Smart SoftPLC®

Smart SoftPLC w/ Backplane3 Interface (without and with modules installed)

Smart SoftPLC w/ LocalPorts Interface

Smart SoftPLC w/ no local I/O interface + optional bracket

General Description

Smart SoftPLC® is an open architecture Programmable Automation Controller (PAC) that provides scalable solutions for a wide range of applications in any industry. Priced to meet the needs of small I/O machine control applications, yet with enough capacity and capability for large process control applications, it's the SMART choice!

The Smart SoftPLC includes all the functions/features of SoftPLC embedded runtime control software including:

◆ Deterministic, high speed program execution
◆ "Unlimited" user logic and data table memory
◆ Ladder logic and data table addressing similar to Allen-Bradley PLC-5/SLC-500
◆ Fully documented applications, all documentation resides in the controller
◆ Supports user functions written in C++
◆ Embedded firewall option with VPN capability for advanced network security
◆ Compatible with all HMI/SCADA products
◆ Embedded web server option

Smart SoftPLC is programmed and maintained with TOPDOC® NexGen via Ethernet. TOPDOC NexGen is available for the Windows and Linux operating systems.

Communications

SMART provides a rich set of ports for communication:

◆ (4) 10/100MB copper Ethernet ports with (2) interfaces for routing capability
◆ (1) 10/100MB Fiber Optic port *(option)*
◆ (4) RS-232 serial ports
◆ (2) factory customizable ports *(RS-485, A- B RIO, A-B DH+, CAN/J1939, modem)*

Industry standard protocols such as ModbusTCP/UDP, A-B Ethernet, DF1, Modbus RTU/ASCII, and others are supported.

I/O & System Configurations

The base Smart SoftPLC can be combined with different "daughter cards" for ultimate flexibility and expandability, tailoring the system to the application requirements, thus lowering cost and complexity.

Local I/O

SoftPLC Corporation's Tealware™ I/O is the local I/O interface for SMART. Tealware is a modular system which allows for maximum configurability. A wide variety of discrete, analog and specialty modules are available in this robust and proven I/O system.

For small I/O count systems, a "Backplane3" interface supports up to three (3) Tealware modules. The modules mount directly on top of the SMART CPU, making a very compact, yet flexible package.

For larger systems, a LocalPorts interface provides the ability to connect up to twelve (12) Tealware racks. Each rack can support up to 256 digital I/O (8 modules x 32 points/module), for a maximum capacity of 12 x 256 = 3,072 I/O points per CPU. The racks can reside up to 30 feet from the CPU.

Even with the largest systems, SMART is extremely fast. With Tealware I/O, the I/O scan is under 1 msec, even with a fully loaded system of 3072 points.

Remote and Distributed I/O

The Smart SoftPLC can interface to a variety of other vendor I/O systems through the included ethernet and serial ports (eg: Modbus, ModbusTCP), or with add-on PCI-104 interface cards such as DeviceNet, Profibus, ProfiNet, SERCOS, and others.

A Smart base unit can also be configured as a Remote Tealware Ethernet I/O Adapter. This allows for higher I/O counts and distributed I/O configurations.

SPECIFICATIONS	
Processor	166 MHz ARM9 CPU, 32-bit
User Memory	63 MB RAM
Removable Memory	128MB Compact Flash, expandable to 8GB
Operating Temperature	0 to 60°C, -20 to 70°C available as option (storage -20 to 85°C)
Humidity	0-95%, non-condensing
Input Voltage Range	14~48 VDC or Power Over Ethernet (POE)
Power Requirements	2-5W based on options selected
Real Time Clock	Battery Free *(SuperCap backup for ~60 days)*
Communication Ports	(3) RS-232 ports *(1 w/ handshake lines)* (4) 10/100BaseT Ethernet ports *(w/ 2 unique host interfaces-MAC ID's)* (1) Multi/Single-Mode Fiber port *(optional)* **COM5 Port Options** *(factory installed)*: RS-485, 2 wire (default) A-B RIO Master or Slave A-B Data Hwy Plus **COM6 Port Options** *(factory installed)*: RS-485, 2 or 4-wire A-B RIO Master or Slave A-B Data Hwy Plus CAN / J1939 Phone Modem Others - *contact SoftPLC Corp.*
Protocols — Serial	Modbus Master/Slave, DF1, ASCII
Protocols — Ethernet	ModbusTCP, DF1 Ethernet, Ethernet/IP Slave

