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Find the *ABB / Baldor / Reliance 45C941 SHARK XL / XLII* at our website: *Click HERE*

The Shark XL Series

- Up to 272 Digital I/O, 80 Analog I/O
- Modular Design
- 512 Internal Coils
- 1K - 4K x 16 Non-Volatile Memory
- 1.6 msec/K Ladder Element Execution Speed (XL II)
- Enhanced Boolean and Ladder Diagram Language
- Four-funciton math, timers, counters, shaft register, comparisons
- User-friendly programming tools including Standard, Universal and IBM based programming and documentation
- Extensive Optional I/O capability
- Remote I/O and Network capability
- Compact, cost-effective Remote I/O for AutoMax DCS
- UL/CSA listing up to 115 VAC (except where noted)

THE SHARK XL AND XL II

The Shark XL is an excellent small controller with an expanded I/O count and functionality. The modular rack design, expanded funtionality, and large variety of I/O, makes this small controller one of the most flexible cost-effective programmable controllers. The additional performance of the Shark XL II makes it ideal for higher performance applications.

ECONOMICAL SOLUTIONS FOR TODAY

The shark family of programmable controllers offers you a complete line of controller hardware, with special performance features such as analog and speciality I/O, to economically solve your machinery and system control needs.

The Shark XL and XL II are ideally suited for replacement of most basic relay control systems. Sequencing contacts and coils, timers, counters, shift registers, flow control functions, as well as analog and arithmetic capabilities enable them to handle comparative and continuous control applications.

The use of an exclusive custom LSI chip provides extremely fast scan times for sophisticated control. Since both units utilize non-volatile technology (EEPROM), batteries are not required.

EXPANDABILITY FOR TOMORROW

The modular rack design allows the system to be easily expanded. In addition to basic ladder logic sequencing, timers, counter functions, the XL Series is capable of performing arithmetic functions and comparative control. Combined with a variety of I/O cards like analog I/O, high speed counting, stepper positioning and isolated outputs, the XL Series is capable of performing sophisticated control operations.

STANDARD PROGRAMMER

The Standard Programmer allows entry to each programming step using standard Boolean/Ladder logic. In addition, the following programmer features are available:

- Display address status
- Modify
- Insert
- Delete
- Forcing
- Diagnostics

The programmer includes a seven-segment, six-digit numerical LED display. A built-in audio cassette interface facilitates saving and loading processor memory.

UNIVERSAL PROGRAMMER

The Universal programmer includes all the features of the Standard Programmer in addition to the following:

- RS-232 serial interface
- Front panel LCD display
- EPROM programmer

The Universal Programmer includes a function which permits printout of the loaded program on a suitable printer. The user may choose to print either the Boolean statements, ladder diagrams, or cross references.

PERSONAL COMPUTER PROGRAMMING

All Shark programmable controllers may be programmed using personal computers. The RS-232 serial port included with Universal programmer acts as an interface for the XL. IBM/PC, XT, or AT compatible software is available with a fully integrated programming and documentation package making it an easily understood ladder diagram development tool.

Note: The Shark XL II allows you to directly communicate to the processor for programing and operation interface.

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The Shark XL Series

SPECIFICATIONS

Power Requirements

Input Power: 24 VDC
115 VAC 50/60 Hz
230 VAC 50/60 Hz*

Environment

Temperature Range: 0 to 55˚C
Humidity Range: 20 - 90% Non-Condensing

User Memory

Shark XL Series: 1K - 4K x 16 bits
Non-Volatile R/W Memory without batteries using EEPROM and super capacitor.

XL Series Digital Input/Output Modules

16 Channel 115 VAC Input	45C942
16 Channel 24 VDC Input (sinking)	45C946
16 Channel 115 VAC TRIAC Output	45C965
16 Channel 5-27 VDC Transistor Output (sourcing)	45C964
16 Channel 24 VDC/115 VAC Relay Output	45C959
8 Channel 24 VDC/115 VAC Isolated Relay Output (2A/Output)	45C968
8 Channel 24 VDC/115 VAC Isolated Relay Output Low Current (100 mA/Output)	45C969
16 TTL Input/16 TTL Output	45C957
8 Input/8Output - 24 VDC	45C958

XL Series Analog Input/Output Modules

8 Channel 4-20 amp Input	45C990
8 Channel 0-10 VDC Input	45C992
2 Channel 4-20 m amp Output	45C993
2 Channel 0-10 VDC Output	45C994
4 Channel 4-20 m amp Output	45C995
4 Channel 0-10 VDC Output	45C997

XL Series Counter Module

High Speed Counter - 10 KHz with 4 presets	45C982

Horner Electric I/O Modules

8 Channel Analog Input 0-10v, 4-20mA	HEC-ADC-080	45C740
8 Channel Themocouple Input	45CTHM	45C741
4 Channel RTD Input	45CRTD	45C742
4 Channel Analog Output 0-10v, 4-20mA	HEC-DAC-044	45C761
4 Channel Analog Output 0-10v, +/-10v	HEC-DAC-045	45C762
8 Channel Analog Output 0-10V	HEC-DAC-080	45C760
ASCII/Basic Module 2 ports	HEC-ABM-424	45C785
Stepper Controller card with Quad pulse Input	HEC-STP-111	45C755
8 Channel ISOL. 10A Relay Output*	45CRLY	45C766

Programming System

- Standard Programmer
- Universal Programmer
- IBM Based Programming and Documentation

Note: * not U.L.

