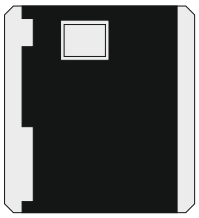
The AndCLI Driver



The AndCLI driver connects to the Andover Controls range of Infinity or Continuum building management systems, using the optional Command Line Interface (CLI). Available for ObSys and Commander.

This document relates to AndCLI driver version 1.1

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

Contents

Compatibility with the Andover Controls System

The AndCLI driver allows North to interface with Andover Controls range of Infinity or Continuum building management systems.

The driver connects, via an RS232 serial connection, to a controller with CLI (command line interface) enabled (Fig.1). Once connected, access to any controller on the BMS is possible.

An Andover controller contains a set of engineer-defined variables and executes one or more control programs.

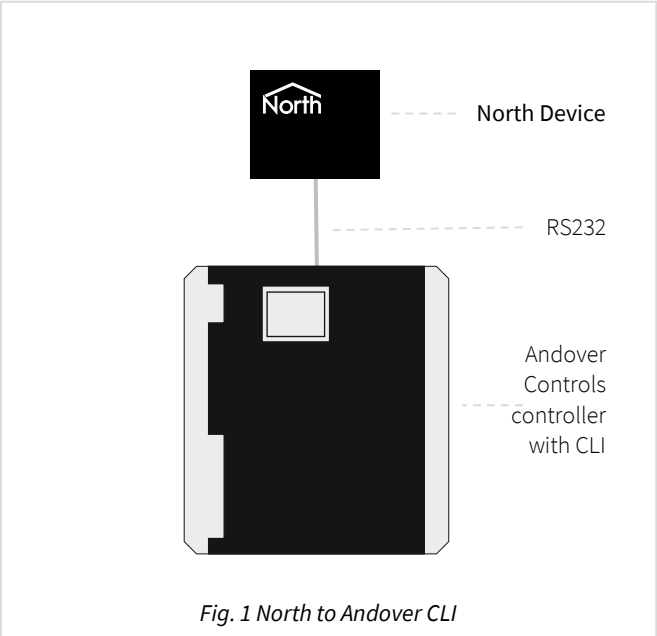


Fig. 1 North to Andover CLI

Equipment

Andover Controls building management ranges compatible with the driver include:

- Andover Continuum controllers – with CLI enabled
- Andover Infinity controllers – CLI enabled controllers such as CX, CMX, Eclipse, etc.
- Thorn Security Infinity BMS

Values

The driver can typically access the following values:

- Engineer-defined data points

Prerequisites

An Andover controller does not have a fixed list of variables within it, and it cannot be scanned to determine the list of objects. The Object Database for an AndCLI interface must therefore be generated manually, using a list of 'Plain English' point names configured in each controller.

Using the Driver

On ObSys, the AndCLI driver is pre-installed. On Commander, the driver is available to download in the file 'Bank 3 AndCLI.cdm'. On all of these North devices, you can use the driver to create an interface to AndCLI. Once started, you will need to set up the driver before it can communicate with the Andover system.

Making the Cable

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

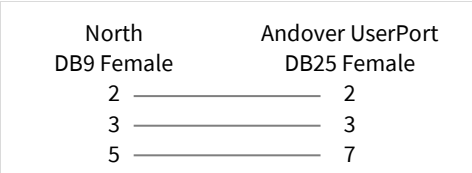


Fig 2 North to Andover cable

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

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

Starting the Interface

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

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

The driver setup object (Mc), labelled **AndCLI 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 **AndCLI 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 Andover controller
- Set **Logon Name** (LN) and **Logon Password** (LP) objects to match the controllers CLI terminal authentication
- Set **Controller Label** (Cx.L) objects with the 'Plain English' name of controllers you wish to access.

Checking Communications

You can check that the interface is communicating by reading the **Device Connected** object (DS). A value of 'yes' indicates the driver has connected to, and authenticated with, the Andover controller.

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 AndCLI system (S1) contains controller (C1) with the point OAT (OAT) and the VALUE attribute (V). Therefore, the complete object reference is 'S1.C1.OAT.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.C1.OAT.V) – therefore the complete object reference is 'IP.CDIP.S1.C1.OAT.V'.

