CAN Switch TCS-10

The CAN switch is a new approach to divide single logical network into multiple physical networks like Ethernet switch. Star and mixed topologies are supported at all baud rates. Dividing single bus into several independent collision- and error-domains.

- 10...40 VDC supply voltage
- 4 channels for switching and 1 channel for configuration
- Invisible to higher layer protocols
- Supports both 11– and 29 bit identifiers
- CiA DSP 305 compatible CAN baud rates (1M, 800k, 500k, 250k, 125k)
- CANopen configuration and diagnostics support
- Din rail mounted housing IP 20
- Connectors MSTBV Gold plated
- Connector pins for CAN-GND and shield
- CAN transceivers TJA 1050
- Galvanic isolated CAN channels 1000 V flash
- Operating temperatures−40ºC...+85ºC
- Power consumption 3,5 W
- Dimensions: 31 x 105,4 x 72 mm (H x L x W)

Applications

TCS-10 can be used for dividing single bus into several independent collision- and error-domains. Filtering capabilities provide possibility to reduce the bus load of single bus branch. Maximum coverage of a bus can be efficiently extended by TCS-10 without limiting the baud rate. It is also possible to run different buses at different baud rates.

Management features

TCS-10 has management features offering both HW and SW filtering of incoming messages and message-wise definition into which target ports incoming messages will be forwarded. Baud rate of each port can be configured independently. Standard CANopen tools can be used in management.

Onboard Diagnostics

TCS-10 provides error messaging into management port on most common bus errors and internal errors. Typically the configuration port is connected to one of the switching ports.

Message forwarding

The CAN-switch is configurable and it supports forwarding of both 11- and 29-bits CAN-ID messages. Messages are forwarded "as is" to the target ports. No decoding of messages to CAN-ID, DLC and data bytes is done. The maximum internal routing delay is 30µs[*].

[*]time measured between receiving the last bit of a message on source port and sending the first bit of the same message on target port.
Measurement done at 1 Mbps on the last message of a 30 back to back message burst on all 4 ports simultaneously.

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