

Test Functions

C

When the voltage supply is turned on or applied, the OP35 and OP45 test the most important hardware components automatically.

The OP25 is equipped with a test program with which the hardware components can be tested if required.

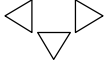
C.1 Hardware Test for OP25

The following function units can be tested with the OP25 hardware test.

- Internal memory and memory module interface
- Serial interfaces
- Keyboard and display
- Internal function units
(e.g., watchdog or real time clock)

C.1.1 General Operating

Calling the test program

While turning on the power supply of the OP, press the  cursor keys simultaneously, and keep them pressed until the test menu is indicated.

Test sequence

The test program provides a series of individual tests each of which can be started with a function key (F9 to F14 and K1 to K10).

The test results appear on the display after an individual test is concluded.

OK : No errors

DEF : The tested function unit is defective.

Exiting the test program

The test program can only be exited by switching off the power supply of the OP.

C.1.2 Individual Tests

Internal/external memory

The memory chips of the OP are tested with read-write tests.
When an error occurs, the faulty memory address is indicated on the display.

Note

Since the contents of the SRAM, EEPROM and Flash memories are stored in the DRAM before the test is performed, we recommend testing the DRAM for errors first.

Since the saved data are not reloaded, the contents of the tested memory are destroyed when an error occurs. The same applies to a power failure.

Individual Memory Tests

K1	DRAM
F9	EPROM
F10	SRAM
F11	EEPROM
F12	Flash

The Flash test takes approximately 2 minutes.

After the test is concluded, you can either reload or reject the contents of the Flash memory stored in the DRAM.



Reload data to the Flash memory



Reject data

F13 **JEIDA test**

The interface to the memory module is tested (only possible when a 512-Kbyte SRAM module is installed).

Serial interfaces

These tests can only be performed when homemade adapters are installed on the applicable connections. See appendix C.1.3 for circuiting of the adapter.

F14 IF1 test

An adapter must be installed on both the IF1 A and the IF1 B for the IF1 test.

V.24 signals: Adapter 1 on IF1 A and
Adapter 4 on IF1 B

TTY signals: Adapter 2 on IF1 A and
Adapter 4 on IF1 B

K2 IF2 test

V.24 signals: Adapter 1

TTY signals: Adapter 2

K3 IF3 test

RS 485 signals: Adapter 1

TTY signals: Adapter 3

K4 MPSS test

Internal test of the component for the multipoint interface

Keyboard and display










K5 Keyb/LED (keyboard)

The keys to be tested are indicated in succession on the display (e.g., “Press F3”). When an LED is assigned to a key, the LED goes on.

Press the indicated key within 10 seconds.

K7 Display test

You can adjust contrast and brightness before the actual display test is performed.

-  Adjust contrast
-  Adjust brightness
-  Store settings and start display test
-  Entire display light
-  Entire display dark
-  Indicate grid pattern
-  Indicate font
-  Cancel test when erroneous indication occurs
-  Test screen memory and then exit test

Internal function units

K6 D module (direct key module)

Before starting this test, install adapter 5 (→ appendix C.1.3) on the pin strip of the direct key module, and set all switches of the DIP switch on the direct key module to ON.

Test sequence: Address the digital outputs (lightup of all LEDs in succession and various test patterns)

How to use:



Cancel test if all LEDs do not light up in succession



Exit test if LED lightup is okay

K8 Watchdog test



OP performs a new start after approximately one second and returns to the hardware test menu.

The test results produced up to now are lost.

K8 Test result is indicated.



Cancel test if watchdog faulty



Exit test

K9 RTC/battery (real time clock)

The result of the battery test is indicated for approximately two seconds. This does not affect the result of the test.

K10 Test entries

This function is reserved and may not be selected.

C.1.3 Test Adapters

The pins specified below must be connected or circuited together for the test adapters.

Adapter 1 15-pin sub D plug connector
 3 — 4
 5 — 10

Adapter 2 15-pin sub D plug connector
 2 — 12
 5 — 10
 6 — 13
 7 — 9

Adapter 3 15-pin sub D plug connector
 2 — 15
 7 — 9
 6 — 11 (1 kOhm resistor)

Adapter 4 9-pin sub D plug connector
 3 — 4
 8 — 9

Adapter 5 10-pin terminal block

