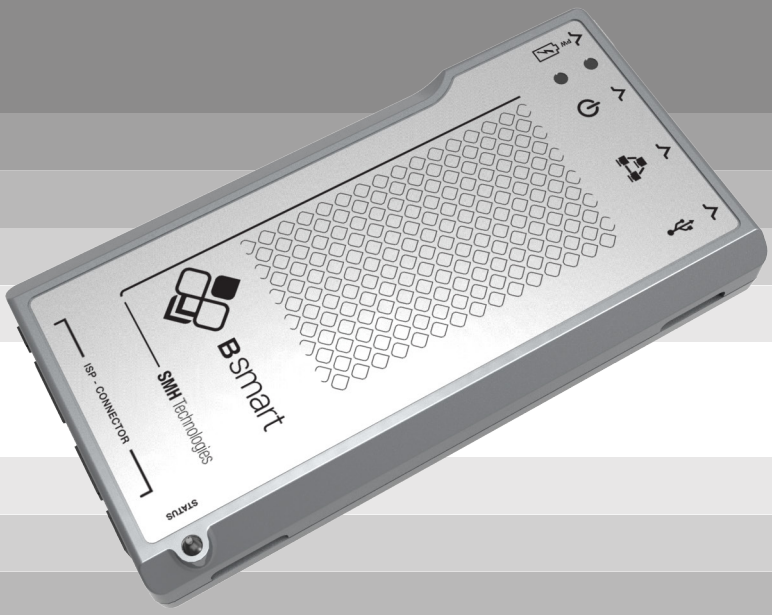
**SMH** Technologies

# BSmart



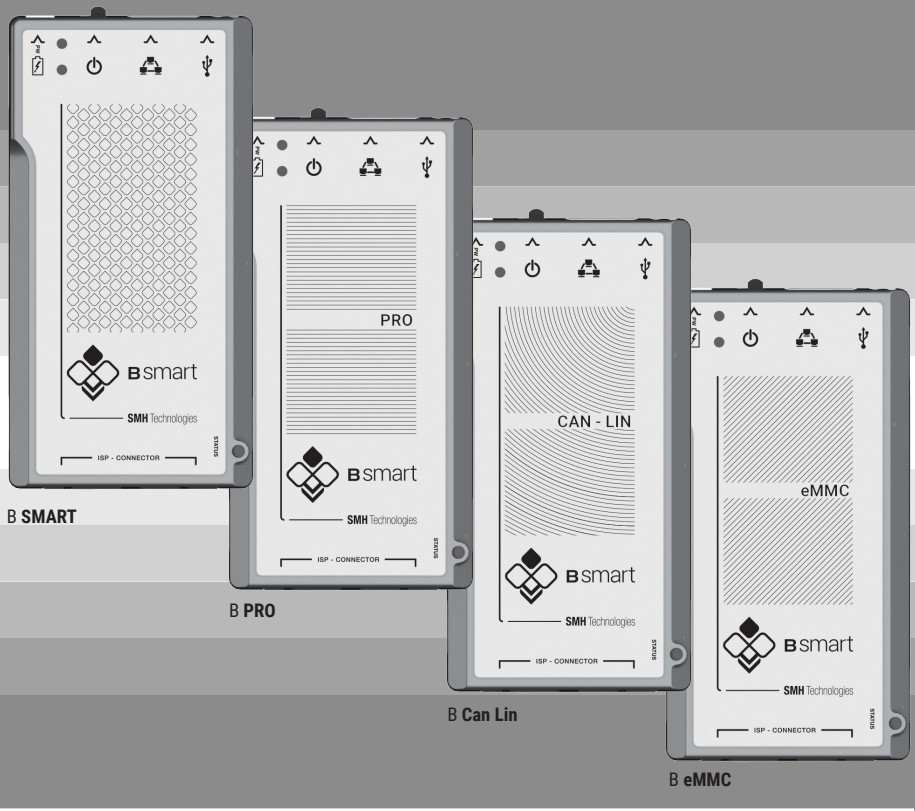

PROGRAMMING MADE EASY

## SOFTWARE SETUP

B-SMART is provided with a friendly and intuitive Graphical User Interface, which guides you in creating a working project in few mouse clicks, detecting possible mismatches between target device and firmware.
Enjoy the advanced Bluetooth wireless connection to interface B-SMART programming system with all your devices (PC, tablets and smartphones): in case of on-site intervention, when compactness and portability become essential, BSMART App for Smartphone and Tablet allows you to efficiently manage the system and to monitor the running tasks from a remote control.

