New IPC@CHIP® SC23 / SC24 in the Module Housing

As well as performance and the features of an embedded controller, easy handling with small and medium-sized quantities is a key factor for many applications.
The IPC@CHIP® SC23/SC24, which with its DIL32 module housing continues the success of the IPC@CHIP® SC12, is designed to target these applications as well as featuring the state-of-the-art technology of the latest SC123/SC143 controller at the same time.
The SC23/SC24 is designed for use in a DIL32 socket in exactly the same way as the SC12 and SC13, and can therefore be easily exchanged during production and service.

High performance and convenient memory features

The SC23/SC24 combines the CPU performance and memory capabilities of the SC13 with the tried and tested module housing of the SC12 and SC13. With its powerful 96 MHz processor, 8 MB RAM memory and 2 MB (SC23) / 8 MB (SC23) Flash memory it offers sufficient resources for state-of-the-art control and communication applications.

Convenient range of interfaces

The fast hardware SPI and I^2C interfaces of the SC123/SC243 were also implemented, allowing the connection local expansions such as AD/DA converters and additional I/Os.
Up to 17 universal GPIOs are provided for the direct control of local I/Os.
As well as the I00Mbit/s Ethernet and up to three serial interfaces, the SC23/SC24 comes with two CAN2.0b and one USB host/device interface for communication and fieldbus connections.
The external Flash memory is connected via MMC/SD cards using the SPI interface.

Add-ons already available for SC123/SC143, such as the WL01 wireless LAN module, can be connected via the SPI interface.

Software compatible with SC12 and SC123

The SC23/SC24 is fully software compatible with SC123/SC143. All hardware and software functions can be used via the software API of the IPC@CHIP® RTOS in the usual manner.
Projects that were created for SC12 and SC13 with the Borland compiler have to be recompiled with the Paradigm C/C++ compiler and adapted to the different I/O interface as required.
A suitable CODESYS SP runtime system and a SC23/SC24 variant with integrated CODESYS runtime license are naturally also provided for IEC61131-3 programming.

Fast entry with the DK55 development system

Like for all IPC@CHIP® series, a suitable development system is also available for the SC23/SC24 which also contains the necessary software development environment in the form of the Paradigm C/C++ compiler as well as the development board.

Further information is available at www.beck-ipc.com.

IPC@CHIP® SC23 / SC24

- SC186-EX with 96 MHz
- 8 MB DRAM
- 2 MB Flash (SC23) / 8 MB Flash (SC24)
- 1 x 10/100 MBit/Ethernet with PHY
- 3 RS232/TTL serial interfaces
- 2 x CAN2.0b with optional CANopen stack
- 1 x USB1.1 Host or Device
- 1 x hardware SPI, 1 x hardware I^2C
- 17 GPIO lines, 3 interrupt inputs, 2 prog. hardware timers
- Fast hardware SPI and hardware I2C for I/O and memory expansion
- Supply voltage 3.3V / <1.5 Watt
- Industrial temperature range -25..+85° C
- DIL32 module housing for DIL32 socket
- IPC@CHIP® RTOS, TCP/IP, web server and C-API
- CODESYS SP Full runtime system 2.3

Beck IPC GmbH
Nauborner Straße 184
35578 Wetzlar/Germany

Datasheet: SC23/SC24

The SC23 / SC24 is an embedded web controller developed for the industrial control and communication market.
It includes processor, RAM and FLASH memory, Ethernet and several serial interfaces, system clock generation and GPIO.

This ready to use embedded platform comes with a preinstalled realtime multitasking operating system with complete TCP/IP stack, a file system and a large application interface.

Technical data

Processor	SC186-EX/96 MHz
Working memory (SDRAM)	8MB SDRAM (free user space see API documentation)
Flash memory for operating system and internal File System	2 or 8 MB FLASH (free user space see API documentation)
Asynchronous serial	3xRS232/TTL port (RxD, TxD, RTS, CTS with DMA)
Ethernet	1 x 10/100BaseT
I/O	17 GPIO
Supply voltage	3,3 V +/-5%
Power dissipation	< 1 W
Operating temperature (T_A)	-25ºC to +85ºC
Storage temperature	-55ºC to +125ºC
Operating system	IPC@CHIP® RTOS
Footprint	DIL32

Features

- three asynchronous serial ports
- FLASH memory with min. 100.000 write cycles
- Full integrated 10/100Base-T transceiver (IEEE 802.3 standard)
- One I²C-bus (hardware)
- 25MHz crystal + PLL
- One SPI-bus (hardware)
- One USB 1.1 port (host and device)
- Two CAN2.0B ports
- Internal watchdog with power supervisory
- Two independent programmable Timers
- Three Interrupt inputs

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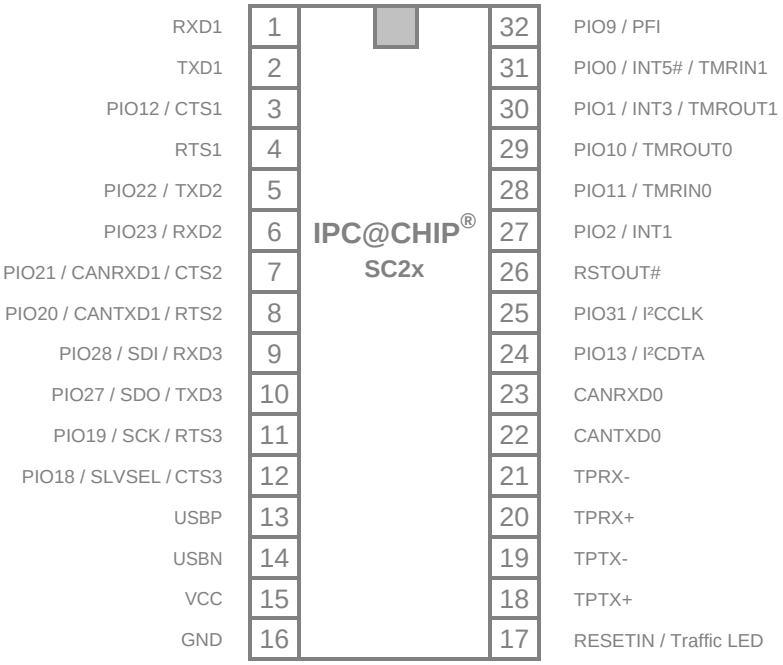
Pin Configuration



Physical dimensions

20,10 x 42,30 x 12 mm

Design and handling guidelines

A DIL32 socket must be used within a wave soldering process or a reflow soldering process.

The SC2x should not be plugged in the socket during the soldering process.

Electrostatic Sensitive Device

Ordering information / Order-No.:

SC23	553944
SC23-IEC	553945
SC24	566821
SC24-IEC	566822

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