

FOS-2-INL ACCESSORIES

Operation and Installation Manual



NEED TECHNICAL SUPPORT?

Scan the QR-code or visit www.avantes.com/support

We are happy to help you!



Table of Content

Table of Content	1
1. Introduction	2
2. Fiber-Optic Switch FOS-2-INL Operating Manual	2
2.1 General	2
2.2 Technical Data	2
2.3 Parts included	3
2.4 Parts not included	3
2.5 Starting up	3
3. AvaSoft manual for FOS-2-INL	4
3.1 General	4
3.2 Sequencer	7
3.3 Correction for drift:	8
4. Technical support	10
4.1 Getting Help	10
4.2 Software Updates	10

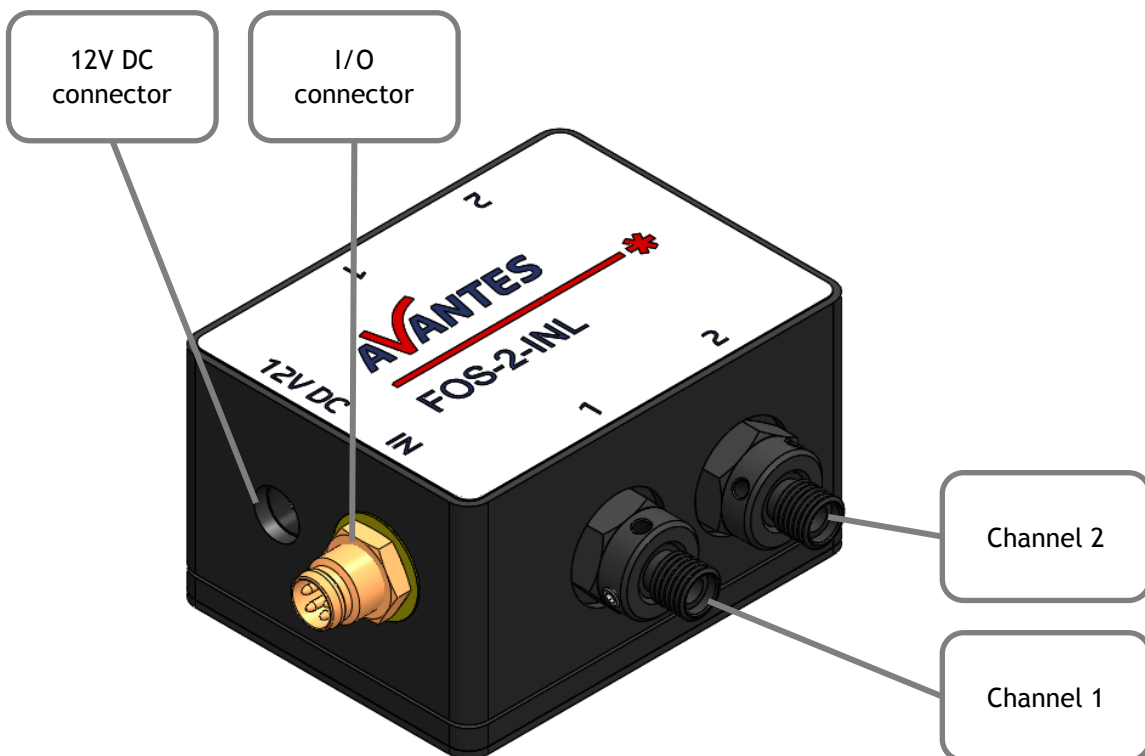
1. Introduction

The Fiber-Optic Switch FOS-2-INL is used for automatic shuttering of a spectrometer or correcting for light source drift.

AvaSoft 8 allows you to control two channels individually.

2. Fiber-Optic Switch FOS-2-INL Operating Manual

2.1 General



Both connectors of Channel 1 and Channel 2 are for use only with SMA-Fiber connectors.

2.2 Technical Data

Description	Specification
Power requirement	12V DC (positive centre)/ 500 mA
Shutter frequency	Max. 5 Hz
Shutter delay	15 ms
Dimensions (HxLxW)	34 x 59 x 45 mm*
Weight	170 grams
Material mechanical	Black anodized aluminum
Material optical	UV Fused silica
Fiber connection	SMA-905 connector

* without COL-UV/VIS and I/O connector

The following interface cables are available to connect any Avantes AvaSpec-USB2/EVO platform to FOS-2-INL for the FOS-2-INL:

IC-DB26-FOS-SHUTTER-0.6 Length = 0.6m

IC-DB26-FOS-SHUTTER-2 Length = 2.0m

Pin description of an interface cable connector

Pin	Description
1	Channel 2: Shutter Open/Close (High = Open, Low = Close)
2	GND
3	Channel 1: Shutter Open/Close (High = Open, Low = Close)
4	GND

Pin 1 is connected to DO5 of the DB26 connector.

