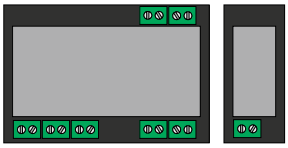
The SeaChng Driver



The SeaChng driver interfaces to a SeaChange modular control system. Compatible SeaChange equipment includes the Zone Controller and the Boiler Controller. Available for Commander and ObSys.

This document relates to SeaChng driver version 1.1

Please read the *Commander Manual* or *ObSys Manual* alongside this document, available from *www.northbt.com*

Contents

Compatibility with the SeaChange System

The SeaChng driver allows North to interface with a SeaChange modular control. Compatible equipment includes the Zone module and the Boiler module.

The driver connects, via a SeaChange RS232 Serial Adapter, to a network of SeaChange modules (Fig. 1).

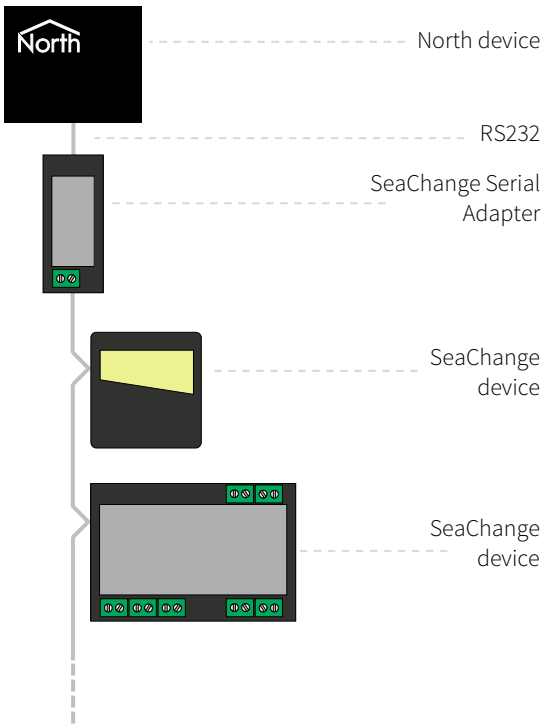


Fig 1: North to SeaChange

Equipment

SeaChange modules compatible with the driver include: Boiler (including Cascade secondary modules), Air Handler (including Mixing Damper, Fan, Cascade and Humidifier secondary modules), Zone (including Actuator secondary modules).

Values

Each SeaChange module may have the following Item values available:

- Sensor values
- Knob values
- Time
- Inputs states
- Switch states

Prerequisites

A SeaChange serial adapter must be used, set to 9600 baud.

Using the Driver

On ObSys, the SeaChng driver is pre-installed. On Commander, the SeaChng driver is not pre-installed, and must be downloaded. On all of these North devices, you can use the driver to create an interface to SeaChange. Once started, you will need to set up the driver before it can communicate with the SeaChange system.

Making the Cable

Connect the North device COM port to the SeaChange Serial Adapter.

Using the RS232 cable specification (Fig. 2), connect the RS232 port to the SeaChange adapter.

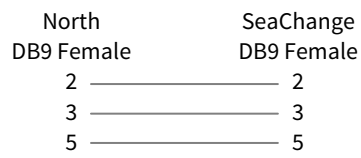


Fig. 2 North to SeaChange cable

Note: The SeaChange Serial Adapter cable requirements have changed over time, as it developed. At one point, it was necessary to supply extra power to the Adapter. Ask North for help if necessary.

Starting the Interface

💻 To start an interface using the SeaChng driver, follow these steps:

- → **Start Engineering** your North device using ObSys
- → Navigate to **Configuration, Interfaces,** and set a unused **Interface** to 'SeaChng' to start the particular interface
- → Navigate to the top-level of your North device, then rescan it

The driver setup object (Mc), labelled **SeaChange Setup**, should now be available. If this object is not available, check an interface licence is available and the driver is installed.

Setting up the Driver

💻 To set up the driver, follow these steps:

- → Navigate to the **SeaChange Setup** object (Mc). For example, if you started interface 1 with the driver earlier, then the object reference will be 'M1'
- → Set the **COM Port** object (RS.COM) to select which serial port number on the North device the SeaChange Serial Adapter in connected.

Object Specifications

Once an interface is started, one or more extra objects become available within the top-level object of the device. As with all North objects, each of these extra objects may contain sub-objects, (and each of these may contain sub-objects, and so on) - the whole object structure being a multi-layer hierarchy. It is possible to navigate around the objects using the ObSys Engineering Software.

Each object is specified below, along with its sub-objects.

