XDi 96 Dual

Waterjet

Library owner: DEIF STANDARD LIB

Library number: 32

Library version: 2004

Table of Contents

Library description :
This XDi Dual library contains a selection of waterjet indicators (VI) for forward (FWD) and aft (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. There is no supports for NX1 NMEA output extension module. A selection of dimmer input configurations are available in the selection of product profiles (PP). 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. XDi-net is default ON in all product profiles.

Library status symbols :	
	Released & Locked
	Approved
	Pending
	Draft
	Not approved

Timestamp 08-02-2023 15:30:27

Library Specification

Library owner no. :	000001
Library owner name :	DEIF STANDARD LIB
Product type :	XDi 96
Performance class :	Dual
Library number :	32
Library name :	Waterjet
Library orientation :	Landscape
Library status :	Released & Locked
Library version :	2004
Last changed :	08-02-2023 15:30:23

Library default settings :

180 display rotation :	False
CAN NodeID :	30

Library notes :

08-02-2023/MAP, Ver. 2004: 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.

02-08-2022/JOL, Ver.2003: Input lost function for AX1 4-20mA inputs are added to all relevant VS profiles.
The default backlight level for menu is changed from 50 to 70% in all PPs.

27-03-2019/JOL. Ver. 2002 the indicator scales and colours in this library is updated to comply with new requirements from DNV-GL.
The position of the bucket is indicated by a bar graph (+/-100%) and it is also indicated around zero position by a line pointer, so that it is always clear where the bucket i located..

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 Dimmer** or via front buttons (Requires 4 button kit) XDi-net active **Default settings:** Dimmer group 1 Dimming via XDi-net Auto Day/Night Shift at 70% Monitoring supply volt. 1	🔒	CANbus and Dimmer settings can be changed from XDi menu With the 4-button front kit mounted (accessory) dimmer up/down can be controlled from front button 2 and 3.
2	PP02 Analogue	**A Dimmer** Required: AX1 in Slot 1 Dim potmeter(+term 3 -term 1, wiper term 2) Can be reconfigured to voltage input **Default settings:** Dimmer group 1 Analogue Potmeter 0 to Vref (max. 30V) Auto Day/Night Shift at 70% Shared on XDi-net Monitoring supply volt.1	🔒	An external ref. voltage >7.5V can be connected to Vref out overwriting the internal Vref. From the user menu, you can alternatively reconfigure the analogue dimmer input to a normal voltage input.
3	PP03 CAN	**CAN Dimmer** CANopen TPDO dimming Front buttons can be used for dimmer. **Default settings:** Dimmer group 1 Auto Day/Night Shift at 70% Monitoring supply volt. 1	🔒	DEIF default TPDO's are predefined and used in all standard libraries. The default TPDO's for dimmer group control can be changed to any TPDO or RPDO via user menu.
4	PP04 Digital	**Digital Dimmer** Required: DX1 in Slot 1 Digital input 1 up (+term 11,- term 10) Digital input 2 down (+term 8,- term 7) Simultaneous activation of IN1 and IN2 for Day/Night Shift **Default settings:** Dimmer group 1 Shared on XDi-net Monitoring supply volt. 1	🔒	Digital input configuration can be changed from menu.

PP No.	PP Name	Description	Status	Notes
5	PP05 Lo Analog	**Analogue Dimmer Local** Required: AX1 in Slot 1 Dim potmeter(+term 3 - term 1, wiper term 2) Can be reconfigured to voltage input **Default settings:** Dimmer group: Local Analogue Potmeter 0 to Vref (max. 30V) Auto Day/Night Shift at 70% (Local-Not shared XDi-net) Monitoring supply volt. 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 ECR Fixed	**ECR Fixed Dimmer** Dimming setting via user menu or front buttons **Default settings:** Dimmer group Local Fixed dimmer level 80% Higher constant backlight level reduce lifetime (Local-Not shared XDi-net) Auto Day/Night Shift at 20% Monitoring supply volt. 1		Default fixed dimmer level is reduced to 80% to extend backlight life. Dimmer level and Day/Night colour can be changed from user menu.

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	40dg FWD	4		
002	35dg FWD	4		
003	30dg FWD	4		
004	25dg FWD	4		
005	40dg AFT	4		
006	35dg AFT	4		
007	30dg AFT	4		
008	25dg AFT	4		

Approvals only apply for XDi 192.

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VI 001 **40dg FWD**

Description : **Waterjet +/-40 FWD**

Angle +/- 40 deg and
bucket +/- 100%

Select: Headline
Digital can be disabled.

