Application

The Bus Connection Module 513BCM05 is designed to make the PKS RTU513 TSI , TSO,   Alarm and Warning signals accessible to the outside. By using the bus connection module 513BCM05,   up to 8 communication units (CMUs) can be used in a rack configuration. To expand the RTU513 system bus to another rack (SMS10, SMS12), an 8 pole RJ45 connector is available. For cabling, a shielded 8 pole RJ45 patch cable can be used .

Characteristic

The Bus Connection Module 513BCM05 is used in the racks SMS10 or SMS12. It is mounted on the back side of the rack , and fixed by four snap-in bolts. The connection to the RTU13 communication units is made with up to eight connectors to slots occupied by CMU Modules. Two connector cables are delivered with the 513BCM05 . Additional connector cables are available .All supply voltages and control signals are interfaced by a direct Board-to-Board connection (X14). To enable operation using a SMS10 rack, a 24V positive supply cable needs to be connected to a screw terminal connector X21.

The system signals ALARM and WARNING can be accessed via relay contacts and are supervised with a watchdog function. If the trigger from the communication unit is missing for more than 30 seconds, both relay contacts are activated and the contacts are closed. The external minute interrupt of a real time clock RTC is connected to the system via an internal isolated optical-coupler (TSI) and routed to the time master of the RTU513 system. The minute pulse output (TSO) is available for other applications. Also the signals for supervising redundant power supply units are distributed. If it is intended to use a single CMU inside a standalone rack only a cable of unit 513BCM05 is required for correct bus termination (without usage of ALR, WRN, TSI, TSO and supervision of redundant power supply units).

Watchdog

The activity on the RTU513 bus is supervise by a re-triggering mono flop. ALARM and WARNING are activated if the RTU modules do not respond within about 30 seconds.

Alarm und Warning

ALARM and WARNING are activated by the watchdog or by a RTU513 communication unit. On signaling ALARM the signal WARNING is also activated.

Minute pulse input TSI

The RTU513 communication units can be synchronized by the TSI input. Connecting the minute pulse input TSI.
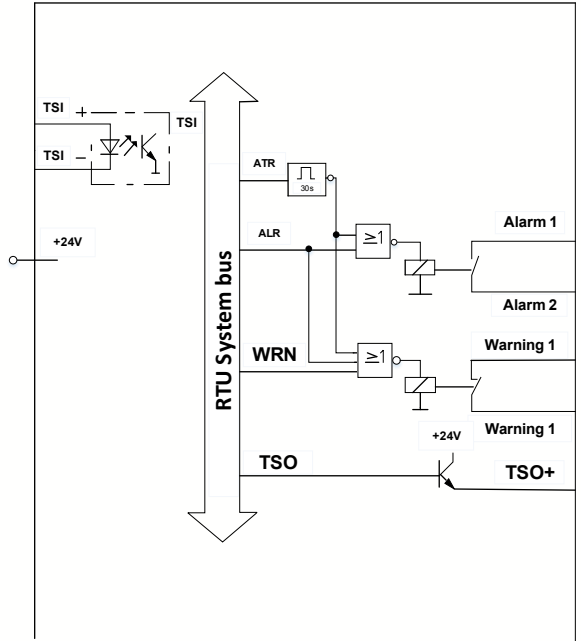

