North

The SatchSNP Driver

The SatchSNP driver allows North to interface with devices supporting the Satchwell Network Protocol (SNP). Compatible equipment includes the Canatal International air conditioning system. Available for ObSys and Commander.

This document relates to SatchSNP driver version 1.0

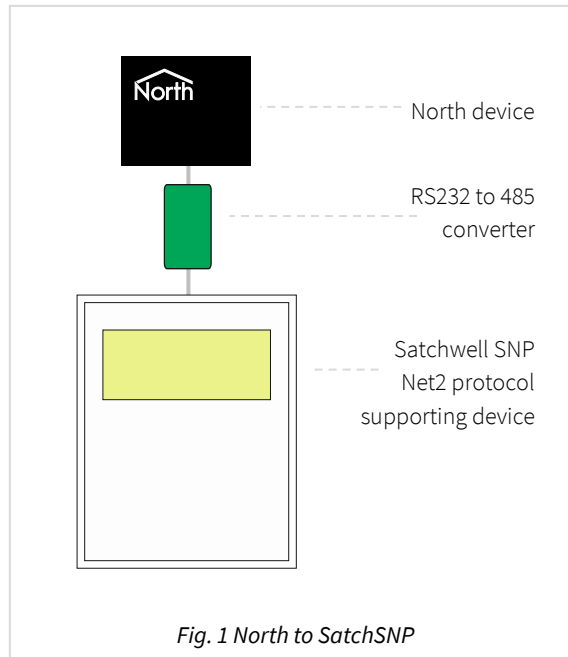Please read the *Commander Manual* or *ObSys Manual* alongside this document, available from *www.northbt.com*

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Compatibility with the Satchnet System

The SatchSNP driver allows North to interface with devices supporting the Satchwell Network Protocol (SNP). Compatible equipment includes the Canatal International air conditioning system.

The driver acts as the controller on the network, connecting via an RS485 serial connection, to a network of Satchnet compatible devices (Fig. 1). Values from up to 32 devices may be accessed.

North device

RS232 to 485 converter

Satchwell SNP Net2 protocol supporting device

Fig. 1 North to SatchSNP

Equipment

Compatible Satchnet devices that are compatible with the driver include:

- Canatal International air conditioning – series 6, 8 and 9.

Values

The driver can access values from the device referenced using their table and offset. Values may be decoded as byte, word, integer, BCD, and text types.

Prerequisites

An RS232-485 adapter is required and should be configured to 10 bits, with a baud rate to match the connected Satchnet devices.

Consult Satchnet device documentation for a description of the table and offset data.
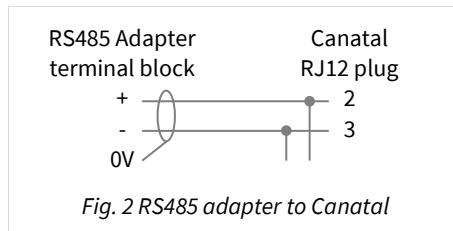
Using the Driver

On ObSys, the SatchSNP driver is pre-installed. On Commander, the driver is available to download in the file 'Bank15 SatchSNP.cdm'. On all of these North devices, you can use the driver to create an interface to SatchSNP. Once started, you will need to set up the driver before it can communicate with the Satchnet devices.

Making the Cable

Connect the North Device COM port to an RS232 to RS485 Adapter

For Canatal devices: using the RS485 cable specification (Fig. 2), connect the RS485 adapter to the Canatal RJ12 socket 'J22'.

Fig. 2 RS485 adapter to Canatal

RS485 adapters are available from North, order code MISC/RS232/485.

Starting the Interface

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

→ **Start Engineering** your North device using ObSys

→ Navigate to **Configuration, Interfaces,** and set a unused **Interface** to 'SatchSNP' to start the particular interface

→ Navigate to the top-level of your North device, then rescan it.

The driver setup object (M*c*), labelled **SatchSNP 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 **SatchSNP Setup** object (M*c*). 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 Satchwell network

→ Set the **Baud Rate** (RS.BR) to match that of the Satchnet devices

→ Set **Address Start** (AS) and **Address Count** (AC) with the range of device address to access on the network

Value Decoding

The Satchwell SNP protocol describes storing values in a table number and offset. Each value may be stored using one of the following formats:

- 8-bit unsigned integer (byte)
- 16-bit unsigned integer (word)
- 16-bit signed integer
- Single bit
- Binary coded decimal
- ASCII string

The driver has several decode types available that are used to translate raw table offset data into a value. The decode is used as part of the object reference described later.

Single Bit (Decode S)

Returns the specified bit from a table offset value. Bits are indexed starting with the least significant bit.