## GREAT POWER IN YOUR HANDS

A very powerful battery pack guarantees to work comfortably for an entire working day with no need of recharging it. The system power conversion section allows high configurability on output voltages and a significant current supplying to the target devices. B-SMART is a standalone programmer and each model can be equipped with related battery pack, to offer a completely independent and reliable solution.
After you program all types of Microcontrollers, Serial Memories, CPLD devices, etc., don't stop at eMMC! You can realize your project flashing them at 50MHz. Additionally, you can program through CAN and LIN protocols, and connect your B-SMART solution via Bluetooth with all your mobile devices.




B **SMART**

B **PRO**

B **Can Lin**

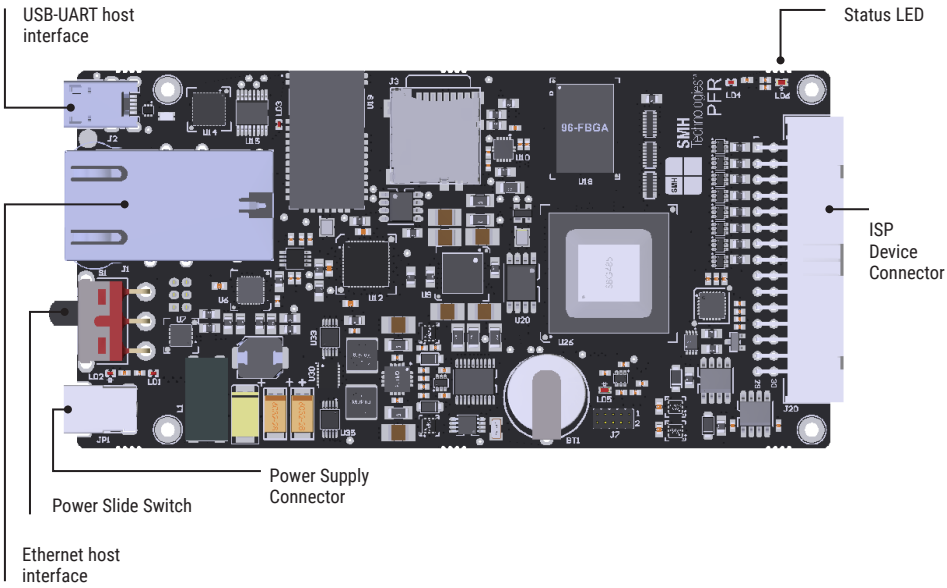
B **eMMC**

## OVERVIEW

The need of an easy and efficient way to interface a silicon device out of the traditional In-System Programming process has been a matter for a long time. A true-portable solution to operate on a target device already mounted on a final product during the post-production and post-sales process would be an extremely helpful outcome.

## WHY B-SMART

B-SMART is a brand-new interfacing system that allows to operate on a silicon device whenever and wherever you need. Interfacing means not only erasing, programming, verifying but also exchanging data for diagnostic or data logging purposes.
B-SMART has a compact and portable design, and thanks to its pocket-sized format, it can be profitably used during an on-site intervention or simply on a laboratory bench.
B-SMART can be power supplied by a conventional power adapter through power jack or by a very powerful, optionally mountable, battery pack.
B-SMART is easily managed by a host PC through Ethernet LAN connection and USB-UART connection or, to gain portability, by B-SMART App for Tablet and Smartphone via Bluetooth connection.
B-SMART is able to interface microprocessors, serial memories and many other silicon devices directly through the common communication protocols or via CAN/CAN-FD/LIN bus.
B-SMART combines compactness, portability, configurability and high performance in a truly all-around system.