Pin 3 is connected to DO8 of the DB26 connector.

2.3 Parts included

Fiber-optic Switch FOS-2-INL

2.4 Parts not included

1. Interface cable IC-DB26-FOS-SHUTTER-0.6 (or IC-DB26-FOS-SHUTTER-2)
2. Power supply PS-12V/2.08A

These parts can be ordered separately at Avantes.

2.5 Starting up

1. Plug in the PS-12V/2.08A power supply .
2. Plug in the connector of the power supply into the socket of the FOS-2-INL.
3. Connect the SMA-connectors of your fibers to the Fiber inputs Channel 1 and 2
4. For automatic TTL-shutter control connect interface cable IC-DB26-FOS-SHUTTER-0.6 (or IC-DB26-FOS-SHUTTER-2) plug in connector and connect to AvaSpec spectrometer
5. Connect the connector of the IC-DB26-FOS-SHUTTER-0.6 (or IC-DB26-FOS-SHUTTER-2) into the unit and lock the connector with the screw terminal.
6. For Correct for long time drift with FOS-2-INL see application note AvaSoft 8.

3. AvaSoft manual for FOS-2-INL

3.1 General

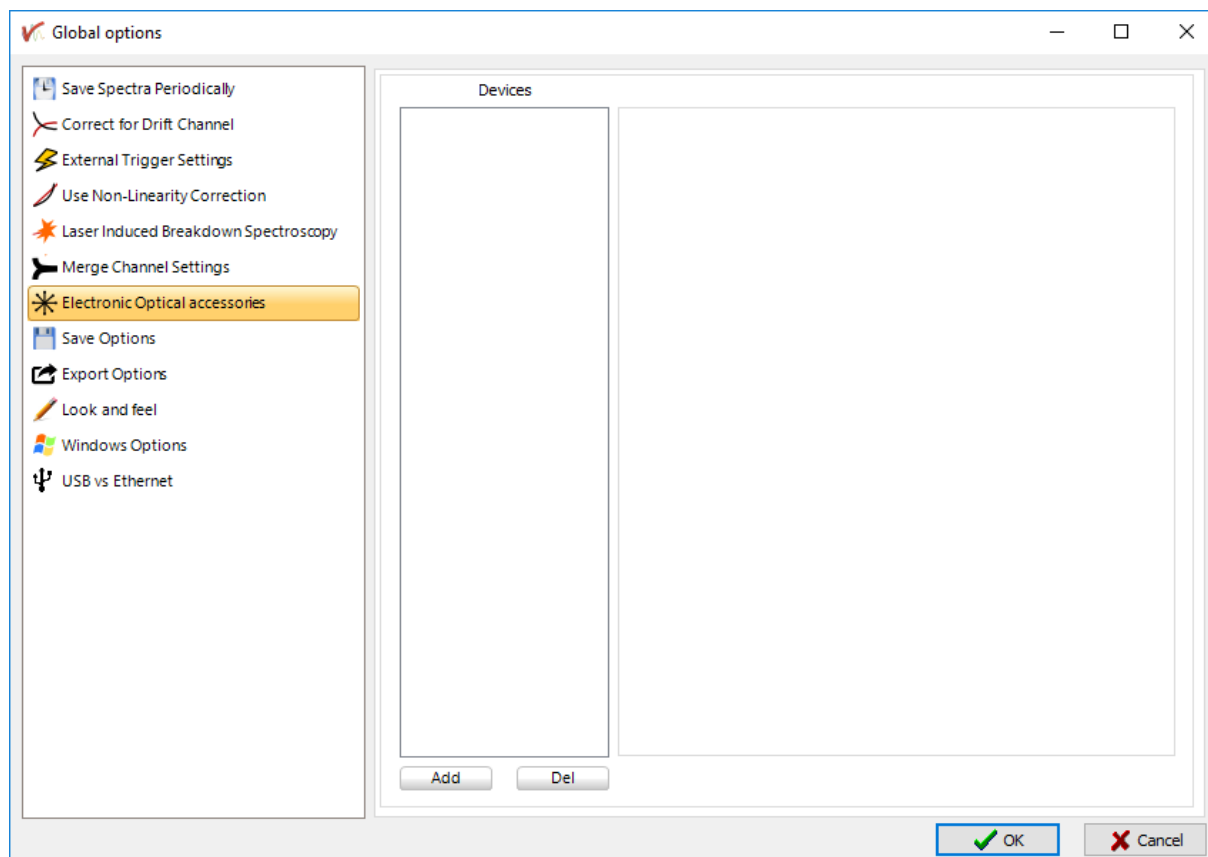
AvaSoft 8 operates the FOS-2-INL as a separate device.

