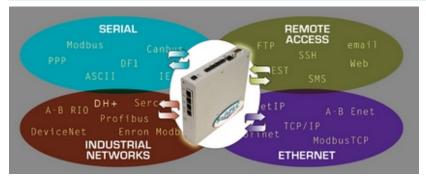# Smart Gateway
Intelligent Protocol Converter + more

General Description

A Smart Gateway bridges devices between different networks. Every Smart Gateway includes a comprehensive set of drivers, allowing users to configure any mix of up to 16 simultaneous drivers to meet their network bridging needs.

In addition to network bridging, Smart Gateways provide an intelligent platform that can be programmed for advanced functions such as data scaling or logging.

Smart Gateways also provide options for remote access, with SoftPLC's TagWell™ IoT cloud platform or other modem connections.

Some Supported Protocols

Serial Protocols:
- DF1 Full & Half-Duplex
- Modbus RTU/ASCII Master & Slave
- ASCII

Ethernet Protocols:
- Modbus TCP/UDP Master & Slave
- Ethernet/IP Scanner & Adapter
- A-B DF1 Ethernet (PCCC)
- Enron ModbusTCP Master

Proprietary Protocols:
- A-B Data Highway Plus
- A-B RIO Master (Scanner)
- A-B RIO Slave (Adapter)

Others can be added – just ask!

Features

- Up to (16) different protocols can be supported simultaneously
- Hundreds of thousands of data points supported, extremely fast throughput
- Easy configuration and data mapping
- Diagnostics, real-time monitoring
- Supports user logic for diagnostics, data manipulation, scaling, logging, etc.

Communication Ports

Every Smart Gateway includes these configurable communication ports:
- 4-port GB Ethernet switch plus (1) stand-alone GB Ethernet port
- (2) USB 2.0 host ports
- (1) RS-485 serial port

Smart Gateways also support (3) configurable ports with these options:
- RS-485 for serial protocols
- A-B Data Highway Plus; A-B Remote I/O Master; A-B Remote I/O Adapter

An additional micro-USB port provides access to a serial console for low-level troubleshooting, firmware updates, etc.

Applications

- Protocol Converter - Communicate data between devices on different networks
- Control System Upgrades - Interface between old/obsolete and new equipment
- Data Concentrator - Send data from multiple networks to higher level system
- Data Logger - Capture data from multiple systems into a single log file
- Remote Access Interface to plant/ machine for alarm notification, monitoring, data collection or troubleshooting

HARDWARE SPECIFICATIONS	
Processor	64-bit, quad-core ARM processor
User Memory	512MB RAM, 8GB on-board eMMCflash
Removable Memory	(optional-no card included) MicroSD
Operating Temperature	0 to 60°C, Extended Temp option -20~70°C (storage -40~85°C)
Humidity	0-95%, non-condensing
Input Voltage Range	6~72 VDC, terminal block connector
Power Requirements	2-5W based on options selected
Communication Ports	(1) 4-port GB Ethernet switch plus (1) GB Ethernet port (1) RS-485 port, 2-wire non-isolated (2) USB 2.0 host ports (1) Micro-SD serial console port (for troubleshooting)

	(3) Option Ports, any mix of choices below *(must be factory installed)*:
	    RS-485, 2 wire
	    A-B RIO Master, A-B RIO Adapter or Data Hwy Plus

Wireless	802.11 b/g/h WiFi, Bluetooth 4.0 dual mode cellular modem option (Cat No SM4-MDM1)
Dimensions (HxWxD)	5.75 x 6 x 1.5 in (146.1 x 152.4 x 38.1 mm)
Packaging	Fanless/Diskless system, Metal enclosure, DIN-rail mount, optional Panel Mount Bracket (Cat No SM-VBKT)
Real Time Clock	Via Internet /Local LAN NTP Server
Security	Embedded Gatecraft™ Firewall/VPN (option) SSH server for encrypted data transfer
Configuration Software	TOPDOC® NexGen, configuration via Ethernet
Status LED's	(2) System, (10) Ethernet, (4) Communication Port, (1) Cell Modem

Smart Gateway
(Cat No SMS4-x)

Smart Gateway with optional
Vertical Mount Bracket
(Cat No SMS4-x + SM-VBKT)

Ordering Information

Order the base Gateway as Cat No SMS4. Add the appropriate capacity suffix from the table below. Then order any desired hardware/firmware options by Catalog Number.
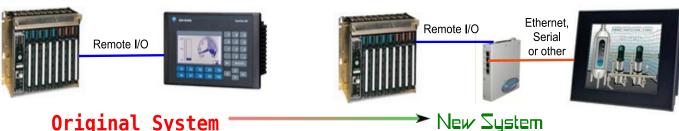
Gateway Capacity Options				
Cat # Suffix	ModbusTCP Servers	Ethernet / IP Connection Bytes	Discrete Inputs*	Discrete Outputs*
LT	2	64	128	128
1K	16	512	1024	1024
2K	32	1024	2048	2048
8K	127	4096	8192	8192

Smart Gateway Hardware Options	
Cat No	**Description**
SPO-BH	A-B RIO/DH+ Interface
SPO-485	RS-485 Interface
SM-VBKT	Vertical Panel Mount Bracket
Various Cables, Power Supplies and other accessories are also available.	

*Applies to Allen-Bradley input/output image table support and force table size only.

Example Smart Gateway Applications

Remote I/O

Original System ———————————→ **New System**

Remote I/O

Ethernet,
Serial
or other

* No changes required in A-B PLC or RIO cabling *(PLC-5, SLC-500, PLC-2 or PLC-3)*
* New HMI can be ANY brand
    - connects to SoftPLC Smart Gateway on Ethernet, serial, or other
* If new HMI is Web Studio, old PanelView application can also be converted

* Smart Gateway uses A-B RIO Adapter & Ethernet/Serial/other Master drivers

TagWell™
Remote Management
Platform

Original System

Remote I/O

Old Distributed Control System

Ethernet,
Profibus,
or other

SoftPLC Gateways can provide access to other control systems via SoftPLC's TagWell Cloud Remote Management Platform, and via direct modem connections acting as a remote access switch and/or as a data concentrator.

* No RIO wiring changes required
* New DCS can be ANY brand

New DCS System

Modbus

RIO/DH+

Ethernet/IP

ModbusTCP

Cell/Internet

SoftPLC.
CORPORATION

http://softplc.com