



The Luxmate Driver



The Luxmate driver connects to a Luxmate Controls room management system. The Luxmate system provides environmental control of a room, including lighting, shade, natural ventilation, climate, and audio. Available for ObSys and Commanders.

This document relates to Luxmate driver version 1.0

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

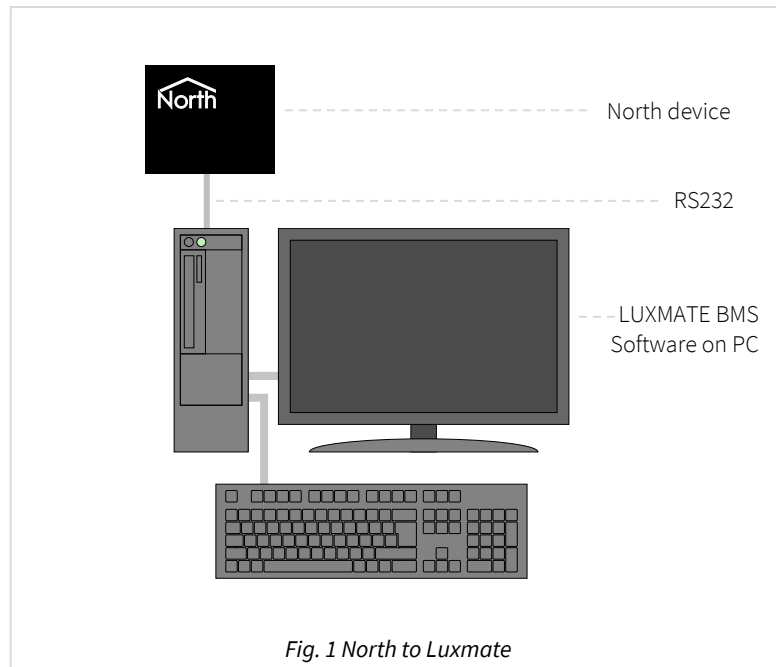
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Compatibility with the Luxmate System

The Luxmate driver allows North to interface with a Luxmate Controls room management system. The Luxmate system provides environmental control of a room, including lighting, shade, natural ventilation, climate, and audio.

The driver connects, via an RS232 serial connection, to the Luxmate BMS Software on a PC (Fig. 1). Only adjustments may be sent to the Luxmate system, no values can be read.



Equipment

Luxmate equipment compatible with the driver includes:

- Luxmate BMS interface
- LM-SI03 serial interface
- LM-TLR daylight processors
- LRA room automation processors

Values

Depending on the Luxmate equipment installed, the driver can typically adjust the following values:

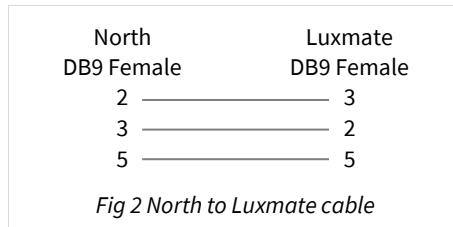
- Light brightness
- Light balance
- Light colour
- Spotlight position
- Blind position
- Blind angle
- AV Screen
- Curtain
- Window position
- Room temperature
- Heating setpoint
- Cooling setpoint
- Audio volume

Using the Driver

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

Making the Cable

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



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

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

Starting the Interface

- 🖥 To start an interface using the Luxmate driver, follow these steps:
 - **Start Engineering** your North device using ObSys
 - Navigate to **Configuration, Interfaces**, and set a unused **Interface** to 'Luxmate' to start the particular interface
 - Navigate to the top-level of your North device, then rescan it.

The driver setup object (Mc), labelled **Luxmate 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 **Luxmate 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 Luxmate 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 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 Luxmate System (S1) contains Room 1 (R1), which itself contains a Light Colour (T6), which you can control with the 'Dim' object (D). Therefore, the complete object reference is 'S1.R1.T6.D'.

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.T6.D) - therefore the complete object reference is 'IP.CDIP. S1.R1.T6.D'.

