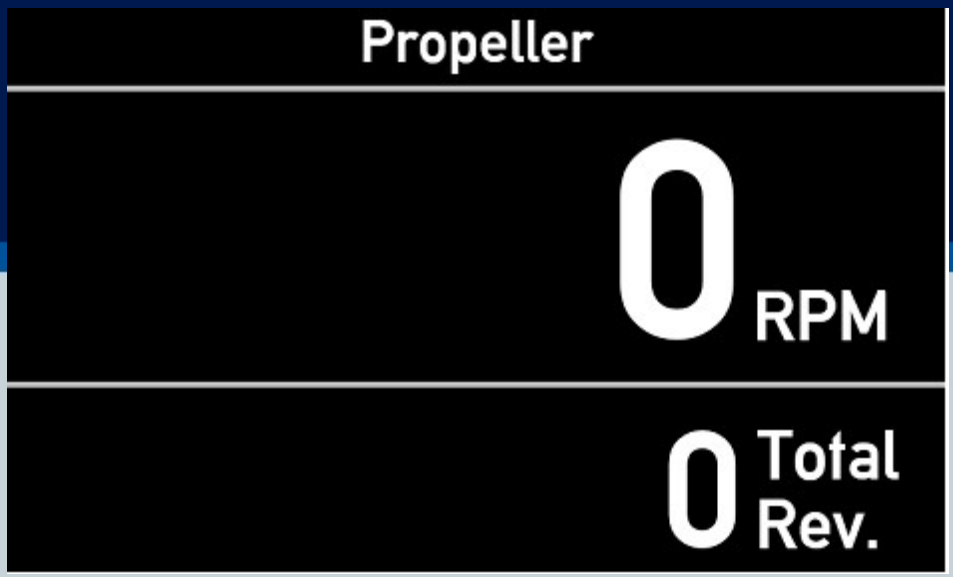
XDi 144/192 Dual

Revolution Counter



Library owner: DEIF STANDARD LIB

Library number: 43

Library version: 2000

Table of Contents

Library description :
DEIF standard library that contains a selection of Revolution Counter indicators intended for use in system solutions. With the use of a DX1 digital I/O module, XDi is able to measure both RPM, RPM% and count revolutions directly from a digital pickup sensor, for example an inductive pickup of type PNP or NPN. Measured data from this XDi will by default be shared on XDi-net (both CAN1 and CAN2) with other XDi indicators either acting as repeater of all data or one of the DEIF standard RPM indicators. It is also possible to activate a TPDO output with XL single CAN compatible data, so that it is possible to add XL RPM indicators to the CAN bus as well, this also includes BW and BRW-2 type RPM indicators with single CAN input.

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

Timestamp 07-11-2023 14:54:41

Library Specification

Library owner no. :	000001
Library owner name :	DEIF STANDARD LIB
Product type :	XDi 144/192
Performance class :	Dual
Library number :	43
Library name :	Revolution Counter
Library orientation :	Landscape
Library status :	Released & Locked
Library version :	2000
Last changed :	07-11-2023 14:54:36

Library default settings :

180 display rotation :	False
CAN NodeID :	30

Library notes :

07-11-2023/JOL, Ver. 2000: First released version with VI001 to VI003 and standard PP01 to PP06.

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	**Front dimmer/ XDi-net** Dim via front buttons (Requires 4 button kit) or via XDi-net. XDi-net active **Default settings:** Dimmer group 1 Dimming via XDi-net (CAN) 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. You can change dimmer group no. if you get dimmer setting from another XDi via CAN.
2	PP02 Analogue	**Analogue 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 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. max. 30V DC. From the user menu, you can alternatively reconfigure the analogue dimmer input to a normal voltage input. You can also change dimmer group if you use this XDi to control dimming of other XDi units via CAN.
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** Requires DX1 module in Slot 1 Digtal 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 user 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** Dimmer adjust via front buttons or via user menu. **Default settings:** Dimmer group Local Fixed dimmer level 90% 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 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.

