

# AMS for IN1 IN2 (pulses S0, analog value, digital value)

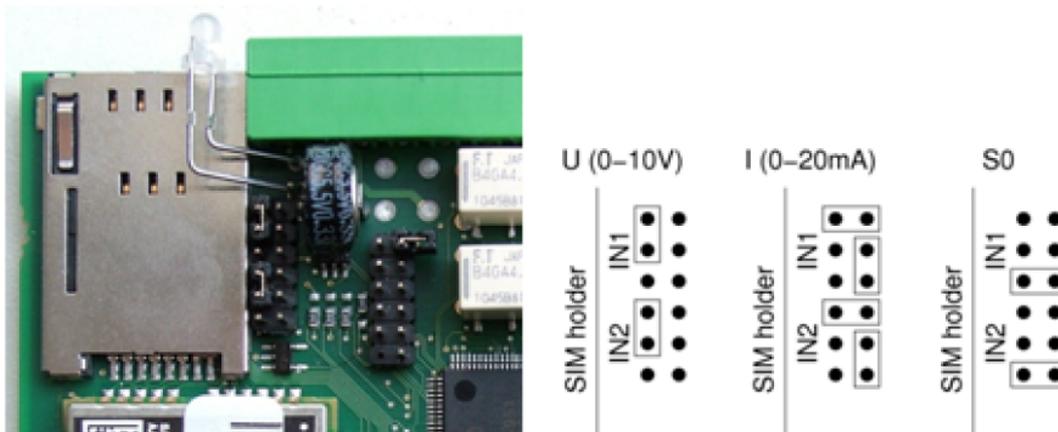
FAQ describes how to set 2N® SmartCOM PRO ETH for AMS function. 2N® SmartCOM PRO can with this function automatically reads data from INPUTS and store data in internal memory.

2N® SmartCOM PRO ETH firmware SCE\_1-12-0-12-24 (this special FW which is distributed on request)

## Input Circuits

2N® SmartCOM PRO ETH is equipped with two inputs (IN1, IN2), parameters specified in the section Technical parameters in manual.

Make sure that the 2N® SmartCOM PRO ETH jumpers are set as shown in figure



## Pulse counting on S0 inputs

- pulse counting on S0 inputs

at^scpulse1="start"

- enable pulse counting on input 1.

at^scams="ENABLE",1

- enable AMS functionality.

AT^SCAMS="DEV\_ADD",128,"AIN\_DIN","1/PULSE/ABS","5M" minutes

- absolute value of pulses on input 1 each 5

at^scpulse2="start"

- enable pulse counting on input 2.

AT^SCAMS="DEV\_ADD",128,"AIN\_DIN","2/PULSE/REL","5M" value of pulses on input 2 each 5 minutes

- relative (difference between two readouts)

Possible time intervals:

- "1M", "2M", "3M", "4M", "5M", "6M", "10M",

"12M", "15M", "20M", "30M", "1H", "2H", "3H", "4H", "6H", "8H", "12H", "1D"

```
at^scams? - Show added devices
^SCAMS: 1> 128,"AIN_DIN","1/PULSE/ABS","5M"
^SCAMS: 2> 128,"AIN_DIN","2/PULSE/REL","5M"
AT^SCAMS="DEV_REMOVE",1 - Remove device from defined position
```

#### How to read data from 2N®SmartCOM PRO memory?

```
at^scdata="get_oldest",50
^SCDATA: "AMS",1461340261,12091,"AIN_DIN",1,0,"","131" - results from port 1
^SCDATA: "AMS",1461340381,12093,"AIN_DIN",1,0,"","228" - results from port 1
^SCDATA: "AMS",1461340441,12094,"AIN_DIN",1,0,"","234" - results from port 1
^SCDATA: "AMS",1461340681,12098,"AIN_DIN",2,0,"","21" - results from port 2
```

## Analog value on input

```
before measurement calibrate 2N® SmartCOM PRO ETH inputs - Input circuit calibration
Current measurement: - range between 4 and 20 mA.
Voltage measurement: - range between 0 and 10V DC.
at^scams="ENABLE",1 - enable AMS functionality.
AT^SCAMS="DEV_ADD",128,"AIN_DIN","1/ADC/CAL","1M" - calibrated value will be store to memory
(range 0 - 100) input 1
AT^SCAMS="DEV_ADD",128,"AIN_DIN","2/ADC/ABS","1M" - output from A/D converter will be stored
to memory (range 0 - 1023) input 2
Possible time intervals: - "1M", "2M", "3M", "4M", "5M", "6M", "10M",
"12M", "15M", "20M", "30M", "1H", "2H", "3H", "4H", "6H", "8H", "12H", "1D"
```

```
at^scams? - Show added devices
^SCAMS: 1> 128,"AIN_DIN","1/ADC/CAL","1M"
^SCAMS: 2> 128,"AIN_DIN","2/ADC/ABS","1M"
AT^SCAMS="DEV_REMOVE",1 - Remove device from defined position
```

