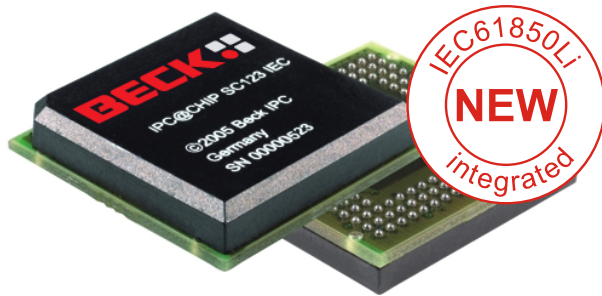


Information Sheet: IPC@CHIP® SC123 / SC143



The SC123/SC143 is a further addition to the IPC@CHIP® product series, offering more performance, more memory and more functions whilst still maintaining full software compatibility with existing SC11 and SC13 controllers.

All the critical and well-established hardware functions and interfaces of SC11/SC13 are retained on the SC123/SC143, and have been enhanced with a number of additional key functions.

The new BGA design supports larger unit volumes in all aspects of industrial control and communication.

	SC123	SC143
Design	BGA177, 25x25x5mm	
CPU	SC186-EX / 96 MHz	
RAM (free)	8 MByte (approx. 7 MB)	
Flash memory (free as Flash disk)	2 MByte (approx. 1 MB)	8 MByte (approx. 7 MB)
Ethernet	1 x 10/100BaseT / PHY, 1 x MII	
Serial	4 x TTL	
CAN	2 x CAN 2.0B master / slave, 1 Mbit/s	
Other interfaces	USB1.1, I2C, SPI	
I/O	31 freely prog. PIO pins (GPIO), 3 x IRQ, 2 x external DMA, 2 timer inputs/outputs, 24-bit address bus, 16-bit data bus	
Operating voltage	3.3V	
Heat dissipation	typ. 1 Watt	
Temp. range	-25 to 85 °C	

Software

Like the well-established SC11/SC13, the IPC@CHIP® SC123 and SC143 products are equipped with the IPC@CHIP®-RTOS preinstalled real-time/multi-tasking operating system and downwards compatible API interface, and are therefore software compatible with SC11 and SC13. Existing SC1x applications can be reused after recompiling with the new Paradigm C/C++ compiler contained in the Development Kit.

The following software functions are also integrated in the RTOS of the SC123/SC143:

- IPv6 (in addition to IPv4)
- Security protocol SSL, SSH and IPSec
- PPPoE
- API for CAN controller (CANopen stack available as option)
- API for elementary USB slave and host functions, support for USB storage devices (USB sticks)
- Only one RTOS version with all available functions (incl. PPP and SNMP)

IEC 61131-3 CoDeSys SP runtime system

The runtime system is derived from CoDeSys SP 2.3 and is available as C library, which makes it easy to implement individual adaptations and enhancements. Besides the extended program memory for CoDeSys-projects the runtime system contains as well a CANopen-stack and supports all 4 serial interfaces.

IEC 61850Li (Lite implementation) integrated

IEC 61850 is a standard for utility automation systems including Smart Grids. It provides a comprehensive data models, communication services, and device and system configuration language (SCL). All models for protection, monitoring and automation for substations in transmission and distribution, monitoring of power quality, hydro power plants, wind turbines, decentralized energy resources like photo voltaic, combined heat and power, diesel gensets, or batteries can be implemented and configured by SCL files.

The IEC 61850-compliant PIS-10 software stack can be launched as a client and as a server. Both applications can coexist at the same time on the IPC@CHIP®. The stack supports IEC 61850 services including GOOSE and sampled values.

More information can be obtained from our website at <http://www.beck-ipc.com>