CPCI-405
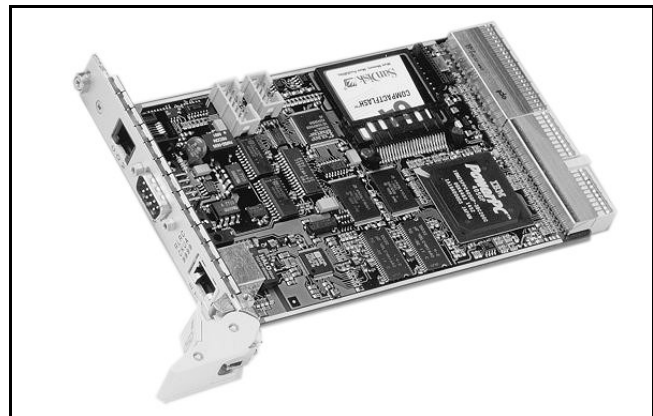# CompactPCI PowerPC with ETHERNET and CAN

esd gmbh

- PowerPC IBM 405GP(r)
- 10/100BaseT ETHERNET
- CAN & RS-232 interfaces
- CompactFlash slot

CompactPCI PowerPC board

The CPCI-405 is a CompactPCI board in 3U format. The powerful IBM PPC405GP(r) with clock rates from 200 to 400 MHz enables a performance of up to 608 MIPS. With on-board PCI-arbiter and PCI-clock distributor it acts as a CompactPCI host. A mounting option as a CompactPCI adaptor is available. The board is equipped from 16 to 128 Mbyte SDRAM, up to 8 Mbyte Flash and a CompactFlash slot to carry various memory cards. A non-volatile NVRAM enables the CPCI-405 to save valuable process variables during power off sequences.
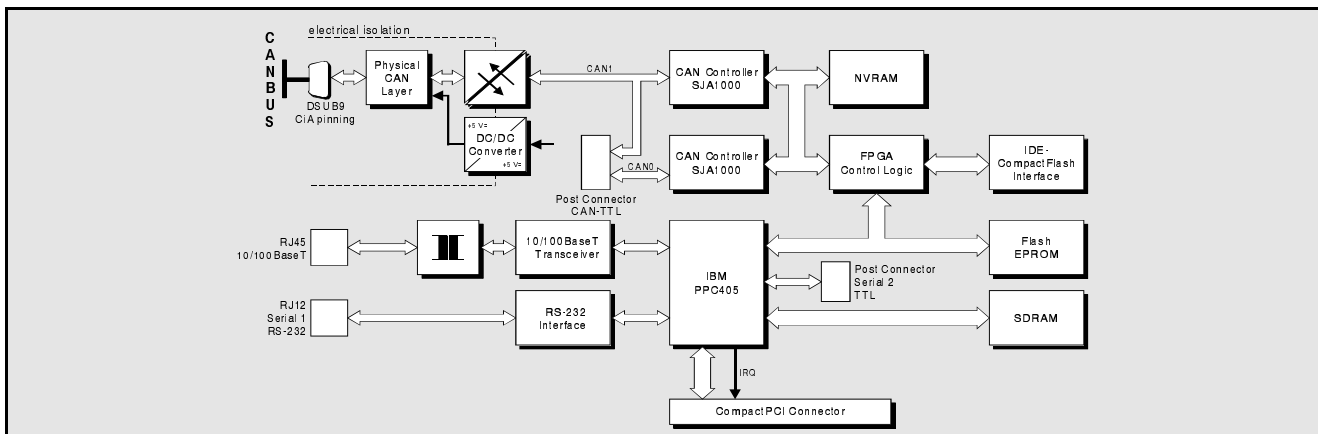
Network Interfaces

The CPCI-405 comes with an ETHERNET interface for 10 Mbit/s and 100 Mbit/s nets. It is accessible as 10/100BaseT via RJ45 connector in the front panel. The CPCI-405 provides 2 CAN interfaces based on SJA1000 CAN controllers. One of them according to ISO 11898 with electrically isolation and a DSUB9 connector, the other one as TTL only via PCB connector. Both CAN allow data transfer rates of 1 Mbit/s. One of two serial ports is available as RS-232 via RJ12 connector, the other one as TTL only via PCB connector.

Software Support

The flash memory carries the standard 'U-Boot' program that enables the CPCI-405 to boot various operating systems from network, on-board Flash or CompactFlash. Thus Linux, VxWorks and QNX6 are directly supported with full support of on-board drivers by esd, others on request. There is also a bunch of higher layer protocols like CANopen, DeviceNet as well as an on-board web server available.

(This product is not recommended for new designs.)

Technical Specifications:

CompactPCI interface and microcontroller:	
Microcontroller:	IBM PPC405GP(r), 200/233/266/400 MHz, 32 bit
Memory equipped:	from 8 M x 32 bit SDRAM (32 MB), up to 32 M x 32 bit SDRAM (128 MB), up to 8 M x 8 bit Flash EPROM (1,2,4,8 MB), 32 KB NVRAM

Interfaces:	
ETHERNET:	10/100BaseT, IEEE802.3, RJ45-connector
Serial:	1x RS-232 at RJ12, 1x TTL-level at 6-pole post-connector
CAN net 0:	controller SJA1000, CAN 2.0A/B, TTL-level signals, 1 Mbit/s, 10-pole post-connector
CAN net 1:	controller SJA1000, CAN 2.0A/B, electrically isolated, 1 Mbit/s, ISO11898, DSUB9 connector

General:	
Ambient temperature:	0...50 ˚C

General (continued):	
Humidity:	max. 90 %, non-condensing
Power supply:	5 V / 700 mA, 3.3 V / 300 mA
Connectors:	CAN: 9-pole DSUB, 10-pole post-connector, Serial: RJ12, 6-pole post-connector, 10/100BaseT: RJ45

Order information:		
Designation		order no.
CPCI-405	IBM PPC405GPr, 266 MHz, 64 MB SDRAM, 4 MB Flash, host adapter	I.2306.04
CPCI-405-64	as I.2306.04, but 400 MHz	I.2306.05
CPCI-405-A	IBM PPC405GP, 200 MHz, 32 MB SDRAM, 2 MB Flash, target adapter	I.2306.07
CPCI-405-VxW	VxWorks BSP/adaption	I.2306.30
CPCI-405-VxW	VxWorks runtime system	I.2306.31
CPCI-405-Linux	Linux BSP/adaption	I.2306.32
CPCI-405-QNX	QNX6 BSP/adaption	I.2306.34