Example Object Reference

An example of a reference to an object in the same device: the SeaChange system (S1) contains Zone 1 display (Z1), with a room temperature Sensor (S1), with a Value attribute (V). Therefore, the complete object reference is 'S1.Z1.S1.V'.

An example of a reference to an object in a different device: the IP network object (IP) contains Default Commander object (CDIP), which contains the object above (S1.Z1.S1.V) – therefore the complete object reference is 'IP.CDIP. S1.Z1.S1.V'.

Device Top-Level Objects

When an interface is started using the SeaChng driver, the objects below become available within the top-level object of the device. For example, if interface 1 is started, then the object references 'M1' and 'S1' become available.

Description	Reference	Type
SeaChange Setup Set up the SeaChng driver, started on interface *c* (*c* is the interface number)	M*c*	Fixed Container: On the Commander platform this will be *[CDM v20\SeaChng v11]* On the ObSys platform this will be *[OSM v20\SeaChng v11]*
SeaChange System Access SeaChange system connected to interface *c* (*c* is the interface number)	S*c*	Variable Container: *[SeaChng v11]*

SeaChange Driver Setup

Object Type: *[OSM v20\SeaChng v11]*
Object Type: *[CDM v20\SeaChng v11]*

The SeaChange driver contains the following objects:

Description	Reference	Type
RS232 COM Port	RS.COM	Obj\Num; Range: 1…8; Adjustable

SeaChange System

Object Type: *[SeaChng v11]*

Each SeaChange system contains a variety of different modules. It is not possible for the driver to determine automatically which modules are available, so the engineer must determine object references from SeaChange system documentation.

Description	Reference	Type
Address *d* Item *i* Attribute *a* SeaChange document addresses, items, and attributes using the format [d]i(a) For examples, see below	*d.i.a*	Various. See below for examples

Possible SeaChange Addresses

The list below is incomplete. The SeaChange system evolved over time. Please refer to any SeaChange documentation you may have.

Reference d	Meaning
B*x*	Boiler controller *x*
Z*x*	Zone controller *x*
A*x*	AHU controller *x*
H*x*	Heating controller *x*
C*x*	Cooling controller *x*
Z*x*A*y*	Zone *x* Actuator *y*
Z*x*P*y*	Zone *x* Pumpset *y*
Z*x*c*y*	Multizone *x* channel *y* (note lower case c)
A*x*C*y*	AHU *x* Cascase *y*
A*x*M*y*	AHU *x* MixingDamper *y*
A*x*P*y*	AHU *x* Preheater *y*

Possible SeaChange Items and Attributes

Again, this list is not complete. The SeaChange system evolved over time. Please refer to any SeaChange documentation you may have.

Description	Reference	Type
Sensor *x* Label	S*x*.$	Obj\Text; Max 4 chars
Sensor *x* Value	S*x*.V	Obj\Float
Sensor *x* Units	S*x*.%	Obj\Text; Max 4 chars
Input *x* Label	I*x*.$	Obj\Text; Max 4 chars
Input *x* Value	I*x*.V	Obj\NoYes
Input *x* Units	I*x*.%	Obj\Text; Max 4 chars
Knob *x* Label	K*x*.$	Obj\Text; Max 4 chars
Knob *x* Value	K*x*.V	Obj\Float; Adjustable
Knob *x* Units	K*x*.%	Obj\Text; Max 4 chars
Switch *x* Label	W*x*.$	Obj\Text; Max 4 chars
Switch *x* Value	W*x*.V	Obj\Float; Adjustable
Switch *x* Units	W*x*.%	Obj\Text; Max 4 chars
Configuration value *x*	C*x*.V	Obj\Text; Adjustable
Time - Hour	T.H	Obj\Num
Time – Minute	T.N	Obj\Num

Example Object References

The following list shows examples of object references, along with the SeaChange equivalent references.

These object references are relative to the system reference.

Object Reference	SeaChange reference	Value
Z1.S1.$	[Z1]S1($)	Zone 1 Sensor 1 Label – Zone Temperature Label
Z1.I2.V	[Z1]I2(V)	Zone 1 Input 2 Value – Zone Occupied State
Z2.K2.V	[Z2]K2(V)	Zone 2 Knob 2 Value – Zone Occupied Setpoint
Z1A1.S2.V	[Z1A1]S2(V)	Zone 1 Actuator 1 Sensor 2 Value – Zone Actuator Output

Driver Versions

Version	Build Date	Details
1.1	15/11/2017	Driver rebuilt for Commander and ObSys platforms

Next Steps…

If you require help, contact support on 01273 694422 or visit *www.northbt.com/support*

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Document issued 14/03/2018.