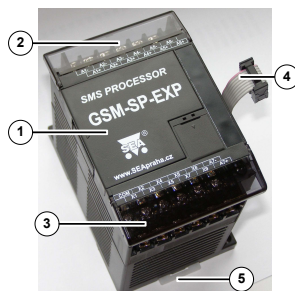


GSM-SP-EXP – Expansion Unit

1. Introduction

GSM-SP-EXP (EXP for short) is an expansion device for GSM devices GSM-SP11. EXP has **9 digit inputs and 7 analog inputs**. Each analog input can be configured as voltage input (**0 to 10V**), current input (**0 to 20mA**) or temperature input (for sensors **KTY81-210**, **Pt100**, **Pt1000**), using program SeaConfigurator (SP11). EXP is connected to the main unit GSM-SP11 via flat cable which is used also for power supply.

- (1) EXP cover
- (2) 6 analog inputs (A1 to A6)
- (3) 9 digital inputs (X1 to X9) + 1 analog input (A7)
- (4) flat cable for connection to the main unit SP9/SP10
- (5) DIN rail holder



2. Package

1pc **GSM-SP-EXP (with expansion flat cable)**

3. Installation

Switch off the power supply of SP11 before you connect EXP to the main unit.

1. Switch off the power supply of the main unit GSM-SP11 and press the button under the expansion cable (aprox. 7sec) .
2. Remove the cover on the main unit GSM-SP11 and connect both devices via the flat cable.
3. Break off a side part of cover GSM-SP11 where you need a free space for a flat cable and put the cover on its original place.
4. Now switch on power supply for the main unit and install SeaConfigurator into PC.
5. Connect SP11 via USB cable to your PC. SeaConfigurator – Folder General – press the button "ADD" and choose SP-EXP.
6. SeaConfigurator add digital inputs X1 – X19 and analog inputs A11 – A17.



4. Technical specifications

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Dimensions	Width	W		60		mm
	Height	H		90		mm
	Depth	D	From DIN rail holder	80 (53 *1)		mm
Supply	Voltage DC	V _{CC}	From the main unit via flat cable			
Digital inputs DC	Number	-		9		-
	Voltage log.H	V _{IN}	8	12	30	V
	Voltage log. L	V _{IN}		<4	4	V
	Current	I _{IN}	V _{IN} = 12V	5		mA
Analogové vstupy	Number	-		7		-
	Measured value	-	Voltage: 0 až +10V _{ss} Current: 0 až +20mA (R _{IN} = 100Ω) Temperature: KTY81-2xx: -50 to +150 °C Pt100: -100 to +300 °C Pt1000: -100 to +300 °C Adjustable units recount			
	Resolution	-	Depends on recount	15		bits
Temperature	Operating	t _A		-20	+45	°C
Rel. humidity	Operating	h _A			90	%

*1) shorter version („Slim“)

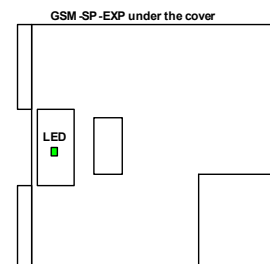
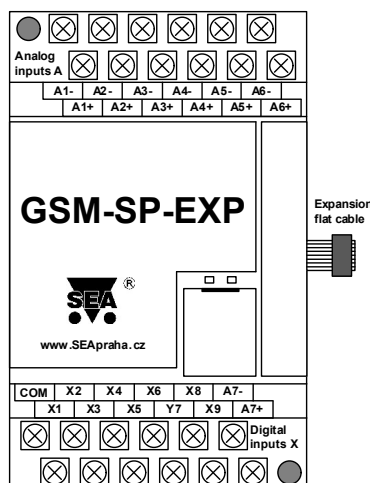
GSM-SP-EXP is determined for installation into a switchboard with IP44 at least!



Warning

It's highly recommended to use extra power supply for power of EXP inputs, **galvanically separated** from power supply for SP11, you can avoid problems with noise.

5. Hardware



5.1 Digital inputs (X)

Digital inputs (signals into EXP) are connected to the input terminal where the COM terminal is common for all digital inputs X1 to X9. In SeaConfigurator X1 will be number X11 etc. Internal wiring of inputs is the same as for GSM-SP11.

5.2 Analog inputs (A)

EXP have 7 analog inputs (A1 – A7), which have the same features as GSM-SP11. Analog input can be configured via SeaConfigurator for measuring of voltage (0 to +10V_{DC}), current (0 to 20mA) or temperature using temperature sensors (KTY81-210, Pt100, Pt1000). In SeaConfigurator A1 will be number A11 etc.

The measured value can be converted to user units. For example the measured current from 4 to 20 mA can be displayed as the pressure of 0-5 MPa (see the configuration program SeaConfigurator).

6. Troubleshooting

Problem	Possible reason	Solution
Analog measurement do not work	HW or SW error	Check, if green LED under the cover is blinking quickly. If not, contact the service company.

Where can I find more (and up to date) information?

- Search GSM-SP-EXP product on the website www.seapraha.cz English pages.

7. Warranty

General warranty period is 12 months after purchase, when eventual malfunction device will be repaired free of charge in SEA company while shipping to SEA is paid

by customer and SEA pays for shipping back to customer. For SW there is 24 months warranty under following conditions:

Both CPU and PC software is sold "as is". The software was created by the best software engineers in SEA and was carefully tested both in SEA and also by SEA customers using GSM applications products made in SEA. In spite of making all possible to get error free software it can happen, that the software in CPU or PC programming SW or their mutual interaction has some error under some specific conditions. If such error is found and the description of the problem including configuration file is sent by E-mail to SEA Ltd., the error is removed free of charge and SEA will send new SW by E-mail to customer.

SEA Ltd. has **NO RESPONSIBILITY** for any damage, lost, costs and any other problems direct or inducted, caused by such SW error, by eventual device malfunction from any reason or by undelivered SMS from the device.