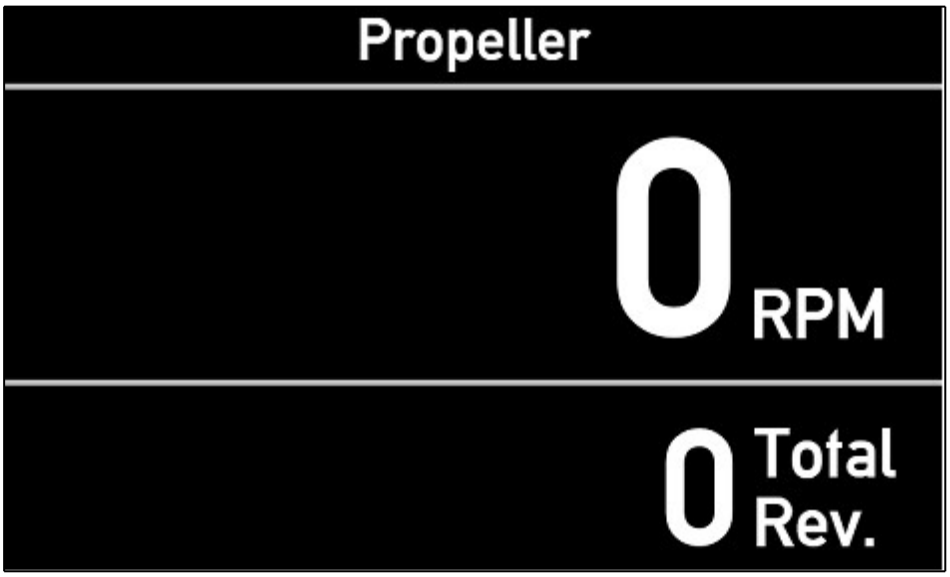
Timestamp **07-11-2023 14:54:42**

VI No.	Name	VI-setup profiles (VS)	Approvals	Status
001	Digital	5		
002	RPM%	3		
003	+/-RPM%	3		

Approvals only apply for XDi 192.

Timestamp 07-11-2023 14:54:42

VI 001 **Digital**



Description : **RPM / Revolution Count**

RPM indicator with
revolution counter function

Propeller or Engine RPM
RPM range ±3275
Rev. range 99 999 999
With selectable headlines

Status :

VI Notes : This virtual indicator (VI) can be used with either a single RPM pickup (0...X) or a pair of RPM pickups (+/-).
If two sensors are used the RPM direction can be determinated and will be presented with +/-
With XDi-net input this VI can also be used as an RPM / Rev. count repeater.

VI-setup profiles (VS) for VI001

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net in** Data received via CAN/XDi-net RPM (0x3081:02), Signed 8bit, Resolution= 0.1 Rev. Counter (0x3121:02) Signed 32bit, Resolution= 1 (only positive values) Use this VS when this XDi is used as a RPM and Revolution count repeater recieving data from another XDi with DX1 module.		This VS profile can be used for both 0...X RPM and +/-RPM repeaters. Selection of Headline texts for: Propeller, Engine and Main Engine headlines are available for selection via menu.
2	VS02 1xPickup	**RPM pickup (7.3V)** Required DX1 in Slot 2 One RPM pickup to DX1: S2in1: +term. 11, -term. 10 Trigger pt: 7.3V, Debaunce 10ms Data for RPM (0x3081:02), RPM% (0x3091:02) Rev. Counter (0x3121:02) Data shared via XDi-net. XL sCAN compatibel TPDO out can be activated from menu.		Use this VS for pickup sensors with output 12 to 30V Final configuration of the digital input scaling can be made during installation from the XDi installation menu. Please insert the number of pulses per 100 revolutions in the menu. Default is 1200 pulses per 100 revolutions and can be changed via menu. RPM% scaling can also be changed via XDi menu if CAN data is used by other devices. Selection of Headline texts for: Propeller, Engine and Main Engine headlines are available for selection via menu. Default TPDO output for XL sCAN: RPM in 0x183 (byte 0,1; signed 16 bit, 0.1 resolution) and RPM% in 0x188 (byte 0,1; signed 16 bit, 0.1 resolution). Rev. Count in 0x283 (byte 0 to 3; signed 32 bit, 1 res.) Note: Rev.count TPDO is not compatible with XL sCAN) TPDO output is default OFFf and should only be activated on one XDi on the CANbus.

