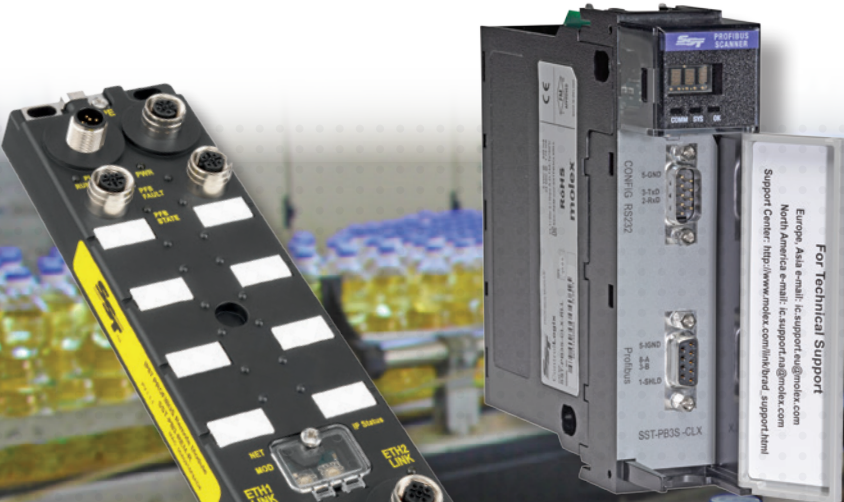


INDUSTRIAL > COMMUNICATION SOLUTIONS FOR ENCOMPASS™

**Rockwell
Automation**

**Encompass™
Product Partner**

Global



molex®

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*DeviceNet is a registered trademark of Open DeviceNet Vendor Association



About Moxel

Our long history of innovation has created value for the Moxel and Rockwell Automation partnership and their customers. Moxel has over 30 Brad® communication products in the Encompass Program, including network interface cards, PLC/PAC communication modules, diagnostics and unique remote scanners. The people at Moxel take pride in creating innovative products that allow customers to solve difficult applications.

The Moxel partnership with Rockwell Automation began with smaller companies called SST™ and applicom® that began operation in the early 1990s. By 2000 both of these organizations had been acquired by Woodhead® who in turn was acquired by Moxel in 2006. Despite the evolution in ownership, one thing has remained constant throughout the years; focus on the creation of market-leading industrial communication solutions.

Global Service

Moxel has a significant Sales and Customer Service presence in all global markets. In addition, several Technical Support locations in North America, Europe and Asia mean that customers can receive timely answers to their questions or issues.

Industries we serve:

- Automotive
- Oil and gas
- Water and wastewater
- Consumer and packaged goods
- Mining, minerals and cement
- Metals
- Semi-conductors



Empowering the Communication Interface

As part of the family of Brad® communication solutions, our products bring together years of experience working with innovating and developing solutions for industrial networks and fieldbuses. Globally recognized product lines applicom®, SST™ and Direct-Link™ are the powerhouses of the Brad communication portfolio, enabling hundreds of thousands of automation systems to communicate and gather valuable information through communications software, network interfaces, Ethernet switches, remote scanners and diagnostic tools.

Industrial Communication Solutions for Rockwell Automation's Encompass Program

Diagnostic Tools

eNetMeter™

Continuously monitors a DeviceNet* network and sends the information over EtherNet/IP to a PLC or PC monitoring system. The information can be read directly by an EtherNet/IP master. Optionally, data can be accessed through Brad communications NetAlytix™ software, a DLL interface or an OPC server.

NetMeter®

Hand-held device which connects to DeviceNet as required. AutoSearch mode makes this easy to use for the novice, while Expert mode allows closer examination of some 677 key DeviceNet measurements as compared to the DeviceNet specification.

Power-Monitor®

Monitor DeviceNet power quality at any cable junction.

Software Development Kits

EtherNet/IP Stacks

EtherNet/IP source code stacks are the most open, powerful and cost-effective solutions for manufacturers who want to embed EtherNet/IP protocol into industrial controllers and field devices.

CIP Safety Stacks

CIP Safety Stack software solution allows industrial-device manufacturers embedding CIP Safety technology quickly and economically within their products.

Remote Scanners

DeviceNet Remote Scanner

Control I/O devices connected to DeviceNet without the need of a local PC. Remote DeviceNet Scanners can be connected back to a PC residing on an Ethernet network through an Ethernet switch.

PROFIBUS Remote Scanner

Connect PROFIBUS I/O devices to RA Logix processors using EtherNetI/P. Easy to integrate within a Logix system using both RSLogix5000 and the SST PROFIBUS Console software.

Network Interfaces

PC Interfaces

Connect PC-Based Control, HMI / Operator Interface, or SCADA applications to an industrial network including Data Highway Plus, DeviceNet, PROFIBUS, EtherNetI/P, Serial, and Ethernet TCP/IP (Siemens, Schneider, Omron, Mitsubishi).

PLC Communication Modules

Connect an Allen-Bradley CompactLogix, ControlLogix or SLC 500 to industrial networks including AS-Interface, Modbus TCP, Siemens Industrial Ethernet S5/S7, Modbus Serial and PROFIBUS.

Software Drivers

Software drivers provide data acquisition between Windows PC-Based applications and industrial devices connected to Ethernet TCP/IP and Serial networks.



*DeviceNet is a trademark of Open DeviceNet Vendor Association (ODVA)

Brad® SST™ Communication Module for Rockwell ControlLogix

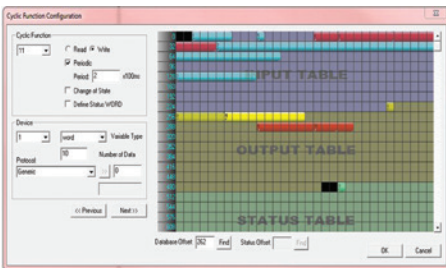
112073 Modbus/TCP, Siemens Industrial Ethernet and Modbus Serial Protocols



SST-ESR2-CLX-RLL



SST-ESR2-CLXT-RLL eXTreme module



Cyclic Function Screen Showing Data Overlapping Errors, Data mapping, Table Areas, Message Details

- Connects your Allen-Bradley ControlLogix to a Modbus/Siemens Ethernet or Modbus Serial network
- Direct I/O mapping, no ladder logic to write for configuration and data transfer between module and CLX processor
- Paging access (AOI provided), with up to 32K words shared for Input, Output and Status data
- Industry leading performance, I/O data refresh every PLC cycle
- Fully integrated into the Rockwell Automation environment
 - Remote configuration and monitoring via Rockwell RSLinx™
 - Add-On-Profile for Rockwell RSLogix5000
- User-friendly configuration tool with intuitive graphical interface
- Siemens S7 (S7-1200, S7-200, S7-300, and S7-400) Client and Server modes
- Siemens S5 Client and Server modes

SPECIFICATIONS

Description

- RLL support: Remote configuration and monitoring via RSLinx
- Add-On-Profile for Rockwell® RSLogix5000
- USB port for user configuration and firmware upgrade
- Engineering console simplifies user configuration and diagnostic
- Supports multiple modules in a chassis
- Supports local and remote chassis
- Easy diagnostics: Built-in LEDs and 4 character display

SST-ESR2-CLXT-RLL eXTreme:

- Same specifications as SST-ESR2-CLX-RLL plus:
- Conformal coating
- eXTreme components
- Ambient operating temperature: -25 to 70° C

Included Hardware/Software

- 128 MB of onboard memory
- 8 MB of flash memory (user configuration data and firmware)
- CPU data exchange:
 - 496 Input bytes + 496 Output bytes
 - 32,000 Word Registers via AOI
- USB port:
 - Type A
 - USB 2 and 1.1 compatible
- Communication:
 - 1x Ethernet, 10/100 Mbps, RJ45
 - 2x Serial, 110 bps to 115.2 kbps, RS232/RS485/RS422, RJ45 (DB9 male supplied cable)
- OS supported: Windows XP, 7 (64-bit), Vista, 8 (32, 64-bit)

Compatible Protocols

- Modbus Master (RTU or ASCII)
- Modbus Slave (RTU or ASCII)
- Modbus TCP and UDP Client and Server
- Siemens S7 and S5 Client and Server

Conformance

- RoHS compliant
- CE
- cULus listed
- Class I Div 2, Groups A,B,C,D
- Marine (RINA)
- Korea CC
- Ex (ATEX)