Status :

VI Notes : It is possible to change the headline (Waterjet), the label (Bucket)
It is also possible to disable digital readout and make its unit (DEG) invisible.

VI-setup profiles (VS) for VI001

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net** Waterjet angle: XDi-net Bucket: XDi-net Universal param. 0x3701 (Gr.0, inst.1) is used for bucket value input		Input value out of range indication: Nozzle angle: Outside +/45deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%.

VI-setup profiles (VS) for VI001

VS No.	Name	Description	Status	Notes
2	VS02 CAN rel.	**TPDO / XDi-net** Waterjet angle: TPDO 0x181, 16 bit relative: +40deg = 7282 (0x1C72) -40deg = -7282 (0xE38E) (f.ex. DEIF RTC sensor) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
3	VS03 CAN abs.	**TPDO / XDi-net** Waterjet angle: TPDO 0x18A 16 bit absolute: +40deg = 400 (0x190) -40deg = -400 (0xFE70) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
4	VS04 Analogue	**Analogue** Waterjet angle: AX1 S1i1 4-20mA (+term.9, -term.8) 4mA = PS max. angle. 20mA = SB max. angle. Bucket: AX1 S1,i2 4mA = Max astern 20mA = Max ahead AX1 input lost below 3.5mA	🔒	Input lost indication (4-20mA): Nozzle angle: Outside +/45deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%. If you change input type or input range remember to change input error value max and min. (Default set to 3500µA and 21000µA)

VI 002 **35dg FWD**

Description : **Waterjet +/-35 FWD**

Angle +/- 35 deg and
bucket +/- 100%

Select: Headline
Digital can be disabled.

Status :

VI Notes : The gray scale sections are due to MED / ISO20673 rudder indicator minimum +/-40deg.
It is possible to change the headline (Waterjet), the label (Bucket)
It is also possible to disable digital readout and make its unit (DEG) invisible.

VI-setup profiles (VS) for VI002

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net** Waterjet angle: XDi-net Bucket: XDi-net Universal param. 0x3701 (Gr.0, inst.1) is used for bucket value input		Input value out of range indication: Nozzle angle: Outside +/40deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%.

VI-setup profiles (VS) for VI002

VS No.	Name	Description	Status	Notes
2	VS02 CAN rel.	**TPDO / XDi-net** Waterjet angle: TPDO 0x181, 16 bit relative: +35deg = 6370 (0x18E8) -35deg = -6370 (0xE71E) (f.ex. DEIF RTC sensor) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
3	VS03 CAN abs.	**TPDO / XDi-net** Waterjet angle: TPDO 0x18A 16 bit absolute: +35deg = 350 (0x15E) -35deg = -350 (0xFEA2) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
4	VS04 Analogue	**Analogue** Waterjet angle: AX1 S1i1 4-20mA (+term.9, -term.8) 4mA = PS max. angle. 20mA = SB max. angle. Bucket: AX1 S1,i2 4mA = Max astern 20mA = Max ahead AX1 input lost below 3.5mA	🔒	Input lost indication (4-20mA): Nozzle angle: Outside +/40deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%. If you change input type or input range remember to change input error value max and min. (Default set to 3500µA and 21000µA)

VI 003 **30dg FWD**

Description : **Waterjet +/-30 FWD**

Angle +/- 30 deg and
bucket +/- 100%

Select: Headline
Digital can be disabled.

Status :

VI Notes : The gray scale sections are due to MED / ISO20673 rudder indicator minimum +/-40deg.
It is possible to change the headline (Waterjet), the label (Bucket)
It is also possible to disable digital readout and make its unit (DEG) invisible.

VI-setup profiles (VS) for VI003

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net** Waterjet angle: XDi-net Bucket: XDi-net Universal param. 0x3701 (Gr.0, inst.1) is used for bucket value input		Input value out of range indication: Nozzle angle: Outside +/35deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%.

VI-setup profiles (VS) for VI003

VS No.	Name	Description	Status	Notes
2	VS02 CAN rel.	**TPDO / XDi-net** Waterjet angle: TPDO 0x181, 16 bit relative: +30deg = 5460 (0x1554) -30deg = -5460 (0xEAAC) (f.ex. DEIF RTC sensor) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
3	VS03 CAN abs.	**TPDO / XDi-net** Waterjet angle: TPDO 0x18A 16 bit absolute: +30deg = 300 (0x12C) -30deg = -300 (0xFED4) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
4	VS04 Analogue	**Analogue** Waterjet angle: AX1 S1i1 4-20mA (+term.9, -term.8) 4mA = PS max. angle. 20mA = SB max. angle. Bucket: AX1 S1,i2 4mA = Max astern 20mA = Max ahead AX1 input lost below 3.5mA	🔒	Input lost indication (4-20mA): Nozzle angle: Outside +/35deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%. If you change input type or input range remember to change input error value max and min. (Default set to 3500µA and 21000µA)

VI 004 **25dg FWD**

Description : **Waterjet +/-25 FWD**

Angle +/- 25 deg and
bucket +/- 100%

Select: Headline
Digital can be disabled.

