

## 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, SC12 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, 27x27x5mm	
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 CAN2.0B 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	< 2 Watt	
Temp. range	-25 to 85 °C	

### Software

Like the well-established SC11/SC12/SC13, the IPC@CHIP® SC123 and SC143 products are equipped with the IPC@CHIP®-RTOS pre-installed real-time/multi-tasking operating system and downwards compatible API interface, and are therefore software compatible with SC11, SC12 and SC13. Existing SC1x applications can be reused after recompiling with the new 24-bit mode 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 protocols (SSH, SSL, IPSec)
- Modbus TCP
- Ethernet/IP
- EtherCAT support (additional ext. hardware required)
- API for CAN controller (CANopen stack available as option)
- API for elementary USB slave functions
- Only one RTOS version with all available functions (incl. PPP)

### IEC61131-3 CoDeSys SP runtime system

As with SC11/SC13, the SC123 and SC143 will also be available as versions including a runtime license for the CoDeSys PLC runtime system (SC123-IEC/SC143-IEC).

As with SC11/SC13, this runtime system is also available as a C library and can thus be adapted to individual requirements. The SC123/SC143's available free working and Flash memory can be fully utilised for this. Unlike SC11/SC13, the runtime system for SC123/SC143 is fully multi-tasking enabled.

More information can be obtained from our website at <http://www.gridconnect.com/beckchips.html>



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