Please refer to the AvaSoft manual for general operation of the spectrometer.

This manual only describes the changes that are relevant to the FOS-2-INL.

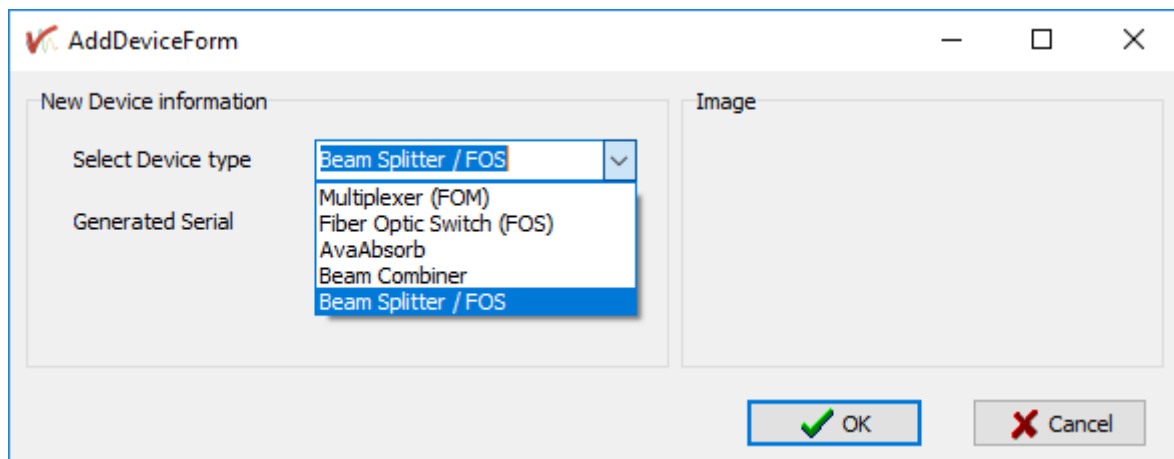
These are mainly situated in the Options menu and in the Spectrometer panel in the main menu.

To begin, set-up the FOS-2-INL in the Options screen.