Bit number	7	6	5	4	3	2	1	0
Data	0	1	0	0	1	0	0	1

Example: For the decimal value 73, shown above, bit 3=1, bit 0=1, etc.

Unsigned 8-bit Integer (Decode B)

The value stored within the table offset decodes to an unsigned number, in the range 0 to 255.

Bit value	128	64	32	16	8	4	2	1
Data	0	1	0	0	1	0	0	1

Example: Above decodes as decimal value 73.

Unsigned 16-bit Integer (W)

The value stored within the table offset decodes to an unsigned number, in the range 0 to 65535. The value is stored in LSB, MSB order.

Bit value	128	64	32	16	8	4	2	1	32768	16384	8192	4096	2048	1024	512	256
Data	0	1	0	0	1	0	0	1	0	1	0	0	1	0	0	1

Example: Above decodes as decimal value 18505.

Signed 16-bit Integer (Decode I)

The value stored within a table offset decodes to a signed integer number, in the range -32768 to 32767.

Bit value	sign	16384	8192	4096	2048	1024	512	256	128	64	32	16	8	4	2	1
Data	0	1	0	0	1	0	0	1	0	1	0	0	1	0	0	1

Example: Above decodes as decimal value 18505.

BCD (Decode BCD)

The value stored within the table offset decodes to a binary decoded decimal value.

Bit value	80	40	20	10	8	4	2	1
Data	0	1	0	0	1	0	0	1

Example: Above decodes as 49.

ASCII String (Decode A)

The value stored within the table offset decodes to a single ASCII character. Up to 8 characters can be accessed at once.

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 SatchSNP System (S1) contains Unit 1 (U1), with data Table 2 (T2) and Offset 3 (O3), which contains value decode Word (W). Therefore, the complete object reference is 'S1.U1.T2.O3.W'.

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.U1.T2.O3.W) – therefore the complete object reference is 'IP.CDIP.S1.U1.T2.O3.W'.

Device Top-Level Objects

When an interface is started using the Cerberus 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
SatchSNP Setup Set up the SatchSNP driver, started on interface *c* (*c* is the interface number)	M*c*	Fixed container: On the Commander platform this will be *[CDM v20\SatchSNP v10]* On the ObSys platform this will be *[OSM v20\SatchSNP v10]*
SatchSNP System Access SatchSNP system connected to interface *c* (*c* is the interface number)	S*c*	Variable container: *[SatchSNP v10]*

SatchSNP Driver Setup

Object Type: *[OSM v20\SatchSNP v10]*
Object Type: *[CDM v20\SatchSNP v10]*

The SatchSNP 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 Values: 1200, 2400, 4800, 9600
System Label	DL	Obj\Text: 20 chars; Adjustable
Address Start To scan the system, set the lowest device address on the network	AS	Obj\Num: 0…255; Adjustable
Address Count To scan the system, set the number of devices on the network	AC	Obj\Num: 0…31: Adjustable
Device Type Leave blank to view default Satchnet table for a device. For Canatal series 6 & 8 devices, set to 'Canatal'	DT	Obj\Text: 20 chars; Adjustable

SatchSNP System

Object Type: *[SatchSNP v10]*

The SatchSNP system contains the following objects:

Description	Reference	Type
Unit *x* The Satchnet device address, *x*, can be in the range 1…255	U*x*	Fixed Container: *[SatchSNP v10\Default]* For Canatal series 6 & 8 devices: *[SatchSNP v10\Canatal]*

Default Unit

Object Type: *[SatchSNP v10*Default*]*

A Default Unit is a generic Satchnet device.

Description	Reference	Type
Table *t* The table number, *t*, can be in the range 0…100	T*t*	Fixed Container: *[SatchSNP v10\Table]*

Table

Object Type: *[SatchSNP v10*Table*]*

A Table is a data table of values within a Satchnet device.

Description	Reference	Type
Offset *y* The offset address, *y*, can be in the range 0….255	O*y*	Fixed Container: *[SatchSNP v10\Offset]*

Offset

Object Type: *[SatchSNP v10*Offset*]*

An Offset is an offset within a data table in a Satchnet device. An offset value can be decoded using one of the *Value Decoding* methods.