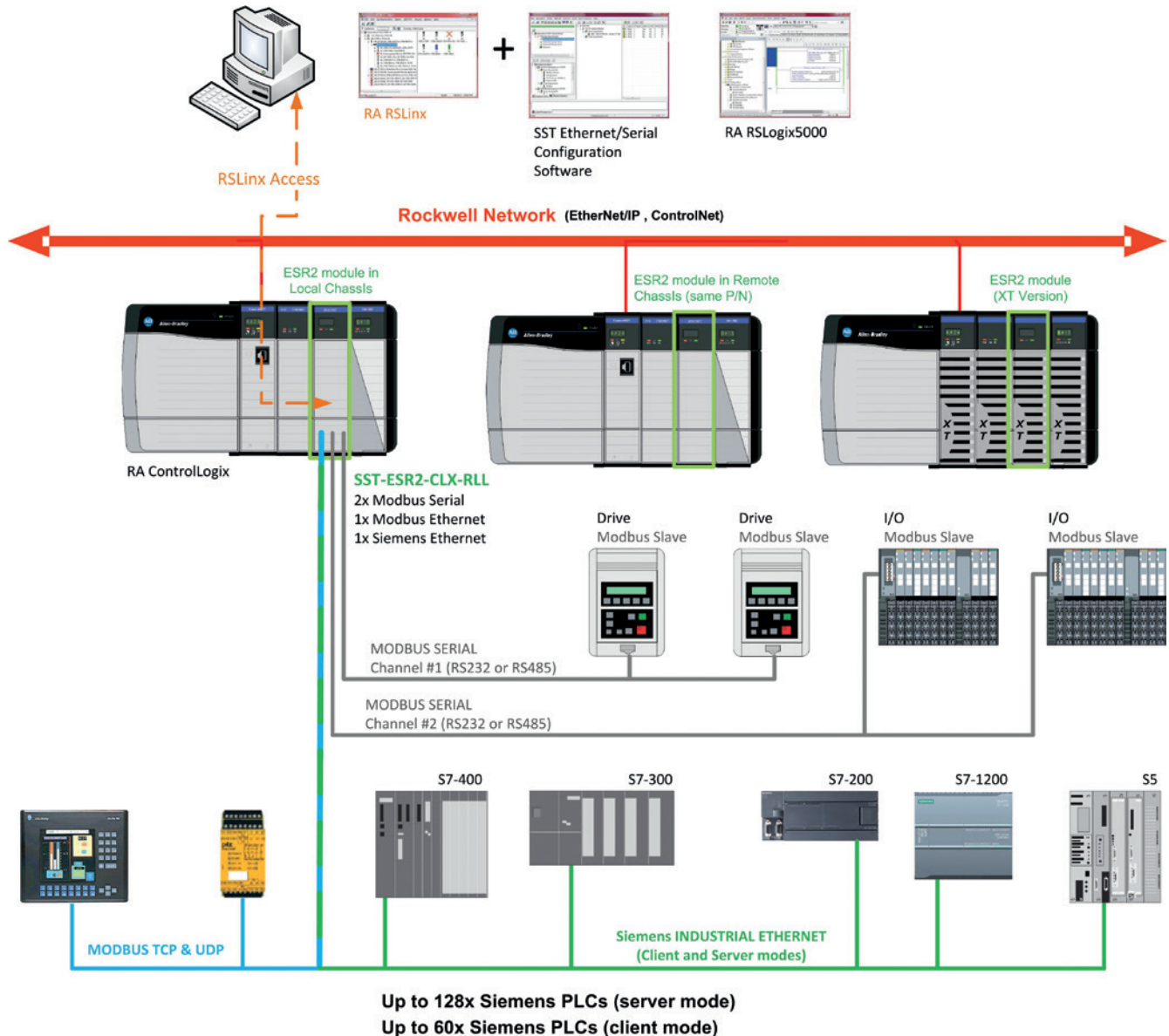
Engineering No.	Standard Order No.	Description
112073-0001	SST-ESR2-CLX-RLL	SST™ 1x Ethernet + 2x Serial ports communication module for Rockwell ControlLogix, includes Remote Link Library
112073-0003	SST-ESR2-CLX-RLL-CC	SST™ 1x Ethernet + 2x Serial ports communication module for Rockwell ControlLogix, includes Remote Link Library, conformal coated
112073-0002	SST-ESR2-CLXT-RLL	SST™ 1x Ethernet + 2x Serial ports communication module for Rockwell ControlLogix CLXT (eXTreme), includes Remote Link Library, conformal coated, eXTreme module components

Brad® SST™ Communication Module for Rockwell ControlLogix

112073 Modbus/TCP, Siemens Industrial Ethernet and Modbus Serial

Conformal coating material is applied to electronic circuitry to act as protection against moisture, dust, chemicals, and temperature extremes.

TYPICAL APPLICATION



Brad® SST™ Communication Module for Rockwell ControlLogix

112078 Modbus Serial



SST-SR4-CLX-RLL



SST-SR4-CLXT-RLL eXTreme module

- Connects your Allen-Bradley ControlLogix to a Modbus Serial network
- Direct I/O mapping, no ladder logic to write for configuration and data transfer between module and CLX processor
- Industry leading performance, I/O data refresh every PLC cycle

- Fully integrated into the Rockwell Automation environment
- User-friendly configuration tool with intuitive graphical interface
- 4x RS232/RS485 Serial Modbus channels in a single slot
- Paging access (AOI provided), with up to 32K words shared for Input, Output and Status data

SPECIFICATIONS

Description

- RLL support: Remote configuration and monitoring via RSLinx
- Add-On-Profile for Rockwell RSLogix5000
- USB port for user configuration and firmware upgrade
- Engineering console simplifies user configuration and diagnostic
- Supports multiple modules in a chassis
- Supports local and remote chassis
- Easy diagnostics: Built-in LEDs and 4 characters display

Included Hardware/Software

- 128 MB of onboard memory
- 8 MB of flash memory (user configuration data and firmware)
- CPU data exchange:
 - 496 Input bytes + 496 Output bytes
 - 32,000 Word Registers via AOI
- USB port:
 - Type A
 - USB 2 and 1.1 compatible
- Communication ports:
 - 4x Serial, 110 bps to 115.2 kbps, RS232/RS485/RS422, RJ45 (DB9 male supplied cable)
- OS supported: Windows XP, 7 (32, 64-bit), Vista, 8 (32, 64-bit)

SST-SR4-CLXT-RLL eXTreme:

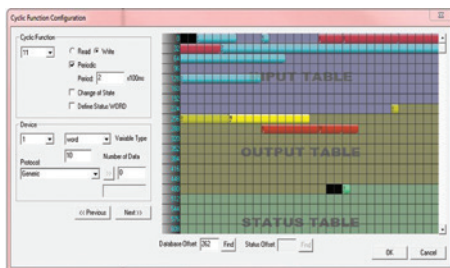
- Same specifications as SST-SR4-CLX-RLL plus:
- Conformal coating
- eXTreme components
- Ambient operating temperature: -25 to 70° C

Compatible Protocols

- Modbus Master (RTU or ASCII)
- Modbus Slave (RTU or ASCII)

Conformance

- RoHS compliant
- CE
- Marine (RINA)
- Korea CC
- cULus listed
- Class I Div 2, Groups A,B,C,D
- Ex (ATEX)



Cyclic Function Screen Showing Data Overlapping Errors, Data mapping, Table Areas, Message Details

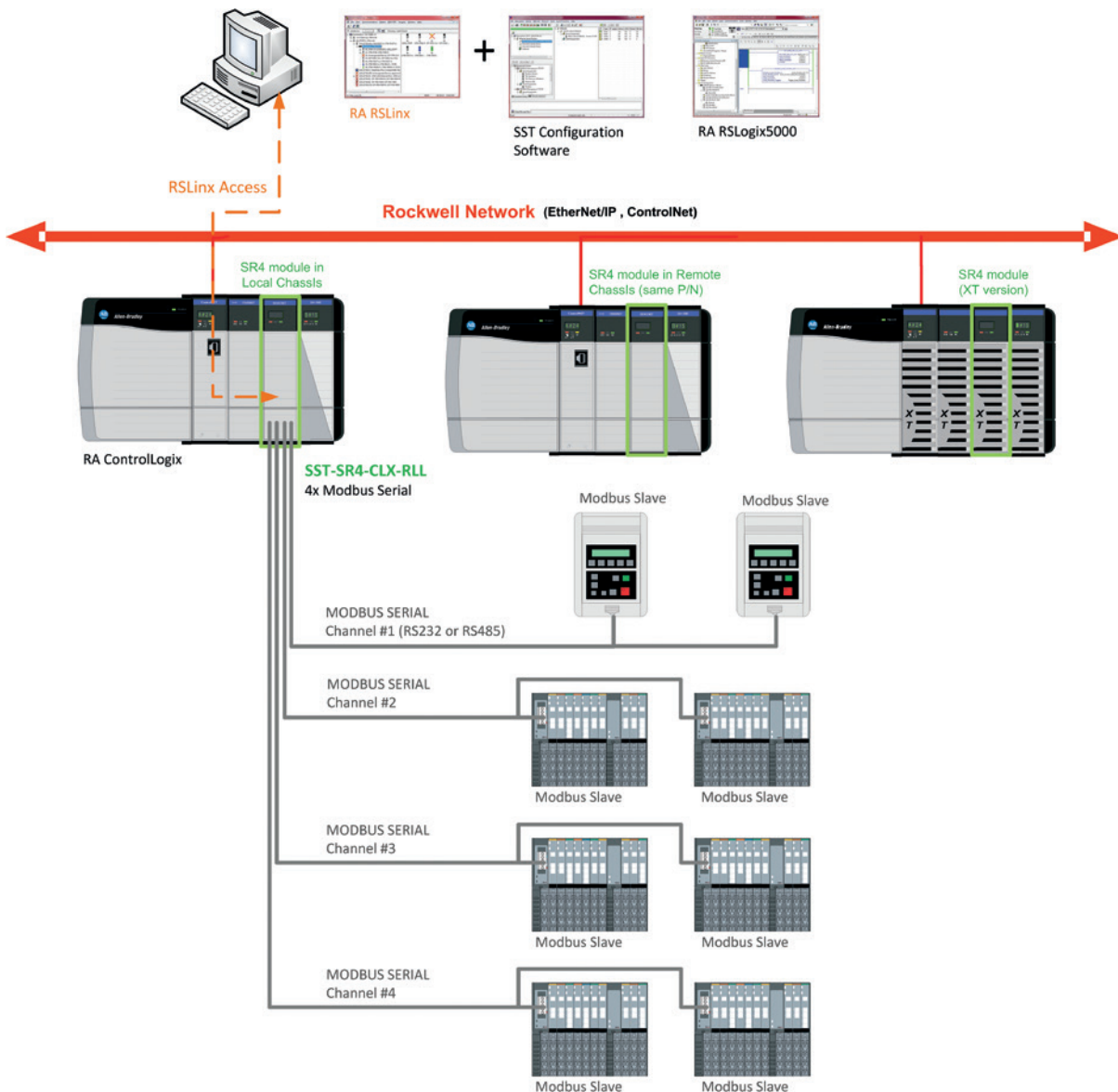
Order No.	Engineering No.	Description
112078-0001	SST-SR4-CLX-RLL	SST™ 4x Serial ports communication module for Rockwell ControlLogix, includes Remote Link Library
112078-0002	SST-SR4-CLX-RLL-CC	SST™ 4x Serial ports communication module for Rockwell ControlLogix, includes Remote Link Library, conformal coated
112078-0003	SST-SR4-CLXT-RLL	SST™ 4x Serial ports communication module for Rockwell ControlLogix CLXT (eXTreme), includes Remote Link Library, conformal coated, eXTreme module components

Brad® SST™ Communication Module for Rockwell ControlLogix

112078 Modbus Serial

Conformal coating material is applied to electronic circuitry to act as protection against moisture, dust, chemicals, and temperature extremes.

