Universal IC Programmer - Autoelectric TL866CS



TL866CS and TL866A are the USB Universal BIOS Programmer, TL866CS and TL866A are good choice for you. Many customers ask for this question: what is the difference between TL866CS and TL866A programmer, what's the Comparison of performance between them?

Difference: Unique universal serial programming interface ICSP：(Only TL866A can support, TL866CS cannot use this function)

The TL866A programmer can program through the 40-PIN universal socket, and is provided with an ICSP serial programming port. For some in-circuit serial programmable chips, you can program MCU by choosing ICSP port.

You can get the clear instruction diagram in the programming software for the ICSP port wiring method. That is to say, you can directly program and update the chip soldered on the board.

Note: Now ICSP can in-circuit serial program ATMEL89S51, ATMEL89S52, AT45DBxxx, a whole series of AVR ATMEGAxxx, MICROCHIP PIC10Fxxx 12Fxxx 16Fxxx 18Fxxx, as well as a full serial of SYNCMOS SM59Dxx SM59Rxx.

The variety of microcontroller that can be supported in-circuit programming will be continually increased in the future. Six ICSP wires of this programmer, except a ground wire, other wires led full functional I2C, SPI and UART serial main wire, be suitable for all kinds of serial communication. In addition, each wire can supply VCC, VPP or GND with high current.

Description:

TL866CS is the newest model of True USB Universal Programmer series. With its complete new professional design, True USB Universal programmer TL866CS is the first &exclusive universal programmer in the market that owns the unique features:

- Neat robust enclosure; 40 pin ZIF socket, fully automatic; Fast mode SPI support.
- Support O/S XP32bit, Vista 32bit, Windows7 32bit.
- Real True USB interface for both data transfer and power supply.
- High speed/fastest; most-user-friendly; simplest-to-use.
- Software update regularly, free life-time software upgrade/download.
- Multi-languages support capability: Chinese, English.
- Supports thousands of most popular application devices (6000+).
- Ideally suits the portable/convenient applications that includes: car automotive field ECU chip tuning, airbag reset, mileage, satellite devices, BIOS refreshing, xBox, Wii gaming machines EPROM duplicate, PIC/MCU development, newer laptop technology and newer desktop PC etc.

It has outstanding performance which supports the devices that other similar products are not capable of supporting: such as 25LF SPI series, PSOP44, TSOP48, 25VF SPI series, PLCC84, SST39VF3201, TE28F102, 27C1024, 27C1028, 29LV800, 29F032.....

Features:

1. Complete new professional design with own robust enclosure and 40pin ZIF socket:
    - Mini enclosure is designed to suit the portable and field convenient applications
    - 40 -pins powerful pin drivers, no adapter required for any DIP devices
2. Fully automatic & no manual set-up needed (eliminate all jumpers & DIP-switch):
    - Fully automatic for efficient use and extends the programmer life time
    - Eliminates all jumpers on board, manual set-up for jumpers is no longer needed (all non-USB Willem use jumpers: 16 jumpers on PCB5.0C, 48 jumpers on Willem 1.5)
    - Eliminate the on-board DIP Switch, manual set-up for DIP switch is no longer needed.

- This also makes much easier & very simple to use for end users.
- Plug-and-play reduces the learning curve and save your precious time.

3. Fast mode SPI programming
4. True USB data transfer interface with PC/Laptop for newer laptop use as well as portable application. USB 2.0 (high speed, full speed) and 1.1 compatible interface:
    - Uses only one USB cable to connect with PC/Laptop USB port for both data transfer and power supply. The bulky DB25 data cable is eliminated & no longer needed for data transfer between PC and programmer board
5. Exponentially speed increase up to 10~20 times faster:
    - Connects PC via high-speed USB link, provides the fastest possible data transfer rates for programming/reading data from target IC's.
    - It is capable of being up to 20 times faster than other existing printer port Willem(Parallel LPT Willems: PCB6.xx,PCB5.0B,PCB4.5C) programmers on reading & verification a high density flash device, this significantly saves your time and increases work efficiency as well as facilitates small scale production
    - - Assembly language written programming algorithms run fast and reliable. Not affected by the PC speed changes and Windows 0/S variations.
6. Power supply capability: USB port automatic voltage control:
    - Vcc supported among: 3.6V, 5V, 5.5V, 6.5V
    - Vpp support among: 3.3V ~ 21V
    - On-Board MCU for stable performance & automatic/accurate voltage control
    - Works best among other programmers for EPROMs
7. Serial numbers generators are available as standard or customer-specific functions.
8. There is over-current and over-voltage protection device for safety of the chip and programmer hardware. Built-in protection circuits eliminate damage of programmer and/or programmed device due to environment or operator failure.
9. The self test capability allows to run diagnostic part of software to thoroughly check the health of the programmer.
10. I.C. Tester: Support TTL type: 54, 74 S/LS/ALS/H/HC/HCT series
11. The software is especially developed for True USB TL866CS programmers
    - Free Life-time software download/upgrade, please click here for software revision history
    - Updates software and device algorithm regularity
    - Free IC device updates via web

