



10002/1/2

Central processor unit (CPU)

Description

The central processor unit (CPU) is the heart of each FSC system. It controls all system operations.

The module has a key switch in the front which provides a hardware reset of the processor. The key switch has two positions:

- Vertical: running
- Horizontal: stop (CPU reset)

The CPU module is provided with battery back-up circuits for the RAM memory, which enables back-up supply from the batteries on the diagnostic and battery module (DBM, 10006/1/1 or 10006/2/.) or single bus driver (SBD, 10007/1/1).

Memory

The CPU module has the following on-board memory:

- 128 Kbytes of RAM for the system and application variables (all I/O, markers, counters, timers and up to 7 Kbytes for registers), and
- 128 Kbytes of RAM that can be used as application RAM (depending on jumper positions).

The available 128 Kbytes of application RAM makes it possible to run small application programs in RAM, without additional memory circuits in the dual in-line (DIL) sockets.

A separate memory print (10002/A/1) is placed in the connector strips on the 10002/1/2 module. The 10002/A/1 module accommodates surface-mounted EPROMs that contain the system program, and has four sockets which offer space for the application program memory (EPROMs or RAM).

Reprogramming the surface-mounted EPROMs is possible using the 07170/1/1 FSC EPROM programmer with a 07170/A/1 adapter module. The EPROMs are erased by placing the 10002/A/1 module in an EPROM eraser (UV light source).

Note:

The four sockets of the 10002/A/1 module must be empty during reprogramming. Failure to remove the ICs from the sockets may cause fatal damage to the ICs and/or the EPROM programmer.

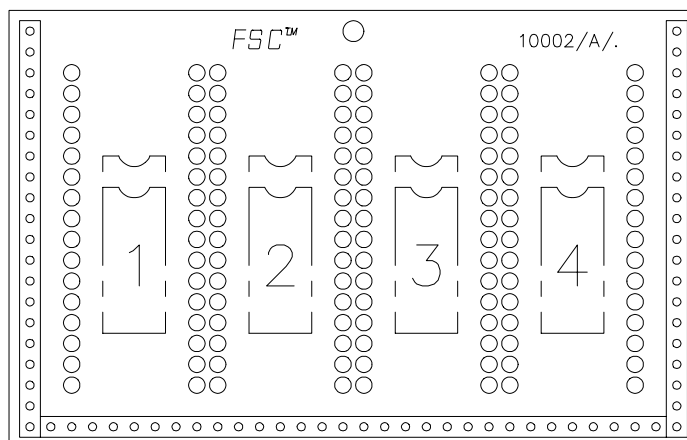


Figure 1 Memory sockets on 10002/A/1

To enable testing of the memory contents within the shortest possible time, memory duplication with hardware compare facilities have been implemented on the CPU module. This enables testing of the memory contents of the bytes read at each memory fetch cycle. Further test hardware enables full testing of the CPU module.

EPROM types

The 10002/A/1 module supports the following EPROM types:

- 27C512: 64 k * 8 (512 Kb) or equivalent
- 27C1001: 128 k * 8 (1 Mb) or equivalent
- 27C2001: 256 k * 8 (2 Mb) or equivalent
- 27C4001: 512 k * 8 (4 Mb) or equivalent

The maximum access time for all EPROM types is 150 ns.

Note:

For details on the supported manufacturers and EPROM types refer to Section 11 of the FSC Software Manual ("Program application in EPROMs").

RAM types

The 10002/A/1 module supports the following RAM types:

- 628128/431000: 128 k * 8 (1 Mb) or equivalent
- 684000: 512 k * 8 (4 Mb) or equivalent

The maximum access time for all RAM types is 100 ns.



Jumpers

The CPU module has nine jumpers. Figure 2 shows the location of these jumpers.