TYPICAL APPLICATION



Brad® SST™ Communication Module for Rockwell ControlLogix

112016 PROFIBUS-DP Master and Slave



SST-PB3-CLX-RLL



SST-PB3-CLXT-RLL eXTreme module

- Connects your Allen-Bradley ControlLogix to a PROFIBUS network
- Fully integrated into the Rockwell Automation environment
 - Remote configuration and monitoring via Rockwell RSLinx™
 - Add-On-Profile for Rockwell RSLogix5000
- Direct I/O mapping, no ladder logic to write for configuration and data transfer between module and CLX processor
- Conformal coating version:
 - Provides environmental and mechanical protection to significantly extend the life of the components and circuitry
 - Protects electronic boards from moisture and contaminants
- Typical applications:
 - Marine
 - Agro-Food
 - Mining
 - Harsh automotive, etc.

SPECIFICATIONS

Description

- High-speed deterministic communication
- Easy diagnostics: Built-in LEDs and 4 characters display
- Manage DP Master and Slave modes simultaneously
- Allows changes to PROFIBUS configuration with PLC in RUN mode
- Dynamically add/remove PROFIBUS slaves from the scan list
- CommDTM driver for FDT Frame engineering software (PACTware™, FieldCare™, FieldMate™, etc)
- Auto-Boot (configuration stored in flash)
- Engineering Tools:
 - Configuration console
 - Test and diagnostic tools

Included Hardware/Software

- Add-On-Profile for increased functionality and reduced commissioning time
- Support multiple modules in a chassis; support Local and Remote chassis
- One PROFIBUS port, DB9 female, galvanic insulation 1000V
- Speed: 9.6 Kbps up to 12 Mbps
- LEDs for system, communication, and network status
- Up to 1984 input bytes and 1968 output bytes
- One Serial port for configuration and diagnostic
- Firmware upgradeable
- OS supported: Windows XP, 7 (32, 64-bit), Vista, 8 (32, 64-bit)

Compatible Protocols

- Master DP-V0 Class-1 and Class-2
- Master DP-V1 Class-1 and Class-2
- Slave DP-V0

Conformance

- RoHS compliant
- CE
- cULus listed
- Class 1 Div 2, Groups A, B, C, and D
- FDT certified
- Marine (RINA)
- Ex (ATEX)
- Korea CC

SST-PB3-CLXT-RLL eXTreme:

- Same specifications as SST-PB3-CLX-RLL plus:
- Conformal coating
- eXTreme components
- Ambient operating temperature: -25 to 70°C

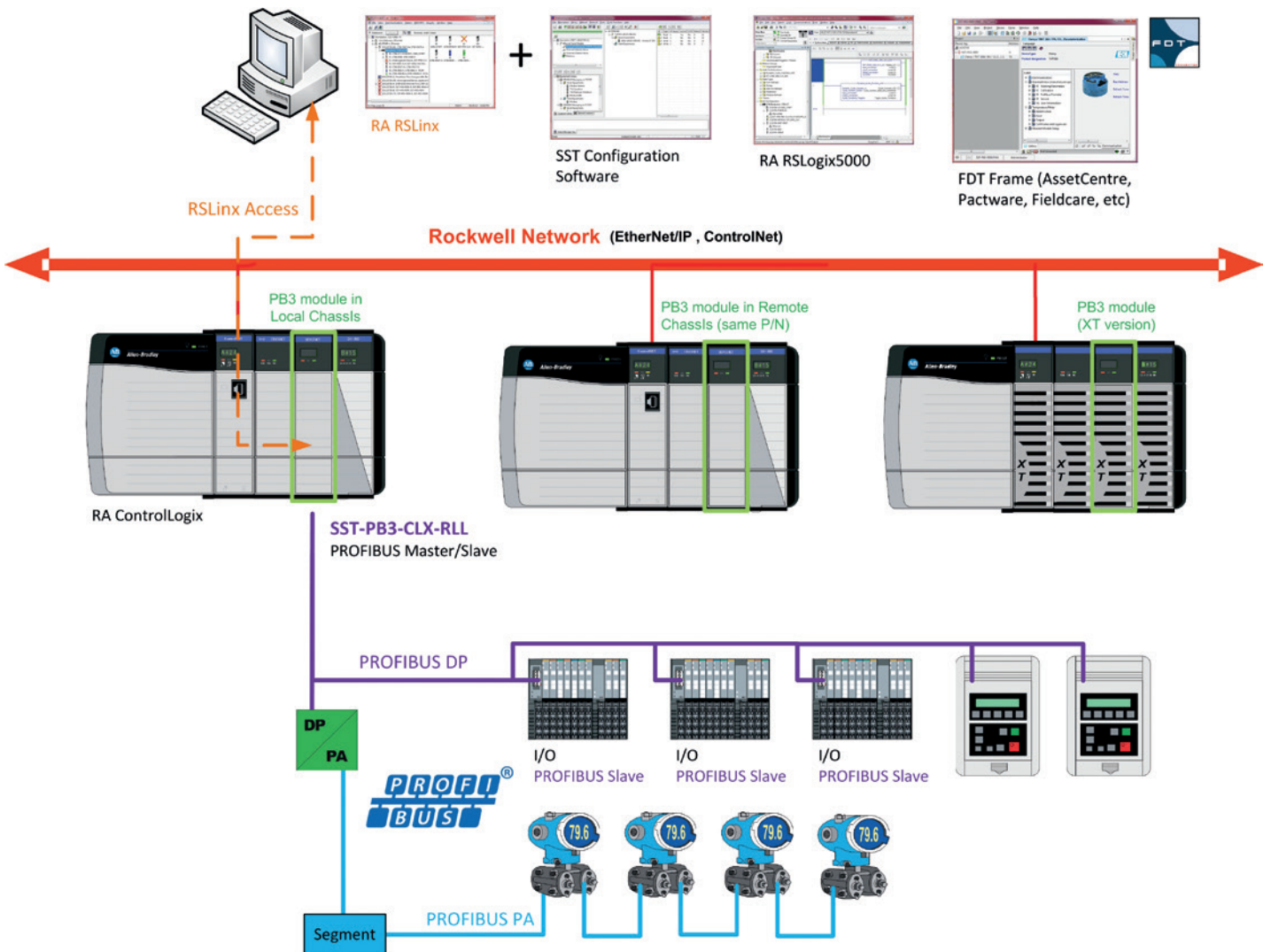
Engineering No.	Standard Order No.	Description
112016-0018	SST-PB3-CLX-RLL	SST™ PROFIBUS Master and Slave communication module for Rockwell ControlLogix, includes Remote Link Library
112016-0023	SST-PB3-CLX-RLL-CC	SST™ PROFIBUS Master and Slave communication module for Rockwell ControlLogix, includes Remote Link Library, conformal coated
112016-0024	SST-PB3-CLXT-RLL	SST™ PROFIBUS Master and Slave communication module for Rockwell ControlLogix CLXT (eXTreme), includes Remote Link Library, conformal coated, eXTreme module components

Brad® SST™ Communication Module for Rockwell ControlLogix

112016 PROFIBUS-DP Master and Slave

Conformal coating material is applied to electronic circuitry to act as protection against moisture dust, chemicals, and temperature extremes.

TYPICAL APPLICATION



Brad® SST™ Communication Module for Rockwell ControlLogix

112016 PROFIBUS-DP Slave Only



SST-PB3S-CLX-RLL

- Connects your Allen-Bradley ControlLogix as a slave to a PROFIBUS network
- Fully integrated into the Rockwell Automation environment
 - No additional installation software
 - Add-On-Profile for Rockwell RSLogix5000
- Direct I/O mapping, no ladder logic to write for data transfer between module and CLX processor
- Conformal coating version:
 - Provides environmental and mechanical protection to significantly extend the life of the components and circuitry
 - Protects electronic boards from moisture and contaminants
- Typical applications:
 - Marine
 - Agro-Food
 - Mining
 - Harsh automotive, etc.

SPECIFICATIONS

Description

- High-speed deterministic communication
- Easy diagnostics: Built-in LEDs and 4 characters display
- Full backplane compatible and easy installation with no ladder logic
- Dedicated PROFIBUS Slave module
- All configuration done using the AOP in RSLogix5000
- Auto-Boot

Included Hardware/Software

- Add-On-Profile for increased functionality and reduced commissioning time
- Support multiple modules in a chassis; support local and remote chassis
- One PROFIBUS port, DB9 female, galvanic insulation 1000V
- Speed: 9.6 Kbps up to 12 Mbps
- LEDs for system, communication, and network status
- Simple data transfer up to 244 total words
- One serial port for upgrading firmware
- Firmware upgradeable
- No additional software required for configuration

Compatible Protocols

- Slave DP-V0

Conformance

- RoHS compliant
- CE
- Marine (RINA)
- PNO Certified
- cULus listed
- Class 1 Div 2, Groups A, B, C, and D
- Ex (ATEX)
- Korea CC

SST-PB3S-CLXT-RLL eXTreme:

- Same specifications as SST-PB3S-CLX-RLL plus:
- Conformal coating
- eXTreme components
- Ambient operating temperature: -25 to 70°C



