Control units
KIT188ER
Industrial control unit, 50MHz

SofCon® AUTOMATIZAČNÍ TECHNIKA

2.5

- AMD processor Am188/50MHz, 16bit
- RAM 1MB, backed-up by a battery
- FLASH up to 768 kB
- CompactFlash slot
- 3 x serial asynchronous channel
- Real-time clock
- WatchDog, power fail detection
- IOBus and COMBus
- 12 - 24V AC/DC power supply

Basic characteristic

KIT188ER is a small, one board computer suitable for use as universal control unit of industrial control systems. KIT188ER consists of 16bit processor Am188, in real mode program compatible with Intel 286. There is IOBus and COMBus intended for connection of expansion boards and modules. IOBus is designed for peripheral board connection of SofCon kit. Serial communication line is an incomplete bus RS232, contains only TxD and RxD signals, or is created by COMBus. COMBus is a complete serial interface based on 5V, which can be converted with additional modules on variety of others interfaces (RS485, complete RS232, isolated, non-isolated…).

On the board are also exact real time clock, RAM, FLASH and CompactFlash slot. The clock and the RAM are backed-up by a battery. CompactFlash is compatible with FAT file system and it is possible to use it as an exchangeable program memory or for storing application data.

Programmes are written and debugged in integrated environment of Borland Pascal 7, or in KitBuilder. Firmware is restored into the processor board through the serial communication or straight from CompactFlash.

The whole integrated environment of compiler is used for programming in Pascal. The whole application including HW data access can be debugged. Supplied expansion libraries include drivers to all more difficult peripheral boards, terminal visualisation library, communication library, real-time operating system RETOS, libraries for work with Int08 system timer, library for work with flash, control libraries and other useful programs. Libraries are standardly supplied in tpu. file type and interface section. Some of the libraries can be also supplied in source code.

The environment of Freedos operating system is compatible with MSDIS system, which enables to run the exe. files, working with FAT file system etc. In using Pascal is possible to use DOS functions and all functions implementing the SofCon libraries.

Order data

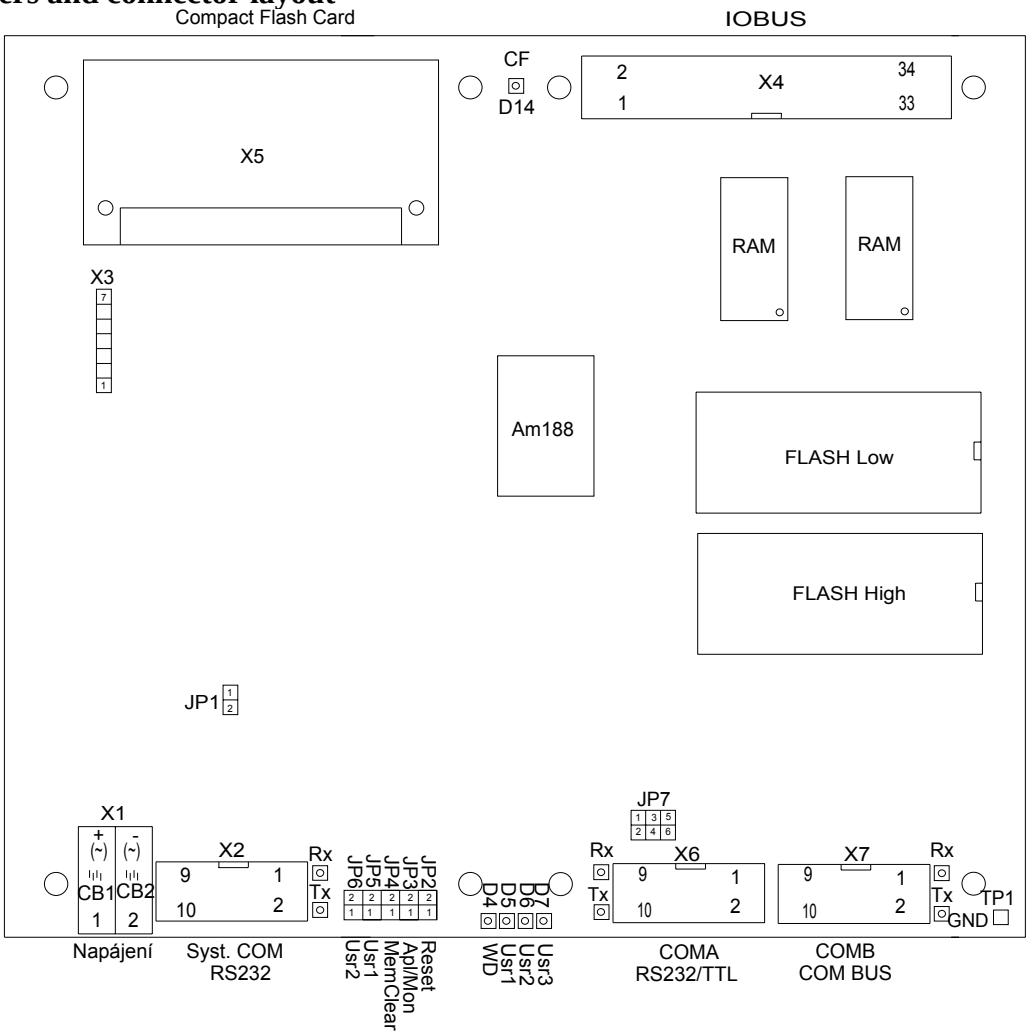
KIT188ER is standardly supplied with 512kB FLASH a 1MB RAM (unchangeable). If there is a different FLASH size required, it needs to be specified in an order.

