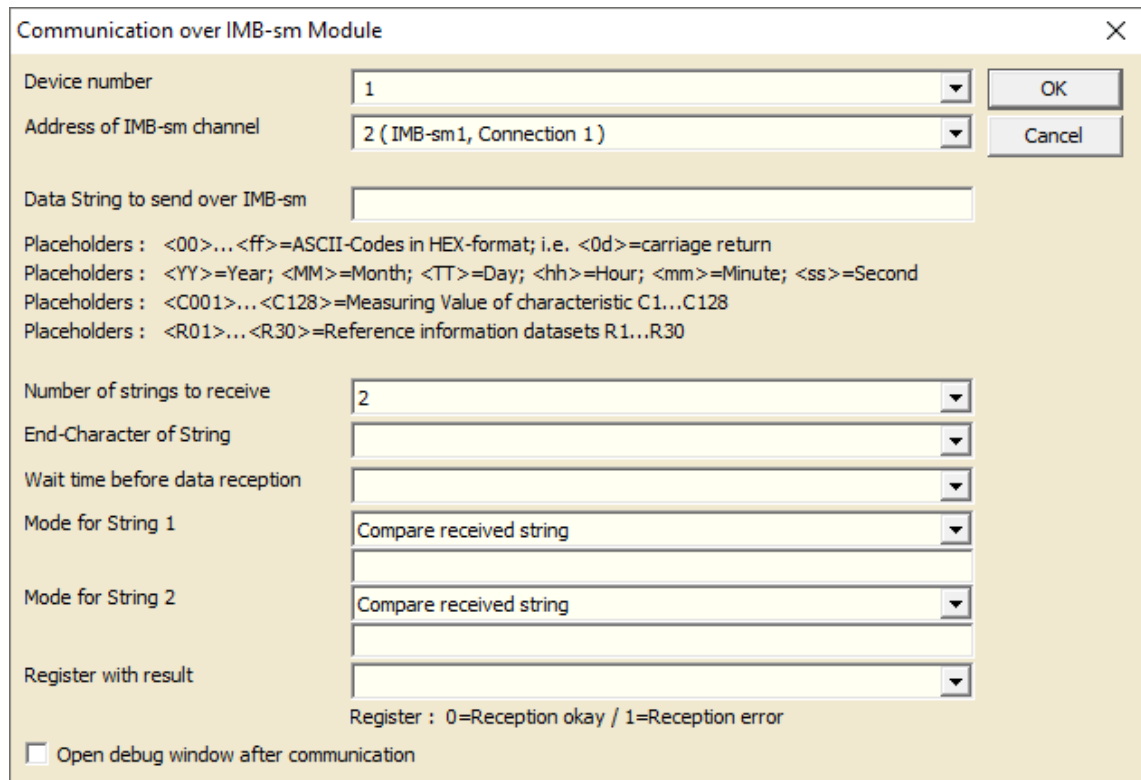


## 1. Introduction

The ComGage test step function “Communication over IMB-sm Module” allows the RS232 communication with e.g. a measuring instrument, a PLC, ... via an IMB-sm module. Some of the following functions can only be used in test orders ( Save the received string as reference information data set / Change to test order with name = string ).

## 2. Configuration

The test step function is created within a test step. By clicking the Setup button, the following configuration dialogue is opened :



Communication over IMB-sm Module

Device number: 1

Address of IMB-sm channel: 2 (IMB-sm1, Connection 1)

Data String to send over IMB-sm:

Placeholders : <00>...<ff>=ASCII-Codes in HEX-format; i.e. <0d>=carriage return  
 Placeholders : <YY>=Year; <MM>=Month; <TT>=Day; <hh>=Hour; <mm>=Minute; <ss>=Second  
 Placeholders : <C001>...<C128>=Measuring Value of characteristic C1...C128  
 Placeholders : <R01>...<R30>=Reference information datasets R1...R30

Number of strings to receive: 2

End-Character of String:

Wait time before data reception:

Mode for String 1: Compare received string

Mode for String 2: Compare received string

Register with result:

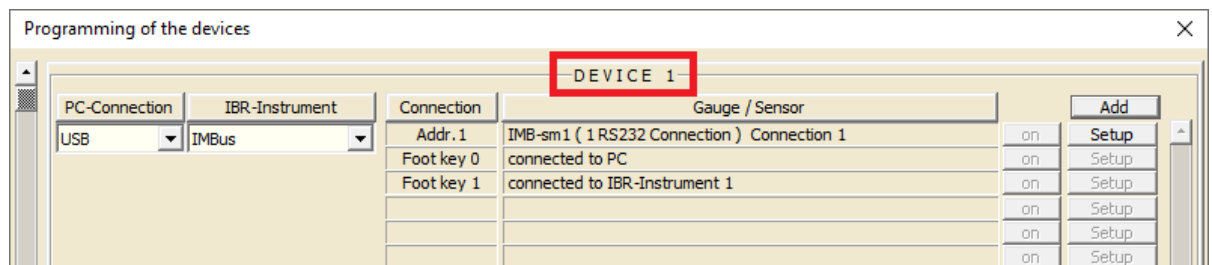
Register : 0=Reception okay / 1=Reception error

☐ Open debug window after communication

This dialogue allows the following settings :

### **Device number**

Here, the device has to be selected that is used for the IMBus in the hardware setup :



Programming of the devices

DEVICE 1

PC-Connection	IBR-Instrument	Connection	Gauge / Sensor	Add
USB	IMBus	IMB-sm1 ( 1 RS232 Connection )	Connection 1	on Setup
		Foot key 0	connected to PC	on Setup
		Foot key 1	connected to IBR-Instrument 1	on Setup
				on Setup
				on Setup

### **Address of IMB-sm channel**

Here, the address number of the IMB-sm channel has to be selected, to which the device with which you want to communicate is connected ( see screenshot under „Device number“ ). The selectable addresses are marked in the list.



