WatchIO
(FTIxxxx)

Software Installation Manual

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References

Not applicable

Introduction

The software installation manual provides instructions for installing WatchIO in order to connect FT NavVision® to the UniMACS® bridge systems.

About the installation manual

The installation manual contains the following chapters:

- Chapter “Safety instructions” presents warning, caution and note information, which the user should pay attention to.
- Chapter “Software installation” describes how to deal with the installation of WatchIO, import of variables and export of FT NavVision® data.

Abbreviations list

ENUM	Enumeration
FT	Free Technics
SMC	Ship Motion Control
UniMACS	Universal Monitoring and Control System

Revision history

Revisions issued since publication.

Issue	Date	Revision	Reason
1.0	August 24, 2010		First release

Safety instructions

NOTE:
This section provides only a summary of the most important safety requirements and notes, which will be mentioned in the individual sections. To protect your health and prevent damage to the devices, it is essential to read and carefully follow the safety instructions.

The indications NOTE, CAUTION and WARNING have the following significance:

NOTE:
An operating procedure, practice or condition etc., which it is essential to emphasize.

CAUTION

An operating procedure, practise or condition etc., which, if not strictly observed, may damage or destroy equipment.

WARNING

An operating procedure, practise or condition etc., which, if not carefully observed may result in personal injury or loss of life.

1. Software installation

1.1 Installation of WatchIO

Carry out the following steps:

- Open drive D:\ and unzip file **"WatchIO Install.zip"**
- Start-up **D:\Imtech\vcredist x86.exe** in order to install de correct Visual C++ dlls
- Double click **D:\Imtech\Data\Blueline DP\SmcregSimulation.reg** to register the software for the SMC (Ship Motion Control) simulator.

1.2 Start-up of SMC simulator

Carry out the following steps:

- Double click **D:\Imtech\bin\SmcServer.exe** to start-up SMC server 1
- Double click **D:\Imtech\bin\SmcServer.exe** again to start-up SMC model
- Double click **D:\Imtech\bin\SmcServer.exe** once again to start-up SMC server 2
- Double click **D\Imtechbin\SmcView.exe** to start-up the Conning.

For more information refer to **D:\Imtech\ReadMw.txt** .

1.3 Import of WatchIO variables

Once the correct FT NavVision® software version has been installed, initialize the import of UniMACS data by means of the import of sensor list data.

Carry out the following steps:

- Copy file **"sensorlist.txt"** to folder NavVision
- Start-up FT NavVision® to accomplish the import (see Figure 1-1).

	Mode	Field	WatchIO View	WatchIO Variable	DataType
1	Read	NVViewerPaletteDayCmd	Infra*	<hostname>.ColorModeRead	Enum
2	Read	NVViewerPaletteNightCmd	Infra*	<hostname>.ColorModeRead	Enum
3	Read	NVViewerPaletteSunCmd	Infra*	<hostname>.ColorModeRead	Enum
4	Read	ApilotRudder1Fld	SmcControl*	Smc.The.RudderPsAngle;OK=Smc.The.RudderPsAngleOk	Float
5	Read	ApilotRudder2Fld	SmcControl*	Smc.The.RudderSbAngle;OK=Smc.The.RudderSbAngleOk	Float
6	Read	Depth1Fld	SmcControl*	C.SensSelect.Depth.Depth1Ukc;OK=C.SensSelect.DepthSelector.Depth1Ok	Float
7	Read	Depth2Fld	SmcControl*	C.SensSelect.Depth.Depth2Ukc;OK=C.SensSelect.DepthSelector.Depth2Ok	Float
8	Read	Giro1Fld	SmcControl*	C.SensSelect.Yaw.Heading1;OK=C.SensSelect.YawSelector.Heading1Ok	Float
9	Read	Giro2Fld	SmcControl*	C.SensSelect.Yaw.Heading2;OK=C.SensSelect.YawSelector.Heading2Ok	Float
10	Read	GPSLat1Fld	SmcControl*	Smc.The.Latitude;OK=Smc.The.PositionOk	Float
11	Read	GPSLon1Fld	SmcControl*	Smc.The.Longitude;OK=Smc.The.PositionOk	Float
12	Read	MagneticHeadingFld	SmcControl*	C.SensSelect.Yaw.Heading4;OK=C.SensSelect.YawSelector.Heading4Ok	Float

Figure 1-1 Import of data

Refer to example file **“sensorlist.txt”** to understand the WatchIO import process. The following fields are important:

- **Field**:
  FT NavVision field that includes the WatchIO variable
- **Device**:
  WatchIO View name with suffix (*) i.e. redundancy (e.g. SmcControl*)
- **Protocol**:
  WatchIO
- **Port**:
  For FT NavVision® (per protocol) this must be an unique number (e.g. 0, 1, 2, ...)
- **Mode**:
  Read - to read-in a WatchIO variable.
  Write - enables you to change the related WatchIO variable through an FT NavVision® command.
- **DataType**: WatchIO variable type.
  Use “Enum” when particular interested in a specific WatchIO variable.
- **Enum(eration)**:
  A data type consisting of a set of named values called elements, members or enumerators of the type. The enumerator names are usually identifiers that behave as constants in the language. A variable that has been declared as having an enumerated type can be assigned any of the enumerators as a value.
  This field specifies the related WatchIO value in which you were interested.
- **Multiplier**:
  The factor with which the value of the WatchIO variable must be multiplied to obtain the desired value (see “**Field**”)
- **Offset**:
  The value difference to be added to the WatchIO variable (prior to multiplying with Multiplier) to obtain the right unity to work with (see field “Unit”).
- **Type**:
  WatchIO variable name followed by the name of the associated WatchIO Ok-flag variable.
  Syntax: <WatchIO variable>[;OK=<WatchIO Ok-flag variable>]. The name of the WatchIO variable may comprise of <hostname> in order to refer to the actual PC.
  E.g. used in WatchIO colour scheme variables.
- **SensorType**:
  Set for Enum (or Standard).
- **Unit**:
  Preferred unity. Where possible, this shall be the unity of the related WatchIO variable.