Description	Reference	Type
Bit *b* Decode single bit of value. The bit number, *b*, can be in the range 0…7	S*b*	Obj\Num: 0…1; Adjustable
Byte Decode as 8-bit unsigned value	B	Obj\Num: 0…255; Adjustable
Word Decode as 16-bit unsigned value	W	Obj\Num: 0…65535; Adjustable
Integer Decode as 16-bit signed value	I	Obj\Float: -32768…32767; Adjustable
Integer (scaled by *c*) The scaling value, *c*, will divide the value by that factor. For example, if the register contained the value of 678 and a scale of 10 was applied, then the value would be seen as 67.8	L*c*	Obj\Float; Adjustable
Binary Coded Decimal	BCD	Obj\Num: 0…99; Adjustable
ASCII string of length *d* The character length, d, can be in the range 1…16	A*d*	Obj\Text; Adjustable

Canatal Unit

Object Type: *[SatchSNP v10\Canatal]*

A Canatal Unit is a Canatal series 6 or 8 air conditioning unit.

Description	Reference	Type
Firmware ID R	T4.O0.A16	Obj\Text
System Control	T16.O0.S0	Obj\OffOn
Program Version	T17.O1.A8	Obj\Text; Adjustable
Duty Unit No.	T5.O1.B	Obj\Num: 1…8
Temp Setpoint (C)	T5.O2.B	Obj\Num: 15…30
Temp High Limit (C)	T5.O3.B	Obj\Num: 15…37
Temp Low Limit (C)	T5.O4.B	Obj\Num: 30…80
Hum Setpoint (%rh)	T5.O5.B	Obj\Num: 30…90
Hum High Limit (%rh)	T5.O6.B	Obj\Num: 20…50
Hum Low Limit (%rh)	T5.O7.B	Obj\Num: 15…1440
Boiler Limit (min)	T5.O10.I	Obj\Num: 15…1440
Sensor Mode	T5.O12.B	Obj\ENum: 0…4. Values: 0=Local; 1=Remote; 2=Local demo; 3=Remote demo; 4=Disable
Humidity Control Disable	T5.O14.B	Obj\NoYes
Language	T5.O20.B	Obj\ENum: 0…1 Values: 0=English; 1=Chinese
OnOff Mode	T5.O25.B	Obj\ENum: 0…2 Values: 0=Local; 1=Timer; 2=Remote
Local Restart Mode	T5.O26.B	Obj\ENum: 0…1 Values: 0=Auto; 1=Manual.
Auto Changeover (hr)	T5.O27.B	Obj\Num 0…9999
Restart Delay (sec)	T5.O29.I	Obj\Num 0…9999
Warm-up Delay (sec)	T5.O31.I	Obj\Num 0…9999
Fan Purge Delay (sec)	T5.O33.B	Obj\Num 0…9999
Compressor Elapse	T5.O35.I	Obj\ Num 0…250
Positive-start Delay (sec)	T5.O36.I	Obj\ Num 0…9999
Change Bottle Delay (sec)	T5.O38.I	Obj\ Num 0…9999
Reading Display	T5.O48.B	Obj\ENum: 0…1 Value: 0=Local; 1=Site
Display Mode	T5.O49.B	Obj\ENum: 0…1 Value: 0=DegC; 1=degF
Voltage High Limit (%)	T5.O50.B	Obj\Num: 102…120
Voltage Low Limit (%)	T5.O51.B	Obj\Num: 80…98
Temp 2 High Limit (C)	T5.O52.B	Obj\Num: 15…37
Temp 2 Low Limit (C)	T5.O53.B	Obj\Num: 0…30
Hum 2 High Limit (%rh)	T5.O54.B	Obj\Num: 50…90
Hum 2 Low Limit (%rh)	T5.O55.B	Obj\Num: 20…50
Temp DBand Norm (%rh)	T5.O65.B	Obj\Num 0…10
Temp DBand Relax (C)	T5.O66.B	Obj\Num 0…20
Hum DBand Norm (%rh)	T5.O67.B	Obj\Num 0…30
Hum DBand Relax (%rh)	T5.O68.B	Obj\Num 0…50
Cool Prop Band (C)	T5.O69.B	Obj\Num: 1…10
Heat Prop Band (C)	T5.O70.B	Obj\Num: 1…10
Hum Prop Band (%rh)	T5.O71.B	Obj\Num: 2…10
Dehum Prop Band (%rh)	T5.O72.B	Obj\Num: 2…10
Temp Integral Act (min)	T5.O73.B	Obj\Num: 1…30
Hum Integral Act (min)	T5.O74.B	Obj\Num: 1…30
Site Temp (C)	T6.O0.I10	Obj\Float: -3276.0…3276.0
Site Hum (%rh)	T6.O2.I10	Obj\Float: -3276.0…3276.0