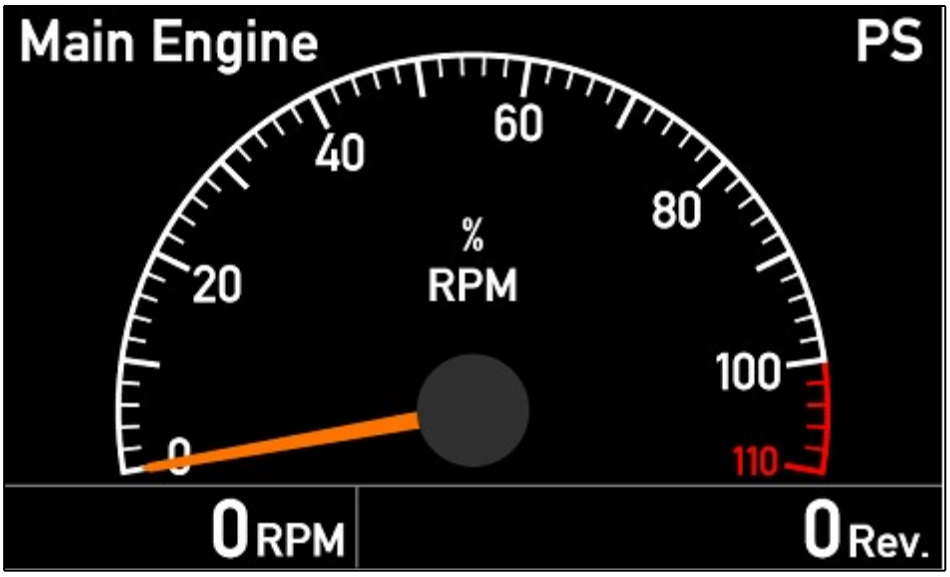
VI-setup profiles (VS) for VI001

VS No.	Name	Description	Status	Notes
3	VS03 2xPickup	**2xRPM pickup (7.3V)** Required DX1 in Slot 2 Two RPM pickups to DX1: S2i1: +term. 11, -term. 10 S2i2: +term. 8, -term. 7 Trigger pt: 7.3V, Debaunce 10ms XDi determins rotation direction. Data for: RPM (0x3081:02), RPM% (0x3091:02) Rev. Counter (0x3121:02) Data shared via XDi-net. XL sCAN compatibel TPDO out can be activated from menu.	🔒	Use this VS for pickup sensors with output 12 to 30V Final configuration of the digital input scaling can be made during installation from the XDi installation menu. Please insert the number of pulses per 100 revolutions in the menu. Default is 12 pulses per rev (1200 pilses per.100 rev.) and can be changed via menu. RPM% scaling can also be changed via XDi menu if CAN data is used by other devices. Selection of Headline texts for: Propeller, Engine and Main Engine headlines are available for selection via menu. Default TPDO output for XL sCAN: RPM in 0x183 (byte 0,1; signed 16 bit, 0.1 resolution) and RPM% in 0x188 (byte 0,1; signed 16 bit, 0.1 resolution). Rev. Count in 0x283 (byte 0 to 3; signed 32 bit, 1 res.) Note: Rev.count TPDO is not compatible with XL sCAN) TPDO output is default OFF and should only be activated on one XDi on the CANbus.
4	VS04 1xPickup	**RPM pickup (3.3V)** Required DX1 in Slot 2 One RPM pickup to DX1: S2in1: +term. 11, -term. 10 Trigger pt: 3.3V, Debaunce 10ms Data for RPM (0x3081:02), RPM% (0x3091:02) Rev. Counter (0x3121:02) Data shared via XDi-net. XL sCAN compatibel TPDO out can be activated from menu.	🔒	Use this VS for pickup sensors with output 5 to 12V See also VS02 notes.

VI-setup profiles (VS) for VI001

VS No.	Name	Description	Status	Notes
5	VS05 2xPickup	**2xRPM pickup (3.3V)** Required DX1 in Slot 2 Two RPM pickups to DX1: S2i1: +term. 11, -term. 10 S2i2: +term. 8, -term. 7 Trigger pt: 3.3V, Debaunce 10ms XDi determins rotation direction. Data for: RPM (0x3081:02), RPM% (0x3091:02) Rev. Counter (0x3121:02) Data shared via XDi-net. XL sCAN compatibel TPDO out can be activated from menu.		Use this VS for pickup sensors with output 5 to 12V See also VS03 notes

VI 002 **RPM%**



Description : **0-X RPM/%RPM**

With revolution counter function

Propeller RPM% 0 to 110%
Digital RPM 0 to 3275
Rev. range 99 999 999
With 2 selectable headlines

Status :

VI Notes : This virtual indicator (VI) can be used with a single RPM pickup sensor
With XDi-net input this VI can also be used as an RPM / Rev. count repeater.

VI-setup profiles (VS) for VI002

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net in** Data received via CAN/XDi-net RPM (0x3081:02), Signed 8bit, Resolution= 0.1 Rev. Counter (0x3121:02) Signed 32bit, Resolution= 1 (only positive values)		This VS profile can be used if this XDi is a repeater receiving data from another XDi via XDi-net. Selection of Headline 1 texts for: Propeller, Engine and Main Engine headlines are available for selection via menu. Headline 2 is a selection of location descriptions e.g. PS (Default), it can also be setup as invisible.