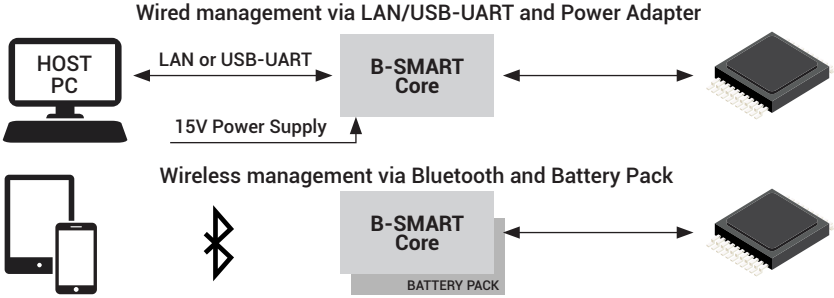


## HARDWARE FEATURES

INTEGRATION | HIGH SPEED | INDUSTRIAL STRENGTH | UNIVERSAL

➜ small form factor to foster portability and easy handling;
➜ isolated Ethernet LAN 10/100/1000 communication interface;
➜ isolated USB-UART communication interface;
➜ Bluetooth Low Energy communication interface;
➜ supplied through a 15V power adapter or optionally supplied through battery pack;
➜ highly configurable Digital Input Output (DIOs) lines to support interfacing to microprocessors and serial memories;
➜ CAN/CAN FD transceiver (data rates up to 8 Mbps);
➜ LIN transceiver (data rates from 2.4 kbps to 100.0kbps);
➜ DIOs programmable voltage and additional programmable voltage provided to the target device;
➜ continuous monitoring of output power rail voltages and currents;
➜ most employed ISP communication protocols supported (JTAG, SPI, QSPI, UART, SWD, BDM, CSI, I2C, C2I, MDI, ICSP, EICSP, USART, eMMC 1bit, eMMC 4bit, CAN/CAN FD, LIN and many others) according to B-SMART configuration;
➜ Intel SOC FPGA with 800MHz ARM Cortex-A9 Hard Processor System;
➜ 512 MB on-board RAM DDR3 memory;
➜ Micro SD Card reader (up to 256 GB);
➜ On-board timekeeper and calendar for time-stamped log file.

## TYPICAL APPLICATION

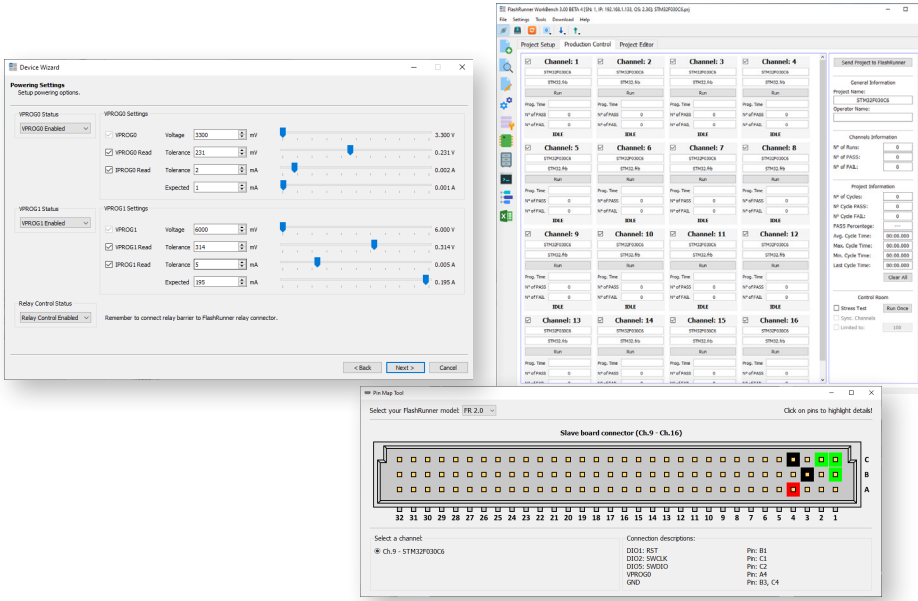



| | |
|---|---|
| **Target device interface** | 8 Digital Input Output communication lines (DIO0..DIO7) with as many ground reference (GND0..GND7)<br>1 CAN/CAN FD transceiver (CAN_H, CAN_L, CAN_GND)<br>1 LIN transceiver (LIN, LIN_GND) |
| **Target device connector** | 30-position, 2-row, 2.54mm pitch right-angle male connector |
| **Communication frequency** | Up to 50MHz |
| **Power Supplying features** | DIOs programmable voltage: 1.2V – 5.5V @ 1A<br>Additional prog. voltage: 3.3V – 12V @ 1A<br>CAN/CAN FD voltage and LIN voltage internally generated |
| **Protocols supported** | JTAG, SPI, QSPI, UART, SWD, BDM, CSI, I2C, C2I, MDI, ICSP, EICSP, USART, eMMC 1bit, eMMC 4bit, CAN/CAN FD, LIN and many others |
| **Power Supply** | Power adapter 15V through power jack |

