

Sxx-MICRO-MODULE
WITH MITSUBISHI M377xx
16-BIT-SINGLE-CHIP-MICROCOMPUTER
(M37702, M37710, M37732 GROUP)

The Sxx-MICRO-MODULE is a fieldprogrammable miniature-controllermodule implementing a Mitsubishi M377xx 16-bit single-chip-microcomputer. It supports fast and easy development of a large variety of automation- and communication- applications, including applications that require frequent reprogramming, network features or interprocessor communication, while occupying minimal space.

APPLICATION:

industrial equipment
robotics
communication and measuring instruments

FEATURES:

small outline: 57 x 34 mm
on-board operating-system
5 Volt-operation
128/512 KB flash-EPROM, 5 Volt field-programmable (no external 12 V required)
sector erase functions (the flash-memory is divided into 8 sectors)
127 Sxx-MICRO-MODULES can be connected to a network via RS485
can be (re)programmed in network
37 I/O-pins, 8 x 16-bit timer, 8 x 8-bit A/D-converter, motor control
same pin-configuration as the M377xx-DEVELOPMENT-KIT (or MTK 7706)

OPTIONS:

- S02-MICRO-MODULE with Mitsubishi M37702 single-chip-computer
- S32-MICRO-MODULE with Mitsubishi M37732 single-chip-computer
- S10-MICRO-MODULE with Mitsubishi M37710 single-chip-computer
- 128 or 512 KB field-programmable flash-EPROM
- 8, 16 MHz clock-frequency
- 128 network-members (including PC)

TECHNICAL DATA OF M377xx-CHIP-FAMILY:

16-bit CPU with 8, 16 or 25 MHz clock frequency
16-Mbyte address-space
fastest instruction: 160 ns at 25 MHz
up to 2048 byte internal RAM
37 or 68 (single-chip-mode) programmable I/O-pins
16 internal + 3 external interrupts
2 USARTS (Universal Synchronous/Asynchronous Receiver/Transmitter),
up to 5MBps synchronous data-transmission at 25 MHz
8 x 16-bit universal timers
12-bit programmable watchdog-timer
8 x 8-bit A/D-converter



ADDITIONAL FEATURES OF M37732:

real-time-ports, for motor control

ADDITIONAL FEATURES OF M37710:

real-time-ports, for motor control

8 x 10-bit A/D-converter

2 x 8-bit D/A-converter

TECHNICAL DATA OF Sxx-MICRO-MODULE:

clock-frequency: 8/16/20/25 MHz (baud-rate versions 14,7456 MHz upon request)

5 V voltage-controller and supervisor (3,3 Volt versions upon request)

resetbutton

power-on-reset, power-down-reset

I/O-connector for 37 I/O-pins

COMMUNICATION:

on-board RS-485 up to 150 Kbps (special versions for up to 780 Kbps available)

up to 128 network-members

MEMORY:

128 or 512 KB field-programmable sector-erase flash-EPROM

no external 12 V supply required

OPERATING SYSTEM:

located in one sector of the flash-EPROM

features highspeed-download of the User-Software

7 user-interrupt-tables for 7 complete applications available

monitors memory and register contents

works together with the „LUCILLE“ development-environment-software

supports network programming

supports auto-start-application functions

DEVELOPMENT-ENVIRONMENT-SOFTWARE „LUCILLE“ :

integrated development-environment-software for PC-AT

easy and comfortable operation through user-interface (turbo vision)

comfortable text-editor for multiple text-windows including „copy & paste“

ASCII-terminal function

calls external compiler/cross-assembler

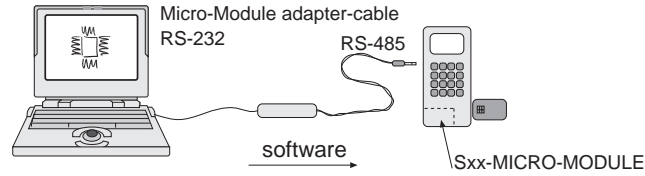
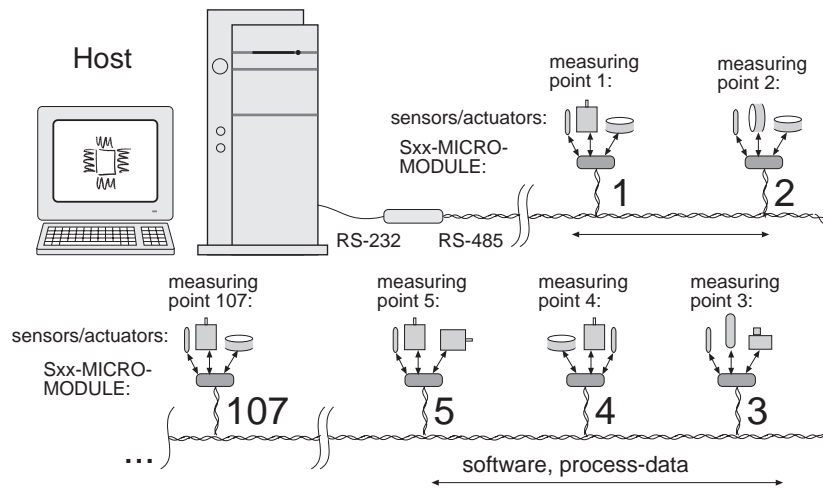
fast download of user-software to the Sxx-MICRO-MODULE

network programming

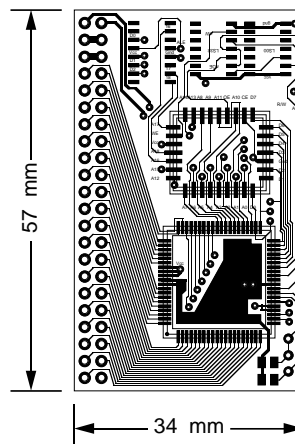
shortkeys for all important functions

INTERFACE-CABLE:

the special MICRO-MODULE adapter cable is used to connect the PC RS-232 port to a single Sxx-MICRO-MODULE or to a Sxx-MICRO-MODULE network.

Application 1: firmware-download to stand-alone instrument or prototype

Application 2: measuring-/control-system with permanent host-connection

Sxx-MICRO-MODULE application example

A	44	43	B
Vcc	42	41	Vcc
Gnd	40	39	Gnd
8.7	38 ₇	37 ₆	
	36 ₅	35 ₄	
	34 ₃	33 ₂	8.0
	32 ₁	31 ₀	
7.7	30 ₇	29 ₆	
	28 ₅	27 ₄	
	26 ₃	25 ₂	7.0
	24 ₁	23 ₀	
6.7	22 ₇	21 ₆	
	20 ₅	19 ₄	
	18 ₃	17 ₂	6.0
	16 ₁	15 ₀	
5.7	14 ₇	13 ₆	
	12 ₅	11 ₄	
	10 ₃	9 ₂	5.0
	8 ₁	7 ₀	
4.7	6 ₅	5 ₄	
	4 ₃	3 ₂	4.2
	2 ₁	1 ₀	Reset


Sxx-MICRO-MODULE pin configuration