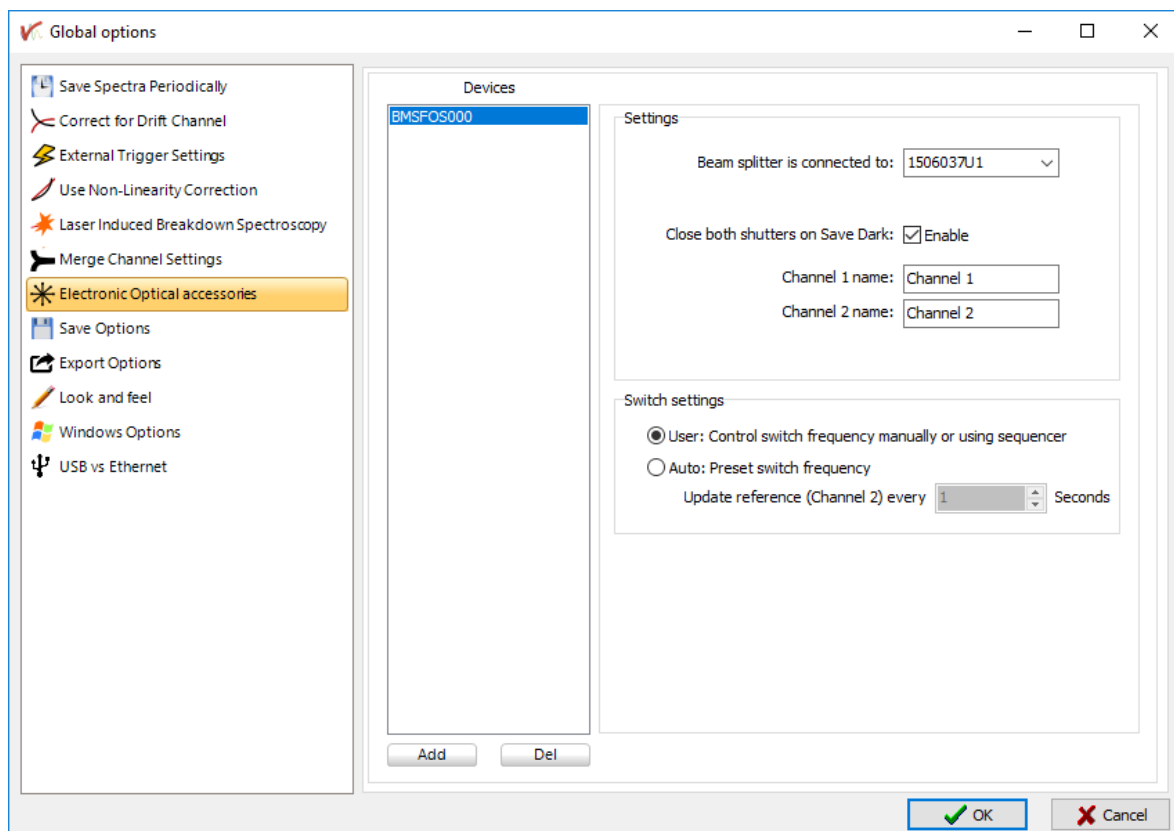


Select 'Options', 'Electronic Optical Accessories'

If the device is not listed yet (the default name is 'BMSFOS000'), press the 'Add' button and select 'Beam Splitter / FOS' in the "Select Device Type" drop down box.



Press 'OK'



If you press 'Del', and close the dialog box, the FOS-2-INL will not be used.

After pressing 'Add' in the initial setup, you will get the screen above.

Select a spectrometer to connect to the FOS-2-INL.

To enable the shutter on Save Dark, check the box 'Enable'.

You can edit the Channel names in the respective edit boxes.

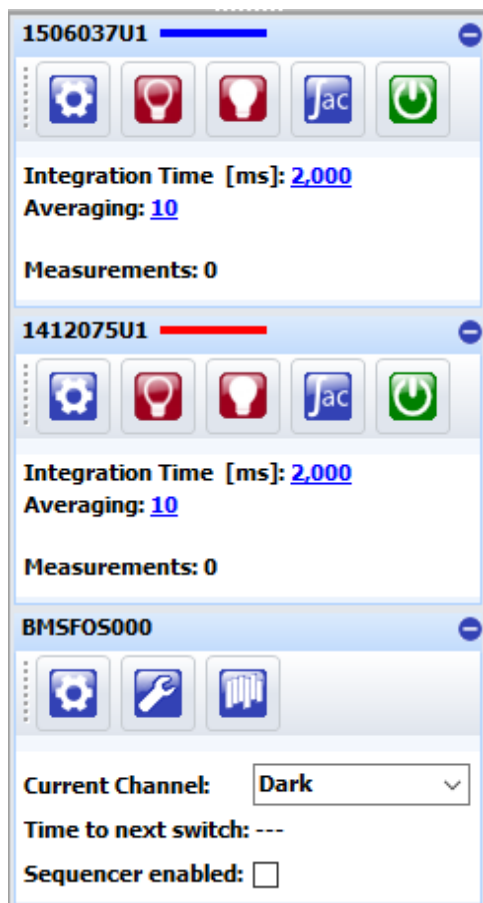
The Switch Settings allow you to either manually change channels, or change them with a timer.

You can set the timer interval in seconds in the respective box.

Press 'OK' to close the dialog box, and continue using AvaSoft.

Now you are able to use the accessory as FOS-2-INL in combination with the selected spectrometer and start measuring spectra.