Description	Reference	Type
Local Temp 1 (C)	T6.O4.I10	Obj\Float: -3276.0...3276.0
Local Temp 2 (C)	T6.O6.I10	Obj\Float: -3276.0...3276.0
Local Hum 1 (%rh)	T6.O8.I10	Obj\Float: -3276.0...3276.0
Local Hum 2 (%rh)	T6.O10.I10	Obj\Float: -3276.0...3276.0
Supply Voltage (%)	T6.O12.I10	Obj\Float: -3276.0...3276.0
Standby Start	T9.O0.S4	Obj\OffOn
Remote On	T9.O0.S5	Obj\OffOn
Standby Enable	T9.O1.S0	Obj\OffOn
Common Alarm	T9.O1.S1	Obj\OffOn
Heat Analog Output	T10.O0.B	Obj\Num: 0...255
Cool Analog Output	T10.O1.B	Obj\Num: 0...255
Hum Analog Output	T10.O2.B	Obj\Num: 0...255
Dehum Analog Output	T10.O3.B	Obj\Num: 0...255
Free-Cooling 1 Output	T10.O4.B	Obj\Num: 0...255
Free-Cooling 2 Output	T10.O5.B	Obj\Num: 0...255
B General Alarm Status	T11.O240	Obj\ENum: 0...1 Value: 0=No Alarm; 1=Alarm(s)
Dehumidifying	T12.O9.S0	Obj\OffOn
Humidifying	T12.O9.S1	Obj\OffOn
Cooling	T12.O9.S2	Obj\OffOn
Heating	T12.O9.S4	Obj\OffOn
FreeCooling	T12.O9.S7	Obj\OffOn
Heating Stage	T14.O0.B	Obj\Num: 0...255
Cooling Stage	T14.O1.B	Obj\Num: 0...255
Heating Stage	T14.O2.B	Obj\Num: 0...255
Dehumid Stage	T14.O3.B	Obj\Num: 0...255
FreeCooling Stage	T14.O4.B	Obj\Num: 0...255
Security Code 1	T7.O0.A4	Obj\Text: 4 chars
Security Code 2	T7.O4.A4	Obj\Text: 4 chars
Security Code 3	T7.O8.A4	Obj\Text: 4 chars
Mon Event 1 Hour	T8.O0.B	Obj\Num: 0...23
Mon Event 1 Min	T8.O4.B	Obj\Num: 0...59
Mon Event 1 Act	T8.O8.B	Obj\ENum: 0...2 Value: 0=Off; 1=on; 2=Relax
Mon Event 2 Hour	T8.O1.B	Obj\Num: 0...23
Mon Event 2 Min	T8.O5.B	Obj\Num: 0...59
Mon Event 2 Act	T8.O9.B	Obj\ENum: 0...2 Value: 0=Off; 1=on; 2=Relax
Mon Event 3 Hour	T8.O2.B	Obj\Num: 0...23
Mon Event 3 Min	T8.O6.B	Obj\Num: 0...59
Mon Event 3 Act	T8.O10.B	Obj\ENum: 0...2 Value: 0=Off; 1=on; 2=Relax
Mon Event 4 Hour	T8.O3.B	Obj\Num: 0...23
Mon Event 4 Min	T8.O7.B	Obj\Num: 0...59
Mon Event 4 Act	T8.O11.B	Obj\ENum: 0...2 Value: 0=Off; 1=on; 2=Relax
Tue Event 1 Hour	T8.O12.B	Obj\Num: 0...23
Tue Event 1 Min	T8.O16.B	Obj\Num: 0...59
Tue Event 1 Act	T8.O20.B	Obj\ENum: 0...2 Value: 0=Off; 1=on; 2=Relax
Tue Event 2 Hour	T8.O13.B	Obj\Num: 0...23
Tue Event 2 Min	T8.O17.B	Obj\Num: 0...59
Tue Event 2 Act	T8.O21.B	Obj\ENum: 0...2 Value: 0=Off; 1=on; 2=Relax
Tue Event 3 Hour	T8.O14.B	Obj\Num: 0...23