Status :

VI Notes : The gray scale sections are due to MED / ISO20673 rudder indicator minimum +/-40deg.
It is possible to change the headline (Waterjet), the label (Bucket)
It is also possible to disable digital readout and make its unit (DEG) invisible.

VI-setup profiles (VS) for VI004

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net** Waterjet angle: XDi-net Bucket: XDi-net Universal param. 0x3701 (Gr.0, inst.1) is used for bucket value input		Input value out of range indication: Nozzle angle: Outside +/30deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%.

VI-setup profiles (VS) for VI004

VS No.	Name	Description	Status	Notes
2	VS02 CAN rel.	**TPDO / XDi-net** Waterjet angle: TPDO 0x181, 16 bit relative: +25deg = 4550 (0x11C6) -25deg = -4550 (0xEE3A) (f.ex. DEIF RTC sensor) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
3	VS03 CAN abs.	**TPDO / XDi-net** Waterjet angle: TPDO 0x18A 16 bit absolute: +25deg = 250 (0x00FA) -25deg = -250 (0xFF06) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
4	VS04 Analogue	**Analogue** Waterjet angle: AX1 S1i1 4-20mA (+term.9, -term.8) 4mA = PS max. angle. 20mA = SB max. angle. Bucket: AX1 S1,i2 4mA = Max astern 20mA = Max ahead AX1 input lost below 3.5mA	🔒	Input lost indication (4-20mA): Nozzle angle: Outside +/30deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%. If you change input type or input range remember to change input error value max and min. (Default set to 3500µA and 21000µA)

VI 005 **40dg AFT**

Description : **Waterjet +/-40 AFT**

Angle +/- 40 deg and
bucket +/- 100%

Select: Headline
Digital can be disabled.

Status :

VI Notes : This indicator is for use on the aft bridge
It is possible to change the headline (Waterjet), the label (Bucket)
It is also possible to disable digital readout and make its unit (DEG) invisible.

VI-setup profiles (VS) for VI005

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net** Waterjet angle: XDi-net Bucket: XDi-net Universal param. 0x3701 (Gr.0, inst.1) is used for bucket value input		Input value out of range indication: Nozzle angle: Outside +/45deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%.

VI-setup profiles (VS) for VI005

VS No.	Name	Description	Status	Notes
2	VS02 CAN rel.	**TPDO / XDi-net** Waterjet angle: TPDO 0x181, 16 bit relative: +40deg = 7282 (0x1C72) -40deg = -7282 (0xE38E) (f.ex. DEIF RTC sensor) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
3	VS03 CAN abs.	**TPDO / XDi-net** Waterjet angle: TPDO 0x18A 16 bit absolute: +40deg = 400 (0x190) -40deg = -400 (0xFE70) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
4	VS04 Analogue	**Analogue** Waterjet angle: AX1 S1i1 4-20mA (+term.9, -term.8) 4mA = PS max. angle. 20mA = SB max. angle. Bucket: AX1 S1,i2 4mA = Max astern 20mA = Max ahead AX1 input lost below 3.5mA	🔒	Input lost indication (4-20mA): Nozzle angle: Outside +/45deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%. If you change input type or input range remember to change input error value max and min. (Default set to 3500µA and 21000µA)

VI 006 **35dg AFT**

Description : **Waterjet +/-35 AFT**

Angle +/- 35 deg and
bucket +/- 100%

Select: Headline
Digital can be disabled.

Status :

VI Notes : The gray scale sections are due to MED / ISO20673 rudder indicator minimum +/-40deg.
It is possible to change the headline (Waterjet), the label (Bucket)
It is also possible to disable digital readout and make its unit (DEG) invisible.

VI-setup profiles (VS) for VI006

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net** Waterjet angle: XDi-net Bucket: XDi-net Universal param. 0x3701 (Gr.0, inst.1) is used for bucket value input		Input value out of range indication: Nozzle angle: Outside +/40deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%.

