a product of
TKE

CAN Switch

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. Filtering capabilities provide possibility to reduce the load of single bus branch.

- 7..36VDC supply voltage
- ±4kV contact discharge
- ±8kV HMB air discharge ESD protection for supply and CAN-ports
- 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
- Operating ambient temperature -40°C ... +85°C
- Several options for connectors, 5-pin A-coded M12 connectors as default
- IP65 stainless steel housing
- Operating temperatures–40°C...+85°C

Applications

CAN switch 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 CAN-switch without limiting the baud rate. It is also possible to run different buses at different baud rates.

Management features

CAN-switch 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

CAN-switch 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

Standard 11-bit switch firmware supports CAN data- and RTR-frames with 11-bit ID only. If 29-bit ID support is needed that is added to Standard 29-bit switch firmware. Messages are forwarded "as is" to the target ports. No decoding of messages to CAN-ID, DLC and data bytes is done. The maximum forwarding delay without effect of arbitration in the target bus is 300µs with maximum configuration.

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