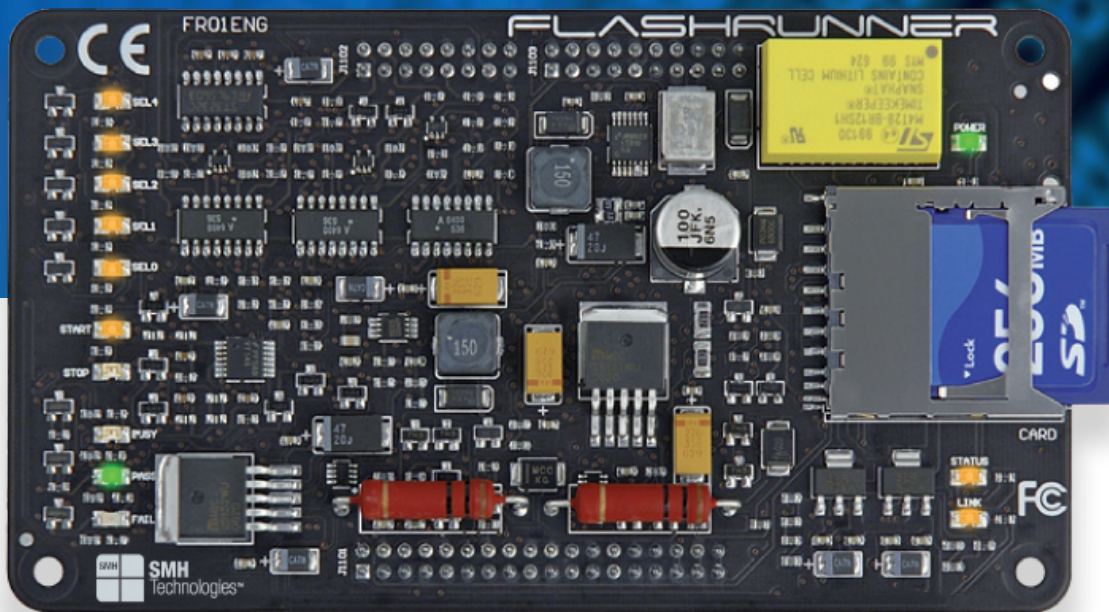# FLASHRUNNER

FR01ENG

Overview

FlashRunner FR01ENG is a member of the FlashRunner series of a high-performance, standalone In-System Programmers specific for Flash-based microcontrollers and serial memories.

FlashRunner FR01ENG is targeted at production environments and piggybacks to your programming system or Automatic Test Equipment (ATE) via header connectors, and can work either in full standalone mode or controlled by a host system.

Features

• Fast programming algorithms developed to reach the memory technology speed limit of the target device.
• Standalone operations (projects and code images stored on a memory card);
• Easy ATE integration;
• Based on FlashRunner FR01ENG engine;
• Controllable by any host system via RS-232;
• Supports most ISP protocols (BDM, JTAG, SPI, I2C, MON, ICC, SCI, etc.);
• Flexible, fully configurable;
• Compact and robust design for production environments.
• Data integrity guaranteed (every data transfer to/from the host system or Secure Digital card is CRC tagged).

SMH Technologies™

UNIVERSAL PRODUCTION IN-SYSTEM PROGRAMMING

FlashRunner FR01ENG Hardware Features

- 9 to 24V power supply input;
- Five digital I/O lines;
- Two digital I/O or analog output lines;
- Two programmable output voltages (0 to 15V, 0.25A and 0 to 5V, 0.5A);
- One analog input line;
- One programmable clock output;
- Secure Digital memory card (up to 2 GB);

- 512 bytes on-board dynamic memory;
- On-board timekeeper and calendar;
- I/O protection;
- Optoisolated inputs for project selection;
- Two optoisolated command inputs (START and STOP);
- Three optoisolated status outputs (FAIL, PASS, BUSY);
- One optoisolated RS-232 channel.

FlashRunner FR01ENG features state-of-the-art electronics to provide you with high integration flexibility in a compact footprint.

FlashRunner's open architecture makes its firmware easily upgradable to support both new devices and new features.

FlashRunner FR01ENG Software Features

FlashRunner FR01ENG is set up and controlled via ASCII-based commands.

- Fully autonomous standalone mode thanks to its SD memory card (FAT16);
- Controllable by any host system through a terminal utility and simple ASCII protocol;
- Up to 32 hardware-selectable projects (scripts), unlimited software-selectable projects;

- Log files;
- Erase, blank check, program, read, verify, oscillator trimming, etc.

FlashRunner FR01ENG comes with a Windows utility that allows you to communicate with the instrument and perform the most common operations: send commands, manage SD card files, update the instrument's firmware, etc.

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