

# Detailed comparison of PRESTO and FORTE programmers

Parameter	PRESTO	FORTE
Speed	Fast - clock speed up to 3 MHz <i>Perfect for MCUs and EEPROMs, good for Flash memories and FPGAs</i>	Very fast - clock speed up to 30 MHz (output only) or 15 MHz (output/input cycle) <i>Excellent for all supported devices - close to their theoretical optimal timing</i>
Interface	USB 2.0 Full Speed (12 Mbps)	USB 2.0 High Speed (480 Mbps)
Core technology	CPLD (simple commands without timing)	FPGA (embedded processor allows for complex and highly flexible operations)
Programming algorithms	Synchronous only (timing controlled by a clock signal) <i>Popular parts supported - Microchip, Atmel &amp; TI MCUs; EEPROM &amp; Flash memories...</i>	Synchronous and asynchronous ("selftimed" - e.g. UART-like, UNI/O, 1-Wire, ...) <i>Virtually any serially programmable device can be supported.</i>
I/O voltage range	5 V TTL/CMOS (with internal voltage from USB) 3.3 V TTL/CMOS (with internal voltage from USB and optional header HPR3V3) 2.7 ... 5.5 V (only with external voltage) 1.2 ... 3.6 V (only with external voltage and optional header HPR1V2)	1.2 ... 5.5 V (built-in, with both external & internal voltage)
Programming interface	VPP + I/O, VCC, GND + 4 data lines (2 I/O, In, Out)	VPP + I/O, VCC, GND + 7 I/O; eight individually configurable pullup/down resistors
Device supply voltage	Fixed nom. 5 V from USB (varies from 4.4 to 5.25 V) Fixed nom. 3.3 V with optional header HPR3V3 External source	Variable 1.2 ... 5.5 V External source
Supply voltage monitor	Simple - 4 steps only: None (<2 V), <5 V, approx. 5 V, Overvoltage	"Voltmeter", range: 0 ... 5.5 V, resolution: 10 mV, factory calibrated
Programming voltage	Fixed: 13 V	Variable: 6.5 ... 17 V
Supply current limitation	None	Fixed (current source)
Overcurrent protection	Software driven, reaction time depends on host PC	Internal, fast operation
Overvoltage protection	Implemented (VCC + I/O: Zener diode + resistor)	Implemented (VCC: TVS diode, I/O: TVS diode + resistor)
ESD protection	Basic (built-in CMOS ESD protection)	Extended (additional ESD TVS diode)
Appl. voltage discharge	Uncontrolled, slow (1 kOhm resistor)	Controlled, fast (27 Ohm resistor)
Programming cable	ASIX standard ICSPCAB8 (1 compound + 7 flying wires)	ASIX standard ICSPCAB8 + new ICSPCAB16 (1 compound + 10 flying wires)
User interface	2 LEDs (green & yellow), programmable GO button	2 LEDs (green & yellow/red - improved error indication), programmable GO button
Software	UP, JTAG Player, ARMINE, Tester, eCOG programmer (obsolete), DLL	UP, JTAG Player, Tester, DLL (future)
On the market	Since 2004	Since 2012
Price (for 1 unit, w/o VAT)	EUR 98.-	EUR 198.-

This specification is subject to change without any prior notification. Ver. 2, 2012-04-11