SST-PB3S-CLXT-RLL eXTreme module

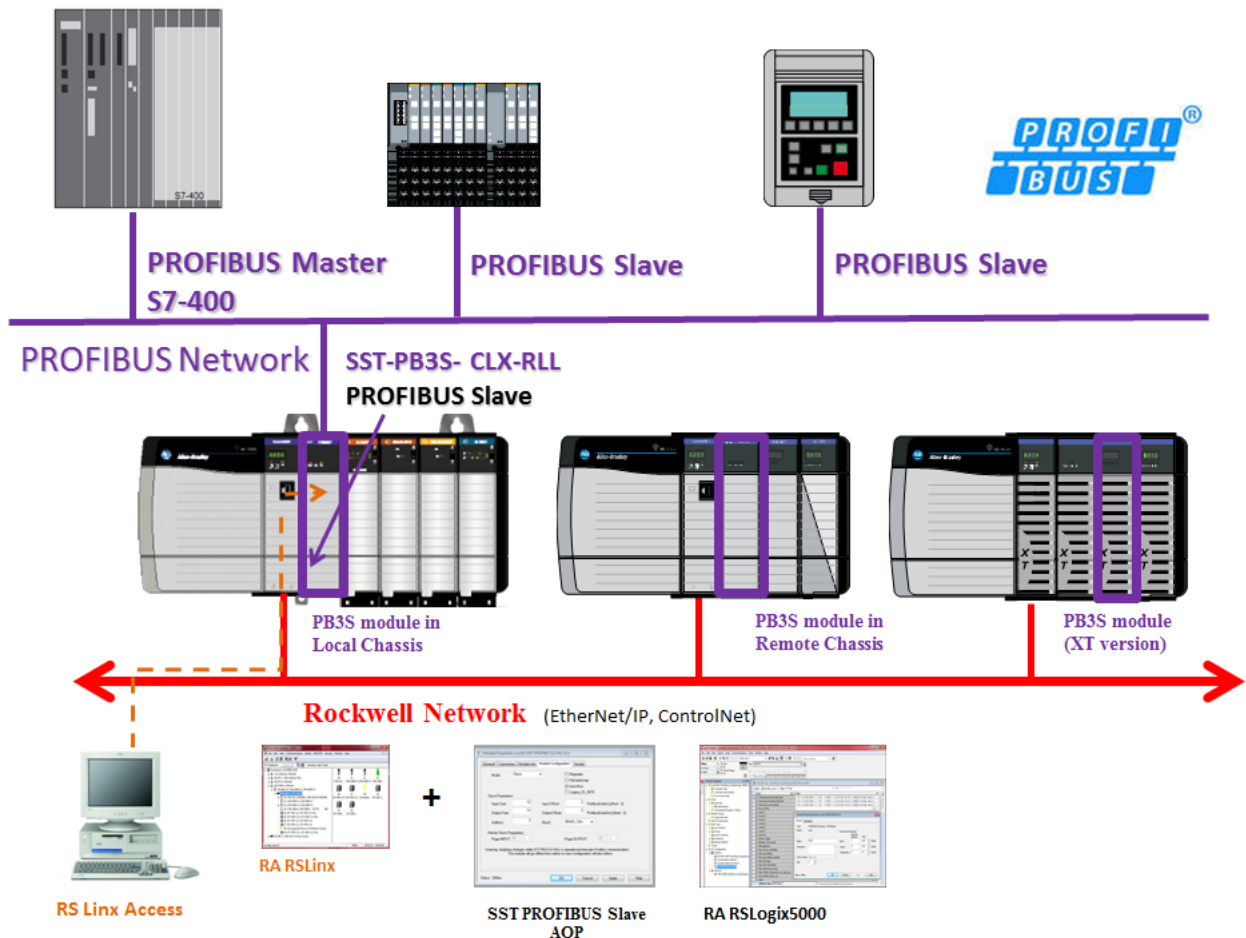
Engineering No.	Standard Order No.	Description
112016-0025	SST-PB3S-CLX-RLL	SST™ PROFIBUS Slave Only communication module for Rockwell ControlLogix, includes Remote Link Library
112016-0026	SST-PB3S-CLX-RLL-CC	SST™ PROFIBUS Slave Only communication module for Rockwell ControlLogix, includes Remote Link Library, conformal coated
112016-0027	SST-PB3S-CLXT-RLL	SST™ PROFIBUS Slave Only communication module for Rockwell ControlLogix CLXT (eXTreme), includes Remote Link Library, conformal coated, eXTreme module components

Brad® SST™ Communication Module for Rockwell ControlLogix

112016 PROFIBUS-DP Slave Only

Conformal coating material is applied to electronic circuitry to act as protection against moisture dust, chemicals, and temperature extremes.

TYPICAL APPLICATION



Brad® SST™ Communication Module for Rockwell ControlLogix

112019 AS-Interface Scanner



SST-ASI-CLX

- Connects your Allen-Bradley ControlLogix to an AS-interface network
- Target markets: valve control, tank farms, material handling, conveyors, discrete manufacturing cells, packaging machines, labeling machines, filling/bottling machines
- Direct I/O mapping, no ladder logic to write for configuration and data transfer between module and CLX processor
- Supports 2 independent AS-i networks with up to 124 AS-i slave devices per module

SPECIFICATIONS

Description

- AS-i version 3.0
- High-speed deterministic communications to open vendor sensors and actuator devices
- Fast, easy setup to CLX backplane
- AS-i I/O data and status information mapped into the CLX processor's I/O data
- Flash memory for storage of AS-i master I/O configuration
- Easy diagnostics: Built-in LEDs
- Easy setup using 2 push buttons or configuration software
- Operating temperature: 0 to 55°C

Included Hardware/Software

- Acts as 1756 input/output module
- Support multiple modules in a chassis
- 2x AS-interface Master channels
- Maximum slave supported: Up to 62 slaves on each channel
- AS-i cycle time: 150 µsec (number of slaves +2)
- 1 serial port for configuration and diagnostics
- Firmware upgradeable
- Configuration and network diagnostic tools included.
- OS supported: Win 98, Win NT4, 2000, XP, Vista 32-bit, Win 7 (32, 64-bit)

Compatible Protocols

- AS-interface Scanner compliant with specification 3.0

Conformance

- RoHS compliant
- cULus listed
- CE
- AS-interface certified

ORDERING INFORMATION

Engineering No.	Standard Order No.	Description
SST-ASI-CLX	112019-0001	AS-interface Communication module for Rockwell ControlLogix, includes configuration cable and software

USB to Serial DB9 cable, commercially available if required

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Brad® SST™ Communication Module for Rockwell CompactLogix

112073 Modbus/TCP, and Modbus Serial Protocols Standard Version Plus Version

- Connects your Allen-Bradley CompactLogix to a Modbus Ethernet or Modbus Serial network
- Modbus Ethernet and Modbus Serial at the same time- Extremely flexible, easy upgrades to Ethernet based devices
- Two Modbus Serial Ports, (Software Configurable)- More value, handles any Modbus serial application
- One Modbus Ethernet Port, (Software Configurable)- suitable for any Modbus TCP/UDP application
- Micro SD Card slot- Configuration files, user manuals on SD card; also fast, easy module replacement
- 10/100 Mb Ethernet Port- Fast configuration downloads, no Logix Ethernet port burden, low-cost cable
- Module acts as a co-processor enhancing PLC performance

SPECIFICATIONS

Description

- Supports multiple modules in rack
- Supports CompactLogix L2, L3 processors with 1769 IO bus capability Ver 15 and greater
- Operating temperature: 0 to 60°C
- Storage temperature: -40 to 85°C
- Relative humidity: 5% to 95%, non-condensing
- Independent, 3 electrically isolated communication ports, 2,500 Volts
- Modbus Master and/or Slave functionality, ASCII and RTU formats
- Modbus TCP/UDP, client and server supported
- One Micro SD Card Slot, SD card included, configuration files, manuals
- 1x Ethernet, 10/100 Mbps, RJ45 (also for configuration and diagnostics)
- 2x Serial, 110 bps to 115.2 kbps, RS232/RS485/RS422, RJ45 (DB9 male supplied cable)
- OS supported: Windows XP, 7 (32, 64-bit), Vista, 8 (32, 64-bit)
- Paging access (AOI provided), with up to 32k words shared for input, output and status data (plus version)

Compatible Protocols

- Modbus Master (RTU or ASCII)
- Modbus Slave (RTU or ASCII)
- Modbus TCP and UDP Client and Server

Conformance

- RoHS compliant
- CE certified
- FCC
- Lloyds (pending)
- Korea CC (pending)
- GOST (pending)
- ATEX (pending)
- UL Class I Div 2, Groups A,B,C,D (pending)

Standard Version

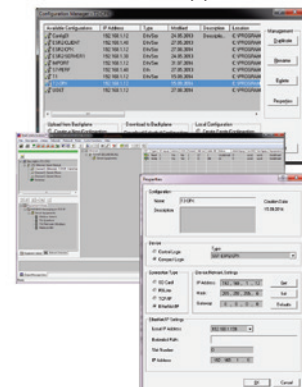
- 496 Word Database
- 32 Modbus Commands/port
- Up to 32 devices per port
- OEM, machine builders, small applications

Plus Version

- 32,000 Word Database
- 256 Modbus Commands/port
- Up to 27 serial devices per port and 128 Ethernet devices
- OEM, machine builders, large networks SCADA applications

Included Hardware/Software

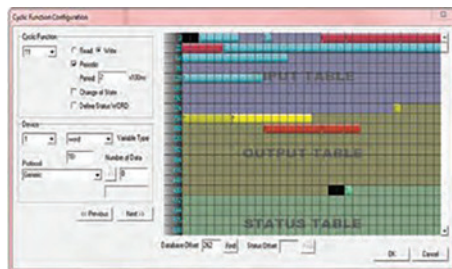
- One, SST-ESR2-CPX-(S/P) Universal Modbus Module
- One, Micro SD card
- One, product CD (engineering tools, configuration console)
- Two, 45 cm, RJ-45 to DB-9 male patch cables



