

## DRIVER TYPES

DOS	
WIN	
NT	6.00-10
WIN 2000	6.00-10
XP	

## SUPPORTED HARDWARE

Any PLCs that supports the application protocol SattBus. This can be used on two types of media. The first is the traditional fieldbus "SattBus", a token bus using twisted pairs at a bit rate of 62.5 Kbit/second. The second option is TCP/IP as a transport mechanism for the SattBus application messages, enabling communication on Ethernet.

## PROTOCOL

Direct Link	X
Multi-drop	X
Communication Network	X

Support for 256 Devices per channel.

Up to 5 channels are supported, 4 SattBus and 1 TCP/IP. The one TCP/IP channel can use more than one Ethernet board.

## SUPPORTED MESSAGES/DATA AREAS

Message Type	Description
Read Variable	read a SattBus variable
Write Variable	write a SattBus variable
Read Register	read via direct access to registers (0 - 32767 decimal)
Write Register	write via direct access to register (0 - 32767 decimal)
Read I/O bits	read via direct access to I/O areas (0 - 77777 octal)
Write I/O bits	write via direct access to I/O areas (0 - 77777 octal)
Read Controller	read static Controller via Comli message type 5
Write Controller	write static Controller via Comli message type 6

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## DATA TYPES

Data Type	ArrayType	Max Length	Description
Bitstring	N/A	2040 in steps of 8 bits	Array of octets
Array	Boolean	255	True or False
	Integer	255	32 bit integer. Use H/W option 16UNSIGN or 16SIGN in the database to read/write 16 bit values.
	Real	255	32 bit floating point value
Boolean	N/A	1	True or False
Integer	N/A	1	32 bit integer. Use H/W option 16UNSIGN or 16SIGN in the database to read/write 16 bit values.
Real	N/A	1	32 bit floating point value
Controller	N/A	1	data for 1 static controller in 25 words

## REQUIRED VENDOR SOFTWARE

The driver with version nr 6.0-1 to 6.0-6 uses OpenSattBus DLL with version no 2.0 to 2.1-3. From v6.0-9 there are two versions of the driver, one that supports OpenSattbus DLL with version no 2.0 – 2.1-3 and one that supports OpenSattbus DLL with version no 2.1-4 and later.

## SIGNAL CONDITIONING

The signal conditionings are for Data or Array Type Integer when Hardware option is set to 16UNSIGN or 16SIGN or when accessing words in the I/O area with %X addresses:

Option	Direction	Scaling	Description
15BN	Input, Output	0-32767	Scaled to EGU range in database block. No range check alarms.
12BN	Input, Output	0-4095	Scaled to EGU range in database block. No range check alarms.
15AL	Input, Output	0-32767	Scaled to EGU range in database block. Range check alarms.
12AL	Input, Output	0-4095	Scaled to EGU range in database block. Range check alarms.
3BCD	Input, Output	0-999	Scaled to EGU range in database block. Range check alarms.
4BCD	Input, Output	0-9999	Scaled to EGU range in database block. Range check alarms.
NONE	Input, Output	No scaling	Ignores EGU range in database block. No range check alarms.
LIN	Input, Output	0-65535	Scaled to EGU range in database block.

The supplied signal conditionings are for Data or Array Type Integer when Hardware option is set to NONE :

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Option	Direction	Scaling	Description
LIN	Input, Output	0-429496729500	Scaled to EGU range in database block. No range check alarms.

**Note:** Signal conditionings can not be made on Boolean and Real data or array types.

There are some special signal Conditionings for Static Controllers. These are:

Option	Direction	Scaling	Description
12L	Input, Output	0-4095	Scales the raw 12 least significant bit value to an EGU value. No range check alarms. Used in Static Controllers, e.g. word 2 representing the analog input value.
R12L	Input, Output	0-4095	No Scaling of the raw 12 least significant bits. No range check alarms. Used in Static Controllers.
6HI	Input	0-63	Scales 6 least significant bits in the most significant byte (bit 8-13) to an EGU value. No range check alarms. Used in Static Controllers for representing e.g. the controller number in word 6.
R6HI	Input	0-63	Takes the 6 least significant bits in the most significant byte (bit 8-13) without scaling. No range check alarms. Used in Static Controllers.
6LO	Input	0-63	Scales 6 least significant bits in the least significant byte (bit 0-5) to an EGU value. No range check alarms. Used in Static Controllers.
R6LO	Input	0-63	Takes the 6 least significant bits in the least significant byte (bit 0-5) without scaling. No range check alarms. Used in Static Controllers.
8HI	Input, Output	0-255	Scales the raw high byte 8-bit value to an EGU value. No range check alarms. Used in Static Controllers for representing e.g. the deadzone in word 10.
R8HI	Input, Output	0-255	Takes the raw high byte 8-bit value without scaling. No range check alarms. Used in Static Controllers.
8LO	Input, Output	0-255	Scales the raw low byte 8-bit value to an EGU value. No range check alarms.
R8LO	Input, Output	0-255	Takes the raw low byte 8-bit value without scaling. No range check alarms. Used in Static Controllers for representing e.g. the gain in word 10.
CTRL	Input	0-3	Takes the two most significant bits without scaling. Used to represent the type of Static Controller (0=P, 1=PD, 2=PI, 3=PID).
ADDR	Input	address dependent	Takes the 12 least significant bits to represent an address according to the 4 most significant bits (see the Sign Cond 4MST). The address is recalculated depending on those bits; used in Static Controllers in e.g word 8 for address to the analog input.
4MST	Input	0-15	Takes the 4 most significant bits in a word without scaling. used to represent the data type of a signal in a Static Controller e.g. representing the type of address in word 8 for analog input.

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## COMMUNICATIONS PERFORMANCE

The driver can read maximally 255 array blocks in one message. The 255 array blocks can be of real, boolean or integer datatypes.

The driver can read maximally 2040 bits of datatype bitstring in one message.

When communicating on TCP/IP with one idle PLC the driver had a message rate of 40 - 50 messages, with a length of 200 registers, per second if the driver period in Mission Control was set to 1.

When communicating on Sattbus PC board a normal communication performance is 10 messages, with a length of 32 registers, per second if the driver period in Mission Control is set to 1.

## GENERAL LIMITATIONS

The OpenSattBus DLL must be copied to the Fix base directory before the driver can run properly.

The driver can only be started one time. This means that no reload of the driver is possible and the driver can't be stopped and started again in mission control. To restart the driver the Fix must be shutdown and started again. The problem depends on initiation of the OpenSattBus DLL.

## MANUAL

## DEMO

## COMMENTS

When communicating on TCP/IP the driver uses standard Ethernet boards in the PC. The driver supports more than one Ethernet board in the PC. This is controlled by the TCP/IP addresses to the PLCs.

When communicating on SattBus fieldbus the driver uses SattBus PC boards with program version 2.2 or later. The SattBus PC boards should have article number 4927202-02 or later.

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