SPBXIN, SPBXOUT

User manual

1. Introduction

SPBXIN and SPBXOUT are input/output extension modules for SP10, SP11 (further only SPx devices).

Extension module SPBXIN is used for measuring AC voltage (max. 250V_{AC}) on input of Spx device. It also works for monitoring DC voltage (see Technical specifications). This module has four inputs with optocouplers.

Extension module SPBXOUT is used when you want to turn on/off appliance with output of Spx, parameters of appliance cannot exceed 250V_{AC}/10A. DC appliance can be controlled too (see Technical specifications). This module has four output relays.

Both extension modules have connectors for connecting input/output signal wires from SPx and for power supply connection (typically +12V).

Caution

We recommend using separate power supply and do not connect on Spx´s power supply on PWR clamp! Reason is a risk of interference.

Every module has 4 connectors for inputs and four for outputs for connecting controlled appliances. It has plastic holder for DIN rail mounting.

2. Package content

1pcs **GSM-SPBXIN** or **GSM-SPBXOUT**
4pcs connector ETB81020G000Z
1pcs connector ETB45050G000Z
1pcs printed documentation

3. Wiring

Wiring order:
1. Connect jumper cable to SPBXIN/ SPBXOUT board into 5pin connector.
2. Connect wires marked from 1 to 4 into corresponding inputs/outputs on SPx board (E.g. no.1 into IN1/OUT1 to no.4 into IN4/OUT4).
3. Connect external 12V power supply. Wire marked as + connect from extension module to +12V on external power supply and his negative clamp connect on common clamp C for corresponding inputs/outputs of SPx device.
4. Now you can connect monitored voltages and controlled appliances on inputs/outputs clamps.
5. Extension module is ready to run. Turn on power supply for Spx, external 12V power supply and test function of inputs/outputs.
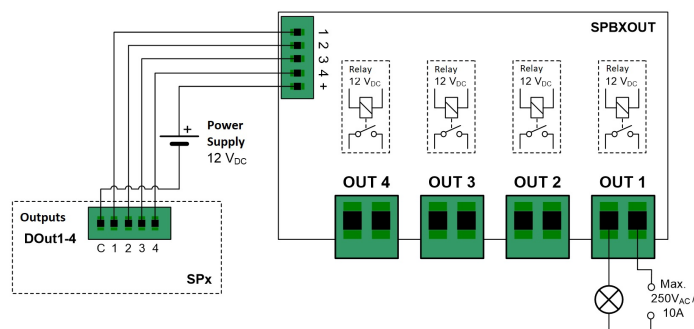
Note:
After connecting extension module SPBXIN or SPBXOUT you don´t need to change any parameters in Spx´s configuration.

Example wiring of SPBXIN:
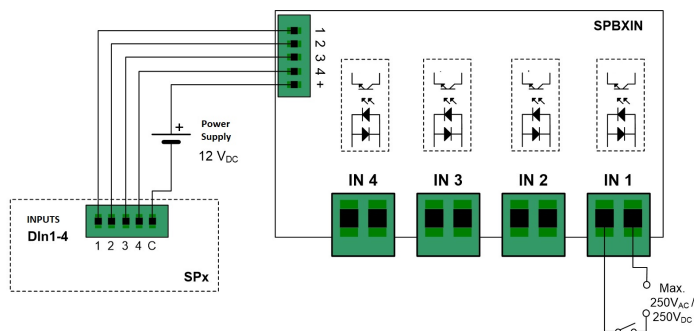
Example wiring of SPBXOUT:

4. Technical specifications

SPBXIN

Parameter		Symbol	Conditions	MIN.	TYP	MAX	Unit
Dimensions	Width (with connectors)	w			47 (53)		mm
	Height	h			90		mm
	Depth (with connectors)	d		40 (50)			mm
Power supply	DC voltage	V_{CC}		8	12	18	V_{DC}
	Load resistance	R_Z		1			kΩ
Digital inputs AC, DC	Number	-			4		-
	Voltage log.H	$|V_{IN}|$		150	230	250	V_{AC}, V_{DC}
	Voltage log. L	$|V_{IN}|$			0		V_{AC}, V_{DC}
	Current	I_{IN}	V_{IN} = 230V		1,2		mA
Temperature	Operational	t_A		-20		+55	°C
Humidity	Operational	h_A				90	%

Module SPBXIN is designed for rack with IP44 or better!

SPBXOUT

Parameter		Symbol	Conditions	MIN.	TYP	MAX	Unit
Dimensions	Width (with connectors)	w			47 (53)		mm
	Height	h			90		mm
	Depth (with connectors)	d		53			mm
Power supply	DC voltage	V_{CC}		8,8	12	18	V_{DC}
	Current	I_{CC}	V_{CC} = 12V			120*)	mA
Digital inputs AC, DC	Number	-			4		-
	AC voltage	$V_{OUT\ AC}$			230	400	V_{AC}
	AC current	$I_{OUT\ AC}$				10	A
	DC voltage	$V_{OUT\ DC}$				220	V_{DC}
	DC current	$I_{OUT\ DC}$	$V_{OUT\ DC}$ = 220V_{DC}			0,12	A
Temperature	Operational	t_A		-20		+55	°C
Humidity	Operational	h_A				90	%

*) Every relay turned on draws 0,36W, when all four relays are turned on, consumption is 1,44W.
Module SPBXOUT is designed for rack with IP44 or better!

5. 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.

Version 1.02; 2017-02-06