref (tern.3) and<br>the input signal swing is +/-9V relative to ½Vref. This means: 3.0V = in val. 1250 = -400 (-40.0deg PS)<br>12.0V = in val. 5000 = 0 (0deg) 21.0V = in val. 8750 = +400 (40.0deg SB)<br>AX1 S1 input error is indicated if input voltage <0.1V or >30V (Can be changed in menu)<br>You can calibrate the rudder from the XDi menu.<br>Support for NX1 NMEA output module and CAN TPDO se description in VS04. |

## VI-setup profiles (VS) for VI009

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 10 | VS10 NMEA 1 | **Input NMEA/XDi-net**<br>For single/starboard rudder<br>(instance 1)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines |  | Use this VS for Starboard rudder or Single rudder. If the NMEA data (RSA, ROR) contains portside data, they will also be converted and sent through XDi-net:<br>STBD: 0x3001<br>PORT: 0x3002<br><br>If a port rudder data is received via RSA as starboard/single data:<br><br>- Portside indicator for system WITHOUT XDi-net: Use this VS and select the Port rudder headline in the install menu.<br><br>- Portside indicator for system WITH XDi-net: Use VS 010. |
| 11 | VS11 NMEA 2 | **Input NMEA/XDi-net**<br>For Portside rudder<br>(instance 2)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br><br>Selectable headlines |  | This VS is used to show Port rudder.<br>If the data comes in RSA/ROR sentence containing both Starboard and Port data no changes are required.<br>If the data comes in RSA/ROR sentence containing only single data from the Port rudder sensor (RSA,x.x,A,,V where x.x is single or STBD angle data) the NMEA settings need to be changed:<br>- Go to "Install" menu/"NMEA setup"/"NMEA input setup…"<br>- Press OK to "Auto scan and input selection…"<br>- Select "Stop scan – manual select…", press OK<br>- Press OK to "PROPULSION"<br>- Set "Angle Rudder/Azi 2" to ….RSAs<br>- Set "Ang. Rud/Azi Com 2" to ….RORs<br>- Set "Angle Rudder/Azi 1" to XDi-net<br>- Set "Ang. Rud/Azi Com 1" to XDi-net<br>- Press repeatedly on back button |

**VI 010** **±40 deg Adjust**




**Description :** **RUDDER Adjustable**

Adjustable endpoints using warningsmark to control grey section to make rudder below ±40 degrees

Rudder max 40-0-40 deg.
Rudder ±180 deg. digital readout
All with set point

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI010

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: XDi-net<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI010

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activate only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 3 | VS03 CAN/Analog | **Analogue set point**<br>Requried: AX1 in Slot 1<br>Rudder angle: CAN TPDO (RTC)/(XDi-net)<br>TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Default OFF)<br>Activater only on one XDi on the CAN bus!<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 4 | VS04 Analogue | **Analogue System**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

## VI-setup profiles (VS) for VI010

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 5 | VS05 SIN/COS | **SIN/COS - CAN**<br>Required: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder set-point: TPDO1 - COBID 0x1A1<br>16bit signed (or via XDi-net)<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 6 | VS06 SIN/COS | **Analogue set point**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br><br>Rudder angle set-point: AX1 S2i1:<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10) |  | See similar VS profile for VI001 |
| 7 | VS07 Analog/CAN | **Analog/CAN set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Input lost detection below 3.5mA<br><br>Rudder angle set-point: XDi-net<br><br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |

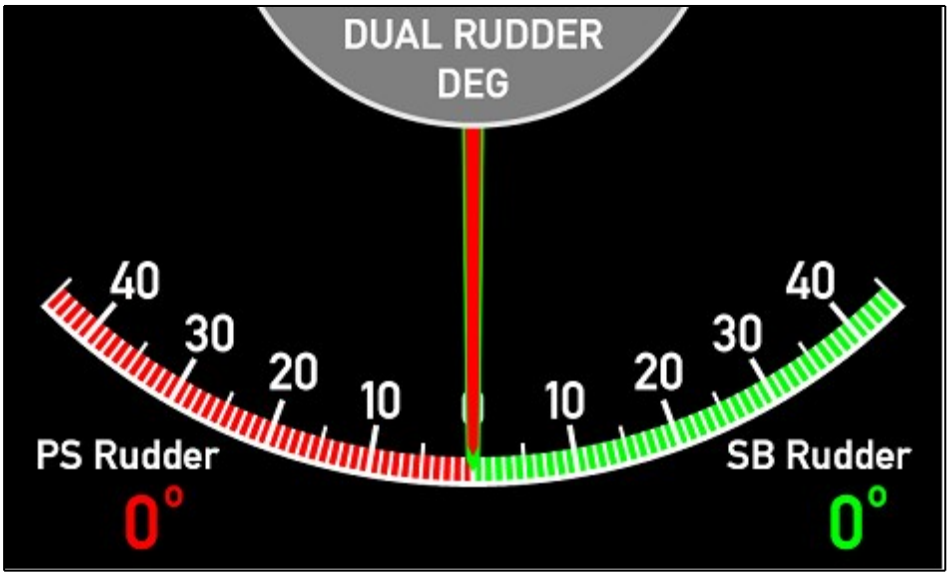
## VI-setup profiles (VS) for VI010

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 8 | VS08 CAN/Analog | **CAN/Analog set-point**<br>Requried: AX1 in Slot 1<br><br>Rudder angle: XDi-net<br><br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br><br>**Output**<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | See similar VS profile for VI001 |
| 9 | VS09 Analog 3-wire | **3-wire system**<br>Requried: AX1 in Slot 1<br>Rudder angle:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Witper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle set-point: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection is active<br>**Output**<br>Rudder angle: CAN TPDO1 - COBID 0x18A<br>absolute angle 0.1deg. resolution<br>(Always ON)<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu |  | 3-wire input use a potentiometer connected between AGND and Vref. The input is measured relative<br>to Vref and is scaled between 0 and 10,000. If Vref is overwritten by an ext. voltage the input is still scaled to 10,000. This means that voltage fluctuation on the ext. supply V is ilinminated.<br>This profile is setup to use an external +24V DC supply connected to Vref (tern.3) and<br>the input signal swing is +/-9V relative to ½Vref. This means: 3.0V = in val. 1250 = -400 (-40.0deg PS)<br>12.0V = in val. 5000 = 0 (0deg) 21.0V = in val. 8750 = +400 (40.0deg SB)<br>AX1 S1 input error is indicated if input voltage <0.1V or >30V (Can be changed in menu)<br>You can calibrate the rudder from the XDi menu.<br>Support for NX1 NMEA output module and CAN TPDO se description in VS04. |

## VI-setup profiles (VS) for VI010

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 10 | VS10 NMEA 1 | **Input NMEA/XDi-net**<br>For single/starboard rudder<br>(instance 1)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines |  | Use this VS for Starboard rudder or Single rudder. If the NMEA data (RSA, ROR) contains portside data, they will also be converted and sent through XDi-net:<br>STBD: 0x3001<br>PORT: 0x3002<br><br>If a port rudder data is received via RSA as starboard/single data:<br><br>- Portside indicator for system WITHOUT XDi-net: Use this VS and select the Port rudder headline in the install menu.<br><br>- Portside indicator for system WITH XDi-net: Use VS 010. |
| 11 | VS11 NMEA 2 | **Input NMEA/XDi-net**<br>For Portside rudder<br>(instance 2)<br>Requires NX2 module or XDi-net<br><br>Rudder angle: NMEA<br>Rudder angle set: NMEA<br><br>Selectable headlines |  | This VS is used to show Port rudder.<br>If the data comes in RSA/ROR sentence containing both Starboard and Port data no changes are required.<br>If the data comes in RSA/ROR sentence containing only single data from the Port rudder sensor (RSA,x.x,A,,V where x.x is single or STBD angle data) the NMEA settings need to be changed:<br>- Go to "Install" menu/"NMEA setup"/"NMEA input setup…"<br>- Press OK to "Auto scan and input selection…"<br>- Select "Stop scan – manual select…", press OK<br>- Press OK to "PROPULSION"<br>- Set "Angle Rudder/Azi 2" to ….RSAs<br>- Set "Ang. Rud/Azi Com 2" to ….RORs<br>- Set "Angle Rudder/Azi 1" to XDi-net<br>- Set "Ang. Rud/Azi Com 1" to XDi-net<br>- Press repeatedly on back button |

**VI 011** **2x±45 deg FWD**




**Description :** **DUAL RUDDER FWD**

±45 DEGREES

Rudder 45-0-45 deg.
Digital readout ±180 deg.
With selectable headline and two labels