SST-ESR2-CPX-S Standard Version



SST-ESR2-CPX-P Plus Version

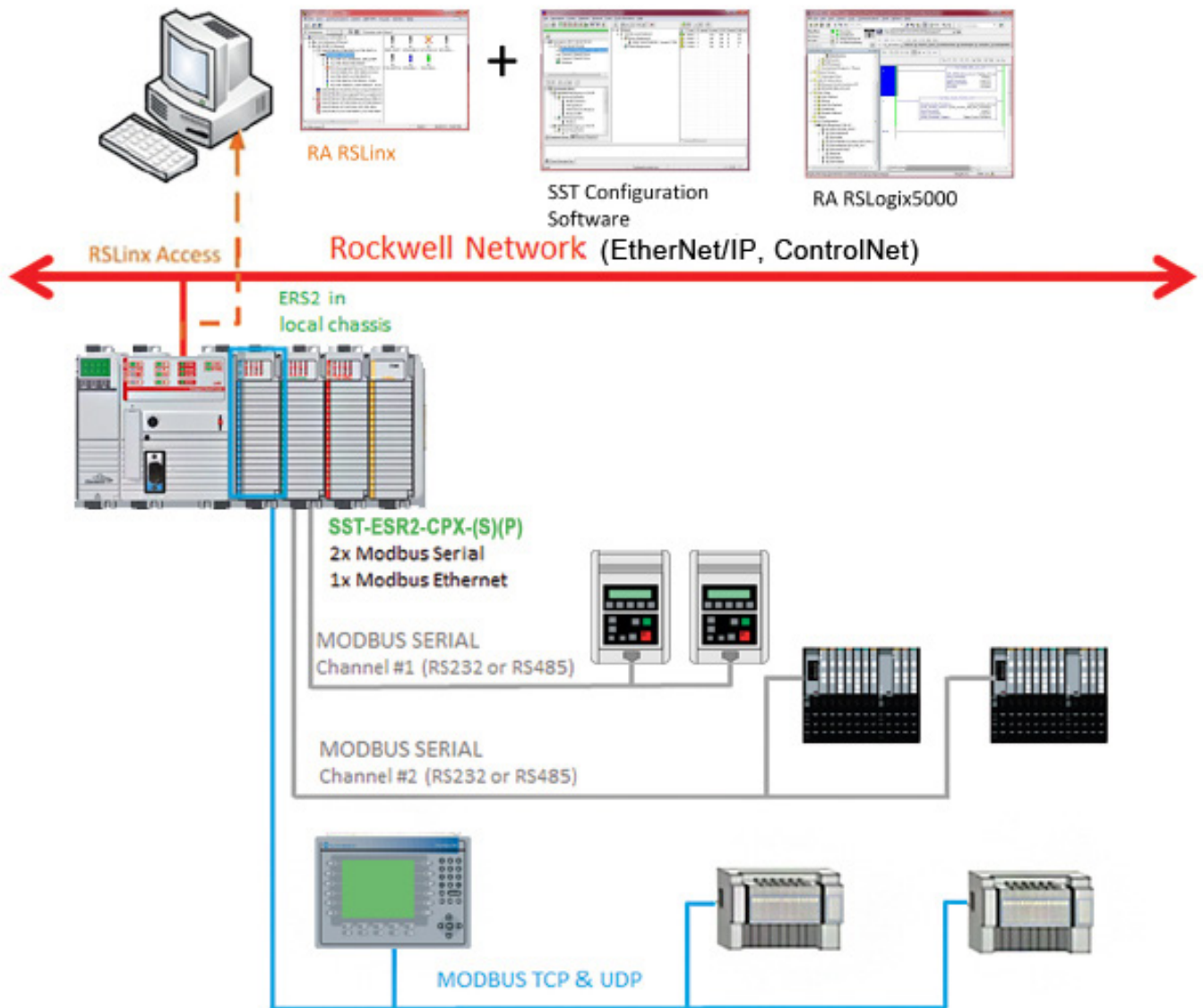


Cyclic Function Screen Showing Data Overlapping Errors, Data mapping, Table Areas, Message Details

Engineering No.	Standard Order No.	Description
112073-0006	SST-ESR2-CPX-S	SST™ Universal Modbus Module for CompactLogix, Standard version
112073-0005	SST-ESR2-CPX-P	SST™ Universal Modbus Module for CompactLogix, Plus version

Brad® SST™ Communication Module for Rockwell CompactLogix
112073 Modbus/TCP, and Modbus Serial Protocols Standard Version Plus Version

TYPICAL APPLICATION



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Brad® SST™ Communication Module for Rockwell CompactLogix and MicroLogix 1500

112019 AS-interface Scanner



SST-ASI-CPX

- Connects Allen-Bradley CompactLogix and MicroLogix 1500 PLCs to an AS-interface network
- Target markets: valve control, tank farms, material handling, conveyors, discrete manufacturing cells, packaging machines, labeling machines, filling/bottling machines
- Direct I/O mapping, no ladder logic to write for configuration and data transfer between module and CPX processor
- Supports 1 independent AS-i networks with up to 62 AS-i slave devices per module

SPECIFICATIONS

Description

- AS-i version 3.0
- High-speed deterministic communications to open vendor sensors and actuator devices
- Fast, easy setup to CPX backplane
- AS-i I/O data and status information mapped into the CPX processor's I/O data
- Flash memory for storage of AS-i master I/O configuration
- Easy diagnostics: Built-in LEDs
- Easy setup using 2 push buttons or configuration software
- Operating temperature: 0 to 55°C

Included Hardware/Software

- 1x AS-interface Master channels
- Maximum slave supported: Up to 62 slaves on each channel
- AS-i Cycle Time: 150 μsec (number of slaves +2)
- 1 serial port for configuration and diagnostics
- Firmware upgradeable
- Configuration and network diagnostic tools included.
- OS supported: Win 98, Win NT4, 2000, XP, Vista 32-bit, Win 7 (32, 64-bit)

Compatible Protocols

- AS-interface Scanner compliant with specification 3.0

Conformance

- RoHS compliant
- cULus listed
- CE
- AS-interface certified

ORDERING INFORMATION

Engineering No.	Standard Order No.	Description
SST-ASI-CPX	112019-0002	AS-interface Communication module for Rockwell CompactLogix, MicroLogix 1500 PLCs, includes configuration cable and software

USB to Serial DB9 cable, commercially available if required

Brad® SST™ Communication Module for Rockwell SLC 500

112016 PROFIBUS-DP Master and Slave



- Connects your Allen-Bradley SLC 500 to a PROFIBUS network
- Direct I/O mapping, no ladder logic to write for configuration and data transfer between module and SLC processor
- Simultaneous operation of PROFIBUS DP Master and Slave

SPECIFICATIONS

Description

- High speed deterministic communication
- Fast, easy set up in SLC backplane; PROFIBUS IO data is automatically mapped into the SLC processor's I, O, MO and MI files
- Easy diagnostics: Built-in LEDs
- Manage DP Master and Slave modes simultaneously
- Auto-Boot (configuration stored in flash)
- Engineering Tools:
 - Configuration console
 - Test and diagnostic tools

Included Hardware/Software

- Acts as 1746 input/output module
- Support multiple modules in a chassis
- 1 PROFIBUS port, DB9 female, galvanic insulation 1000V
- Speed: 9.6 Kbps up to 12 Mbps
- I/O mapping:
 - I and O Files— 32 words in, 32 words out
 - M1 and M0 Files— 1000 words in/out
- 1 serial port for configuration and diagnostic
- Firmware upgradeable

Compatible Protocols

- Master DP-V0 Class-1 and Class-2
- Master DP-V1 Class-1 and Class-2
- Slave DP-V0
- FDL Send/Receive

Conformance

- RoHS compliant
- CE

ORDERING INFORMATION

Engineering No.	Standard Order No.	Description
SST-PB3-SLC	112016-0022	PROFIBUS Communication module for Rockwell SLC 500

FEATURES AND BENEFITS

- Connects your Allen-Bradley SLC 500 to a AS-interface network
- Target markets: Factory automation, Process control, Complex machines, etc
- Direct I/O mapping, no ladder logic to write for configuration and data transfer between module and SLC processor
- Supports 2 independent AS-i networks with up to 124 AS-i slave devices

Brad® SST™ Communication Module for Rockwell SLC 500 112019 AS-interface Scanner



SPECIFICATIONS

Description

- High speed deterministic communication
- Fast, easy setup to SLC backplane
- AS-i I/O data mapped into the SLC processor's I/O files
- Status information is mapped into the M0 and M1 files
- Multiple SST-ASI-SLC modules can be used in one SLC rack
- Configure scanner with Rockwell RSLogix 500
- Flash memory for storage of AS-i master I/O configuration
- Easy diagnostics: Built-in LEDs

Included Hardware/Software

- Acts as 1746 input/output module
- Support multiple modules in a chassis
- 2x AS-interface Master channels
- Maximum slave supported: Up to 62 slaves on each channel
- AS-i cycle time: 150 μ sec (number of slaves +2)
- AS-I connector: 4-pin combicon connector
- I/O mapping:
 - I and O files: 32 words in, 32 words out
 - M1 and M0 files: 461 words in/out
- 1 serial port for configuration and diagnostic
- Firmware upgradeable

Compatible Protocols

- AS-interface Scanner compliant with specification 3.0

Conformance

- RoHS compliant
- CE
- AS-interface certified

ORDERING INFORMATION

Engineering No.	Standard Order No.	Description
SST-ASI-SLC	112019-0004	AS-interface Communication module for Rockwell SLC 500

Brad® SST™ PROFIBUS Remote Module

112016 PROFIBUS-DP Master and Slave



- Connects any Rockwell Automation Logix controller (CompactLogix, ControlLogix, GuardLogix,) with EtherNetI/P connectivity to a PROFIBUS network
- The PB3 module can be installed close to PROFIBUS field devices, reducing expensive PROFIBUS cabling
- No ladder logic to write for configuration and data transfer between PB3 Remote module and Logix processor
- Unique remote concept
 - No rack limitation of Rockwell Logix controllers backplane
 - Flexible installation design; the PB3 Remote module can be installed at the most convenient place (cabinet, on-machine, etc)
 - Up to 2kbyte Input + 2kbyte Output PROFIBUS process data
 - Fits in with wireless architecture by connecting a wireless access point to the Ethernet port
- Target markets: Factory automation, process control, complex machines, and more
- Fully integrated into the Rockwell Automation environment
 - Add-On-Instructions (.L5X); Import PROFIBUS I/O process variables into RSLogix 5000 tags; allow the user to use process variable names instead of arrays of bit, byte, word or float
 - EDS file for RSLinx
- Implement redundancy scenario
 - 2x Logix controllers connected to a single PB3 Remote Module, or implementing PLC redundancy
 - 1x Logix controller connected to 2x PB3 Remote Modules, for implementing PROFIBUS master redundancy
- Conformal coating version; improves and extends the working life and ensures security and reliability of performance in extreme or humid conditions. Typical applications: Marine, Agro-Food, Mining, Harsh automotive, etc.

