XELTEK SUPERPRO Engineering at Its Finest

Xeltek SuperPro vs. Elnec BeeProg

Brands	Xeltek	Xeltek	Xeltek	Xeltek	Elnec BeeProg	Elnec BeeProg
Model	**SuperPro 6100**	**SuperPro 7500**	**SuperPro 611S**	**SuperPro 610P**	**BeeProg 3**	**SmartProg 2**
No. of pin drivers	144	144	48	48	64	48
No. of devices supported	101,195	75,393	37,281	33,852	33,504	33,907
Algorithm processor	ARM32 + Linux	ARM32 + Linux	ARM32 + Linux	ARM32 + Linux	MCU	MCU
Stand-alone mode	Yes	Yes	Yes	No	No	No
CE Certification	Yes	Yes	Yes	Yes	Yes	Yes
RoHS Compliant	Yes	Yes	Yes	Yes	No	No
LCD display and keypad	Yes	Yes	Yes	No	No	No
Socket adapter compatibility	Universal	Universal	Universal	Universal	Universal up to 68 pins, device dependent afterwards	Universal up to 48 pins, device dependent afterwards
Product link	SuperPro 6100	SuperPro 7500	SuperPro 611S	SuperPro 610P	BeeProg 3	SmartProg 2

Image						
						

144 pin drivers vs. 68 pin drivers Support

Many of today's complex ICs come in large pin-count packages. A 68 pin programmer requires specialized (non-universal) socket adapters to be used in order to support larger than 68 pin devices. Unused or unrelated pin connections are removed in order to be able to fit within 68 pin sockets of the programmer.

However, this creates a major problem of pin compatibility among different IC devices because they are different for each pin connection. This requires having to create a device specific socket adapter (or pin conversion PCB) for each different device. For example, in BeeProg series 68 pin programmers, QFP64 socket adapter comes with 70+ variations and QFP100 socket adapter comes with 60+ variations!

On the other hand, SuperPro6100 models are equipped with 144 pins. There is only one QFP64 or QFP100 socket adapter needed. Each adapter is fully universal for all IC devices of the same package type. So, one Xeltek QFP64 adapter does the job of 70+ Elnec QFP64 adapters (or one adapter plus 70+ pin-conversion PCBs)!

A user of BeeProg3 programmer will have to come back and order more parts frequently. In combination with additional costs and shipping charges, time wasted to order a new part and waiting for it could amount to substantial additional cost and time lost. Also, whenever there is a new QFP64 device that comes out in the market, chances are that a new adapter (or a conversion PCB) has to be designed. Who has time to waste when a product development cycle time is ever shortening in today's market?

Another important issue is of the reliability of the socket adapter. We have found out in the past that contact problems tend to crop up here and there in the course of adapter usage. The problem gets more frequent when the socket adapter is subject to frequent insertions. So, in order to minimize the adapter contact problem, Xeltek introduced new DX series 144 pin adapters, which employs industrial grade high-quality socket connectors. While common socket adapters use 2 layers (top and bottom) of PCBs interconnected together, DX adapters have a single layer of PCB. Combined, they improve the overall reliability required for demanding engineering and industrial applications.

In summary, Xeltek SuperPro model programmers and socket adapters are designed and built for Engineering and Industrial applications, which demands high performance and reliability.

Stand-Alone Mode Operation vs. Multi-Programming

SuperPro6100 programmers come with dual operation modes: PC connected and Stand-alone. During the development cycle, PC mode is used. When volume programming is required, Stand-alone mode is recommended. In order to operate in Stand-alone mode, a device project file is created first. Project file consists of the device programming algorithm, data to be programmed, etc. The file is stored onto a Compact Flash (CF) card, which is plugged into the back of the programmer unit. At this point, the programmer can be detached from the PC and operated stand-alone via the keyboard and display on the programmer.

Advantages of operating in Stand-alone mode are as follows:

- For volume programming, an operator can handle multiple units as many as the table space will allow. There is no fixed number such as in 4 or 8gang programmers. Depending on the programming requirement, the number of units can be quickly adjusted for optimum operation. For example, chips with short program time will need a smaller number of programmers such as 1 or 2, and for time consuming devices such as NAND flash devices more programmers can be used.

- In contrast, multi programming mode used by BeeProg programmers requires a PC with multi-port USB hub to be used. This creates a number of undesirable situations:

- **Additional cost** of maintaining a PC. People tend to forget the cost of an additional PC when calculating overall cost
- **Manpower cost** Requires an experienced operator to operate on a PC at additional manpower cost. In the SuperPro Stand-alone mode operation, operator only has to remove a programmed chip and insert a blank chip. All other operations are done automatically.
- **Expandability** Maximum number of units allowed for connection is 8. In the SuperPro Stand-alone operation, limitation is the size of table space and length of arm of the operator
- **Operator Reliability** PC operation by an operator can lead to mistakes. Hands- free operation and without a PC for SuperPro Stand-alone operation eliminates operator mistake
- **PC Reliability** PC operation in the factory environment can lead to shut-down, crash, data contamination, virus infection, etc.
- **Data Security** Data in a PC is susceptible to be copied and misused. In the SuperPro operation, the CF card containing project file can be removed for safekeeping at the end of each day
- **Field Service** SuperPro programmers operate from 12VDC outlet of a car or other source in Stand- alone mode.

Device Algorithm Processor

SuperPro family of programmers utilizes RISC32 MCUs including ARM7, ARM9, and ARM11 across various models. Linux operating system is also used. The setup provides high performance programming and flexible operational environment unmatched by most other low-cost programmers.

Price and performance

Xeltek SuperPro family of programmers set themselves apart from other low-cost programmers by providing the highest number of devices supported, 144 pin universal pin-drivers, unique dual-mode stand-alone and PC mode operations, high performance algorithm processing engine, rugged and reliable socket adapters, and expedient customer support.

A user of Xeltek SuperPro programmers will experience easy to use and reliably operating programmer, fast device update service, expedient technical support, long lasting, and easy setup for Engineering or volume production environment. Be aware of hidden cost of other low-cost setup.

The Company Edge: Xeltek Inc - Home of SuperPro Universal Programmers

- Xeltek has been in the programmer business for more than 30 years.
- Xeltek carries a complete line of programmers ranging from a low-cost universal programmer at $595 to an automated programming system at $59,950. Xeltek aims to become the one-stop programmer house for all Engineering, Manufacturing, Serial and In-Circuit programming requirements.
- Xeltek supports over 100.000 devices, which is the largest in the industry. All devices are unique.
- Xeltek is headquartered both in California USA and in Nanjing China. Advantages of both countries are combined to produce the best products at most value to customers.