**Status :**

**VI Notes :**

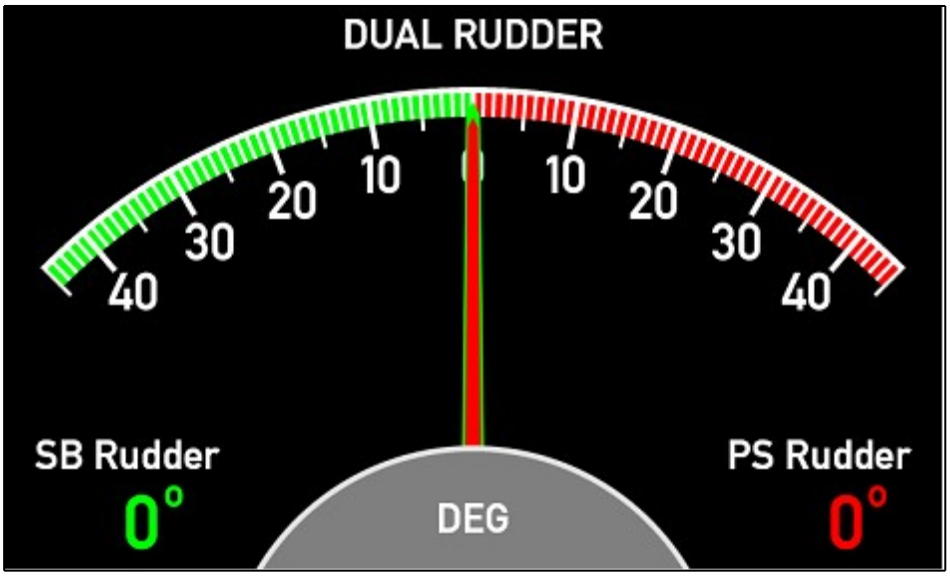
## VI-setup profiles (VS) for VI011

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle SB: XDi-net 0x3001:02<br><br>Rudder angle PS: XDi-net 0x3002:02<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | |
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle SB TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder angle PS TPDO1 - COBID 0x182<br>16bit signed (RTC 300 or 600)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | |

## VI-setup profiles (VS) for VI011

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 3 | VS03 Analogue | **Analogue input / TPDO out**<br>Requried: AX1 in Slot 1<br>Rudder angle SB: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Rudder angle PS: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle SB: CAN TPDO1 - COBID 0x18A<br>Rudder angle PS: CAN TPDO1 - COBID 0x18B<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10/11)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | |
| 4 | VS04 An. Sin/Cos | **Analogue Sin/Cos input**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle SB: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br>Rudder angle PS: AX1 S2i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br>**Output**<br>Rudder angle SB: CAN TPDO1 - COBID 0x18A<br>Rudder angle PS: CAN TPDO1 - COBID 0x18B<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10/11)<br>Default OFF - activate via menu | | |
| 5 | VS05 3-wire | **3-wire potmeter / TPDO out**<br>Requried: AX1 in Slot 1 and 2<br>Rudder angle SB:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Wiper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle PS:<br>AX1 S2i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Wiper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>**Output**<br>Rudder angle SB: CAN TPDO1 - COBID 0x18A<br>Rudder angle PS: CAN TPDO1 - COBID 0x18B<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10/11)<br>Default OFF - activate via menu | | |
| 6 | VS06 NMEA | **NMEA**<br>Requires NX2 module or XDi-net<br><br>SB Rudder angle: instance 1<br>PS Rudder angle: instance 2<br><br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines | | |

**VI 012** **2x±45 deg AFT**




**Description :** **DUAL RUDDER AFT**

±45 DEGREES

Rudder 45-0-45 deg.
Digital readout ±180 deg.
With selectable headline and two labels

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI012

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle SB: XDi-net 0x3001:02<br><br>Rudder angle PS: XDi-net 0x3002:02<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | |
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle SB TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder angle PS TPDO1 - COBID 0x182<br>16bit signed (RTC 300 or 600)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | |

## VI-setup profiles (VS) for VI012

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 3 | VS03 Analogue | **Analogue input / TPDO out**<br>Requried: AX1 in Slot 1<br>Rudder angle SB: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Rudder angle PS: AX1 S1i2<br>4-20mA (+term5, -term4)<br>Input lost detection below 3.5mA<br>**Output**<br>Rudder angle SB: CAN TPDO1 - COBID 0x18A<br>Rudder angle PS: CAN TPDO1 - COBID 0x18B<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10/11)<br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | 🔒 | |
| 4 | VS04 An. Sin/Cos | **Analogue Sin/Cos input**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle SB: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br>Rudder angle PS: AX1 S2i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br>**Output**<br>Rudder angle SB: CAN TPDO1 - COBID 0x18A<br>Rudder angle PS: CAN TPDO1 - COBID 0x18B<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10/11)<br>Default OFF - activate via menu | 🔒 | |
| 5 | VS05 3-wire | **3-wire potmeter / TPDO out**<br>Requried: AX1 in Slot 1 and 2<br>Rudder angle SB:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Wiper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle PS:<br>AX1 S2i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Wiper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>**Output**<br>Rudder angle SB: CAN TPDO1 - COBID 0x18A<br>Rudder angle PS: CAN TPDO1 - COBID 0x18B<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10/11)<br>Default OFF - activate via menu | 🔒 | |
| 6 | VS06 NMEA | **NMEA**<br>Requires NX2 module or XDi-net<br><br>SB Rudder angle: instance 1<br>PS Rudder angle: instance 2<br><br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines | 🔒 | |

**VI 013** **2xRudder FWD**


**Description :** **Dual rudder FWD**

Dual rudder +/-45deg.

Rudder 45-0-45 deg.
Digital readout ±180 deg.
Selectable headlines

**Status :**

**VI Notes :**

## VI-setup profiles (VS) for VI013

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 1 | VS01 XDi-net | **All input via XDi-net**<br><br>Rudder angle SB: XDi-net 0x3001:02<br>Rudder angle PS: XDi-net 0x3002:02<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | |
| 2 | VS02 RTC / TPDO | **RTC / TPDO**<br>or XDi-net<br><br>Rudder angle SB TPDO1 - COBID 0x181<br>16bit signed (RTC 300 or 600)<br>Rudder angle PS TPDO1 - COBID 0x182<br>16bit signed (RTC 300 or 600)<br><br>NMEA0183 output requires NX1<br>Default OFF - activate via menu | | |

## VI-setup profiles (VS) for VI013

| VS No. | Name | Description | Status | Notes |
|---|---|---|---|---|
| 3 | VS03 Analogue | **Analogue input**<br>Requried: AX1 in Slot 1<br>Rudder angle SB: AX1 S1i1<br>4-20mA (+term9, -term8)<br>Rudder angle PS: AX1 S1i2<br>4-20mA (+term5, -term4)<br>**Output**<br>(Default OFF - activate via menu)<br>SB: CAN TPDO1 - 0x18A<br>PS: CAN TPDO1 - 0x18B<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10/11)<br>NMEA0183 output requires NX1 | | |
| 4 | VS04 An. Sin/Cos | **Analogue Sin/Cos input**<br>Required: AX1 in Slot 1 and 2<br><br>Rudder angle SB: AX1 S1i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br>Rudder angle PS: AX1 S2i1+2: ±10V SIN/COS<br>(SIN term11, COS term7, GND term1)<br>**Output**<br>(Default OFF - activate via menu)<br>SB: CAN TPDO1 - 0x18A<br>PS: CAN TPDO1 - 0x18B<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10/11)<br>NMEA0183 output requires NX1 | | |
| 5 | VS05 3-wire | **3-wire potmeter / TPDO out**<br>Requried: AX1 in Slot 1 and 2<br>Rudder angle SB:<br>AX1 S1i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Wiper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>Rudder angle PS:<br>AX1 S2i1 Potentiometer (3-wire)<br>(0V(-) trm.1, Wiper trm.11 and +trm.3)<br>Vref.(trm. 3) connect to +24V (max.30V)<br>**Output**<br>(Default OFF - activate via menu)<br>SB: CAN TPDO1 - 0x18A<br>PS: CAN TPDO1 - 0x18B<br>for XL, BW, BRW-2, TRI-2 (sCAN, sID10/11)<br>NMEA0183 output requires NX1 | | |
| 6 | VS06 NMEA | **NMEA**<br>Requires NX2 module or XDi-net<br><br>SB Rudder angle: instance 1<br>PS Rudder angle: instance 2<br><br>Shares NMEA data STB and port on XDi-net<br><br>Selectable headlines | | |