	DataType	Enum	SensorType	Offset	Multiplier	Unit
1	Enum	1	Set	-2	1	Switch
2	Enum	2	Set	-2	1	Switch
3	Enum	0	Set	-2	1	Switch
4	Float	0	Standard	0	57.29578	Angle
5	Float	0	Standard	0	57.29578	Angle
6	Float	0	Standard	0	1	M
7	Float	0	Standard	0	1	M
8	Float	0	Standard	0	57.29578	True
9	Float	0	Standard	0	57.29578	True
10	Float	0	Standard	0	1	Degrees
11	Float	0	Standard	0	1	Degrees

Figure 1-2 Fields

If the import of the WatchIO variables (via **sensorlist.txt**) has succeeded, a WatchIO.ini file has been created (see "**Config**" folder), used to initialize a coupling with WatchIO at the start-up of FT NavVision®.

The configuration of WatchIO enables you to change the run-time in FT NavVision® (see **Tools"> Configuration > WatchIO**").

1.4 Export of data (FT NavVision) to WatchIO

In order to publish FT NavVision® data within WatchIO, the relevant FT NavVision® data must be specified thru WatchIO.ini (see Config file).
The nautical fields as published in WatchIO can be found in section "**Publish**". For each published nautical field, two variables are being created in WatchIO:

- The nautical field value (float) in a default unit (name: NF.<Nautical Field>
- The nautical field availability (bool) (name: NF.<Nautical Field>Ok

Example:

WatchIO.ini:

```
[Publish]
Server=FTNavVision1
Field0=SpeedOverGroundFld
Field1=SpeedOverGround1Fld
Field2=SpeedOverGround2Fld
```

Created WatchIO variables:

```
WatchIO Server: FTNavVision1
NF.SpeedOverGroundFld = 7.562339
NF.SpeedOverGroundFldOk = true
NF.SpeedOverGround1Fld = 0.000000
NF.SpeedOverGround1FldOk = false
NF.SpeedOverGround2Fld = 0.000000
NF.SpeedOverGround2FldOk = false
```

The FT NavVision® run-time can also be changed via “Tools > Configuration > WatchIO”.

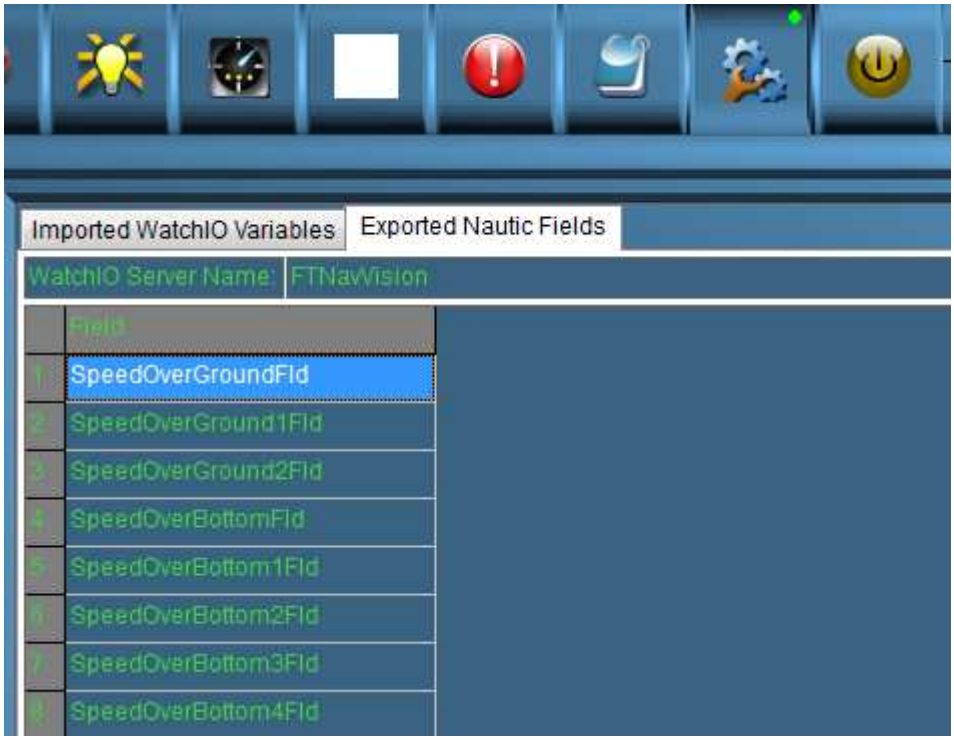

Figure 1-3 Export of data

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