

Distributed Processing Units Segment Controller Unit (SCU)



KONGSBERG

Description

The SCU is a gateway responsible for the local CAN segment. Distributed Processing Units (DPU's) are connected to the local CAN segment. DPU's are I/O-modules with tag-based processing capability. The local CAN segment is compliant to CANopen maritime (CiA 307).

Multiple segments can be interconnected; SCU's communicate on dual global CAN-lines, compliant to CANopen maritime (CiA 307). Optionally SCU's can be interconnected via an industrial Ethernet, POWERLINK.

Processor redundancy is achieved by two SCU's coupled in parallel, SCU A and SCU B, one being master the other standby. Both are connected to the local CAN segment as well as to the global CAN-lines. The Master SCU is in charge of the local CAN segment. If the Master SCU fails, the Standby SCU will take over control of the local CAN segment.

In a K-Chief 600 system, the two redundant SCU's are appointed the responsibility interfacing the Operator Stations (OS), one to each OS. The interface to the OS are via Standard Fast Ethernet. The Master SCU is in charge of the communication with the OS. If the Master SCU fails, the Standby SCU will take over the communication with the OS.

The communication line redundancy is based on "hot standby" philosophy, which means that both lines are transmitting in parallel. A failure to one of the lines will not affect the communication objects, neither time wise nor loss of data.



Functions

- Responsible for routing data, both real-time and service-data.
- Alarm system including local timestamp.
- Programmable Logical Controller (KM Flexi modules).
- Pre-programmed logic and remote control of ship auxiliary equipment and power management.

Features

- Standard Fast Ethernet, 100Base-X Fast Ethernet.
- Industrial Ethernet, POWERLINK, is CANopen over Ethernet with real-time capabilities (optional).
- CANopen maritime (CiA 307).
- Communication line redundancy.
- No serviceable parts inside module
- All connections are plugable.
- Easy hardware replacement: Software and configuration download to DPU's on local CAN.