VI-setup profiles (VS) for VI006

VS No.	Name	Description	Status	Notes
2	VS02 CAN rel.	**TPDO / XDi-net** Waterjet angle: TPDO 0x181, 16 bit relative: +35deg = 6370 (0x18E8) -35deg = -6370 (0xE71E) (f.ex. DEIF RTC sensor) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
3	VS03 CAN abs.	**TPDO / XDi-net** Waterjet angle: TPDO 0x18A 16 bit absolute: +35deg = 350 (0x15E) -35deg = -350 (0xFEA2) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
4	VS04 Analogue	**Analogue** Waterjet angle: AX1 S1i1 4-20mA (+term.9, -term.8) 4mA = PS max. angle. 20mA = SB max. angle. Bucket: AX1 S1,i2 4mA = Max astern 20mA = Max ahead AX1 input lost below 3.5mA	🔒	Input lost indication (4-20mA): Nozzle angle: Outside +/40deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%. If you change input type or input range remember to change input error value max and min. (Default set to 3500µA and 21000µA)

VI 007 **30dg AFT**

Description : **Waterjet +/-30 AFT**

Angle +/- 30 deg and
bucket +/- 100%

Select: Headline
Digital can be disabled.

Status :

VI Notes : The gray scale sections are due to MED / ISO20673 rudder indicator minimum +/-40deg.
It is possible to change the headline (Waterjet), the label (Bucket)
It is also possible to disable digital readout and make its unit (DEG) invisible.

VI-setup profiles (VS) for VI007

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net** Waterjet angle: XDi-net Bucket: XDi-net Universal param. 0x3701 (Gr.0, inst.1) is used for bucket value input		Input value out of range indication: Nozzle angle: Outside +/35deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%.

VI-setup profiles (VS) for VI007

VS No.	Name	Description	Status	Notes
2	VS02 CAN rel.	**TPDO / XDi-net** Waterjet angle: TPDO 0x181, 16 bit relative: +30deg = 5460 (0x1554) -30deg = -5460 (0xEAAC) (f.ex. DEIF RTC sensor) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
3	VS03 CAN abs.	**TPDO / XDi-net** Waterjet angle: TPDO 0x18A 16 bit absolute: +30deg = 300 (0x12C) -30deg = -300 (0xFED4) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.	🔒	If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
4	VS04 Analogue	**Analogue** Waterjet angle: AX1 S1i1 4-20mA (+term.9, -term.8) 4mA = PS max. angle. 20mA = SB max. angle. Bucket: AX1 S1,i2 4mA = Max astern 20mA = Max ahead AX1 input lost below 3.5mA	🔒	Input lost indication (4-20mA): Nozzle angle: Outside +/35deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%. If you change input type or input range remember to change input error value max and min. (Default set to 3500µA and 21000µA)

VI 008 **25dg AFT**

Description : **Waterjet +/-25 AFT**

Angle +/- 25 deg and
bucket +/- 100%

Select: Headline
Digital can be disabled.

Status :

VI Notes : The gray scale sections are due to MED / ISO20673 rudder indicator minimum +/-40deg.
It is possible to change the headline (Waterjet), the label (Bucket)
It is also possible to disable digital readout and make its unit (DEG) invisible.

VI-setup profiles (VS) for VI008

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net** Waterjet angle: XDi-net Bucket: XDi-net Universal param. 0x3701 (Gr.0, inst.1) is used for bucket value input		Input value out of range indication: Nozzle angle: Outside +/30deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%.

VI-setup profiles (VS) for VI008

VS No.	Name	Description	Status	Notes
2	VS02 CAN rel.	**TPDO / XDi-net** Waterjet angle: TPDO 0x181, 16 bit relative: +25deg = 4550 (0x11C6) -25deg = -4550 (0xEE3A) (f.ex. DEIF RTC sensor) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.		If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
3	VS03 CAN abs.	**TPDO / XDi-net** Waterjet angle: TPDO 0x18A 16 bit absolute: +25deg = 250 (0x00FA) -25deg = -250 (0xFF06) Bucket: TPDO 0x189 value +/-1000 equal to max / min scale.		If CAN cable or output device is damaged XDi will show a Data lost popup and lost data will flash.
4	VS04 Analogue	**Analogue** Waterjet angle: AX1 S1i1 4-20mA (+term.9, -term.8) 4mA = PS max. angle. 20mA = SB max. angle. Bucket: AX1 S1,i2 4mA = Max astern 20mA = Max ahead AX1 input lost below 3.5mA		Input lost indication (4-20mA): Nozzle angle: Outside +/30deg the pointer will disapear and digital readout will show the out of range value. Bucket %: The bargraph/pointer will disapear at values outside +/-105%. If you change input type or input range remember to change input error value max and min. (Default set to 3500µA and 21000µA)