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The Shark XL - Part Selection

Shark XL Series Racks

Model Number	Description
45C910	Three Slot Rack
45C911	Four Slot Rack
45C912	Five Slot Rack
45C913	Six Slot Rack
45C914	Seven Slot Rack
45C918	Nine Slot Rack
The Shark XL rack slot count shown are usable slots. The processor consumes one usable slot. The power supply does NOT consume a slot address	

Shark XL Series Power Supplies

Model Number	Description
45C920	115 VAC Power Supply (1.7A)
45C921	24 VDC Power Supply (2.3A)
45C922	115 VAC Power Supply (2.45A)
Each rack requires a power supply. The choice of power supply is determined by summing the current requirement of each model.	

Shark XL Series Processors

Model Number	Description
45C900	XL Processor, Without Memory
45C901	XL II Processor, Without Memory
The processor is shipped without memory installed, a 45C975 or 45C977 is required	
45C975	EEPROM Memory, 1K Words
45C977	EEPROM Memory, 2K/4K Words
Memory modules mount on the processor module. Memory must be purchased with each processor. On the 45C977 memory module, the XL processor addresses 2K words and the XLII processor addresses 4K words.	

Shark XL Network

Model Number	Description
45C987	Network Module
45C988	Remote I/O Master
45C989	Remote I/O Target
One network module is required for each rack which is connected to the network. One remote I/O master is required per network, and each remote rack requires a remote I/O target module	

Shark XL Series Digital I/O Modules

Model Number	Description
45C942	16-Channel 115 VAC Input
45C946	16-Channel 24 VDC Input (Sinking)
45C965	16-Channel 115 VAC TRIAC Output
45C964	16-Channel 5-27 VDC Transistor Output (Sourcing)
45C959	16-Channel 21-27 VDC 115 VAC Relay Output
45C968	8-Channel 24VDC/115 VAC Isolated High Power Relay Output (2A/output)
45C969	8-Channel 24 VDC/115 VAC Isolated Low Power Relay Output (100mA/ output)
45C957	16-TTL Input/ 16-TTL Output Module
45C958	8-Input/8-Output 24 VDC Module (Sourcing Input/Sinking Output)
All digital I/O modules require one rack slot.	

Shark XL Series Analog I/O Modules (8 bit resolution)

Model Number	Description
45C990	8-Channel 4-20 ma Input
45C992	8-Channel 0-10 Volt Input
45C993	2-Channel 4-20 ma Output
45C994	2-Channel 0-10 Volt Output
45C995	4-Channel 4-20 ma Output
45C997	4-Channel 0-10 Volt Output

Shark XL Series Motor Modules

Model Number	Description
45C982	High-Speed Counter Module (10 KHz Max) 4 Software Presets, 4 Transistor Outputs
45C755	Horner Stepper Controller Card

Miscellaneous

Model Number	Description
45C937	DIN Adapter
45C938	XL Rack Expansion Cable
45C999	XL Series Empty Slot Cover
Two expansion racks maximum are allowed, but the processor can only address ten usable slots. Model Number 45C938 is used with expansion racks.	

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The Shark XL - Part Selection

Horner Electric Products for Shark XL

Model Number	Horner Model	Description
45C740	HEC-ADC-080	Analog Input, 8-Channel, 12 Bit, 0-10 VDC
45C741	45CTHM	Thermocouple Input, 8-Channel, 12 Bit
45C742	45CRTD	RTD Input, 4-Channel, 12 Bit
45C760	HEC-DAC-080	Analog Output, 8-Channel, 12 Bit, 0-10 VDC
45C761	HEC-DAC-044	Analog Output, 4-Channel, 12 Bit, 0-10 VDC, 4-20 mA
45C762	HEC-DAC-045	Analog Output, 4-Channel, 12 Bit, +/-10 VDC
45C755	HEC-STP-111	Stepper Card/Encoder Input
45C766	45CRLY	Isol. 10A. Relay Output*
45C785	HEC-ABM-424	ASCII/Basic, 2 port

Note: * not U.L.

Shark XL and XL Programmers

Model Number	Description
45C950	Programmer With Cassette Interface
45C951	Programmer With Cassette Interface, EPROM Burner, and RS-232C Interface
45C936	Programmer Panel Mounting Bracket
45C939	Programmer Expansion Cable, 5-feet

Both Programmers are supplied with a 5-inch cable, for convenience the 45C939 expansion cable will extend the distance to 5 feet.

ReSource Shark Programming and Documentation Executive

Model Number	Description
45C152	ReSource Shark Programming and Documentation Executive (3-1/2" disks, key, instruction manual)
45C153	SPX Upgrade (5-1/4" and 3-1/2" disks, instruction manual)
45C955	Shark X and XL Programming Cable (9 pin computer connection)
45C956	Shark X and XL Programming Cable (25 pin computer connection)
45C973	Shark XL Programming Cable (9 pin computer connection)

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