SPECIFICATIONS

Description

- High speed deterministic communication
- Manage DP Master and Slave modes simultaneously
- Allows changes to PROFIBUS configuration with PLC in RUN mode
- Dynamically add/remove PROFIBUS slaves from the scan list
- CommDTM driver for FDT Frame engineering software (AssetCentre™, PACTware™, Field Care™)
 - PROFIBUS Master DP-V1 configuration
 - Device detection
 - Device diagnostics
- Auto-Boot (configuration stored in flash)
- PROFIBUS configuration console
 - Remote DP slave configuration and diagnostics
 - Automatic DP slave detection
 - Automatic naming of I/O process variable based on GSD file
 - Export of I/O process variables in RSLogix L5X format

Technical Data

- Acts as "Linking Device" remote module
- 1x PROFIBUS port, DB9 female, galvanic insulation 500V
- Speed: 9.6 Kbps up to 12 Mbps
- Up to 1984 input bytes and 1968 output bytes
- 2x RJ45 Ethernet port switch
 - 10/100 Mbps, auto negotiation
 - IP addressing (via 2 rotary switches): DCHP (default), DHCP with name ("SST_PB3_XXX"), Factory fixed, factory selectable, flash saved (via 0xF5/0xF6 EIP objects)
 - Manages duplicate IP addressing
 - Support of DLR (Device Level Ring as a ring node) - higher resiliency from loss of one network connection
- Built-in diagnostics LEDs:
 - 4x module status (system fault, PROFIBUS state, bus fault, and PLC RUN/PROG)
 - 3x Ethernet: IP status, link (port 1, port 2)

- Operating temperature:
 - 0 to +65°C
 - 25 to +70°C (Coated version)
- Storage temperature: -40 to +85°C
- DIN Rail mounted
- Compact dimensions: 18 x 7 x 16 cm
- Power supply: 24V
- Firmware upgradeable

Protocols

- Master DP-V0 Class-1 and Class-2
- Master DP-V1 Class-1 and Class-2
- Slave DP-V0

Conformance

- ODVA and PROFIBUS certified product
- CE, RoHS, REACH, UL listed
- Class 1/Div 2- Groups A, B, C and D for hazardous (Classified) locations (coated version)
- RINA Marine Certificate

ORDERING INFORMATION

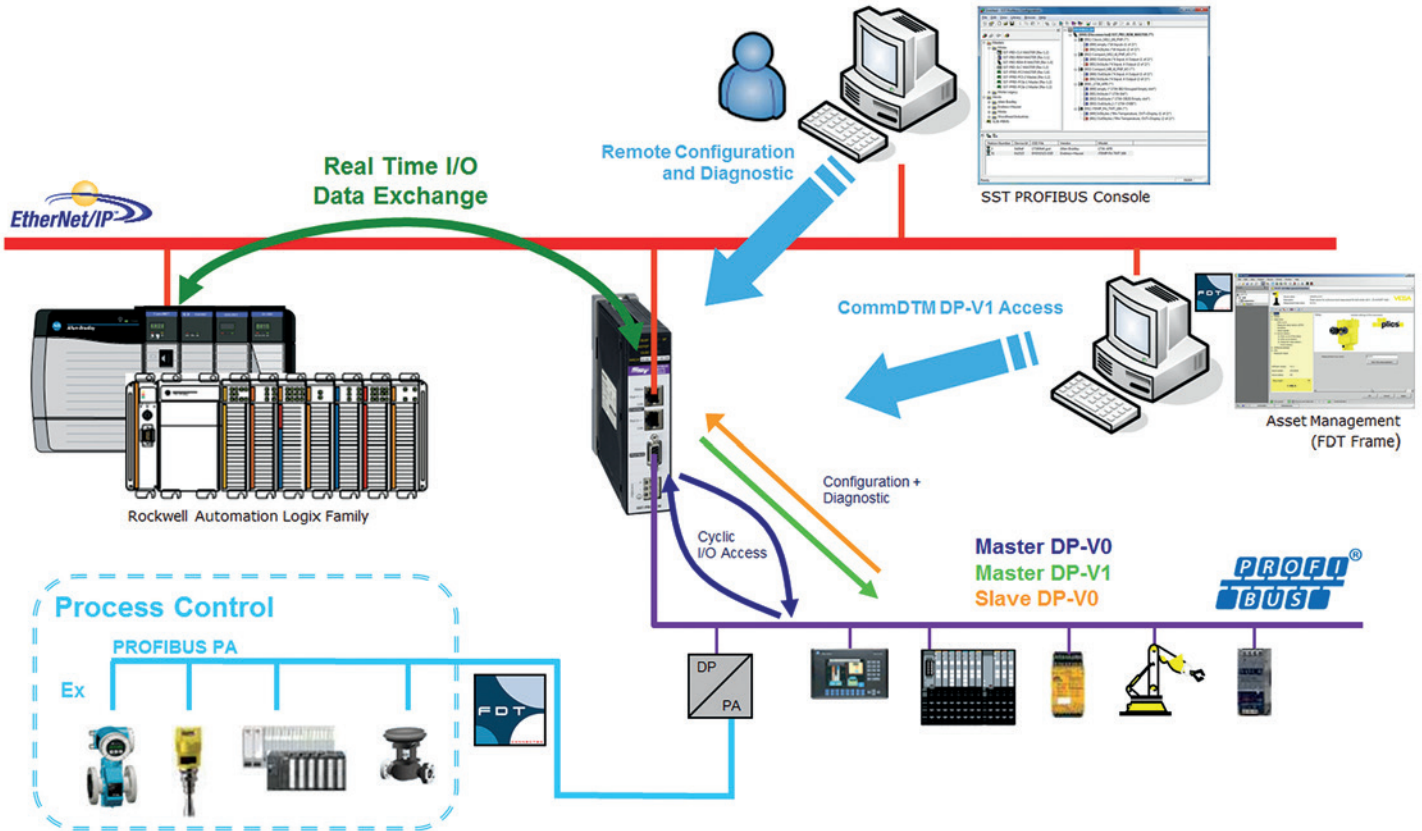
Engineering No.	Order No.	Description
SST-PB3-REM	112016-5000	SST™ PROFIBUS Remote Module for Rockwell Automation Logix controllers
SST-PB3-REM-CC*	112016-5001	SST™ PROFIBUS Remote Module for Rockwell Automation Logix controllers, coated version

* Conformal coating material is applied to electronic circuitry to act as protection against moisture, dust, chemicals, and temperature extremes.

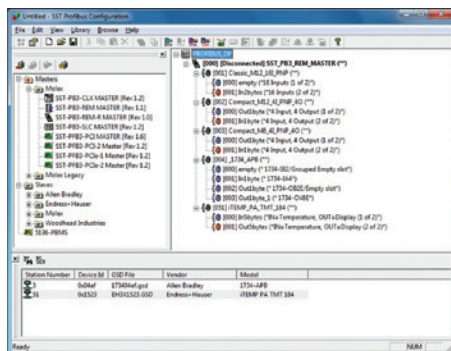
Brad® SST™ PROFIBUS Remote Module

112016 PROFIBUS-DP Master and Slave

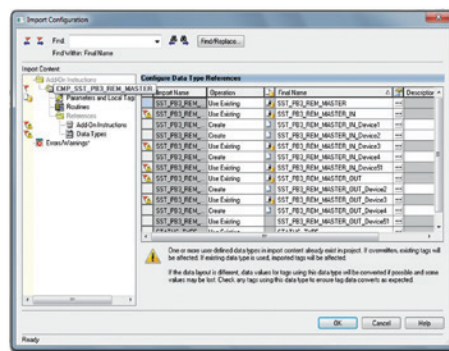
TYPICAL APPLICATION



REMOTE MODULE SOFTWARE



PROFIBUS Engineering Console



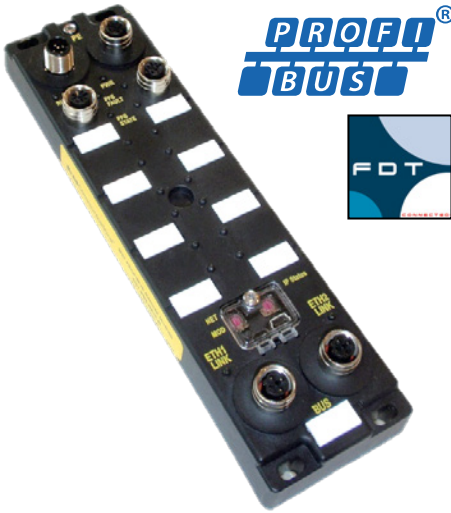
Dynamic Add-On-Instructions based on PROFIBUS Configuration

IN_PB3	(...)	SST_PB3_REM_C
IN_PB3.ModuleStatus	0	SINT
IN_PB3.CurrentPage	0	SINT
IN_PB3.Cmd_Reply	0	SINT
IN_PB3.Reserved	0	SINT
IN_PB3.ITEMP_PA_TMT	(...)	Device_16_Input
IN_PB3.ITEMP_PA_TMT.Temperature	28.34	REAL
IN_PB3.ITEMP_PA_TMT.Status	80	SINT
IN_PB3.AB_1734_APB	(...)	Device_3_Input
IN_PB3.AB_1734_APB.IB0_0	2#0000_0001	BOOL
IN_PB3.AB_1734_APB.IB0_1	2#0000_0000	BOOL
IN_PB3.AB_1734_APB.IT21_ThermoCouple_1	48	INT
IN_PB3.AB_1734_APB.IT21_ThermoCouple_2	0	INT
IN_PB3.AB_1734_APB.IT21_Status	23	INT
OUT_PB3	(...)	SST_PB3_REM_C
STS_PB3	(...)	SST_PB3_REM_S