| | |
|---|---|
| **Battery Power Supply** | Optionally Mountable Battery Pack:<br>3-cell Li-ion – 2600mAh – 28,86Wh<br>Battery recharged when the system is supplied through power adapter |
| **Host Interface** | Ethernet LAN 10/100/1000 (RJ45)<br>USB-UART (USB micro-B)<br>Bluetooth Low Energy with integrated antenna |
| **Processing System** | Intel SOC FPGA with 800MHz ARM Cortex-A9 Hard Processor System |
| **Dynamic Memory** | 512MB RAM DDR3 memory |
| **Voltage and current monitor** | Continuous monitoring |
| **Logging** | On-board timekeeper and calendar for time-stamped log files |
| **LEDs** | Power On LED, Battery Charge On LED, Status LED |
| **Dimensions** | 64 x 124 x 18 mm<br>64 x 124 x 42 mm with optional battery pack |

## SOFTWARE FEATURES

➜ Host PC management through B-SMART WorkBench (user friendly Graphical User Interface Windows and Linux compatible);
➜ Smartphone and Tablet management through B-SMART App;
➜ Based on Embedded Linux operating system;
➜ Optional customer binary file cryptography to ensure antipiracy protection;
➜ Memory dump and compare functions;
➜ Log file and Data Log Report file;
➜ Interface Library to control the system directly from user's test applications;
➜ Easy integration with C/C++ DLL interface libraries;
➜ ASCII-based commands.




### CONTROL

- Control Report
- FRB Conversion Report
- Voltage Monitor
- Production batch counter
- Programming cycle time
- Easy wire-wrapping with pinout manager
- DIO shuffling
- Log file Production

### COMMAND

- Graphical User Interface
- File transfer Management
- One-click driver updates
- Windows and Linux compatible
- GUI software Interface
- DLL interface libraries for C/C++/C#/Labview/Teststand
- Command line tools

### SECURITY

- Encrypted FRB files to avoid binary hacking
- Dump and Compare features of all channels
- User Permission Management
- NDA device management
- FRB integrity check through CRC calculation

DC11336

## SUPPORTED DEVICE LIST

Our supported device list is updated daily and counts more than 10.000+ items. You can find the largest Device List in the dedicated area on our website, searching for the device code you need to flash in the editable "research" field, or downloading the complete list as PDF file.

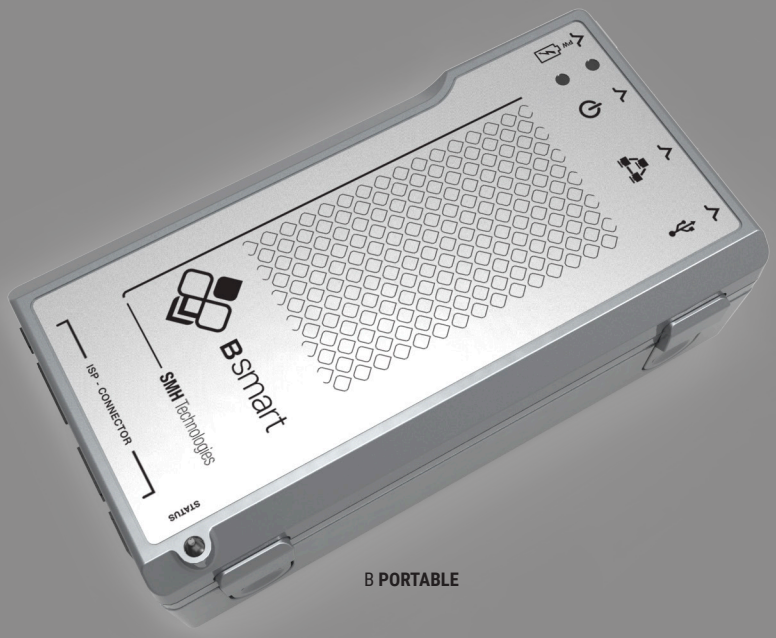
**Portable and more!**

Flashing

Diagnostic

Detection

Data logging




B **PORTABLE**

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SYSTEM CERTIFICATION ISO 9001 SGS