Device Top-Level Objects

When an interface is started using the Luxmate 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
Luxmate Setup Set up the Luxmate driver, started on interface <i>c</i> (<i>c</i> is the interface number)	Mc	Fixed container: On the Commander platform this will be <i>[CDM v20\Luxmate v10]</i> On the ObSys platform this will be <i>[OSM v20\Luxmate v10]</i>
Luxmate System Access Luxmate system connected to interface <i>c</i> (<i>c</i> is the interface number)	Sc	Fixed container: <i>[Luxmate v10]</i>

Luxmate Driver Setup

Object Type: [OSM v20\Luxmate v10]

Object Type: [CDM v20\Luxmate v10]

The Luxmate driver contains the following objects:

Description	Reference	Type
RS232 COM Port	RS.COM	Obj\Num: 0...8; Adjustable
Device Label	DL	Obj\Text: 0 chars; Adjustable
Motor Drive Time (secs) The time it takes a window or blind motor to go from fully closed to fully open. This is used for the timed Open Percentage Over Time object (P)	DT	Obj\Num: 0...240; Adjustable

Luxmate System

Object Type: *[Luxmate v10]*

The Luxmate system may contain the following objects:

Description	Reference	Type
Version	V	Obj\Text
Room x Access groups and outputs in a room. The room address, <i>x</i> , can be in the range 1...255	Rx	Fixed Container: <i>[Luxmate v10\Room]</i>
Fieldbus y Access rooms of a specific Luxmate field bus, when more than one field bus is installed. The field bus address, <i>y</i> , can be in the range 1...255	Ty	Fixed Container: <i>[Luxmate v10\Fieldbus]</i>

Fieldbus

Object Type: *[Luxmate v10\Fieldbus]*

A Fieldbus is a field bus (TLR) within a Luxmate system.

Description	Reference	Type
Room x Access groups and outputs in a room. The room address, <i>x</i> , can be in the range 1...255	Rx	Fixed Container: <i>[Luxmate v10\Room]</i>

Room

Object Type: *[Luxmate v10\Room]*

A Room is a room within a Luxmate system. A room contains objects to adjust a scene, an output device by type, groups, and devices:

Description	Reference	Type
Scene Select Call up a scene	S	Obj\Num: 0...20; Adjustable-only
Scene Store Store the current adjustment levels to a scene	ST	Obj\Num: 0...20, 99; Adjustable-only 0...20: Scene # 99: Current scene
Brightness Light brightness	T2	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Blind Travel Shutter position, travel shutters	T3	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Blind Angle Shutter position, angle of slats	T4	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Light Balance Light balance (indirect/direct share)	T5	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Light Colour	T6	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Spot Horizontal Horizontal movement of spot light	T7	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Spot Vertical Vertical movement of spot light	T8	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Focus Light focus	T9	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Screen AV screen position	T10	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Room Temperature Offset Offset for the room temperature: -3.0 to +3.0 °C	T11	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Volume Acoustic volume	T12	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Direct Light	T30	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Indirect Light	T31	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Heating Setpoint Setpoint for the heating: 0...127.5 °C	T32	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Cooling Setpoint Setpoint for the cooling: -64...63.5 °C	T33	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Outdoor Temperature Outdoor temperature: -128...127 °C	T34	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Room Temperature Temperature: 0...120 °C	T35	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Heat Surface Temperature Temperature: 0...120 °C	T36	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Valve Setting Valve setting of the heating: -100...100 %	T37	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Relative Humidity Humidity: 0...100.00 %rh	T38	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Air Exchange Enable circulation	T39	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Curtain	T64	Fixed Container: <i>[Luxmate v10\Adjust]</i>

Description	Reference	Type
Window	T65	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Group x Access a group in a room. The group number, <i>x</i> , can be in the range 1...255	Gx	Fixed Container: <i>[Luxmate v10\Device]</i>
Device y Access an output device in a room. The device number, <i>y</i> , can be in the range 1...255	Gy	Fixed Container: <i>[Luxmate v10\Device]</i>

Groups & Devices

Object Type: *[Luxmate v10\Device]*

Groups & Devices is a group or output device within a Luxmate system. It contains objects to adjust a scene, and an output device based on its type:

Description	Reference	Type
Scene Select Call up a scene	S	Obj\Num: 0...20; Adjustable-only
Scene Store Store the current adjustment levels to a scene	ST	Obj\Num: 0...20, 99; Adjustable-only 0...20: Scene # 99: Current scene
Brightness Light brightness	T2	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Blind Travel Shutter position, travel shutters	T3	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Blind Angle Shutter position, angle of slats	T4	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Light Balance Light balance (indirect/direct share)	T5	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Light Colour	T6	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Spot Horizontal Horizontal movement of spot light	T7	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Spot Vertical Vertical movement of spot light	T8	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Focus Light focus	T9	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Screen AV screen position	T10	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Room Temperature Offset Offset for the room temperature: -3.0 to +3.0 °C	T11	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Volume Acoustic volume	T12	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Direct Light	T30	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Indirect Light	T31	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Heating Setpoint Setpoint for the heating: 0...127.5 °C	T32	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Cooling Setpoint Setpoint for the cooling: -64...63.5 °C	T33	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Outdoor Temperature Outdoor temperature: -128...127 °C	T34	Fixed Container: <i>[Luxmate v10\Adjust]</i>
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Heat Surface Temperature Temperature: 0...120 °C	T36	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Valve Setting Valve setting of the heating: -100...100 %	T37	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Relative Humidity Humidity: 0...100.00 %rh	T38	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Air Exchange Enable circulation	T39	Fixed Container: <i>[Luxmate v10\Adjust]</i>
Curtain	T64	Fixed Container: <i>[Luxmate v10\Adjust]</i>

Description	Reference	Type
Window	T65	Fixed Container: <i>[Luxmate v10\Adjust]</i>

Adjust

Object Type: [Luxmate v10\Adjust]

An Adjust object adjusts an output device. Use the appropriate objects based on the output device's type. The Value object gives direct control of the output, Position objects are for positioning a motor-driven output, and Dim objects provide dimming control for lights and shades.

Open Percentage Over Time (P) is a driver function for motor-driven output devices, such as a window or louver motor, that does not provide position feedback. It uses the Motor Drive Time (Mx.DT) driver object that specifies how long the motor takes to position from fully closed to fully open. For example, if the Motor Drive Time is 20 seconds, and a position of 75% is required, then the driver will first send an open command followed by a stop command 15 seconds later: $(20/100) \times 75 = 15$.

The Adjust contains the following objects:

Description	Reference	Type
Value Adjust output device to value specified. No scaling is applied	A	Obj\Float: -127...255.0; Adjustable-only
Absolute Position (%) Adjust an output, such as a motor driven device device. The value is rescaled in the range 0...255	AP	Obj\Num: 0...100; Adjustable-only
Go to Close Position Starts positioning a motor-driven device to the closed position	C	Obj\Num; Adjustable-only Any value
Go to Open Position Starts positioning a motor-driven device to the open position	O	Obj\Num; Adjustable-only
Stop in Current Position Stops a motor-driven device from positioning any further	ST	Obj\Num; Adjustable-only
Open Percentage Over Time (%) Adjust value of motor driven units with no position feedback. This sends an open then uses the Motor Drive Time (Mx.DT) driver object to calculate how long until a stop command is sent (this assumes the unit is in the closed position).	P	Obj\Num: 0...100; Adjustable-only 0 = go to close position 1...99 = position to % value (from closed) 100 = go to open position
Dim Adjust the output device (luminaire, blind, etc.) in the direction specified for 30 seconds	D	Obj\Num: -1, 0, 1; Adjustable-only -1 = Dim (decrease) the output for 30 seconds 0 = stop dimming 1 = Dim (increase) the output for 30 seconds
Dim Over Time (s) Adjust the output device (luminaire, blind, etc.) in the direction and time specified. E.g. a value of '-5' will reduce the lighting or raise a blind for 5 seconds.	DT	Obj\Num: -255...0...255; Adjustable-only -v = Dim (decrease) the output for v seconds 0 = stop dimming +v = Dim (increase) the output for v seconds

Driver Versions

Version	Build Date	Details
1.0	15/09/2004	Released

Next Steps...

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



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