# RTU513 Remote Terminal Unit DataSheet & Connection Setting
Sub-Rack SMS12

Application:

The SMS12 rack is designed to be used with or without redundant power supply. Therefore, it has 2 slots for redundant power supply modules (PSM) and 17 slots that can be used for I/O modules, communication units (CMU) or a mixture of both. It is interfaced to other racks via the PKS RTU513 serial peripheral bus (SPB). Up to 7 SMS12 racks can be connected to a system.
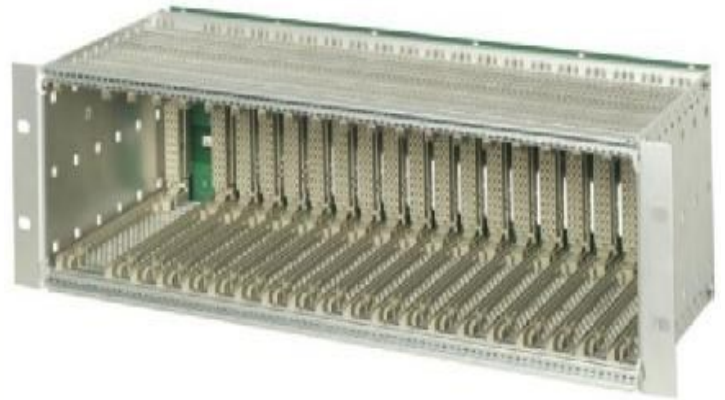
By using the bus connection unit 513BCM05, the SMS12 becomes a rack with up to 8 communication units (513CMB10). For applications requiring a communication unit, the use of 513BCM05 is required. The rack SMS12 is mounted on a swing frame cabinet.

Characteristic

The 19"rack has a height of 3 HE for single Euro card format boards (DIN 41494). There are 20 slots available for the installation of boards. Each power supply unit has a predefined slot allocated to it (slot 21 and slot 19). A second redundant PSM must be operated in slots 18 and 19. These slots can be used only with 48PSM10 modules. Slot 1 to 17 can be used for I/O modules and/or 513CMB10 modules. If no redundant power supply is used, slot 18 can be used for an additional I/O module.

Allocation of the slots:

- 1 or 2 power supply units (each 2 slots wide) 17
  slots for:
- Up to 8 communication units
- Up to 17 I/O modules (with redundant power supply)
- Up to 18 I/O modules (if only one PSM is used)

For the physical interfacing of boards edge connectors of type F (DIN 41612) are used. Rows 2 to 20 of the edge connectors connect the PKS RTU513 system bus and are soldered directly to the printed circuit board. The connection of the process signals is done via the rows 22 to 32 by means of sub-connectors. The sub-connector is clipped into a cut-out in the edge connector (see Fig.1). The connection of the signal wires is made by means of crimp clips

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Characteristics

Using of snap-in fixing. In addition to the use of prefabricated cables it is also possible to attach individual wires during commissioning.

This interface technology minimizes the number of cable connectors as well as the space required in the rack SMS12. A monitoring circuit on the rack SMS12 checks the supply voltages of the board (24 VDC, 5 VDC). Supply voltage failure is indicated by a status relay contact. An additional circuit shows the status of the power supplies. Power supply failure is also indicated by a status relay contact.
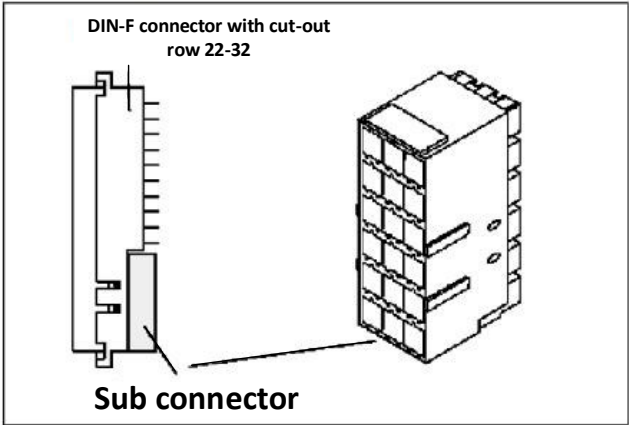

Fig.1:Sub-connector design

Besides to the process signal connections, the following interface possibilities are located on the rear side of the printed circuit board:

- Interface to the serial peripheral bus
- Status relay contact for monitoring the internal voltages (24 V DC and 5 V DC) and status of PSM´s.
- Interface and supply power for the 513BCM05

Sub-Rack Address Setting

The DIP switch register S1 (see table.1) specifies the logical rack address of the PKS RTU 513.Each subrack must have a unique rack address within one peripheral bus segment.