Spectrometer Panel:




Channel 1/2

Channel 2/1

FOS-2-INL status

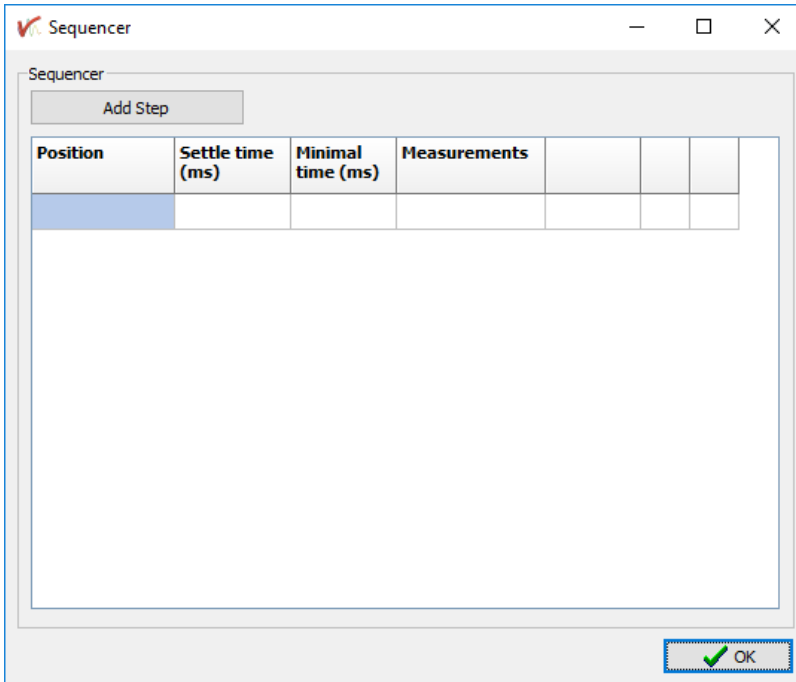
Click the  icon to change the settings of the spectrometer that is used. Please refer to the AvaSoft 8 manual for a detailed description of all options.

The  icon will take you to the same settings that are available after opening the 'Options', 'Electronic Optical Accessories'. Please refer to the description above.

You are now ready to take readings.

3.2 Sequencer

Click the  icon to change the settings of the sequencer that can be used.



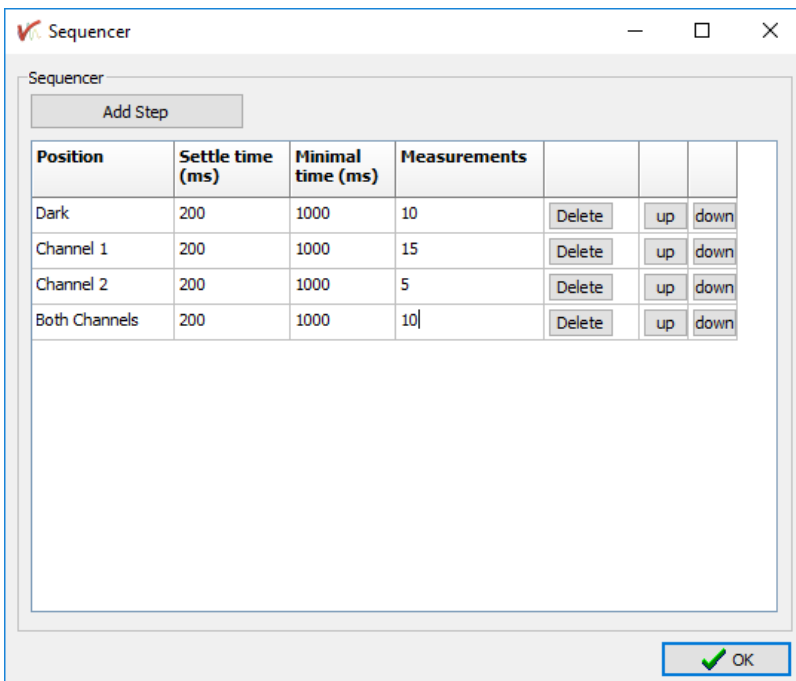
Sequencer

Add Step

Position	Settle time (ms)	Minimal time (ms)	Measurements			

OK

Click the 'Add Step' button to add a step to the sequencer.



Sequencer

Add Step

Position	Settle time (ms)	Minimal time (ms)	Measurements			
Dark	200	1000	10	Delete	up	down
Channel 1	200	1000	15	Delete	up	down
Channel 2	200	1000	5	Delete	up	down
Both Channels	200	1000	10	Delete	up	down

OK

You can change the position, settle time, minimal time and number of measurements. When the position gets changed the measurement will start after the 'settle time' has expired. This means that the 'settle time' represents a delay time that is necessary for the mechanical movement. The 'settle time' can be reduced.

