The Eltek Driver

The Eltek driver connects to a Eltek Power Rectifier System (PRS) using the COMLI protocol. Available for ObSys and Commander.

This document relates to Eltek driver version 1.1

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

Contents

Compatibility with the Eltek System

The Eltek driver allows North to interface with an Eltek Power Rectifier System (PRS) using the COMLI protocol. The system consists of an alarm module and a number of Switch Mode Power Supply (SMPS) rectifier modules. The alarm module regulates and monitors the SMPS rectifiers and gives information on the status of the system. The Eltek system can be used, by way of an example, for telecommunications equipment and other applications requiring a stable DC supply.

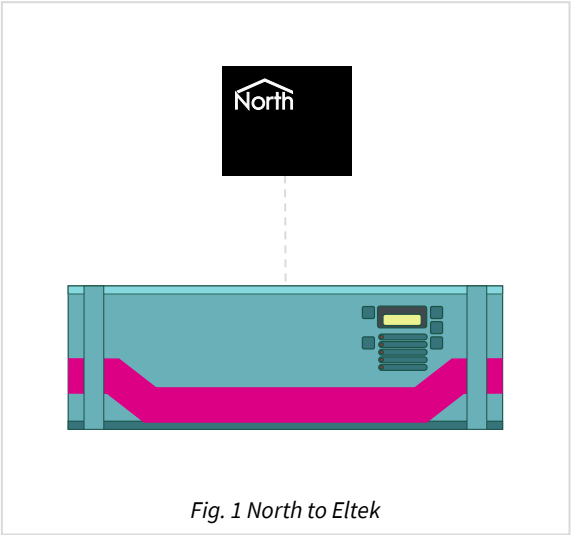

Fig. 1 North to Eltek

Equipment

Eltek equipment compatible with the driver includes:

- Eltek AL500 PRS – Up to 21 rectifiers can be connected to an AL5000 alarm module.
- Eltek AL1500 PRS – Up to 21 rectifiers can be connected to an AL1500 alarm module.
- Eltek AL175 PRS – Up to 5 rectifiers can be connected to an AL175 alarm module.

Values

The driver can typically access the following values:

- System state
- Mains voltage
- Load
- Rectifier states
- Battery state
- Boost state
- Individual rectifier state

Prerequisites

The Eltek alarm module must have the COMLI protocol option enabled and configured.

Using the Driver

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

Making the Cable

Using the RS232 cable specification, connect the North Device COM port to the Eltek COMLI port. Connector types at each end of the cable are shown.

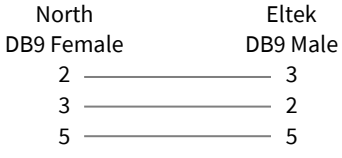

Fig 2 North to Eltek cable

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

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

Starting the Interface

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

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

The driver setup object (Mc), labelled **Eltek 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 **Eltek Setup** object (Mc). For example, if you started interface 1 with the driver earlier, then the object reference will be 'M1'
- Set the **RS232 Com Port** (RS.COM) to select which serial port on the North Device is connected to the Eltek system
- Set the **Baud Rate (**RS.BR**)** to match that configured in the Eltek equipment
- Set **Unit Type** (UT) to the model of Eltek alarm module.

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 Engineer.

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 Eltek System (S1) contains Rectifier 1 (R1), which itself contains a Connection Status (CS). Therefore, the complete object reference is 'S1.R1.CS.'.

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.R1.CS) – therefore the complete object reference is 'IP.CDIP.S1.R1.CS'.

Device Top-Level Objects

When an interface is started using the Eltek 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
Eltek Setup Set up the Eltek driver, started on interface *c* (*c* is the interface number)	M*c*	Fixed container: On the Commander platform this will be *[CDM v20\Eltek v11]* On the ObSys platform this will be *[OSM v20\Eltek v11]*
Eltek System Access Eltek system connected to interface *c* (*c* is the interface number)	S*c*	Fixed container: For AL1500 and AL5000 systems this will be *[Eltek v11\AL5000]* For AL175 systems this will be *[Eltek v11\AL175]*

Eltek Driver Setup

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

The Eltek driver contains the following objects:

Description	Reference	Type
RS232 COM Port	RS.COM	Obj\Num: 0…8; Adjustable
Baud Rate	RS.BR	Obj\Num; Adjustable Range: 1200, 2400, or 9600
Device Label	DL	Obj\Text: 0 chars; Adjustable
Device State The Device State indicates valid communications with the PRS	DT	Obj\NoYes
Unit Type Set the connected Eltek alarm module		Obj\ENum; Adjustable Where: 0 =AL1500/5000, 1=AL175

Eltek System AL5000

Object Type: *[Eltek v11\AL5000]*

An Eltek System AL5000 is an Eltek AL1500 or AL5000 PRS consisting of an alarm module and up to 21 SMPS modules (rectifiers).