Direct Access in RSLogix to PROFIBUS tags

Brad® SST™ IP67 PROFIBUS Remote Module

112016 PROFIBUS-DP
Master and Slave



- Connects any Rockwell Automation Logix controller with EtherNet/IP connectivity to a PROFIBUS network
- Harsh-duty IP67-rated design for on-machine or in-field mounting. Perfectly fit new Armor GuardLogix PLCs.
- The PB3 module can be installed close to PROFIBUS field devices, reducing expensive PROFIBUS cabling
- No ladder logic to write for configuration and data transfer between PB3 Remote module and Logix processor
- Unique remote concept
 - No rack limitation of Rockwell Logix controller backplane
 - Flexible installation design; the PB3 Remote module can be installed at the most convenient place
 - Up to 2kbyte Input + 2kbyte Output PROFIBUS process data
 - Fits in with wireless architecture by connecting a wireless access point to the Ethernet port
- Target markets: Factory automation, Process control, Complex machines, etc.
- Fully integrated into the Rockwell Automation environment
 - Add-On-Instructions (.L5X); Import PROFIBUS I/O process variables into RSLogix 5000 tags; allow the user to use process variable names instead of arrays of bit, byte, word or float
 - EDS file for RSLinx
- Implement redundancy scenario
 - 2x Logix controllers connected to a single PB3 Remote Module; or implementing PLC redundancy
 - 1x Logix controller connected to 2x PB3 Remote Modules; for implementing PROFIBUS master redundancy

SPECIFICATIONS

Description

- High speed deterministic communication
- Manage DP Master and Slave modes simultaneously
- IP67-rated dust and water resistant. Tested to withstand shock, high-vibration and high temperatures
- Allows changes to PROFIBUS configuration with PLC in RUN mode
- Dynamically add/remove PROFIBUS slaves from the scan list
- CommDTM driver for FDT Frame engineering software (AssetCentre™, PACTware™, FieldCare™...)
- PROFIBUS Master DP-V1 configuration
 - Device detection
 - Device diagnostics
- Auto-Boot (configuration stored in flash)
- PROFIBUS Configuration console
 - Remote DP slave configuration and diagnostics
 - Automatic DP slave detection
 - Automatic naming of I/O process variable based on GSD file
 - Export of I/O process variables in RSLogix L5X format

Technical Data

- Acts as "Linking Device" remote module
- 2x Power connectors, M12, male plus female, A-Coded (protected against power crossing)
- 2x PROFIBUS ports, B-coded female, galvanic insulation 500V
- Speed: 9.6 Kbps up to 12 Mbps
- Up to 1984 input bytes and 1968 output bytes
- 2x Ethernet port switch, M12 D-Coded
 - 10/100 Mbps, auto negotiation
 - IP addressing (via 2 rotaryswitches): DHCP (default), DHCP with name ("SST_PB3_xxx"), factory fixed, factory selectable, flash saved (via 0xF5/0xF6 EIP objects)
 - Manages duplicate IP addressing
 - Support of DLR (Device Level Ring as a ring node) – higher resiliency from loss of one network connection
- Built-in diagnostics LEDs:
 - 4x module status (system fault, PROFIBUS state, bus fault, and PLC RUN/PROG)
 - 3x Ethernet: IP status, Link (port 1, port 2)

- Operating temperature: -25 to +70°C
- Storage temperature: -40 to +85°C
- Compact dimensions: 22 x 6 x 3.6 cm
- Power supply: 24 VDC
- Firmware upgradeable

Protocols

- Master DP-V0 Class-1 and Class-2
- Master DP-V1 Class-1 and Class-2
- Slave DP-V0

Conformance

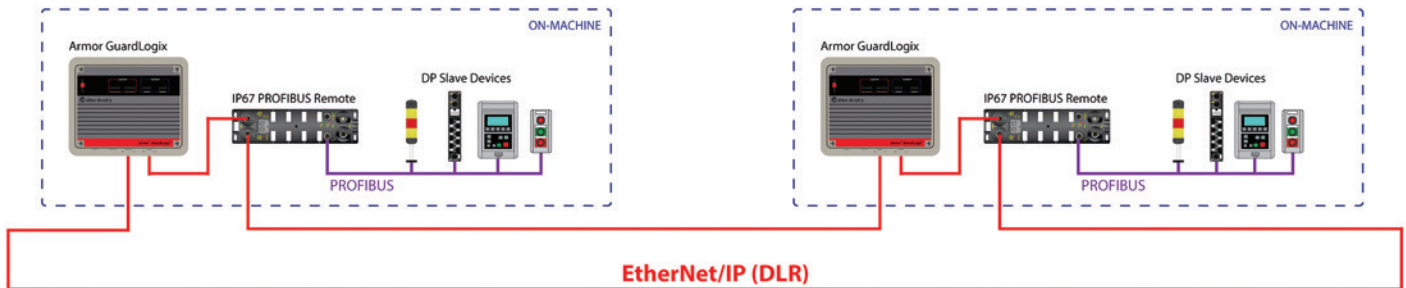
- ODVA and PROFIBUS certified product
- CE, RoHS, REACH, UL listed
- KoreanCC, China (CCC)

ORDERING INFORMATION

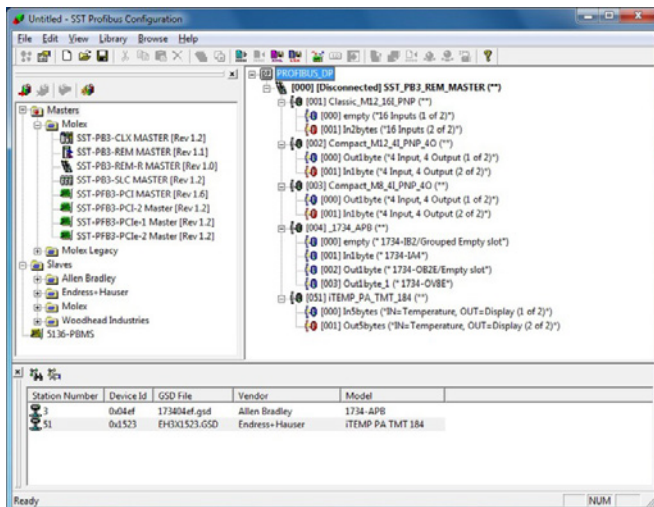
Engineering No.	Order No.	Description
SST-PB3-REM-R	112016-5002	SST™ IP67 PROFIBUS Remote Module for Rockwell Automation Logix controllers

Brad® SST™ IP67
 PROFIBUS Remote Module
 112016 PROFIBUS-DP
 Master and Slave

TYPICAL APPLICATION



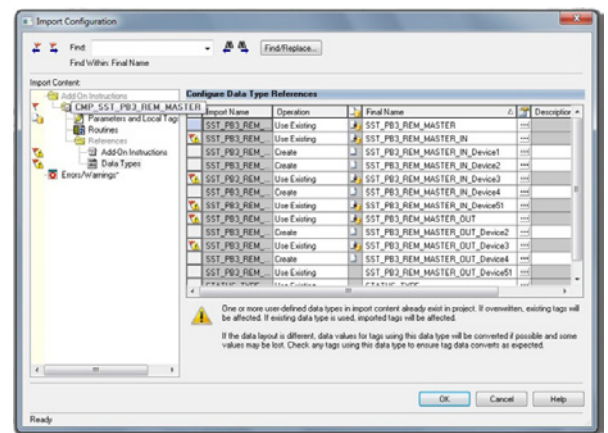
REMOTE MODULE SOFTWARE



PROFIBUS Engineering Console

IN_PB3	{...}	SST_PB3_REM_C
IN_PB3.ModuleStatus	0	SINT
IN_PB3.CurrentPage	0	SINT
IN_PB3.CMD_Reply	0	SINT
IN_PB3.Reserved	0	SINT
IN_PB3.iTEMP_PA_TMT	{...}	Device_16_Input
IN_PB3.iTEMP_PA_TMT.Temperature	28.34	REAL
IN_PB3.iTEMP_PA_TMT.Status	80	SINT
IN_PB3.AB_1734_APB	{...}	Device_3_Input
IN_PB3.AB_1734_APB.IB8_0	2#0000_0001	BOOL
IN_PB3.AB_1734_APB.IB8_1	2#0000_0000	BOOL
IN_PB3.AB_1734_APB.IT2l_ThermoCouple_1	48	INT
IN_PB3.AB_1734_APB.IT2l_ThermoCouple_2	0	INT
IN_PB3.AB_1734_APB.IT2l_Status	23	SINT
OUT_PB3	{...}	SST_PB3_REM_C
STS_PB3	{...}	SST_PB3_REM_S

Direct Access in RSLogix to PROFIBUS tags



Dynamic Add-On-Instructions based on PROFIBUS configuration

**Brad® SST™ DeviceNet*
Remote Scanner**

**112034 DeviceNet Control
over Ethernet**



- High performance DeviceNet protocol executed via Remote DeviceNet™ Scanners
- User interface DLL/API is completely backward compatible with existing applications and local DeviceNet interface cards
- Diagnostic LEDs
- UCMM (Unconnected Message Manager) capable; Group 1, 2, and 3 dynamic explicit connections supported
- Provides simultaneous execution of Group 2 Client (Master) and Server (Slave) operation
- Supports all DeviceNet standard baud rates: 125, 250, and 500 Kbaud
- Supports Poll, Strobe, Change of State (COS) and Cyclic I/O messaging
- Provides Client (Master) explicit messaging to slave devices
- Backward compatible DLL preserves existing investment
- DIN rail mount allows distribution to machine level
- Frees up PC slots by placing scanner cards remotely
- Manage your DeviceNet application across an Ethernet LAN
- Capable of updating DeviceNet I/O faster than a PCI version
- Reduce infrastructure costs by using cheaper Ethernet cable and fewer and/or less expensive PCs

SPECIFICATIONS

OS and Drivers Supported

- Microsoft® Windows 7 (64-bit), Vista, XP for both drivers and diagnostic tools
- Example C source code and Windows DLLs for custom driver development

Software Tools

- Diagnostic and test tools are available that enable fast integration of industrial communication into your application.