#### How to read data from 2N®SmartCOM PRO memory?

```
at^scdata="get_oldest",50
voltage was the same on both inputs - 6,45V
^SCDATA: "AMS",1464185101,7112,"AIN_DIN",1,0,"","56" - calibrated value on input 1
^SCDATA: "AMS",1464185101,7113,"AIN_DIN",2,0,"","521" - output value from A/D on input 2
voltage was the same on both inputs - 4,45V
^SCDATA: "AMS",1464185160,7114,"AIN_DIN",2,0,"","354" - calibrated value on input 1
^SCDATA: "AMS",1464185160,7115,"AIN_DIN",1,0,"","38" - output value from A/D on input 2
voltage was the same on both inputs - 10,2V
^SCDATA: "AMS",1464185221,7116,"AIN_DIN",1,0,"","92" - calibrated value on input 1
```

^SCDATA: "AMS",1464185221,7117,"AIN\_DIN",2,0,"", "848"

- output value from A/D on input 2

## Digital value on input

before measurement calibrate 2N® SmartCOM PRO ETH inputs

- [Input circuit calibration](#)

Current measurement:

- range between 4 and 20 mA.

Voltage measurement:

- range between 0 and 10V DC.

at^scams="ENABLE",1

- enable AMS functionality.

AT^SCAMS="DEV\_ADD",128,"AIN\_DIN","2/DIN","1M"  
input 2 stored in memory

- each minute will be digital value on

ossible time intervals:

"1M", "2M", "3M", "4M", "5M", "6M", "10M", "12M", "15M", "20M", "30M", "1H", "2H", "3H", "4H", "6H", "8H", "12H", "1D"

At^scams?

^SCAMS: 1> 128,"AIN\_DIN","1/ADC/CAL","1M"

^SCAMS: 2> 128,"AIN\_DIN","2/ADC/ABS","1M"

^SCAMS: 3> 128,"AIN\_DIN","2/DIN","1M"  
position

- readig digital value on input 2 is on third position

AT^SCAMS="DEV\_REMOVE",1

- Remove device from defined position

[How to read data from 2N® SmartCOM PRO memory?](#)

^SCDATA: "AMS",1464186241,7150,"AIN\_DIN",3,0,"", "0"

^SCDATA: "AMS",1464186241,7151,"AIN\_DIN",1,0,"", "39"

^SCDATA: "AMS",1464186241,7152,"AIN\_DIN",2,0,"", "360"

^SCDATA: "AMS",1464186301,7153,"AIN\_DIN",1,0,"", "56"

^SCDATA: "AMS",1464186301,7154,"AIN\_DIN",2,0,"", "524"

^SCDATA: "AMS",1464186301,7155,"AIN\_DIN",3,0,"", "1"

## Direct read

one time readout, not stored to 2N® SmartCOM PRO internal memory

AT^SCAMS="DIRECT\_READ",128,"AIN\_DIN","1/ADC/CAL"  
result is calibrated (range 0-100)

- readout of actual signal value on IN1,

AT^SCAMS="DIRECT\_READ",128,"AIN\_DIN","2/DIN"  
this value is transformed to logical value ( range 0 - 1)

- readout of actual signal value on IN2 and

AT^SCAMS="DIRECT\_READ",128,"AIN\_DIN","1/PULSE/ABS"

- read actual count of pulses on IN1

General AMS errors	
0	- without error
1	- error of input data
2	- error of output data
3	- protocol cannot be used for this port
4	- readout not started

Inputs AMS errors	
8388608	- non specific error (internal error of module)
8388609	- readout was stopped by user
8388610	- bad format address of the device
8388611	- timeout (message was not sent in defined time)
8388612	- timeout (message was not sent in defined time)
8388613	- timeout - receiving message response
8388865	- bad frame in answer message
8388866	- bad sequential number of the frame
8388867	- answer is too long (not enough space for this frame in internal AMS memory)
8388868	- bad CRC
8388869	- bad value in sync. field