Description	Reference	Type
Tue Event 3 Min	T8.O18.B	Obj\Num: 0…59
Tue Event 3 Act	T8.O22.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Tue Event 4 Hour	T8.O15.B	Obj\Num: 0…23
Tue Event 4 Min	T8.O19.B	Obj\Num: 0…59
Tue Event 4 Act	T8.O23.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Wed Event 1 Hour	T8.O24.B	Obj\Num: 0…23
Wed Event 1 Min	T8.O28.B	Obj\Num: 0…59
Wed Event 1 Act	T8.O32.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Wed Event 2 Hour	T8.O25.B	Obj\Num: 0…23
Wed Event 2 Min	T8.O29.B	Obj\Num: 0…59
Wed Event 2 Act	T8.O33.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Wed Event 3 Hour	T8.O26.B	Obj\Num: 0…23
Wed Event 3 Min	T8.O30.B	Obj\Num: 0…59
Wed Event 3 Act	T8.O34.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Wed Event 4 Hour	T8.O27.B	Obj\Num: 0…23
Wed Event 4 Min	T8.O31.B	Obj\Num: 0…59
Wed Event 4 Act	T8.O35.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Thu Event 1 Hour	T8.O36.B	Obj\Num: 0…23
Thu Event 1 Min	T8.O40.B	Obj\Num: 0…59
Thu Event 1 Act	T8.O44.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Thu Event 2 Hour	T8.O37.B	Obj\Num: 0…23
Thu Event 2 Min	T8.O41.B	Obj\Num: 0…59
Thu Event 2 Act	T8.O45.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Thu Event 3 Hour	T8.O38.B	Obj\Num: 0…23
Thu Event 3 Min	T8.O42.B	Obj\Num: 0…59
Thu Event 3 Act	T8.O46.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Thu Event 4 Hour	T8.O39.B	Obj\Num: 0…23
Thu Event 4 Min	T8.O43.B	Obj\Num: 0…59
Thu Event 4 Act	T8.O47.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Fri Event 1 Hour	T8.O48.B	Obj\Num: 0…23
Fri Event 1 Min	T8.O52.B	Obj\Num: 0…59
Fri Event 1 Act	T8.O56.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Fri Event 2 Hour	T8.O49.B	Obj\Num: 0…23
Fri Event 2 Min	T8.O53.B	Obj\Num: 0…59
Fri Event 2 Act	T8.O57.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Fri Event 3 Hour	T8.O50.B	Obj\Num: 0…59
Fri Event 3 Min	T8.O54.B	
Fri Event 3 Act	T8.O58.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Fri Event 4 Hour	T8.O51.B	Obj\Num: 0…23
Fri Event 4 Min	T8.O55.B	Obj\Num: 0…59
Fri Event 4 Act	T8.O59.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Sat Event 1 Hour	T8.O60.B	Obj\Num: 0…23

Description	Reference	Type
Sat Event 1 Min	T8.O64.B	Obj\Num: 0…59
Sat Event 1 Act	T8.O68.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Sat Event 2 Hour	T8.O61.B	Obj\Num: 0…23
Sat Event 2 Min	T8.O65.B	Obj\Num: 0…59
Sat Event 2 Act	T8.O69.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Sat Event 3 Hour	T8.O62.B	Obj\Num: 0…23
Sat Event 3 Min	T8.O66.B	Obj\Num: 0…59
Sat Event 3 Act	T8.O70.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Sat Event 4 Hour	T8.O63.B	Obj\Num: 0…23
Sat Event 4 Min	T8.O67.B	Obj\Num: 0…59
Sat Event 4 Act	T8.O71.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Sun Event 1 Hour	T8.O72.B	Obj\Num: 0…23
Sun Event 1 Min	T8.O76.B	Obj\Num: 0…59
Sun Event 1 Act	T8.O80.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Sun Event 2 Hour	T8.O73.B	Obj\Num: 0…23
Sun Event 2 Min	T8.O77.B	Obj\Num: 0…59
Sun Event 2 Act	T8.O81.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Sun Event 3 Hour	T8.O74.B	Obj\Num: 0…23
Sun Event 3 Min	T8.O78.B	Obj\Num: 0…59
Sun Event 3 Act	T8.O82.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Sun Event 4 Hour	T8.O75.B	Obj\Num: 0…23
Sun Event 4 Min	T8.O79.B	Obj\Num: 0…59
Sun Event 4 Act	T8.O83.B	Obj\ENum: 0…2 Value: 0=Off; 1=on; 2=Relax
Unit 1 Status	T12.O0.S0	Obj\OffOn
Unit 1 Connection	T12.O8.S0	Obj\NoYes
Unit 1 Fan	T9.O8.S0	Obj\OffOn
Unit 1 Heater1	T9.O8.S1	Obj\OffOn
Unit 1 Heater2	T9.O8.S2	Obj\OffOn
Unit 1 Heater3	T9.O8.S3	Obj\OffOn
Unit 1 Humidifier	T9.O8.S4	Obj\OffOn
Unit 1 Spare1	T9.O8.S5	Obj\OffOn
Unit 1 Dehum Valve1	T9.O8.S6	Obj\OffOn
Unit 1 Dehum Valve2	T9.O8.S7	Obj\OffOn
Unit 1 SCR Heater	T9.O9.S0	Obj\OffOn
Unit 1 Compressor1	T9.O9.S1	Obj\OffOn
Unit 1 PosStart1	T9.O9.S2	Obj\OffOn
Unit 1 CapCont1	T9.O9.S3	Obj\OffOn
Unit 1 Compressor2	T9.O9.S4	Obj\OffOn
Unit 1 PosStart2	T9.O9.S5	Obj\OffOn
Unit 1 CapCont2	T9.O9.S6	Obj\OffOn
Unit 1 Pump	T9.O9.S7	Obj\OffOn
Unit 1 Fan Overload	T11.O0.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Low Airflow	T11.O1.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Boiler Dirty	T11.O2.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack

Description	Reference	Type
Unit 1 Heater Overheat	T11.O3.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Filter Dirty	T11.O4.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Fire	T11.O5.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Flood	T11.O6.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 High Hum	T11.O10.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 High Hum 2	T11.O11.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 High Temp	T11.O12.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 High Temp 2	T11.O13.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 High Voltage	T11.O14.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Low Hum	T11.O15.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Low Hum 2	T11.O16.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Low Temp	T11.O17.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Low Temp 2	T11.O18.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Low Voltage	T11.O19.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Compr High1	T11.O20.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Compr Low1	T11.O21.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Compr Short1	T11.O22.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Compr High2	T11.O23.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Compr Low2	T11.O24.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Compr Short2	T11.O25.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 1 Fan (hr)	T15.O0.I	Obj\Num: 0…32767
Unit 1 Heater1 (hr)	T15.O2.I	Obj\Num: 0…32767
Unit 1 Heater2 (hr)	T15.O4.I	Obj\Num: 0…32767
Unit 1 Heater3 (hr)	T15.O6.I	Obj\Num: 0…32767
Unit 1 Humid (hr)	T15.O8.I	Obj\Num: 0…32767
Unit 1 Dehum1 (hr)	T15.O12.I	Obj\Num: 0…32767
Unit 1 Dehum2 (hr)	T15.O14.I	Obj\Num: 0…32767
Unit 1 SCR Heat (hr)	T15.O16.I	Obj\Num: 0…32767
Unit 1 Comp1 (hr)	T15.O18.I	Obj\Num: 0…32767
Unit 1 PosSt1 (hr)	T15.O20.I	Obj\Num: 0…32767
Unit 1 CapCon1 (hr)	T15.O22.I	Obj\Num: 0…32767
Unit 1 Comp2 (hr)	T15.O24.I	Obj\Num: 0…32767
Unit 1 PosSt2 (hr)	T15.O26.I	Obj\Num: 0…32767
Unit 1 CapCon2 (hr)	T15.O28.I	Obj\Num: 0…32767
Unit 1 Pump (hr)	T15.O30.I	Obj\Num: 0…32767
Unit 2 Status	T12.O2.S0	Obj\OffOn

Description	Reference	Type
Unit 2 Connection	T12.O8.S2	Obj\OffOn
Unit 2 Fan	T9.O10.S0	Obj\OffOn
Unit 2 Heater1	T9.O10.S1	Obj\OffOn
Unit 2 Heater2	T9.O10.S2	Obj\OffOn
Unit 2 Heater3	T9.O10.S3	Obj\OffOn
Unit 2 Humidifier	T9.O10.S4	Obj\OffOn
Unit 2 Spare1	T9.O10.S5	Obj\OffOn
Unit 2 Dehum Valve1	T9.O10.S6	Obj\OffOn
Unit 2 Dehum Valve2	T9.O10.S7	Obj\OffOn
Unit 2 SCR Heater	T9.O11.S0	Obj\OffOn
Unit 2 Compressor1	T9.O11.S1	Obj\OffOn
Unit 2 PosStart1	T9.O11.S2	Obj\OffOn
Unit 2 CapCont1	T9.O11.S3	Obj\OffOn
Unit 2 Compressor2	T9.O11.S4	Obj\OffOn
Unit 2 PosStart2	T9.O11.S5	Obj\OffOn
Unit 2 CapCont2	T9.O11.S6	Obj\OffOn
Unit 2 Pump	T9.O11.S7	Obj\OffOn
Unit 2 Fan Overload	T11.O30.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Low Airflow	T11.O31.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Boiler Dirty	T11.O32.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Heater Overheat	T11.O33.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Filter Dirty	T11.O34.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Fire	T11.O35.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Flood	T11.O36.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 High Hum	T11.O40.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 High Hum 2	T11.O41.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 High Temp	T11.O42.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 High Temp 2	T11.O43.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 High Voltage	T11.O44.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Low Hum	T11.O45.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Low Hum 2	T11.O46.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Low Temp	T11.O47.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Low Temp 2	T11.O48.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Low Voltage	T11.O49.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Compr High1	T11.O50.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Compr Low1	T11.O51.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack

Description	Reference	Type
Unit 2 Compr Short1	T11.O52.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Compr High2	T11.O53.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Compr Low2	T11.O54.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Compr Short2	T11.O55.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 2 Fan (hr)	T15.O32.I	Obj\Num: 0…32767
Unit 2 Heater1 (hr)	T15.O34.I	Obj\Num: 0…32767
Unit 2 Heater2 (hr)	T15.O36.I	Obj\Num: 0…32767
Unit 2 Heater3 (hr)	T15.O38.I	Obj\Num: 0…32767
Unit 2 Humid (hr)	T15.O40.I	Obj\Num: 0…32767
Unit 2 Dehum1 (hr)	T15.O44.I	Obj\Num: 0…32767
Unit 2 Dehum2 (hr)	T15.O46.I	Obj\Num: 0…32767
Unit 2 SCR Heat (hr)	T15.O48.I	Obj\Num: 0…32767
Unit 2 Comp1 (hr)	T15.O50.I	Obj\Num: 0…32767
Unit 2 PosSt1 (hr)	T15.O52.I	Obj\Num: 0…32767
Unit 2 CapCon1 (hr)	T15.O54.I	Obj\Num: 0…32767
Unit 2 Comp2 (hr)	T15.O56.I	Obj\Num: 0…32767
Unit 2 PosSt2 (hr)	T15.O58.I	Obj\Num: 0…32767
Unit 2 CapCon2 (hr)	T15.O60.I	Obj\Num: 0…32767
Unit 2 Pump (hr)	T15.O62.I	Obj\Num: 0…32767
Unit 3 Status	T12.O4.S0	Obj\OffOn
Unit 3 Connection	T12.O8.S4	Obj\NoYes
Unit 3 Fan	T9.O12.S0	Obj\OffOn
Unit 3 Heater1	T9.O12.S1	Obj\OffOn
Unit 3 Heater2	T9.O12.S2	Obj\OffOn
Unit 3 Heater3	T9.O12.S3	Obj\OffOn
Unit 3 Humidifier	T9.O12.S4	Obj\OffOn
Unit 3 Spare1	T9.O12.S5	Obj\OffOn
Unit 3 Dehum Valve1	T9.O12.S6	Obj\OffOn
Unit 3 Dehum Valve2	T9.O12.S7	Obj\OffOn
Unit 3 SCR Heater	T9.O13.S0	Obj\OffOn
Unit 3 Compressor1	T9.O13.S1	Obj\OffOn
Unit 3 PosStart1	T9.O13.S2	Obj\OffOn
Unit 3 CapCont1	T9.O13.S3	Obj\OffOn
Unit 3 Compressor2	T9.O13.S4	Obj\OffOn
Unit 3 PosStart2	T9.O13.S5	Obj\OffOn
Unit 3 CapCont2	T9.O13.S6	Obj\OffOn
Unit 3 Pump	T9.O13.S7	Obj\OffOn
Unit 3 Fan Overload	T11.O60.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Low Airflow	T11.O61.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Boiler Dirty	T11.O62.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Heater Overheat	T11.O63.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Filter Dirty	T11.O64.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Fire	T11.O65.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Flood	T11.O66.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack

Description	Reference	Type
Unit 3 High Hum	T11.O70.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 High Hum 2	T11.O71.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 High Temp	T11.O72.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 High Temp 2	T11.O73.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 High Voltage	T11.O74.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Low Hum	T11.O75.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Low Hum 2	T11.O76.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Low Temp	T11.O77.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Low Temp 2	T11.O78.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Low Voltage	T11.O79.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Compr High1	T11.O80.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Compr Low1	T11.O81.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Compr Short1	T11.O82.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Compr High2	T11.O83.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Compr Low2	T11.O84.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Compr Short2	T11.O85.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 3 Fan (hr)	T15.O64.I	Obj\Num: 0…32767
Unit 3 Heater1 (hr)	T15.O66.I	Obj\Num: 0…32767
Unit 3 Heater2 (hr)	T15.O68.I	Obj\Num: 0…32767
Unit 3 Heater3 (hr)	T15.O70.I	Obj\Num: 0…32767
Unit 3 Humid (hr)	T15.O72.I	Obj\Num: 0…32767
Unit 3 Dehum1 (hr)	T15.O76.I	Obj\Num: 0…32767
Unit 3 Dehum2 (hr)	T15.O78.I	Obj\Num: 0…32767
Unit 3 SCR Heat (hr)	T15.O80.I	Obj\Num: 0…32767
Unit 3 Comp1 (hr)	T15.O82.I	Obj\Num: 0…32767
Unit 3 PosSt1 (hr)	T15.O84.I	Obj\Num: 0…32767
Unit 3 CapCon1 (hr)	T15.O86.I	Obj\Num: 0…32767
Unit 3 Comp2 (hr)	T15.O88.I	Obj\Num: 0…32767
Unit 3 PosSt2 (hr)	T15.O90.I	Obj\Num: 0…32767
Unit 3 CapCon2 (hr)	T15.O92.I	Obj\Num: 0…32767
Unit 3 Pump (hr)	T15.O94.I	Obj\Num: 0…32767
Unit 4 Status	T12.O6.S0	Obj\OffOn
Unit 4 Connection	T12.O8.S6	Obj\NoYes
Unit 4 Fan	T9.O14.S0	Obj\OffOn
Unit 4 Heater1	T9.O14.S1	Obj\OffOn
Unit 4 Heater2	T9.O14.S2	Obj\OffOn
Unit 4 Heater3	T9.O14.S3	Obj\OffOn
Unit 4 Humidifier	T9.O14.S4	Obj\OffOn
Unit 4 Spare1	T9.O14.S5	Obj\OffOn
Unit 4 Dehum Valve1	T9.O14.S6	Obj\OffOn

Description	Reference	Type
Unit 4 Dehum Valve2	T9.O14.S7	Obj\OffOn
Unit 4 SCR Heater	T9.O15.S0	Obj\OffOn
Unit 4 Compressor1	T9.O15.S1	Obj\OffOn
Unit 4 PosStart1	T9.O15.S2	Obj\OffOn
Unit 4 CapCont1	T9.O15.S3	Obj\OffOn
Unit 4 Compressor2	T9.O15.S4	Obj\OffOn
Unit 4 PosStart2	T9.O15.S5	Obj\OffOn
Unit 4 CapCont2	T9.O15.S6	Obj\OffOn
Unit 4 Pump	T9.O15.S7	Obj\OffOn
Unit 4 Fan Overload	T11.O90.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Low Airflow	T11.O91.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Boiler Dirty	T11.O92.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Heater Overheat	T11.O93.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Filter Dirty	T11.O94.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Fire	T11.O95.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Flood	T11.O96.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 High Hum	T11.0100.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 High Hum 2	T11.O101.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 High Temp	T11.O102.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 High Temp 2	T11.O103.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 High Voltage	T11.O104.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Low Hum	T11.O105.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Low Hum 2	T11.O106.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Low Temp	T11.O107.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Low Temp 2	T11.O108.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Low Voltage	T11.O109.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Compr High1	T11.O110.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Compr Low1	T11.O111.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Compr Short1	T11.O112.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Compr High2	T11.O113.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Compr Low2	T11.O114.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Compr Short2	T11.O115.B	Obj\ENum: 0…2 Value: 0=No Alarm; 1=Alarm; 2=Alarm ack
Unit 4 Fan (hr)	T15.O96.I	Obj\Num: 0…32767
Unit 4 Heater1 (hr)	T15.O98.I	Obj\Num: 0…32767

Description	Reference	Type
Unit 4 Heater2 (hr)	T15.O100.I	Obj\Num: 0…32767
Unit 4 Heater3 (hr)	T15.O102.I	Obj\Num: 0…32767
Unit 4 Humid (hr)	T15.O104.I	Obj\Num: 0…32767
Unit 4 Dehum1 (hr)	T15.O108.I	Obj\Num: 0…32767
Unit 4 Dehum2 (hr)	T15.O110.I	Obj\Num: 0…32767
Unit 4 SCR Heat (hr)	T15.O112.I	Obj\Num: 0…32767
Unit 4 Comp1 (hr)	T15.O114.I	Obj\Num: 0…32767
Unit 4 PosSt1 (hr)	T15.O116.I	Obj\Num: 0…32767
Unit 4 CapCon1 (hr)	T15.O118.I	Obj\Num: 0…32767
Unit 4 Comp2 (hr)	T15.O120.I	Obj\Num: 0…32767
Unit 4 PosSt2 (hr)	T15.O122.I	Obj\Num: 0…32767
Unit 4 CapCon2 (hr)	T15.O124.I	Obj\Num: 0…32767
Unit 4 Pump (hr)	T15.O126.I	Obj\Num: 0…32767

Driver Versions

Version	Build Date	Details
1.0	10/09/2002	Driver released

Next Steps…

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

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