Device Top-Level Objects

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

AndCLI Driver Setup

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

The AndCLI driver contains the following objects:

Description	Reference	Type
RS232 COM Port	RS.COM	Obj\Num:1…8; Adjustable
Device Label	DL	Obj\Text: 20 chars; Adjustable
Logon Name	LN	Obj\Text: 16 chars; Adjustable
Logon Password	LP	Obj\Text: 16 chars; Adjustable
Device Connected 'Yes' indicates the driver has connected and authenticated with the controller via CLI terminal. 'No' indicates no valid comms with system for 60 seconds	DS	Obj\NoYes
Error Label Error returned by the Andover controller for the last request made (if applicable).	EL	Obj\Text
Controller *x* – Label Configure the controller name here, so system objects can be shortened. The controller number x is in the range 1...10	C*x*.L	Obj\Text: 16 chars; Adjustable

AndCLI System

Object Type: *[AndCLI v11]*

The Andover system does not have a fixed list of objects within it, and it cannot be scanned to determine the list of objects. The Object Database for an AndCLI system must therefore be generated manually, using a list of point names configured in each controller.

Point names in Andover are 'Plain English' text names up to 16 characters, in the range 'A'…'Z', 'a'…'z', '0'… '9' and '_'. Names are case insensitive.

Object references in the North system have a **maximum length of 32 characters**. Use the attribute abbreviations, and controller references listed below to keep object references within this length.

The AndCLI system may contain the following objects:

Description	Reference	Type
Point Point name *p* from the local controller	*p*	Obj\Text; Adjustable
***Point* – Digital value** Point name *p* with the value converted from Off/On text to digital 0 (Off)/1 (On)	*p*.D	Obj\OffOn; Adjustable
Point – Attribute Point name *p*, attribute *a* from the local controller	*p.a*	Obj\Text; Adjustable
Controller – Point Point name *p* from controller *c*	*c.p*	Obj\Text; Adjustable
***Controller – Point* – Digital value** Point name *p* with the value converted from Off/On text to digital 0 (Off)/1 (On), from controller *c*	*c.p*.D	Obj\OffOn; Adjustable
Controller – Point – Attribute Point name *p*, attribute *a* from controller *c*	*c.p.a*	Obj\Text; Adjustable

Attribute

To shorten object references, attributes can be abbreviated as follows:

Reference	Andover Attribute
AV	AlarmValue
CN	Conversion
C	Channel
EST	ElecScaleTop
ESB	ElecScaleBot
ET	ElecType
EV	ElecValue
NST	EngScaleTop
NSB	EngScaleBot
X	Export
F	Format
IN	Invert

Reference	Andover Attribute
LCD	LCDState
O	Override
OV	OverrideValue
R	Refresh
SP	Setpoint
S	State
SS	StringSize
T	Threshold
TY	Type
U	Units
V	Value

So, to read the Value attribute, use 'V'. For example, to read the Value attribute of point OAT the object reference becomes 'OAT.V'.

System Variables

Andover controller system variables can also be used as the point name, including: ALARMS, CPUPOWER, DATE, DAYOFMONTH, DAYOFYEAR, DCXPOWER, ERRORS, FREEMEM, HOD, HOUR, MINUTE, MODEMPOWER, MONTH, POWERFAIL, POWERUPTIME, ReaderPower, SCAN, SECOND, VERSION, WEEKDAY, YEAR.

Values converted to Off/On

On reading, the following text values will be automatically converted to an Off (0)/On (1) value:

On value	Off value
On	Off
Enabled	Disabled
True	False
Active	Inactive
Yes	No
OnLine	OffLine
Looping	FailThru

Use the attribute 'D' to also convert a value when writing.

Controller

Where a controller name is also required, set the controller name within the driver setup object (C*x*.L), then reference it here as 'C1', etc.

For example, for a controller called 'Roof'. In the driver setup, set object C1.L to 'Roof'. Object references for the Roof controller can then start 'C1' instead of 'Roof'. A full object reference may be 'C1.OAT.V'.

Driver Versions

Version	Build Date	Details
1.0	14/02/1997	Driver released
1.0	18/03/1998	Added D attribute to convert on writing
1.1	11/10/2000	Added support for bar comms and Device Label object
1.1	15/10/2004	Now wait for 'R>' prompt before sending next request to controller

Next Steps…

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

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