CAN-bus option

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WIENER VME / VME64x / VXI crates of the 5000 and 6000 product families as well as NIM and CAMAC crates with fan tray and PL508 power supplies can be equipped with a CAN-bus interfaces for remote monitoring and control.

The Controller Area Network, (CAN) defined by Bosch in 1985, is an advanced serial multi-master communication protocol. Due to the reliability and technical capability as well as to the available low-price system components, CAN is well suited for application in field bus systems. CAN-bus was chosen as one of the field buses for slow control by CERN LHC.

Main features

- Nearly unlimited number of nodes (depending on physical layer)
- Serial, asynchronous, object-oriented, multi - master communication
- 2032 priorities (message ID's) in standard frame
- Max. 8 data bytes per message
- CSMA(CA (collision avoidance) bus access priority controlled (ID) with non-destructive bit-wise arbitration
- Wide range of transmission rates, high speed up to 1.6Mbit/s (577kbit/s information)
- Real-time capability, guaranteed latency time for high priority messages <134Aµs (1Mbit/s)
- High level of reliability and safety due to integrated error detection (HD=6), handling and confinement, less than 10-13 undetected errors per message
- Twisted pair cabling, line or star topology
- Maximum distances and rates can be between 1Mbit/s for 40m up to 5kbit/s for 10,000m

- Allows integration of WIENER chassis and power supplies into CAN field-bus system.
- Up to 126 crates can be controlled within a network. In addition to the remote on/off and SYSRES (VME) the user can control and program remotely every crate parameter via the interface as (* depend on power supply type):

  - Crate Identification
  - All voltages and currents, Over- under voltage trip off points (*)
  - Current limit adjustment to lower levels than 100%, i.e. for module test procedures (*)
  - Temperature measurements of air inlet and above modules (up to 8 sensors for the VME 6000 crate series possible)
  - All status signals, error messages
  - Average speed and individual speed of every single fan
  - Configuration and adjustment (*)

- The communication between crates and host computer is based on a new intelligent bus protocol (CMS-CAL compatible) characterized by functions like:

  - Automatic error message generation, (highest priority)
  - Minimum level of required bus activities
  - Broadcast and group functions
  - Task dependent priorities, equal rights for all crates

Item

CAN option	CAN-bus interface

No further technical details available! Please see Features and documentation!

Product Data Sheet

CAN-bus option:	Print Product Data Sheet

Documentation

Manual and Tech-Notes :	RemoteControl
Introduction	WIENER_Remote_Control

Downloads

OPC-Server:	Download