

Tealware I/O System

General Description

Tealware™ is a high density, modular I/O system, suitable for applications requiring as few as 16 digital and/or 4 analog points up through thousands of I/O points. The same I/O modules, adapters, and other equipment can be used regardless of application size or physical configuration.

A wide variety of configuration options are possible including high speed local I/O and remote, distributed Ethernet I/O configurations.

Tealware I/O can be used with any SoftPLC CPU, or with any other system that can drive ModbusTCP I/O.

Tealware I/O modules mount into a backplane. Two options for module mounting are available:

- \$ Up to (3) modules can be mounted directly to a Smart SoftPLC or Smart Adapter equipped with a Backplane-3 interface
- \$ I/O Bases can hold (6) or (8) modules plus a Tealware Power Supply Module, and connect to a Smart SoftPLC or Smart Adapter via an Expansion I/O Cable.



I/O Modules

A complete range of I/O modules are available for the Tealware system - digital, analog, and specialty modules. Many common features of all modules make the system robust, and simplify installation and maintenance:

- \$ Detachable front-end terminal block for easy module replacement without re-wiring (*some modules utilize a wiring cable connection, which is also easily detachable*)
- \$ Front Panel LED display for status monitoring/troubleshooting
- \$ High noise immunity
- \$ Automatic Configuration - Module addressing based on location (not DIP switch) for easy system configuration & maintenance (manual configuration option also available)
- \$ Digital I/O modules are hot swappable under power
- \$ Low power consumption means all module configurations are possible - no power calculations required

Available Tealware Modules

Digital AC/DC
Digital Out AC/DC
Relay Out
Analog In
Analog Out
Thermocouple, RTD
HSC / Frequency
Combo Modules
Power Supply Modules



25603 Red Brangus Drive, Spicewood, TX 78669
512-264-8390 or 800-SOFTPLC (US/Canada)
FAX: 512-264-8399 Info@softplc.com

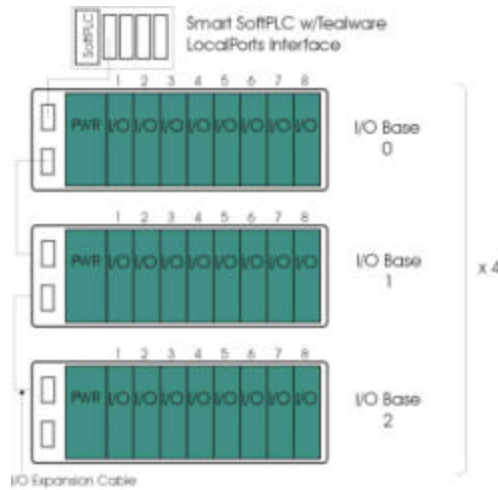
SoftPLC
CORPORATION
softplc.com

Local I/O Configurations

A Smart SoftPLC provides a high speed local interface to Tealware I/O. You can scan thousands of points in under 1 msec!

Two local module mounting options are available:

- \$ Any three (3) Tealware modules can mount directly onto a Smart SoftPLC equipped with a Backplane-3 interface.
- \$ If more than (3) modules are needed, a Smart SoftPLC equipped with a LocalPorts interface is used. The LocalPorts interface has (4) I/O Base ports. I/O Expansion Cables, available in 2', 4', and 10' lengths, connect from the port on the LocalPorts interface to an I/O Base (as well as from I/O Base to I/O Base). Up to (3) I/O Bases can be connected to each port. In this configuration, up to (12) I/O Bases (96 I/O modules) are supported for a maximum of 3072 local I/O points, up to 30 feet from the Smart SoftPLC.



Smart SoftPLC/Adapter equipped with a Backplane3 interface



Smart SoftPLC/Adapter equipped with a LocalPorts interface

Remote I/O Configurations

Tealware I/O can be connected via Ethernet to any SoftPLC CPU or other system that can drive I/O over ModbusTCP protocol, providing very flexible remote I/O solutions. SoftPLC CPUs support up to 128 remote Tealware I/O drops.

A Remote Tealware I/O drop can consist of:

- \$ Up to three (3) Tealware I/O modules mounted on a Smart Adapter equipped with a Backplane3 interface.
- \$ Up to (3) I/O Bases connected to a Smart Adapter equipped with a LocalPorts interface