Technical data

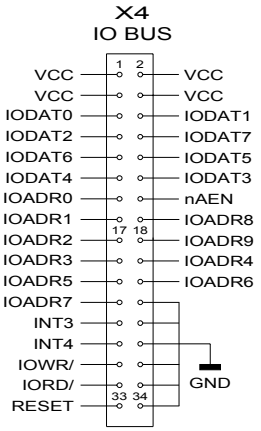
Dimension	122x138x25 mm, board can be placed into the mounting frames on DIN/EN TS 32 a TS 35.
Working temperature	-10 - 70°C
Power supply	+5V/150mA stabilized or 12-35 VDC or 12-24 VAC
Processor	AMD Am188ER, 50 MHz
Memory	Up to 768kB FLASH (fitted in bases), 1 MB RAM + CompactFlash slot
Counter/timer	3 counters/timers
Asynchronous channel	Circuit 16C2550 with FIFO balancing memory

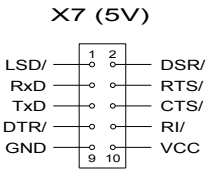
	Communication interface 1 x COMBus (complete serial interface based on 5V) and 2 x RS232 with RxD, TxD signals or 1 x RS232 and 1 x with RxD signals, TxD based on 5V
DMA channel	2 channels DMA
Day clock	Circuit BQ4845 backed up by a lithium battery century, year, month, day, hours, minutes, seconds
IOBus	Interface designed to connecting IO modules. It is possible to connect up to 8 modules, which can have input/output registers, circuits i8255, i8254, A/D a D/A converters, digital inputs and outputs, galvanic isolated. Signals: D0..D7, A0..A9 IRQ3, IRQ4, IOR/, IOW/, AEN/, RESET/
WatchDog	- power supply monitoring - PFI monitor, generating in the case of power failure of non-masking interrupt - RESET generator - safety function WatchDog
Signalisation	- Refresh WatchDog circuit – pulsing LED - Operation of communication ports – LED transmitting/reception - Signal LED

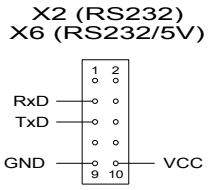
Jumpers and connector layout



Signals on connectors







Jumpers setting

JP1 2 1 Napájecí zdroj zapnut vypnut	**JP4** 2 1 Po Resetu paměť RAM: Zachovat Smazat
JP2 2 1 Vstup signálu Reset Procesorová deska v provozu Stav Reset	**JP5** 2 1 Uživatelská **JP6** 2 1 Uživatelská
JP3 2 1 Po Resetu spustit: BIOS Monitor Aplikaci	**JP7** 1 3 5 / 2 4 6 Režim portu X6 (COMA) RS232 5V úrovně