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

SoftPLC CORPORATION®

http://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:

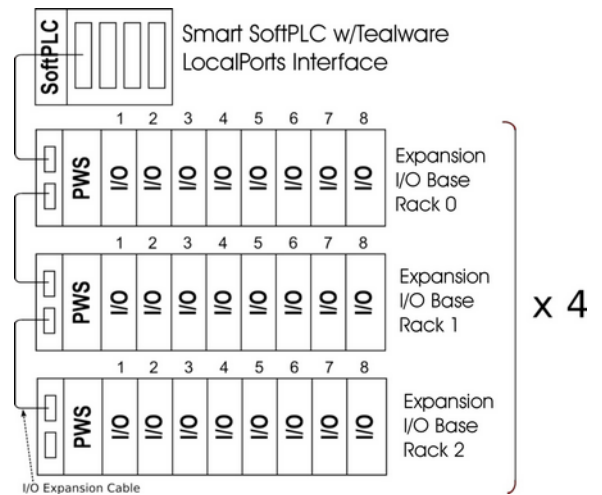*Smart SoftPLC/Adapter equipped with a Backplane3 interface*

- ◆ 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. Up to (12) I/O Bases (96 I/O modules) are supported for a maximum of 3072 local I/O points.

Smart SoftPLC/Adapter equipped with a LocalPorts interface

- ◆ Expansion I/O cables *(Cat No EXCBLxx)* are used to connect from the I/O Base port(s) on the LocalPorts interface to an I/O Base, and from one I/O Base to another. Available cable lengths are 2' and 4'. The maximum distance from the Smart SoftPLC to the last expansion I/O base is 30 feet.

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.

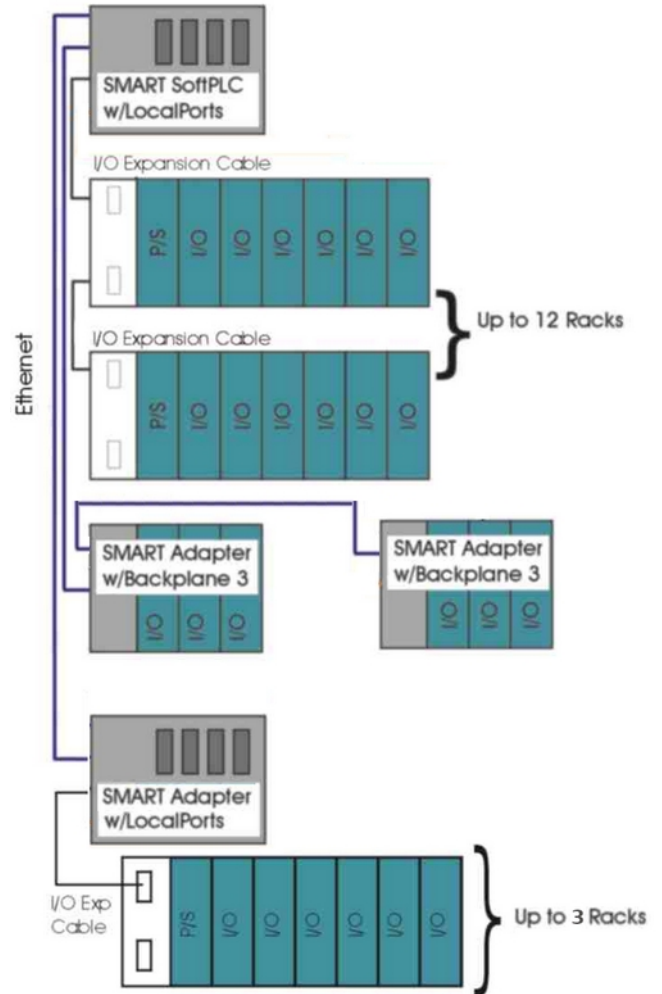A Remote Tealware I/O drop can consist of:

- ◆ 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.
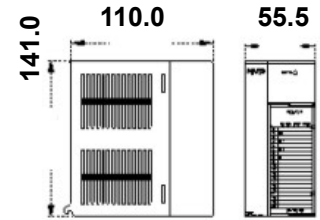
Smart Adapter Features

- Auto-configuration with Tealware I/O and SoftPLC
- 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

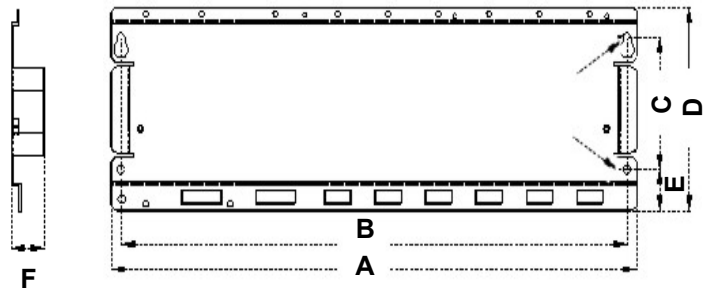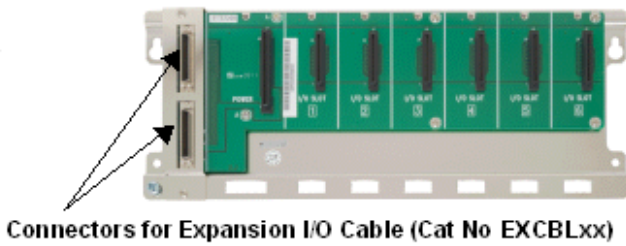| Electrical and Environmental Specifications	
Ambient operating temperature	-20 to 60° Celsius
Ambient storage temperature	-20 to 85° Celsius
Airflow clearance	50.8 mm (2 inches) above and below unit for ambient airflow
Humidity	5~90% non-condensing
Electrical noise immunity	1,500 volts peak to peak, 1μs 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	75MΩ 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

141.0 | **110.0** | **55.5**

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

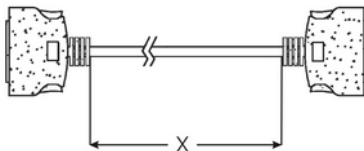Connectors for Expansion I/O Cable (Cat No EXCBLxx)

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
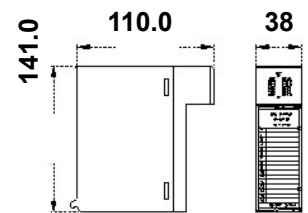
Expansion I/O cables come in 2 sizes:
X = 2 foot
X = 4 foot

* Dimensions are in mm

141.0 | **110.0** | **38**

I/O Modules