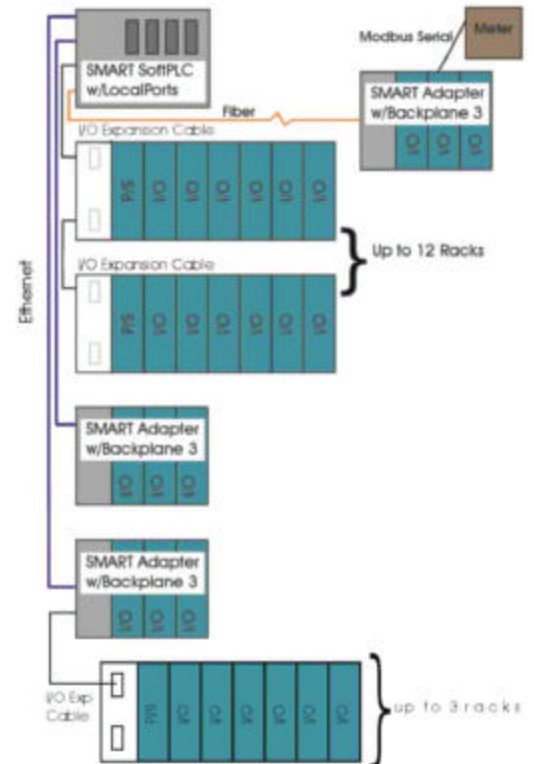
Smart I/O Adapters

Smart Adapters include an Ethernet switch to make configuration of multiple drops easy, efficient, and low cost. A Smart Adapter can optionally include a fiber optic interface to increase the allowed distance between drops and also improve noise immunity.

Smart Adapters have 5 serial ports which can be used as remote serial ports to a SoftPLC controller. Serial protocol is configurable and can be Modbus, DF1, ASCII or others.

Smart Adapter Features

- \$ Auto-configuration with Tealware I/O and SoftPLC
- \$ Mix I/O types – Ethernet, serial, local Tealware and/or field bus I/O can be supported on a single Smart Adapter
- \$ Combine remote serial server functionality with other I/O control
- \$ Secure Remote I/O via embedded firewall option
- \$ Built-in switch minimizes components at remote drops
- \$ Priced for small drops, but can handle thousands of points per drop
- \$ Intelligent Adapter lets you define fault states on a per point basis

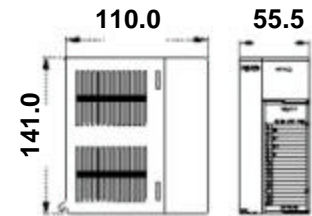


A wide variety of configurations are supported, distance is limited only by Ethernet cabling restrictions.

Electrical and Environmental Specifications	
Ambient operating temperature	0 to 55° Celsius (32 to 131° Fahrenheit)
Ambient storage temperature	-20 to 70° Celsius
Airflow clearance	50.8 mm (2 inches) above and below unit for ambient airflow
Humidity	15–90% non-condensing
Electrical noise immunity	1,500 volts peak to peak, 1 μ s noise width at 30 to 100Hz
Vibration resistance	10 to 55Hz, amplitude 0.075mm for 60 minutes
Shock resistance	10g 3 times in 3D directions
Dielectric withstand voltage	1500 volts AC for 1 min. across AC ext. terminal and ground
Impedance	75M Ω at 500 volts DC
Electrical Safety	Class 2 grounding
Operating atmosphere	Non-corrosive atmosphere with minimum dust
Certifications & compliance	UL, UL(C), CE rated

Power Supplies

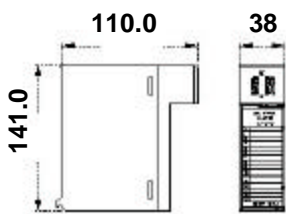
Description	Catalog Number
AC Power Supply - Input voltage 85 ~ 260 VAC	PWS10
DC Power Supply - Input voltage 12 ~ 24 VDC	PWS20C
Redundant AC Power Supply - Input Voltage 85~260 VAC	PWS50



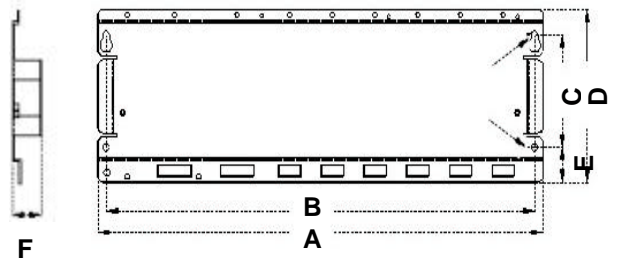
Power Supplies

Bases

Catalog Number	Slots	A	B	C	D	E	F
IOBASE06	P/S & up to 6 I/O Modules	345	330	91.5	141	28.5	25
IOBASE08	P/S & up to 8 I/O Modules	421	406	91.5	141	28.5	25
RIOBASE08	(2) P/S & up to 8 I/O Modules	476.5	461.5	91.5	141	28.5	25



I/O Modules



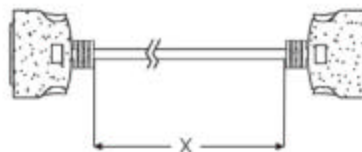
Guide

- A - Exterior length
- B - Distance from keyhole to keyhole
- C - Distance from Keyhole to screw hole
- D - Exterior height
- E - Distance from screw hole to bottom edge
- F - Exterior depth

Expansion Cables

Expansion I/O cables come in 3 sizes:

- X = 2 foot
- X = 4 foot
- X = 10 foot



* Dimensions are in mm