VI-setup profiles (VS) for VI002

VS No.	Name	Description	Status	Notes
2	VS02 1xPickup	**RPM pickup (7.3V)** Required DX1 in Slot 2 RPM pickup to DX1: S2i1: +term11, -term10 Trigger pt: 7.3V, Debaunce 10ms **Data for:** RPM (0x3081:02), RPM% (0x3091:02) Rev. Counter (0x3121:02) Data shared via XDi-net. XL sCAN compatibel TPDO out can be activated from menu.		Use this VS for pickup sensors with output 12 to 30V Final configuration of the digital input scaling can be made during installation from the XDi installation menu. Please insert the number of pulses per 100 revolutions in the menu. Default is 1200 pulses per 100 revolutions and can be changed via menu. RPM% scaling can also be changed via XDi menu, Default is 100%=200.0 RPM. Selection of Headline 1 texts for: Propeller, Engine and Main Engine headlines are available for selection via menu. Headline 2 is a selection of location descriptions e.g. PS (Default), it can also be setup as invisible. Default TPDO output for XL sCAN: RPM in 0x183 (byte 0,1; signed 16 bit, 0.1 resolution) and RPM% in 0x188 (byte 0,1; signed 16 bit, 0.1 resolution). Rev. Count in 0x283 (byte 0 to 3; signed 32 bit, 1 res.) Note: Rev.count TPDO is not compatible with XL sCAN) TPDO output is default OFF and should only be activated on one XDi on the CANbus.
3	VS03 1xPickup	**RPM pickup (3.3V)** Required DX1 in Slot 2 RPM pickup to DX1: S2i1: +term11, -term10 Trigger pt: 3.3V, Debaunce 10ms **Data for:** RPM (0x3081:02), RPM% (0x3091:02) Rev. Counter (0x3121:02) Data shared via XDi-net. XL sCAN compatibel TPDO out can be activated from menu.		Use this VS for pickup sensors with output 5 to 12V See also VS02 notes.

VI 003 **+/-RPM%**

Description : **+/-RPM/%RPM**

With revolution counter function

Propeller RPM% +/-110%
Digital RPM +/-3275
Rev. range 99 999 999
With 2 selectable headlines

Status :

VI Notes : This virtual indicator (VI) can be used with two RPM pickup sensors.
The RPM direction will be determinated and will be presented with +/-
With XDi-net input this VI can also be used as an RPM / Rev. count repeater.

VI-setup profiles (VS) for VI003

VS No.	Name	Description	Status	Notes
1	VS01 XDi-net	**XDi-net in** Data received via CAN/XDi-net RPM (0x3081:02), Signed 8bit, Resolution= 0.1 Rev. Counter (0x3121:02) Signed 32bit, Resolution= 1 (only positive values)		This VS profile can be used if this XDi is a repeater receiving data from another XDi via XDi-net. Selection of Headline 1 texts for: Propeller, Engine and Main Engine headlines are available for selection via menu. Headline 2 is a selection of location descriptions e.g. PS (Default), it can also be setup as invisible.

VI-setup profiles (VS) for VI003

VS No.	Name	Description	Status	Notes
2	VS02 2xPickup	**2xRPM pickup (7.3V)** Required DX1 in Slot 2 RPM pickup to DX1: S2i1: +term.11, -term.10 S2i2: +term. 8, -term. 7 Trigger pt: 7.3V, Debaunce 10ms **Data for:** RPM (0x3081:02), RPM% (0x3091:02) Rev. Counter (0x3121:02) Data shared via XDi-net. XL sCAN compatibel TPDO out can be activated from menu.	🔒	Use this VS for pickup sensors with output 12 to 30V Final configuration of the digital input scaling can be made during installation from the XDi installation menu. Please insert the number of pulses per 100 revolutions in the menu. Default is 1200 pulses per 100 revolutions and can be changed via menu. RPM% scaling can also be changed via XDi menu, Default is 100%=200.0 RPM. Selection of Headline 1 texts for: Propeller, Engine and Main Engine headlines are available for selection via menu. Headline 2 is a selection of location descriptions e.g. PS (Default), it can also be setup as invisible. Default TPDO output for XL sCAN: RPM in 0x183 (byte 0,1; signed 16 bit, 0.1 resolution) and RPM% in 0x188 (byte 0,1; signed 16 bit, 0.1 resolution). Rev. Count in 0x283 (byte 0 to 3; signed 32 bit, 1 res.) Note: Rev.count TPDO is not compatible with XL sCAN) TPDO output is default OFF and should only be activated on one XDi on the CANbus.
3	VS03 2xPickup	**2xRPM pickup (3.3V)** Required DX1 in Slot 2 RPM pickup to DX1: S2i1: +term.11, -term.10 S2i2: +term. 8, -term. 7 Trigger pt: 3.3V, Debaunce 10ms **Data for:** RPM (0x3081:02), RPM% (0x3091:02) Rev. Counter (0x3121:02) Data shared via XDi-net. XL sCAN compatibel TPDO out can be activated from menu.	🔒	Use this VS for pickup sensors with output 5 to 12V See also VS02 notes