Fig.1: Function Block Diagram 513BCM05 Base board

Minute pulse output TSO

The RTU513 communication units generate an internal filtered minute pulse TSO. With this signal the other modules will be synchronized. Connecting the minute pulse output TSO.
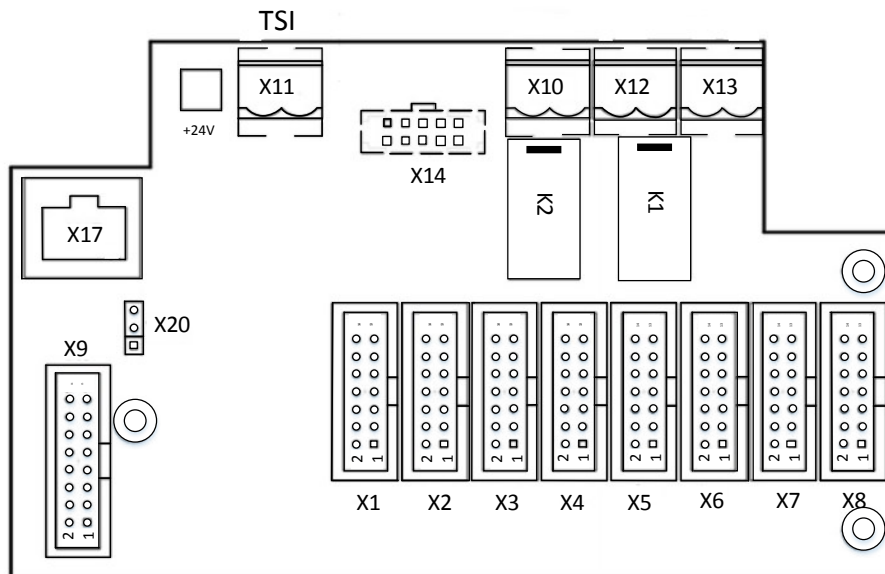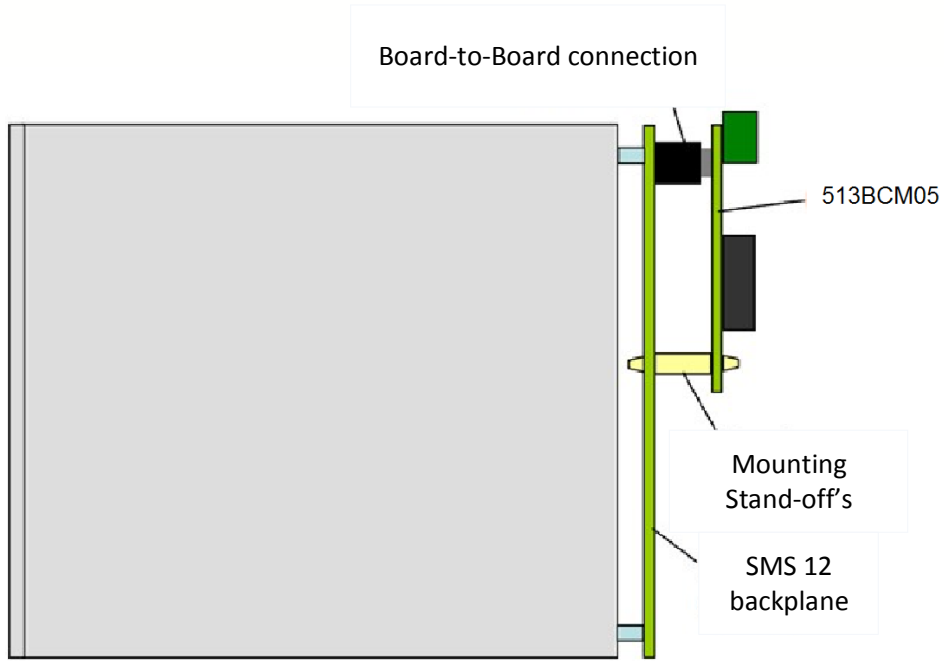

Fig. 2:   Front view 513BCM05

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Setting

Fig. 3: Assembly SMS12 and 513BCM05

Fig. 4: Connector cable of 513BCM05

Technical Data

In addition to the PKS RTU 513 general technical data, the following applies:

Environmental conditions

Temperature	0 ... 70 ℃
Relative humidity	5 ... 95 % (non condensing)

Power Supply

Supply	5 V / app. 80 mA
	24 V / app. 60 mA

Watchdog

Supervision time	30 sec.

Connection types

connector	2 –8 sub connectors wit flat cable for 14 pole each

Mechanical Layout

PCB	126 x 78 mm
Weight	App. 0.1 kg

Power Supply (external)

+24V	Screw terminal connectiononly in case of SMS10 subrack

Minute impulse input (TS)

X11	plug-in terminal strip 2-pole isolated, 24 V input

Minute impulse output (TSO)

X10	plug-in terminal strip 2-pole 24 V output.

Rack-to-Rack Interface

X17	RJ45 connector 180°

Signal outputs

X12 (Alarm) X13 (Warning)	plug-in terminal strip 2-pole each
Relay contact:	active closed Warning set also with Alarm ≤ 1A/ ≤ 60 V DC / ≤ 30 W

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