- Supports O/S: Win98SE, Me, XP, NT, 2000 & WinXP, Vista 32bit, , Windows7 32bit
- Advanced software engineered to provide most user-friendly interface & simplest and easiest-to-use programmer version to save time and comfort to use
- Multi-language support, such as: English, Chinese,
- Supports most popular ECU, Satellite, xBox, Wii, BIOS, EPROM chips: SST39VF3201,TE28F102, 27C1024, 29F800, 29LV800...
- Supports the chips that LPT Willem are not capable of supporting, like 28F102,87C257 and more
- Supports TSOP48,PSOP44, 16bit EPROM chips that 40 pin TOP, EasyPro, Wellon are not capable of supporting
- Supports 25LF SPI series, 25VF SPI series, 29F032...

12. Working with the adapters further expands the supported devices list
    - - Packaging supported: TSOP48 (16bit & 8 bit), TSOP32, PSOP44, DIP8 to DIP40, PLCC, SOP, SOIC, MCS-51+, PLCC84, and etc.
    - - Only one TSOP adapter support TSOP32/40/48 series, reduce expenses.
13. Covers the widest application areas amount all willem programmers
    - Car/automotive ECU chip tuning, airbag reset, mileage, memory device code read/write/program
    - Satellite large capacity device applications
    - On-spot/Field/portable applications & Small scale production
    - xBox, wii gaming chip refreshing & upgrading
    - PIC & MCU programming & development
    - Duplicate EPROM chips & Game machine repairing
    - Copier/Fax machine/printer main board repairing
    - VCD,DVD, color TV maintaining& repairing

List of common chip programming rate:

Here, the real testing programming time that common chips need to spend is listed. These chips are not intended to pick out and you can see the similar chip reference table for the similar. The programming time is proportional to the capacity. That is to say, for the similar chip, the larger capacity the chip has, the more time the programming spends. Compared to similar products, some chips' programming speed is several times faster, even more than 10 times. For 4Mbits parallel FLASH ROM, the upgrade programmer (Version 3.01 or above) takes only about 36 seconds to finish programming (the total time of erase, write, verify). It only takes about 32 +79 seconds to read and write a 32MB TE28F320. In most cases, the parallel flash chip can be programmed at the same time it can be verified. The programming willbe immediately stopped if there is an error. It only takes about 12 sec (read) +18 sec (write) to read and write an 8 Mbits of serial 25P80. It only takes about 98 sec +160 sec to read and write a chip of 64MB capacity. It supports common 8- PIN and 16- PIN 25 series chip with large capacity. So the programming speed is far beyond comparison.

Note: 16MB or larger capacity flash chip cannot be programmed by general programmers because of programming speed, while the TL866 programmer can widely support 64MB Serial and parallel series of chips to 48 PIN. It provides with the remarkable quality that is distinct from other common programmer.

Total time = erase time + programming time + check time

The programmer in strict accordance with manufacturers require programming and will never sacrifice the reliability of the programming in order to improve programming speed.

This programmer can work strictly according to the manufacturer manual and never sacrifice the programming reliability in order to improve programming speed. Common ROM chip programming time: (Unit: second)

