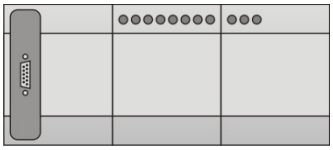
The EIB Driver



The EIB driver connects to the equipment supporting the European Installation Bus (EIB) standard. An RS232 interface supporting the ETS protocol is required. Available for Commander only.

This document relates to EIB driver version 1.0

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

Contents

Compatibility with the EIB System

The EIB driver allows North to interface with equipment supporting the European Installation Bus (EIB) standard. EIB is the predecessor to the KNX standard.

The driver connects, via a compatible RS232 interface, to an EIB network (Fig. 1). Compatible RS232 interfaces must support the ETS protocol (pre FT1.2).

Devices on the EIB network are configured to send or receive values at a specific group address. The driver can be configured with up to 128 group addresses.

The KNXIP driver is also available, interfacing to a wide range of equipment supporting the KNX standard.

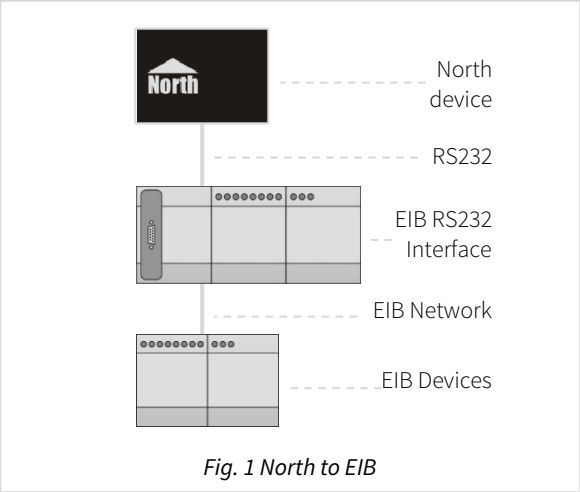


Fig. 1 North to EIB

Equipment

EIB compatible equipment is available from many manufacturers, including:

- ABB
- Jung
- Theben
- GIRA
- Siemens

Values

Depending on the EIB network configuration, the driver can access the following value types:

- 1-bit
- 8-bit
- 8-bit signed
- Dimming
- EIB Float
- 2-bit
- 16-bit
- 16-bit signed
- Percent
- IEEE Float
- 4-bit
- 32-bit
- 32-bit signed

Prerequisites

An RS232 interface is required for communication with the EIB system. It must support the standard ETS v2.0 protocol (pre FT 1.2). For example, the Siemens N148/04 RS232 interface (part number 5WG1 148-1AB04).

EIB device values must be configured with a group address in order to be accessed by the driver.

Using the Driver

The EIB driver is only available on the Commander platform.

On Commander, the EIB driver is available to download in the file 'Bank 5 EIB.cdm'. You can use the driver to create an interface to an EIB system. Once started, you will need to set up the driver before it can communicate with the EIB system.

Making the Cable

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

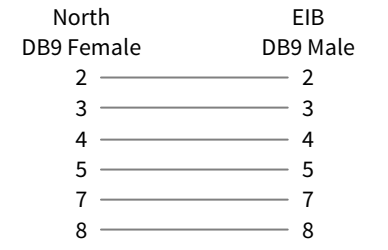


Fig. 2 North to EIB RS232 gateway cable

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

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

Starting the Interface

To start an interface with EIB driver, follow these steps:

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

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

Setting up the Driver

To set up the driver, follow these steps:

- → Navigate to the **EIB Setup** object. For example, if you started interface 1 with the driver earlier, then the object reference will be 'M1'
- → Set **COM Port** to the port number of the Commander you are connecting to the EIB with
- → Set the **Group Format** to match the group address format configured in the EIB system
- → Set **EIB Group Object** to read from or write to a specific EIB group address

Checking Communications

You can check that the interface is communicating by reading the **Comms Established** object (DS). A value of 'Yes' indicates the driver has successfully received/written a value from/to the EIB system.

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 EIB System (S1) contains a Group Value (V1). Therefore, the object reference will be 'S1.V1'

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.V1) – therefore the complete object reference is 'IP.CDIP.S1. V1'.

Device Top-Level Objects

When an interface is started using the EIB, 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
EIB Setup Set up the EIB driver, started on interface *c* (*c* is the interface number)	M*c*	Fixed Container: On the Commander platform this will be *[CDM v20\EIB v10]*
EIB Group List Access EIB system connected to interface *c* (*c* is the interface number)	S*c*	Variable Container: *[EIB v10\GroupList]*

EIB Driver Setup

Object Type: *[CDM v20\EIB v10]*

The EIB driver contains the following objects:

Description	Reference	Type
COM Port	RS.COM	Obj\Num; Range: 1…8; Adjustable
Device Label	DL	Obj\Text; Adjustable; 20 chars
Comms Established Shows if communication with the EIB system has been established	DS	Obj\NoYes
Group Format Group address format used on the EIB network	GF	Obj\Enum: 0..1; Adjustable Values: 0=2-part, 1=3-part
Group Object *x* The EIB group object number, *x*, is in the range 1…128	O*x*	Fixed Container: *[CDM v20\EIB v10\Object]*

EIB Group Object

Object Type: [CDM v10\EIB v10\Object]

The EIB Group Object contains the following objects:

Description	Reference	Type
Group address	G	Obj\Text; Adjustable See note 1
Data type Set to match the EIB group address value type	T	Obj\ENum: 0…12; Adjustable See note 2
Direction Configure driver to listen or set the EIB group address	D	Obj\Enum: 0…1; Adjustable Values: 0=From EIB, 1=To EIB

Notes

1 Depending how the EIB network has been configured, a group address can have one of the following formats:

Two-part group address: *m*/*s*
Where: *a* is the main group, in the range 0…15
s is the subgroup, in the range 0…2047

Three-part group address: *m*/*i*/*s*
Where: *m* is the main group, in the range 0…15
i is the intermediate group, in the range 0…7
s is the subgroup, in the range 0…255

2 Configure the Data Type to match how the group has been configured on the EIB network:

Value	Meaning
0	1-bit
1	2-bit
2	4-bit
3	8-bit
4	16-bit
5	32-bit
6	8-bit Signed
7	16-bit Signed
8	32-bit Signed
9	Dimming
10	Percent (%)
11	EIB Float
12	IEEE Float

EIB Group List

Object Type: *[EIB v10\GroupList]*

The EIB group list contains values of the group address configured in the driver setup. Values are only available once they have been broadcast onto the EIB network.

Description	Reference	Type
Group Value x The value number, *x*, is in the range 1…128	V*x*	The value type will depend on the Data Type configured in the EIB Group Object. See note 1. If the EIB Group Object Direction is configured 'to EIB', then the value is Adjustable.

Notes

1 The value type depends on how the EIB group object is configured.

EIB Data Type	Object Type
1-bit	Obj\OffOn
2-bit	Obj\Num: 0…3
4-bit	Obj\Num: 0…7
8-bit	Obj\Num: 0…255
16-bit	Obj\Num: 0…65535
32-bit	Obj\Num: 0…1000000000
8-bit Signed	Obj\Num: -128…127
16-bit Signed	Obj\Num: -32768…32768
32-bit Signed	Obj\Num: - 1000000000… 1000000000
Dimming	Obj\Num: -7…7
Per cent (%)	Obj\Float: 0…100.0
EIB Float	Obj\Float: -670760…670760.00
IEEE Float	Obj\Float

Driver Versions

Version	Build Date	Details
1.0	20/6/2012	Released for Commander
1.0	10/6/2013	Updated cable specification

Next Steps…

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

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