Dimensions (HxWxD)	5.75 x 6 x 1.5 in without modules
	  (146.1 x 152.4 x 38.1 mm)
	5.75 x 6 x 5.625 in. with Tealware modules
	  (146.1 x 152.4 x 142.88 mm)

Packaging	Fanless/Diskless system, Metal enclosure DIN-rail Mount, optional Panel Mount Bracket
I/O Interfaces *(only one/system)*	**Backplane3** - 3 Tealware™ modules **LocalPorts** - 4 connectors, each supports up to 3 Tealware racks **PCI-104** - one interface cards **Local I/O** boards - *contact SoftPLC Corp.*
Remote I/O	Serial and Ethernet connections
GPS Interface	Embedded NTP Server
Security	Embedded Gatecraft™ Firewall/VPN SSH server for encrypted data transfer
LED's	(4) System Control, (8) Ethernet
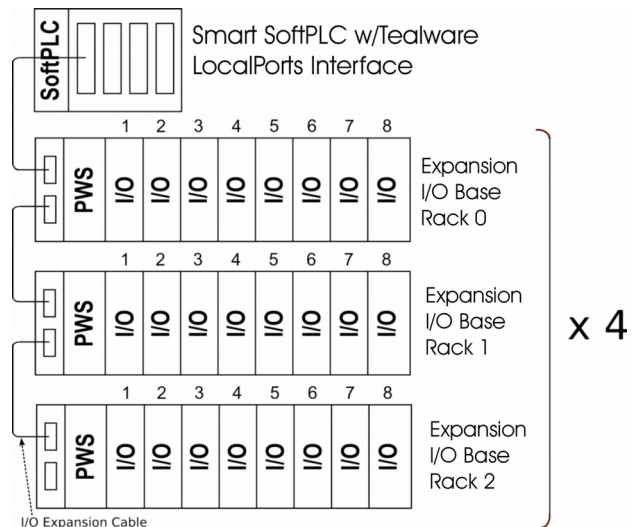
Configuration Example - Smart SoftPLC w/ LocalPorts I/O Interface
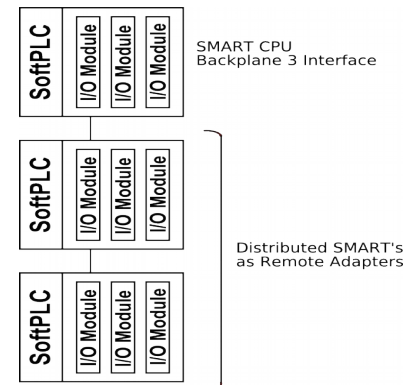
Smart SoftPLC w/ Ethernet I/O using remote Smart's in Adapter mode

Ordering Information: Order Smart SoftPLC using Cat No SM2S-*x-y*, where *x* is the interface option from the table below and *y* is the License size from the table at the bottom of this page:

B	Backplane3	L		LocalPorts
P	PCI-104	PCI-104 card cover and connector		
<none>		Blank Cover		

Runtime License Sizes			
Digital I/O Capacity	ModbusTCP Servers	Discrete Inputs	Discrete Outputs
128 (LT)	2	128	128
1K	16	up to 1024	up to 1024
2K	32	up to 2048	up to 2048
8K	127	up to 8192	up to 8192

SoftPLC

www.softplc.com