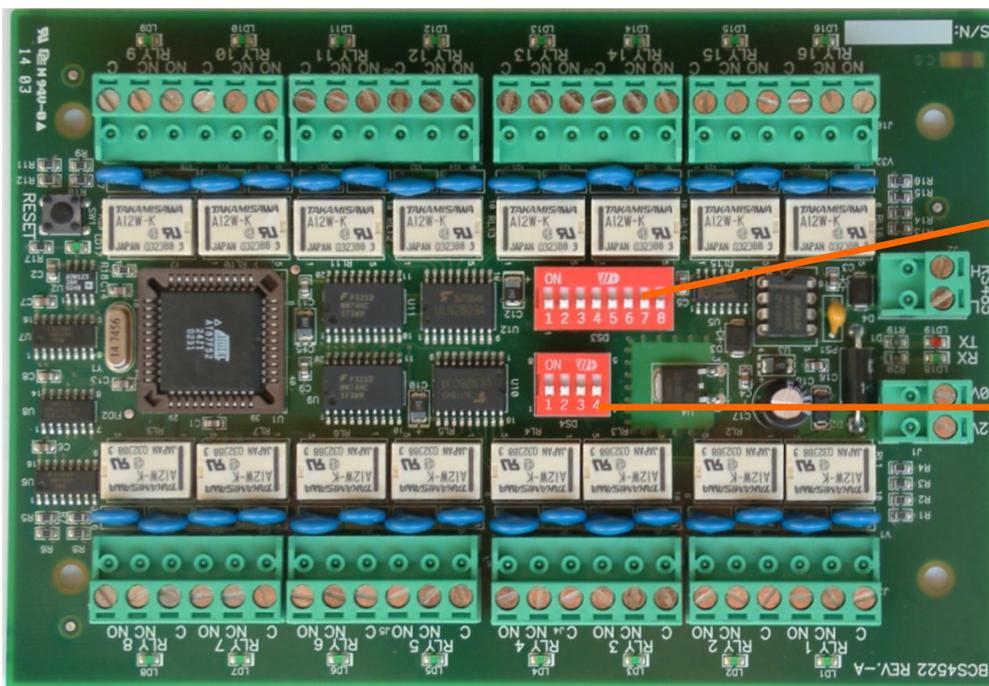


# GuardPointPro - SAT16: SYSTEM DESCRIPTION

## Overview:

The SAT16 Satellite board has 16 relays with 3 contacts:  
 Common ('C'), Normally Open ('NO'), Normally Close ('NC').  
 Power requirement: 9,5-14Vdc. Max. Board current consumption: 300 mA.  
 Relay max. handling power: 24Vac-dc/1A.

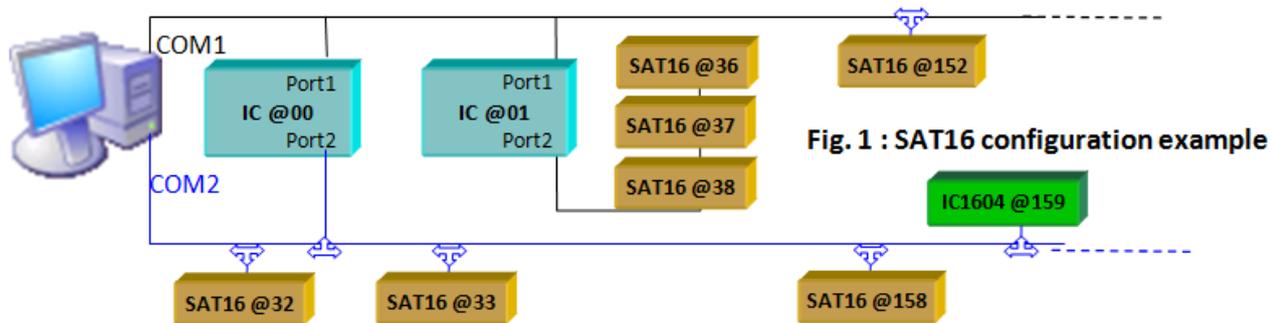


DS3: SAT16 Address  
 (See Table 1)

Not used

# GuardPointPro - SAT16: SYSTEM DESCRIPTION

## Functioning Configuration:



A SAT16 satellite may be controlled in two ways:

- Either as a relays extension board ('slaves') of an IC controller ('Master'): Up to 3 SAT16 may be linked to an IC to form a 64 relays controller.