S1-1	S1-2	S1-3	Rack address
ON	OFF	OFF	1
OFF	ON	OFF	2
ON	ON	OFF	3
OFF	OFF	ON	4
ON	OFF	ON	5
OFF	ON	ON	6
ON	ON	ON	7
S1-4 Not used			

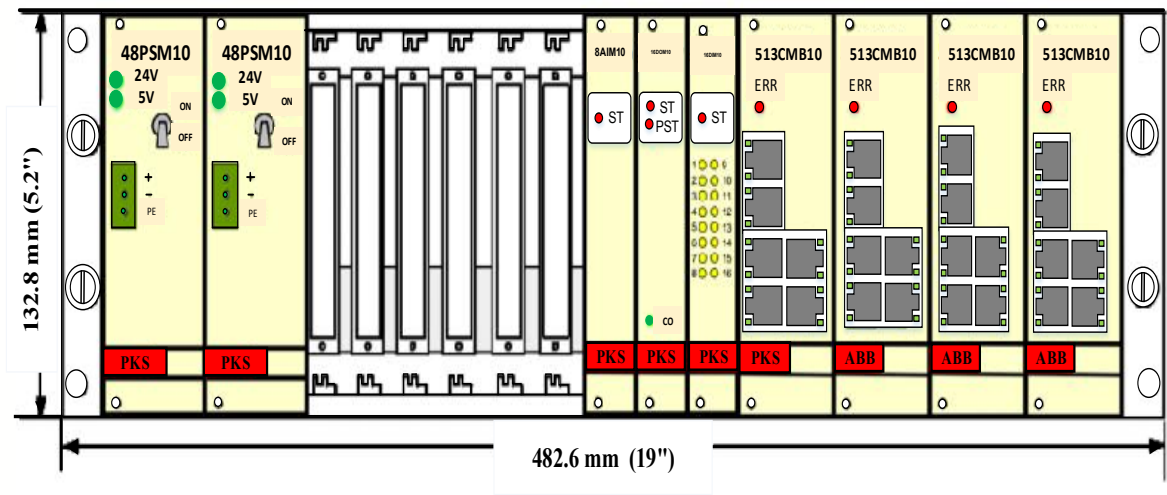

Table.1: Rack address

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Sub-Rack Address Setting

Fig.2:Configuration example (Redundant power supply, four 513CMB10, three I/O s)
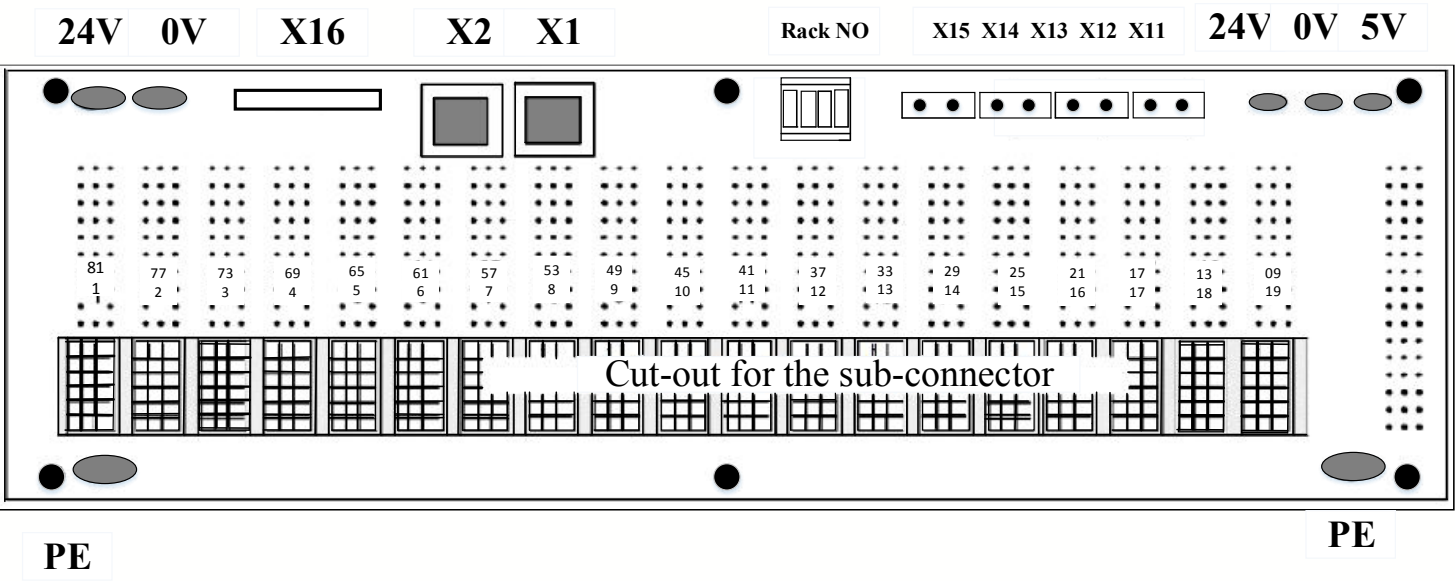
Fig.3: Rearview (Backplane) of SMS12