### **Data string to send over IMB-sm**

In this field, the string which shall be sent has to be entered.

It is possible to use placeholders in the string. Which placeholders can be used is described below the input field.

Example : If a ? + **carriage return** shall be sent, ?<0D> has to be entered.

Note on the placeholders <C001> ... <C128> : The measuring value of the selected characteristic is always sent with 4 decimal places.

### **Number of strings to receive**

Here, the number of strings has to be selected that are expected as answer to the sent string. ComGage stops the further processing of the test scheme until the selected number of strings has been received.

Available are : 0 / 1 / 2

### **End-Character of String**

Here, the character is selected that marks the end of a received string.

Available are ASCII-Code=1 to ASCII-Code=255 ( e.g. 13 = carriage return ).

### **Wait time before data reception**

Here can be selected how long ComGage shall wait for an answer string.

Available are 100ms to 30000ms, in steps of 100ms.

### **Mode for String 1 / Mode for String 2**

Here, the required actions for the received strings can be selected :

- Compare received string : A string can be entered that is compared to the received string.
- Save as Reference Information Type ... : The received string is saved as the selected reference information type and is available for further processing.
- Change to test order with name = string : ComGage changes to the test order whose name equals the received string.

### **Register with result**

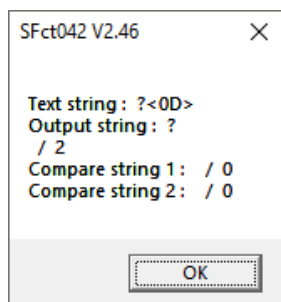
Here, a register can be selected to save the result of the communication :

0 = Reception okay / 1 = Reception error ( e.g. timeout )

This result register can be used for the sequence control in the test scheme.

### **Open debug window after communication**

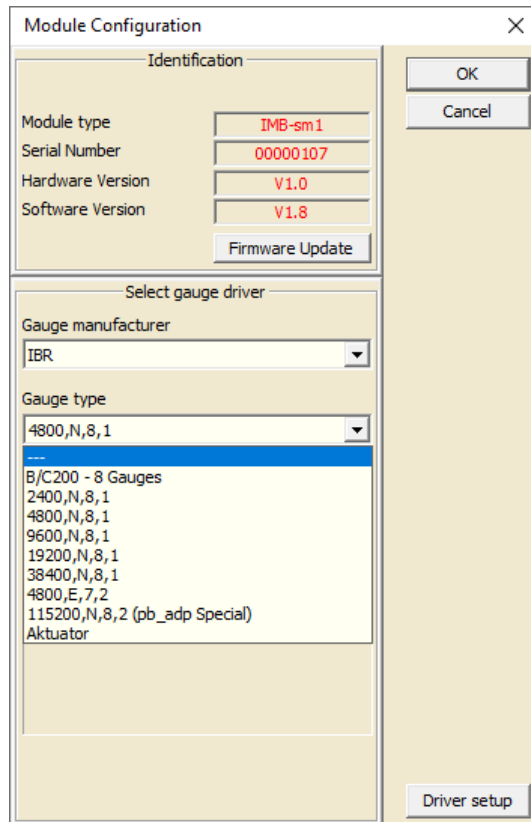
If this option is activated, a debug window with information about the sent and received data is opened after the communication :



### 3. Notes regarding the IMB-sm module

For the use of this function the IMB-sm module needs a firmware version V1.8 or later.

In the hardware setup, there are several different drivers ( = data transmission formats ) available if you select **IBR** as gauge manufacturer. In this way, the data transmission can be adjusted to the remote station :



The image shows a 'Module Configuration' dialog box with two main sections. The 'Identification' section contains fields for 'Module type' (IMB-sm1), 'Serial Number' (00000107), 'Hardware Version' (V1.0), and 'Software Version' (V1.8), along with a 'Firmware Update' button. The 'Select gauge driver' section features a 'Gauge manufacturer' dropdown set to 'IBR' and a 'Gauge type' dropdown. The 'Gauge type' list includes: '4800,N,8,1', 'B/C200 - 8 Gauges', '2400,N,8,1', '4800,N,8,1', '9600,N,8,1', '19200,N,8,1', '38400,N,8,1', '4800,E,7,2', '115200,N,8,2 (pb\_adp Special)', and 'Aktuator'. 'OK' and 'Cancel' buttons are at the top right, and a 'Driver setup' button is at the bottom right.

Please select a driver that is compatible to the device with which you want to communicate.

### 4. Voltage output via ANA-adp

If an ANA-adp is connected to the IMB-sm module, it is possible to output the measuring value of a characteristic as analogue voltage.

Please select **4800,E,7,2** as gauge type ( see 3. ).

To output e.g. the current value of C1, the string "<C001><0D>" has to be sent. The waiting for received strings should be deactivated, because the ANA-adp does not send answer strings. Additional information about the ANA-adp can be found in the related data sheet.