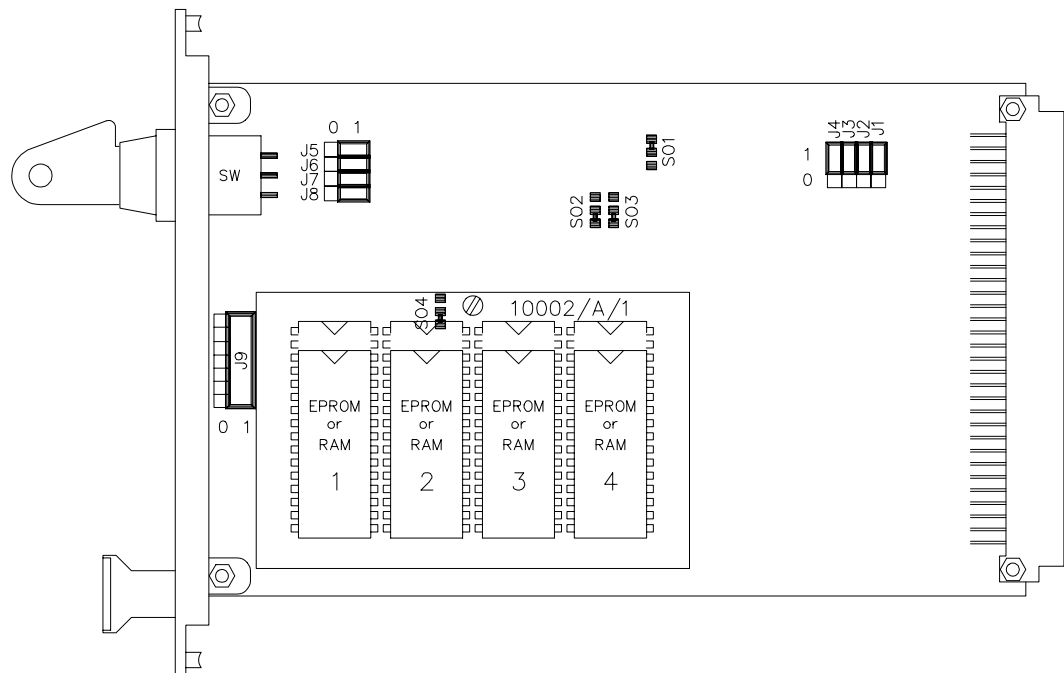


Figure 2 Location of jumpers

The jumpers have the following functions:

- Jumpers J1 to J3 are factory-set.
- Jumpers J4 to J6 define the application program as local or global.
- Jumpers J5 to J9 define the local memory type and size.

Figure 3 on the next page shows the required jumper settings.

The soldering links (SO1 to SO4) on the back of the 10002/1/2 module and the 10002/A/1 module are all factory-set.

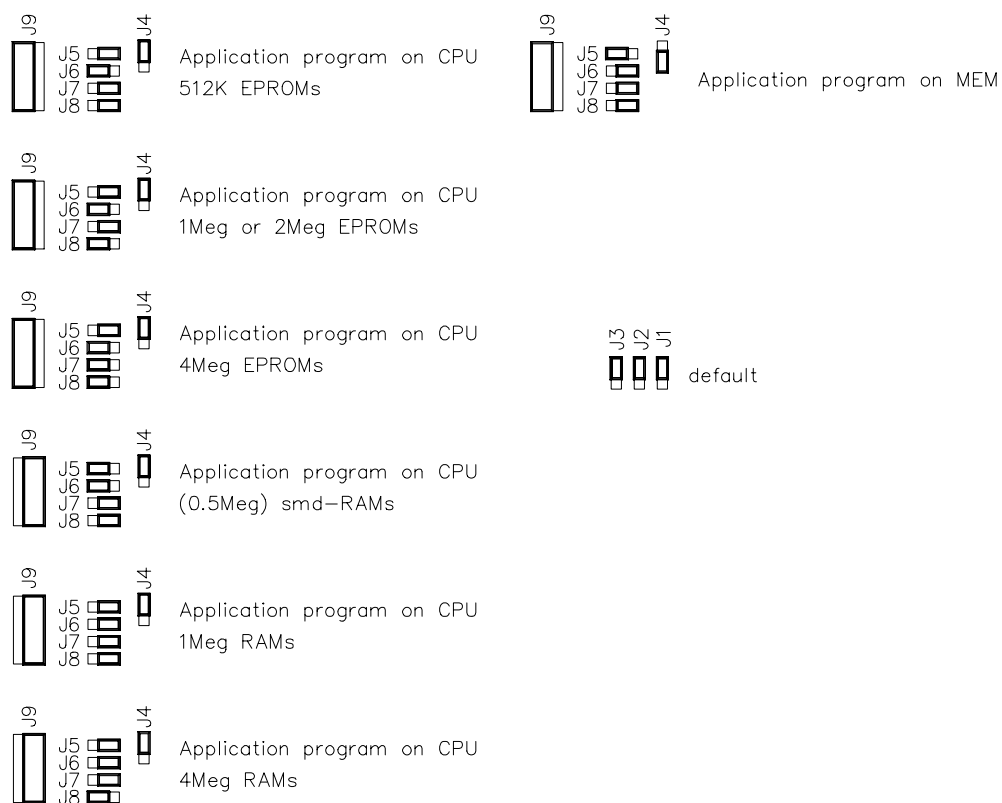


Figure 3 Jumper settings



Technical data

The 10002/1/2 module has the following specifications:

General	Type number:	10002/1/2 06001* 10002/A/1 06100
	Approvals:	CE, TÜV, UL
	Software versions:	≥ 2.80b
	Space requirements:	4 TE, 3 HE (= 4 HP, 3U) (incl. 10002/A/1 module)
Power	Power requirements:	5 Vdc 1 A (incl. 10002/A/1 module)
	Ripple content:	< 50 mV p-p
Physical	Dimensions of 10002/A/1:	84 x 54 x 12 mm (3.31 x 12 x 0.05 in)
Memory	System RAM:	128 Kbytes (on 10002/1/2 module)
	Application RAM:	128 Kbytes (on 10002/1/2 module)**
	System EPROM:	256 Kbytes (on 10002/A/1 module)
	Max. capacity of application EPROM:	1 Mbyte (on 10002/A/1 module)**
	Max. capacity of application RAM:	1 Mbyte (on 10002/A/1 module)**

Notes:

* 10002/1/2 modules with suffix code 06001 have improved EMC behavior.

** Only one application memory type and place can be used.

Note:

Do not remove or replace this module while the power to its Central Part is on.

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