After the ‘settle time’ the ‘minimal time’ will be used.

The ‘minimal time’ represents the minimum time of the measurement at the position that is set. If the total amount of measurements will take more time than the ‘minimal time’ this will be overruled.

The ‘Current Channel’ drop down box lets you change channels manually. If you have selected timer operation in the ‘Options’ dialog box, it will be dimmed.

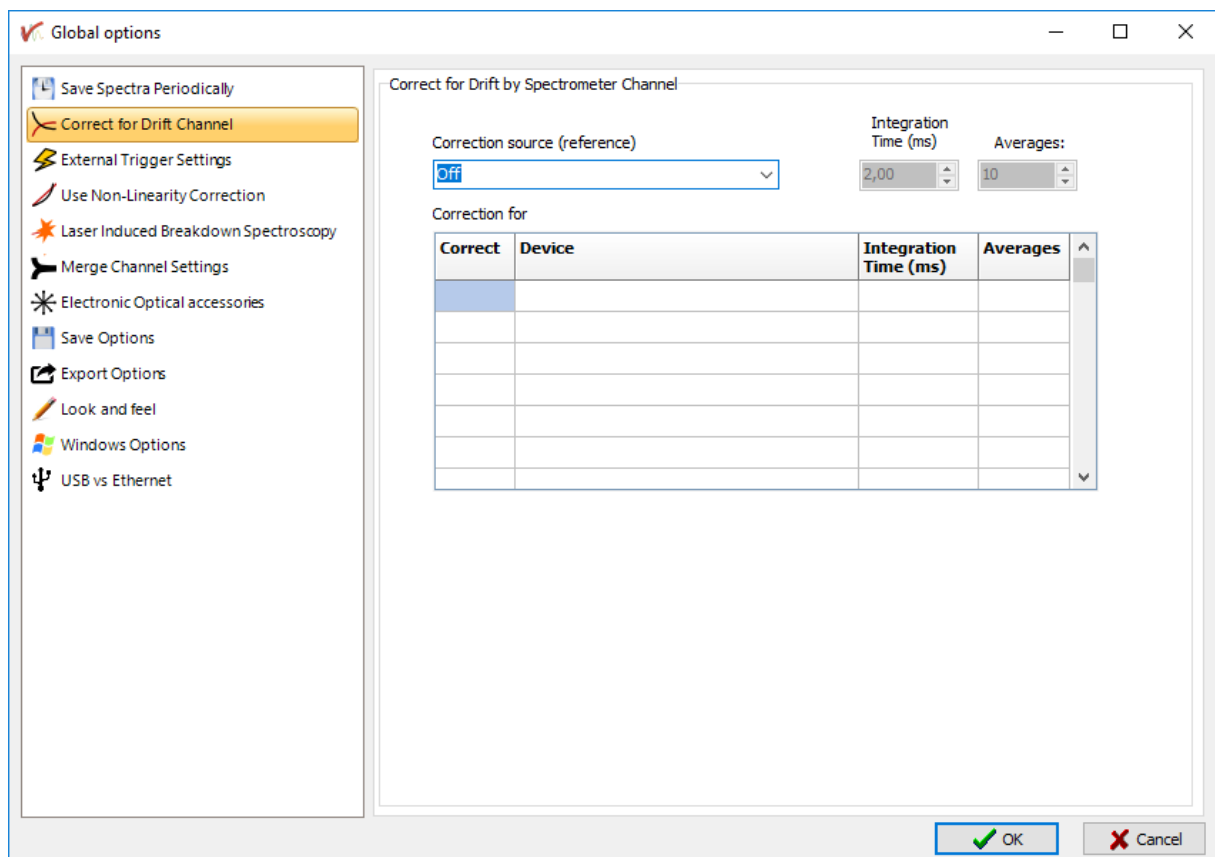
When operating in timer mode, the time to the next switch will be displayed in the next line.

3.3 Correction for drift:

The combination of FOS-2-INL and spectrometer can also be used for correction for drift. You can use the second channel to correct the first channel for drift, e.g. resulting from slow deterioration of the lamp intensity.