From the PC point of view, the satellite is transparent: the PC sends to the IC the relay(s) command and according to this command, the IC sends to the corresponding satellite the relay control message.

In this configuration, the satellites may be connected only to port 2 of the IC.

To allow such a configuration, the addresses of the IC and its 3 satellites must be linked:

**An IC controller with network address nn can directly control 3 satellites with network address 'nnx4+32', 'nnx4+33', 'nnx4+34'. (See table 1 for SAT16 addressing)**

For example, in Fig 1, IC addressed @01 controls satellites @36, @37 and @38.

- Or as an **independent controller** in a RS485 network:

the PC, or any controller of the network can directly communicate through Protocol 4, to these satellites to control their relays.

Each of them must have a unique address.

For example, in fig 1, SAT16 @32, @33 and @158 may be directly controlled by the PC or by IC @00, or by IC1604 @159. SAT16 @152 may be controlled by the PC or by IC @00 or IC @01.

Note that this mode is not yet recognized by the GPP application.

# GuardPointPro - SAT16: SYSTEM DESCRIPTION

## SAT16 Addresses:

Each SAT16 must have a network address to be able to communicate either with its IC Master or with the PC or with any other controller of the network.

This address must be unique, i.e. not used by another controller on the network.

The SAT16 Network address = its physical address + 32.

The physical address may be from 00 to 127, i.e. a 7 bits binary number set by jumpers DS3/7...1. (jumper 'on' = bit 1, jumper 'off' = bit 0), DS3/1 being the low significant bit of the address as shown in table 1.

Jumpers DS3/7,6,5,4,3,2,1	Physical address	Network address
0 0 0 0 0 0 0	#00	@32
0 0 0 0 0 0 1	#01	@33
0 0 0 0 0 1 0	#02	@34
0 0 0 0 0 1 1	#03	@36
1 1 1 1 1 0 1	#126	@158
1 1 1 1 1 1 1	#127	@159

‘0’ means jumper ‘off’, ‘1’ means jumper ‘on’.

# GuardPointPro - SAT16: SYSTEM DESCRIPTION

**Note:** On a configuration where 3 SAT16 are the slaves of an IC Master, the physical addresses (#S1, #S2, #S3) of these 3 SAT16 must be linked to the IC physical address ('#T') as follows:

#S1= 4x#T,      #S2= 4x#T+1,      #S3= 4x#T+2.

To make the address selection through jumpers DS3 simple, it is easy to consider that:

DS3/7...3 = Physical address the corresponding Master IC (i.e. between 00 and 31)

DS3/2,1 = '00' for Satellite No.1, '01' for Satellite No.2, '10' for Satellite No.3 linked to this Master IC.

ADDRESSING THE SAT16 AS SLAVES OF IC			
SAT16 Jumpers DS3/7,6,5,4,3,2,1	SAT16 Physical address	Physical Address Of the 'Master' IC	SAT16 Network address
0 0 0 0 0 0 0	00	#00	32
0 0 0 0 0 0 1	01	#00	33
0 0 0 0 0 1 0	02	#00	34
0 0 0 0 1 0 0	04	#01	36
1 1 1 1 1 0 0	124	#31	156
1 1 1 1 1 0 1	125	#31	157
1 1 1 1 1 1 0	126	#31	158

In this configuration, DS3/2,1 may not be both set. ('11' not available)

## Protocol 4 Recognized Messages:

When the SAT16 satellite is installed on a network, it may recognized the following Protocol 4 messages:

Message	Description	Comments
01	Polling	The SAT16 answers with Mess 60/70 without any data.
09	Clear Memory	The SAT16 deactivate all the relays and answers with Mess 61
34	One relay control	The SAT16 answers with Mess 61
38	Multiple relays control	The SAT16 answers with Mess 61
4B	Send Status	The SAT16 answers with Mess 63
56	Action execution	The SAT16 answers with Mess 57
73	Send firmware version	The SAT16 answers with the firmware version and the checksum.
7F	Change Baud Rate	The SAT16 answers with Mess 61

## GuardPointPro - SAT16: SYSTEM DESCRIPTION

### **SAT16 Baud rate:**

The default Baud rate is 4800 which may be changed by Message 7F.

When a SAT16 is connected to an IC as a slave satellite, it automatically adjusts its baud rate to the IC controller master.