The Compass Driver

The Compass driver connects to a North Compass network via a COL Compass Point. Available for Commander and ObSys.

This document relates to Compass driver version 1.1

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

Contents

Compatibility with the Compass System

The Compass driver allows a North device to interface with a Compass Network.

The driver connects to the Compass network via an RS232 connection to a Compass Open Link (COL) Point (Fig. 1).

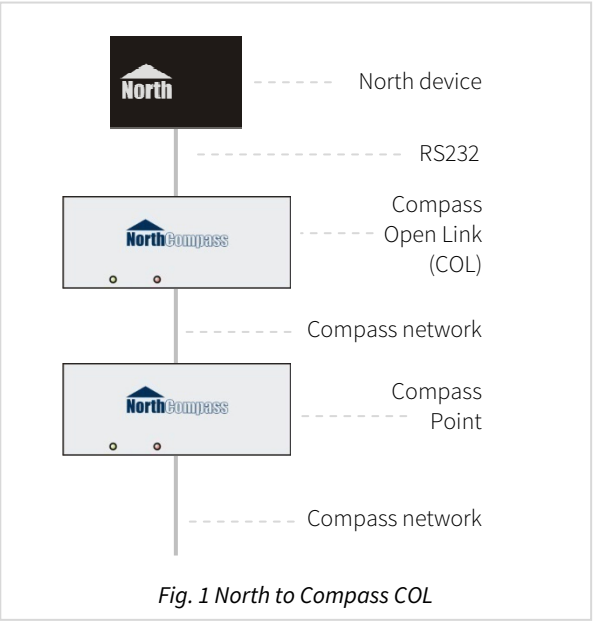

Fig. 1 North to Compass COL

Equipment

A COL Compass Point is required to provide the link between the Compass network and the RS232 connection to North. All Compass Points are compatible with the driver.

Values

All values on Compass Points are accessible via the Compass driver.

The values accessible from the systems attached to the Compass Points will depend on the drivers used by those Compass Points. Please see the relevant engineering guides for Compass for specific information.

Compass Points can send alarms to the Compass driver.

Prerequisites

The COL Compass Point should be wired into the Compass network. The COL Point must also have an device address that is unique on that network.

Using the Driver

On ObSys and Commander, the Compass driver is pre-installed. On all of these North devices, you can use the driver to create an interface to Compass. Once started, you will need to set up the driver before it can communicate with the Compass system.

The Compass driver uses zero licence units.

Making the Cable

Using the RS232 cable specification (Fig. 2), connect the North device COM port to the COL Point. Connector types at each end of the cable are shown.

Connect the North device to the COL Point using the following cable specification:

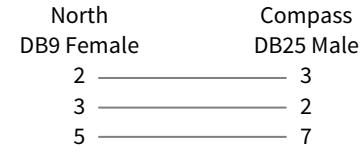

Fig. 2 North to Compass cable

The maximum RS232 cable length is 15m and should be as short possible.

Cables are available from North, order code CABLE/COL.

Starting the Interface

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

- **Start Engineering** your North device using ObSys
- Navigate to **Configuration, Interfaces,** and set an unused **Interface** to 'Compass' to start the particular interface
- Navigate to the top-level of your North device and re-scan it

The driver setup object (Mc), labelled **Compass Setup**, should now be available. Note that until communications with the COL Point are established, you will not see the Compass Network object (Sc).

Setting up the Driver

To set up the driver, follow these steps:

- Navigate to the **Compass Setup** object.
- Set the **RS232 Com Port** object (RS.COM) to the port being used

The driver will automatically detect the correct baud rate for the COL Compass Point. If you would prefer, and if you know the baud rate of the COL Point itself, you can set **Fix Baud Rate** (FB) to 'Yes' and adjust the **Baud Rate** (RS.BR) to match.

Checking Communications

You can check that the interface is communicating by reading the **Comms State** object (LS). A value of 'yes' indicates the driver has connected to, and is communicating with, the COL Point. On establishing communications, you should navigate to the top-level of the device and press **Scan** to find the Compass Network object (Sc), where you can access the Compass network.

Alarms

When the Compass system sends an alarm to the driver, the driver sends a North-format alarm to the device's alarm processing.

Format

North-format alarms contain six text fields. The Compass driver places the following information into these fields:

System – *System* from Compass alarm

Point – *Point* form Compass alarm

Condition – *Condition* from Compass alarm

Priority – *Priority* from Compass alarm

Date & Time – *Date & Time* from Compass alarm

Refer to Compass Point driver documentation for more information on the content of these fields.

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 Compass Network (S1) contains the COL Point (P63), which contains a point label object (PL). Therefore, the object reference will be 'S1.P63.PL'.

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.P63.PL) – therefore the complete object reference is 'IP.CDIP.S1.P63.PL'.

Device Top-Level Objects

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

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

Compass Driver Setup

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

The Compass driver contains the following objects:

Description	Reference	Type
Module Label Label displayed when scanning the driver setup object	PL	Obj\Text; Max. 20 characters; Adjustable
Device Label Label displayed when scanning the system	DL	Obj\Text; Max. 20 characters; Adjustable
RS232 Com Port The serial port on which the COL Point is connected	RS.COM	Obj\Num; Adjustable
RS232 Baud Rate The Compass driver will automatically change the baud rate to find the COL Point. If Fix Baud Rate is set, you can adjust this item to match the COL Point.	RS.BR	Obj\Num; Adjustable
Fix Baud Rate This allows you to stop the Compass driver from attempting to automatically detect the baud rate of the COL Point	FB	Obj\NoYes; Adjustable
Comms State Indicates whether the driver has established communication with the COL Point.	LS	Obj\NoYes
Direct Serial Link Enable when using the driver to connect two North devices together using the COL protocol	DCL	Obj\NoYes; Adjustable

Compass Network

Object Type: *[Compass Net]*

The Compass Network contains objects to access the Compass Points (P*x*) and their connected devices or systems (D*x*). There are also objects that allow access other Compass networks (N*x*) where available.