Description	Reference	Type
System - Status	S.S	Obj\OffOn; Adjustable
System - Voltage Type	S.VT	Obj\Num: 0…48
Mains - Voltage Status	M.VS	Obj\ENum: 0…2: Where: 0=Normal, 1=Low, 2=High
Mains - Voltage (V)	M.V	Obj\Float
Float - Voltage (V)	F.V	Obj\Float
Pos/Neg - Current Shunt #2	PN.CS2	Obj\ENum: 0…1: Where: 0=Negative, 1=Positive
Load - Fuse OK	L.F	Obj\NoYes
Load - Trip	L.T	Obj\OffOn
Load - Current (A)	L.C	Obj\Num
Load - Disconnect Ref (V)	L.DR	Obj\Float; Adjustable
Load - Reconnect Ref (V)	L.RR	Obj\Float; Adjustable
Rectifier - Trip	R.T	Obj\OffOn
Rectifier - Disconnect Level (V)	R.DL	Obj\Float; Adjustable
Rectifier - Disconnect Module	R.D	Obj\Num: 0…21; Adjustable-only
Rectifier - Count	R.CNT	Obj\Num
Rectifier - Maximum number	R.MX	Obj\Num
Battery - in Low Voltage	B.LV.S	Obj\NoYes
Battery - in High Voltage	B.HV.S	Obj\NoYes
Battery - Voltage Ref (V)	B.VR	Obj\Float; Adjustable
Battery - Low Voltage Ref (V)	B.LV.R	Obj\Float; Adjustable
Battery - High Voltage Ref (V)	B.HV.R	Obj\Float; Adjustable
Battery - Current Status	B.C.S	Obj\ENum: Where: 0=Positive, 1=Negative
Battery - Positive Current (A)	B.C.P	Obj\Num
Battery - Negative Current (A)	B.C.N	Obj\Num
Battery - Current Shunt #2	B.C.S2	Obj\Num
Battery - in Test	B.T.S	Obj\NoYes
Battery - Stop/StartTest	B.T.E	Obj\Text; Adjustable-only '0': stop '1|*v*|*t*': test at *v* volts for *t* mins.
Battery - Fuse OK	B.F	Obj\NoYes
Boost - Status	BST.S	Obj\OffOn
Boost - Enable	BST.E	Obj\Text; Adjustable-only '0': stop '1': manual '2|*t*': timed boost for *t* mins.
Boost - Voltage Ref (V)	BST.VR	Obj\Float; Adjustable
Boost - Time Remaining (mins)	BST.T	Obj\Num
Rectifier *r* **The rectifier number, r, is in the range 1…21**	R*r*	Fixed Container : *[Eltek v11\Rect5000]*

Rectifier AL5000

Object Type: *[Eltek v11\Rect5000]*

An Eltek Rectifier AL5000 is a rectifier within an Eltek AL5000 or AL1500 PRS.

Description	Reference	Type
Status	S	Obj\OffOn
Connected status	CS	Obj\ENum: Where: 0=Connected, 1=Disconnected
In Comm Error	CM	Obj\NoYes
Fuse Blown	FS	Obj\NoYes
Mains Fail	MS	Obj\NoYes
Output Current	OC	Obj\Num

Eltek System AL175

Object Type: *[Eltek v11\AL175]*

An Eltek System AL175 is an Eltek AL175 PRS consisting of an alarm module and up to 5 SMPS modules (rectifiers).

Description	Reference	Type
System - Toggle on/off	S.T	Obj\ENum; Adjustable-only 1=Toggle on/off
System - Status	S.S	Obj\OffOn
System - Voltage Type	S.VT	Obj\Enum: Where 0=48V, 1=24V, 2=12V
Mains - Voltage Status	M.VS	Obj\ENum: Where: 0=Normal, 1=Low, 2=High
Float - Voltage (V)	F.V	Obj\Float
Symmetry Alarm - Status	SA.S	Obj\NoYes
Load - Fuse Blown	L.F	Obj\NoYes
Load - Current (A)	L.C	Obj\Float
Load - Disconnect Ref (V)	L.DR	Obj\Float; Adjustable
Rectifier - Count	R.CNT	Obj\Num
Rectifier - Total Current	R.TC	Obj\Num
Battery - Voltage Status	B.VS	Obj\ENum: Where: 0=Normal, 1=Low, 2=High
Battery - Voltage Ref (V)	B.VR	Obj\Float; Adjustable
Battery - Low Voltage Ref (V)	B.LV.R	Obj\Float; Adjustable
Battery - High Voltage Ref (V)	B.HV.R	Obj\Float; Adjustable
Battery - Current Status	B.C.S	Obj\ENum: Where: 0=Positive, 1=Negative
Battery - Positive Current (A)	B.C.P	Obj\Float
Battery - Negative Current (A)	B.C.N	Obj\Float
Battery - Fuse Blown	B.F	Obj\NoYes
Boost - Status	BST.S	Obj\OffOn
Boost - Enable	BST.E	Obj\Text; Adjustable-only '0': off '2|*t*': timed boost for *t* mins.
Boost - Voltage Ref (V)	BST.VR	Obj\Float; Adjustable
Boost - Time Remaining (mins)	BST.T	Obj\Num
Common Rectifier Status	R1	Obj\OffOn
Rectifier *r* **The rectifier number, r, is in the range 1…5**	R*r*	Fixed Container : *[Eltek v11\Rect175]*

Rectifier AL175

Object Type: *[Eltek v11\Rect175]*

An Eltek Rectifier AL175 is a rectifier within an Eltek AL5175 PRS.

Description	Reference	Type
Status	S	Obj\OffOn
Connected status	CS	Obj\ENum: Where: 0=Connected, 1=Disconnected
Alarm	FS	Obj\NoYes
Trip	MS	Obj\NoYes

Driver Versions

Version	Build Date	Details
1.1	06/02/2002	V1.1 released
1.1	11/05/2007	Resolved issues with AL175: F.V, L.C, B.VR, R.CNT to DCD_DIV100 B.CP, B.CN to DCD_DIV10
1.1	01/04/2008	S.S updated to read bit rather than register value
1.1	16/06/2008	L.C, R.TC now DCD_DIV10
1.1	19/09/2013	Resolved issue with message loss when invalid request made. Additional protection against buffer overflow on response.

Next Steps…

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

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Document issued 13/11/2024.