Type	IC	Capacity	Erase	Read /verify	write	Read+write	remarks
27Cxxx	27C512	512Kbits	/	2S	20.8S	22.8S	28PIN
	27C010	1Mbits	/	4S	34.2S	38.2S	32PIN
	27C1024 16bit	1Mbits	/	4.1S	19.6S	23.7S	40PIN
FLASH 27Cxxx	W27E257	256Kbits	0.1S	1S	10.4S	11.5S	28PIN
	SST27SF512	512kbits	0.1S	1.4S	20S	21.5S	28PIN
	W27C010	1Mbits	0.2S	2.3S	33.4S	35.9S	32PIN
FLASH EEROM	N28F020	2Mbits	0.6S	3.1	10.7	14.4S	32PIN
	AT29C020	2Mbits	0.2S	3.1	10.9	14.2S	
	W29C020	2Mbits	0.3S	3.1	11S	14.3	
	AM29F040	4Mbits	7.9S	9.2S	26	43.1S	
	M29F002	2Mbits	2.5S	4.6S	19.5S	25.6S	
	SST39SF020	2Mbits	0.4S	3.6S	15.6S	19.6S	
	AT49F002	2Mbits	1.2S	3.6S	16.4S	11.2S	
	W39V040AP	4Mbits	0.1S	9.2S	27S	36S	
	M50FW040	4Mbits	7S	9.2S	2S	41.2	
	INTEL82802AB	4Mbits	4S	9.2S	25S	38	
	AM29F200	2Mbits	3.7	2.0	8.6	14.3	48PIN
	AM29LV160DB	16MBits	27	16	50	83	
	TE28F320C3B	32Mbits	29	32	79	130	
	AT48BV8192A	8Mbits	5	8	28	41	
Serial EEPROM	24C02	2048bits	/	0.1S	0.3S	0.4S	8-16PIN
	AT24C256	256Kbits	/	4.2S	8.2S	12.4S	
	AT24C512	512Kbits	/	8.4S	13.5S	21.9S	
	25080	8192bits	/	0.01S	0.1S	0.1S	
	25320	32Kbits	/	0.1S	0.5S	0.6S	
	25LC1024	1Mbits	0.2S	1.5S	3.9S	4.6S	
	EN25T80	8Mbits	8.4S	12S	18S	38.4S	
	MX25L8005	8Mbits	5.8S	12S	17S	34.8S	
	MAX25L6405	64Mbits	42S	98S	166S	302S	
	95320	32Kbits	/	0.1S	0.5S	0.6S	
	35080	8192bits	/	0.1S	0.1S	0.2S	
	93C46	1024bits				0.1S	
	93CS56	2048bits	0.1	0.1	0.4	0.6S	
	93C66	4096bits	0.1	0.1	1.2	1.4S	
	93C86	8192bits	0.1	0.1	2.4	2.6S	

IC	Erase	Read C	Write C	Read E	Write E	Total T	Remark
AT89C51 4K	0.3	0.3	5.3	/	/	5.9	
AT89S52 8K	0.3	0.4	1.1	/	/	1.8	
AT89S8253 12K+2K	0.3	0.7	3.7	0.1	0.7	5.5	
AT89C4051 4K	0.2	0.2	6.4	/	/	6.8	20P
SST89E58 32K+8K	0.3	1.5	3.5	0.4	0.8	6.5	
SST89E564 64K+8K	0.3	3.0	7.0	0.4	0.8	11.5	
ATMEGA8 8K+512	0.05	0.3	1.8	0.1	0.5	2.8	
ATMEGA48 4K+256	0.05	0.1	0.9	0.1	0.1	1.25	
ATMEGA162V 16K+512	0.1	0.6	2.5	0.1	0.4	3.7	
ATMEGA8515 8K+512	0.1	0.3	1.8	0.1	0.5	2.8	
ATTINY13 1K+64	0.02	0.1	0.7	0.01	0.04	0.9	8P
ATTINY2313 2K+128	0.01	0.1	0.7	0.02	0.04	0.9	
PIC10F222 1K	0.2	0.1	1.0	/	/	1.3	
PIC12F629 2K+128	0.1	0.1	2.2	0.1	0.3	2.8	
PIC16F873A 8K+128	0.1	0.5	4.5	0.1	0.8	6.0	
PIC18F4550 32K+256	0.5	3.7	5.6	0.3	1.2	11.3	
PIC18F67J10 128K bytes	0.5	16	20	/	/	36.5	
PIC16C712 2K	/	0.1	0.9	/	/	1.0	
PIC16C74B 8K	/	0.4	3.5	/	/	3.9	
GAL16V8	0.8	1.4	3.4	/	/	5.6	

Note <R C> read or verify the program refers to the time zone

(write C> refers to the time zone programming procedure

<R E> <W E> refers to the on-chip data area operation time

<total T> is the total time = < Erase> + <W C> + <R C> + <W E> + <R E>

Microcontrollers Others write configuration bits, encryption bit time is not listed in the table, but the reader is a very short time, a large part of 100ms or less negligible. Reliable programming represents the total time of all time.

Package Contents:

- 1 x Programmer
- 1 x USB cable (110cm)
- 1 x CD