A group could contain a single indoor unit, or multiple units of the same type. Scan the object to find the groups available.

Description	Reference	Type
Compass Point *x* The device number, *x,* is in the range 1…63. If no device number has been configured, *x* will be the serial number of the Compass Point.	P*x*	Fixed Container *[Compass v22]* See the documentation for the specific Compass Point driver for details.
Device *x* The device number, *x*, is in the range 1…63	D*x*	Fixed or Variable Container, dependent on Compass Point type See the documentation for the specific Compass Point driver for details.

Compass Point

Object Type: *[Compass v22]*
Object Type: *[Compass v22\various]*

In addition to driver-specific settings, the Compass Point object contains the following:

Description	Reference	Type
Compass Point Serial Number	PN	Obj\Num: 1000000…9999999
Device Number	DN	Obj\Num: 0…63; Adjustable
Compass Point Hardware Platform and Version	HV	Obj\Text
Compass Point Base Software Type and Version	PV	Obj\Text
Driver Type and Version	DV	Obj\Text
Point Label	PL	Obj\Text; Max 20 characters; Adjustable
Date and Time	TIME	Obj\DateTime; Adjustable
Break Point – Point Number If the network is broken, this is the serial number of the Compass Point that has noticed the break.	BP.PN	Obj\Num: 0, 100000…9999999
EEPROM Locked The EEPROM can be locked to prevent it being written to	LK	Obj\NoYes; Adjustable
Point Reset Trigger	!rst	Obj\NoYes; Adjustable
Point Default Trigger Clears the EEPROM and returns Compass Point to factory settings	!dft	Obj\NoYes; Adjustable
Alarm Delivery	AD	Fixed Container: *[Compass v22\AlarmDelivery]*
Alarm Object *a* The alarm object number, *a*, is in the range 1…4	AO*a*	Obj\Obj; Adjustable
Transfer Read Rest	T.RR	Obj\Num: 0…60000; Adjustable
Transfer Write Rest	T.WR	Obj\Num: 0…60000; Adjustable
Transfer *t* The transfer number, *t*, is in the range 0…100	T*t*	Fixed Container: *[Compass v22\Transfer]*

Alarm Delivery

Object Type: *[Compass v22\AlarmDelivery]*

Alarm Delivery sets how the Alarm Objects in the Compass Point are used.

Alarm Delivery contains the following objects:

Description	Reference	Type
Method Sets a method of alarm delivery, based on the selected Alarm Object	MD	Obj\Enum: 0…5; Adjustable Values: 0=No Alarms, 1=Selected Object, 2=Any, 3=All, 4=Selected and Next, 5=Selected and Any
Object Selector Selects the Alarm Object to be used by the Method object	OS	Obj\Num: 0…4; Adjustable
Maximum Attempts The number of times that the Compass Point will try to deliver an alarm if the Alarm Object does not work	MA	Obj\Num: 3…255; Adjustable

Transfer

Object Type: *[Compass v22\Transfer]*

A Compass Transfer contains the settings for a transfer of information to or from an object on the Compass Network.

A Compass Transfer contains the following objects:

Description	Reference	Type
Network Function Sets what function this transfer performs on the network: Transmitting or receiving a value	NF	Obj\ENum: 0…3; Adjustable Values: 0=No function, 1=Receive V from network, 2=Transmit V to network, 3=Tx and Rx
Group Number Selects a group number for this transfer. A group number connects transfers together, such that receiving transfers are written to by the transmitting transfers on the same group number	GN	Obj\Num: 0…60000; Adjustable A value of 0 indicates no group number. A value greater than 50000 causes the transfer to be internal, in that only other transfers on the same Compass Point will receive the value
Transfer Value The current value of the object, or the last received value from the network	V	Obj\Text; Adjustable
State The status of the object	S	Obj\ENum: 0…1 Values: 0=Transfer Bad, 1=Transfer Good
Device Function Sets the action performed by this transfer on its object: read from or write to	DF	Obj\ENum: 0…3; Adjustable Values: 0=No access to device/point, 1=Read V from device, 2=Write V to device, 3=Read and Write
Device Rate Sets the frequency with which the device object is read from, or the frequency with which the Compass Point should perform a background write	DR	Obj\ENum: 0…5; Adjustable Values: 0=Read ASAP or write on change-of-value, 1=Every minute, 2=Every Hour, 3=Every Day, 4=Every 7 Days, 5=Every 28 Days
Device Error Indicates an object that has failed to be read or written to.	DE	Obj\Num: 0…3

Driver Versions

Version	Build Date	Details
1.0	9/9/2000	Released
1.1	31/7/2012	Improved auto-baud checking
1.1	1/8/2017	Added driver object DCL for directly connecting two North devices

Next Steps…

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

North Building Technologies Ltd
+44 (0) 1273 694422
support@northbt.com
www.northbt.com

Author: TH
Checked by: JF

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