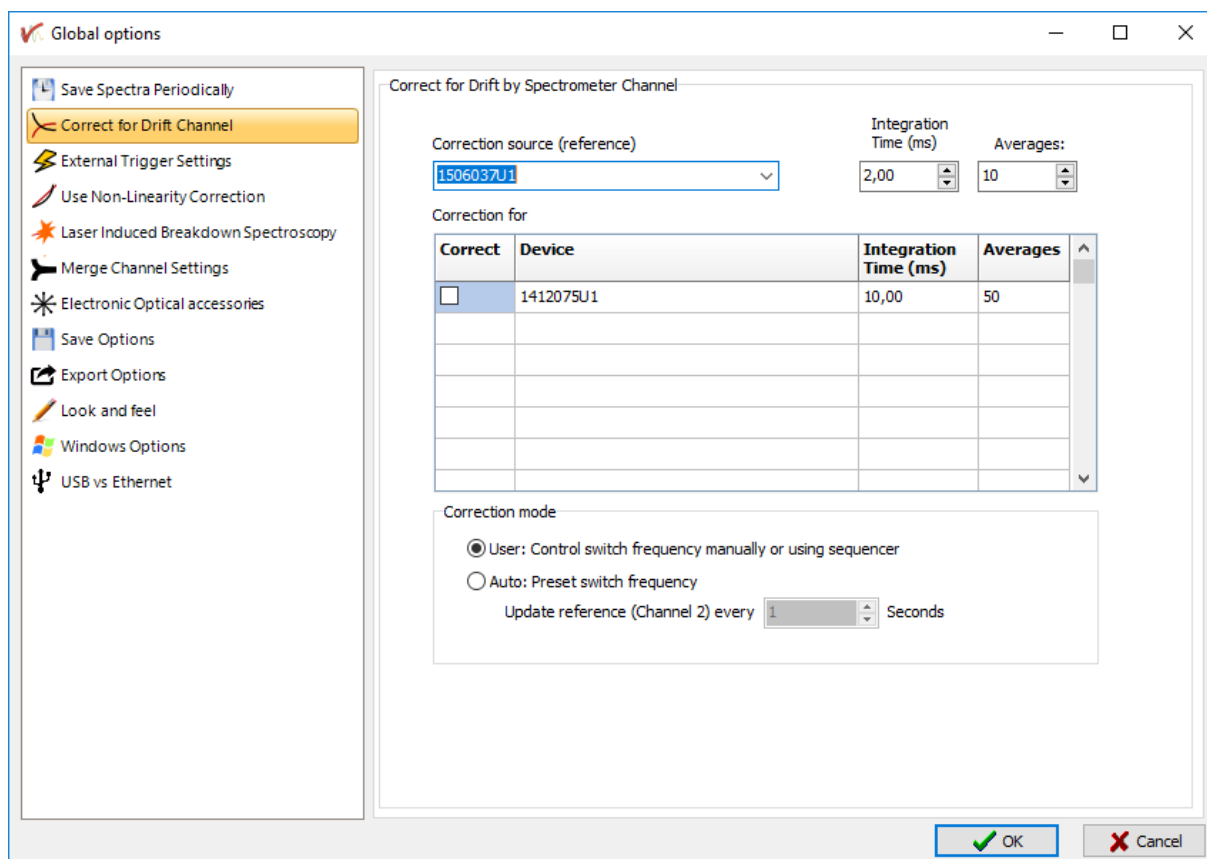
First you have to set-up the accessory as FOS-2-INL as described above.

Select ‘Options’, ‘Correct for Drift Channel’



Select the channel in the ‘Correction Source (reference)’ drop down box that you want to use to correct the other channel.

Leave the checkbox in the ‘Correct’ column unchecked for now.



You can either manually change channels or set a timer to change them with a pre-set interval. The setting for 'Correction mode' will be shared with the 'Switch Settings' in the 'Electronic Optical Accessories' dialog described above. If you change either one, the other one will be changed as well.

Press 'OK' to close the options dialog box.

Start measuring by pressing the 'Start' button in the upper left corner of the screen.



4. Technical support

4.1 Getting Help

If you have any questions, comments or requests concerning your FOS-2-INL or the AvaSoft software, please visit <https://www.avantes.com/support>

To contact our Technical Support, please go to <https://www.avantes.com/contact>

4.2 Software Updates

To check for updates, you can choose “Check for Updates” from the Help menu or go to <https://www.avantes.com/support/software>