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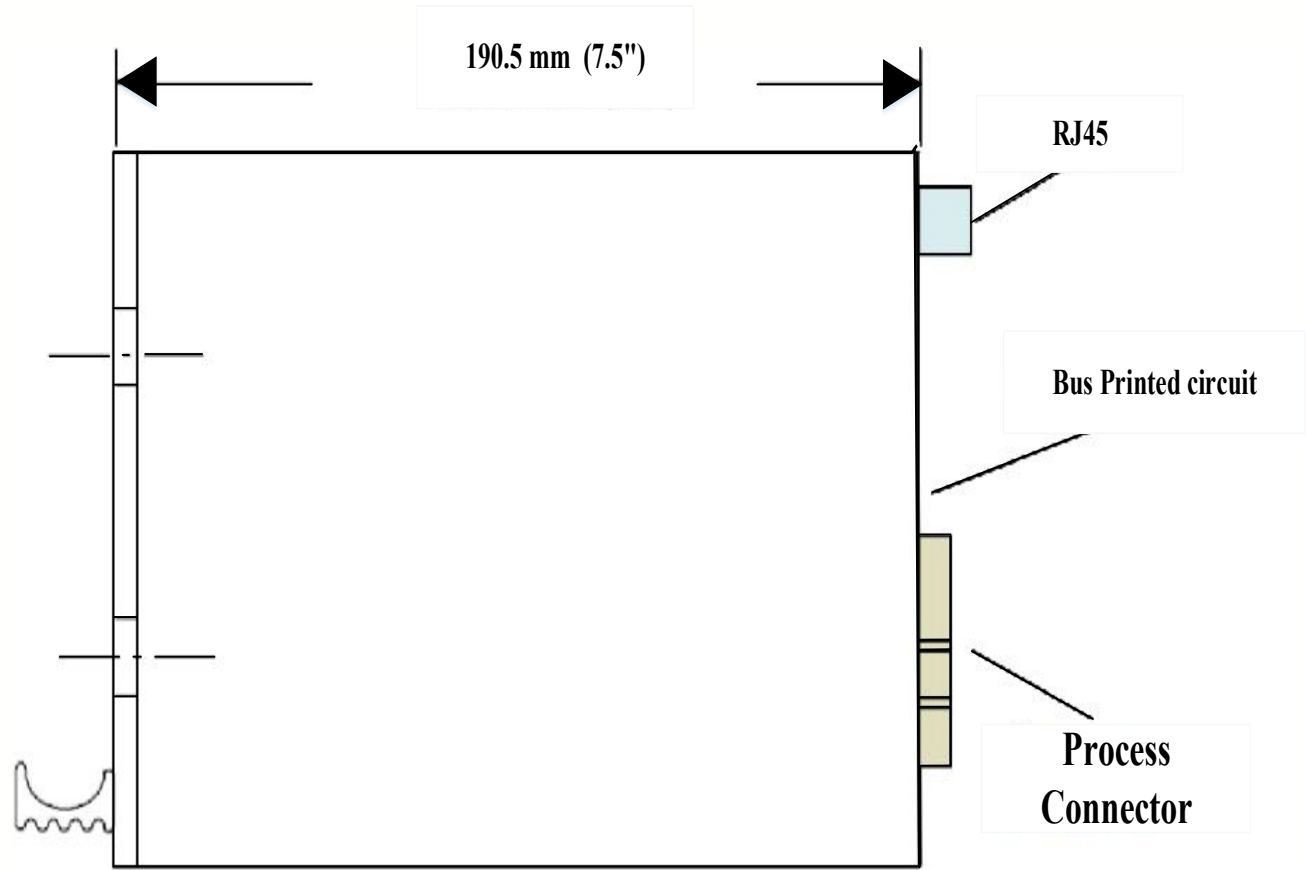Peyman Khotoot Shargh

Sub-Rack Address Setting

Fig.4:Side view

Technical Data

In addition to the PKS RTU513 general technical data, the following applies:

Subrack

	19", 3 HE, 21 slots following DIN 41494 1 slot = 4 units = 20,32 mm
Dimension	133 x 483 x 200 mm (H x W x D)
With boards	232 mm (D)
With boards And connectors	280 mm (D)
Weight	2.6 kg

Mechanical Layout

Printed circuit board	433.7 x 132.8 mm (W x H)

Types of Connection

Peripheral boards	Indirect, female, 48 pole Type of DIN 41612 with cut-out for sub-connector
Process signal connection	18 pole sub-connector with crimp clips

Compliances

EMCE environmental Safety	EN550011, EN61000 EN60255, IEC60870 EN60950

Serial interfaces

SPB (X1,X2)	2* RJ45-jack

Monitoring Connections

Power Supply Warning

X13,X14,X15	Plug-in terminal strip, 2-pole each
Relay contact	NC-contact 1A /60 VDC /30 W

Monitoring connection ALARM

X11,X12	Plug-in terminal strip, 2 pole each
Relay contact	NC-contact 1A /60 VDC /30 W

Environmental conditions

Temperature	0...70°C
Relative humidity	5 ... 95 % (noncondensing)

Protection Earth

PE	2 * fasten 6.3 mm

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