Conformance

- RoHS Compliant: Yes
- Approvals: CE
- ODVA DeviceNet Conformance Test

Hardware Specifications

- Diagnostic LEDs:
 - Remote Scanner— Power, system status
 - DeviceNet— Power, communication, health
 - Ethernet— Link, 10/100 MBaud, activity
- Remote scanner power: 10–30VDC, 330mA typical (male Nano-Change® M8 connector)

Environmental

- Humidity: 5% to 95% non-condensing

Network Specifications

- Protocol:
 - DeviceNet Master— Group 2 Client, Group 2 only Client
 - DeviceNet Slave— Group 2 Server
 - Isolated CAN physical layer on each channel
- Cable:
 - DeviceNet—shielded twisted pair, compatible with target network
 - Ethernet—Cat 5e shielded
- Connector:
 - DeviceNet—Compliant male Micro-Change® M12 connector
 - Ethernet—RJ45
- DeviceNet power: 11-24 VDC, 50 mA typical
- Isolation: 500 V
- Data rate:
 - DeviceNet— 125 Kbps, 250 Kbps and 500 Kbps
 - Ethernet—10/100 Mbps

Physical

- Operating temperature: 0 up to +50°C
- Storage temperature: -40 up to +85°C

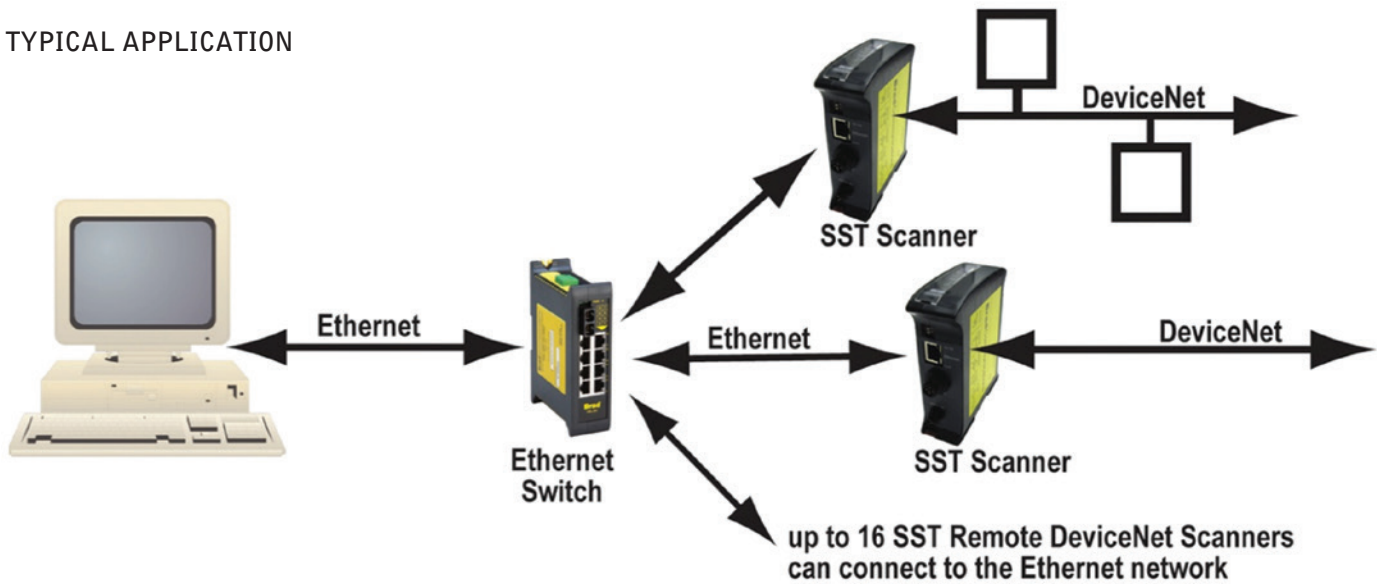
*DeviceNet is a trademark of Open DeviceNet Vendor Association (ODVA)

Engineering No.	Standard Order No.	Product Description
SST-EDN-1	112034-0021	Remote DeviceNet Scanner (without cables)
SST-EDN-1-C2	112034-0026	Remote DeviceNet Scanner with cable kit (DeviceNet and Power) Single-ended power cable: 3-pole, M8 connector on one end, 2 meters (6.6ft), UL/CSA cable, Cat. No. 403000A1i0M020 Single-ended DeviceNet cable: 5-pole, M12 connector on one end, 2 meters (6.6ft), UL/CSA cable, Cat. No. DND20A-M020

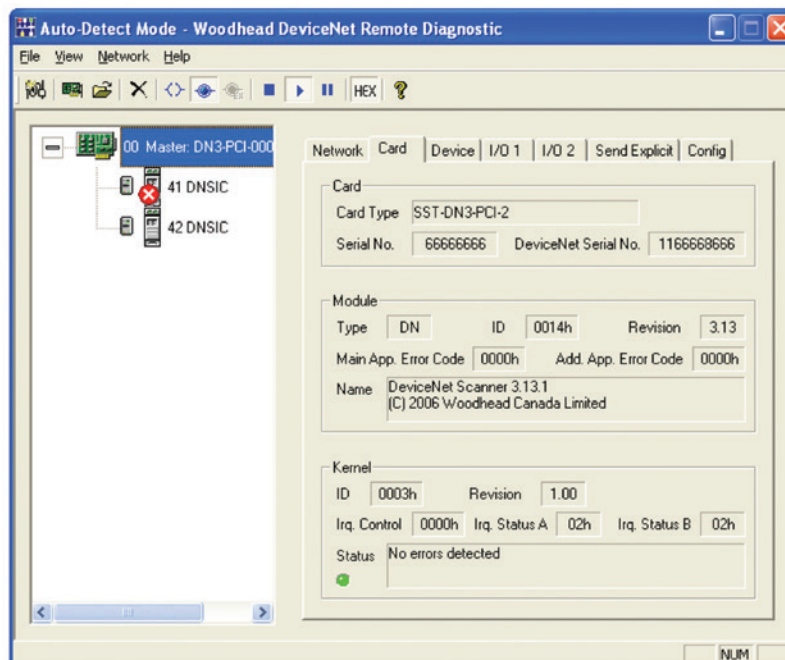
**Brad® SST™ DeviceNet*
Remote Scanner**

**112034 DeviceNet Control
over Ethernet**

TYPICAL APPLICATION

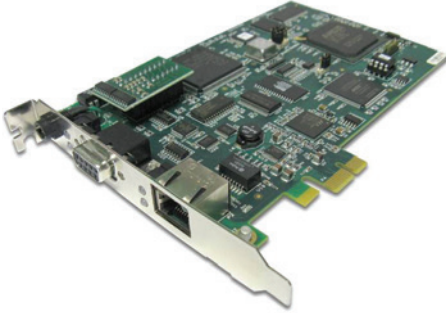


REMOTE DIAGNOSTIC SOFTWARE



*DeviceNet is a trademark of Open DeviceNet Vendor Association (ODVA)

Brad® applicom® Network Interface Card 112000 Industrial Ethernet



- Fast data acquisition between PC-based applications and industrial devices connected to Ethernet TCP/IP
- On board co-processor eliminates data bottlenecks, ensuring delivery of time critical information
- "All-in-One" - All protocols included in the package · Best choice for HMI/SCADA applications
- High value engineering software tools; enabling fast integration of industrial communication into your applications (configuration, diagnostic, data servers, development libraries)
- One configuration and one diagnostic tool whatever the protocols used
- Quick "Return-On-Investment"; Single development library and OPC server reduce the time required to learn and integrate applicom® products in your architectures
- Simultaneously run all TCP/UDP protocols in Client/Server modes
- Combine several cards (up to 8) and run simultaneously from 1 to 32 protocols in a single PC
- Combo versions:
 - Ethernet + PROFIBUS (1.5 Mbps)
 - Ethernet + Serial (38.4 Kbps)

SPECIFICATIONS**Description**

- Engineering tools:
 - Engineering console
 - Test and diagnostic tools
- Compatible data servers:
 - OPC DA v3.0
 - Wonderware® DAServer
 - Wonderware I/O (SuiteLink/FastDDE)
- Includes development libraries:
 - Visual Studio 6 (C++/C)
 - Visual Studio 2005 (VB .NET/C#)
- Supported OS:
 - Windows (32-bit and 64-bit): 8, 7 2012/2008/2003 Server, XP

Included Hardware/Software

- Bus Format:
 - PCI Universal bus 3.3V/5V (PCI-X compatible)
 - PCI Express 1x
- Hardware plug and play
- AMD SC520
- 16 Mb SDRAM
- 4 Mb flash memory
- One Ethernet port:
 - Fast Ethernet 10/100 Mbps, auto negotiating
 - Base-T (RJ45), 4 LEDs (Rx, Tx, Link, 10/100)

Compatible Protocols**Ethernet TCP/IP
(Client/Server modes)**

- Altus Alnet II (AL 200x, Webgate)
- Alstom SRTP (C80-35, C80-75)
- Allen-Bradley EtherNet/IP (PCCC) (Logix, PLC-5 and SLC 500)
- Fanuc SRTP (90-30, 90-70)
- Mitsubishi Electric Melsec (A, Q)
- Omron FINS (C, CV, CS)
- Schneider Electric Open Modbus TCP
- Schneider Electric UNI-TE (Premium and Micro)
- Siemens Industrial Ethernet (S5, S7, TI)
- UDP Send/Receive (Free messaging)

Ethernet ISO

- Schneider Electric Ethway
- Siemens Industrial Ethernet ISO (S5, S7, TF and TI)

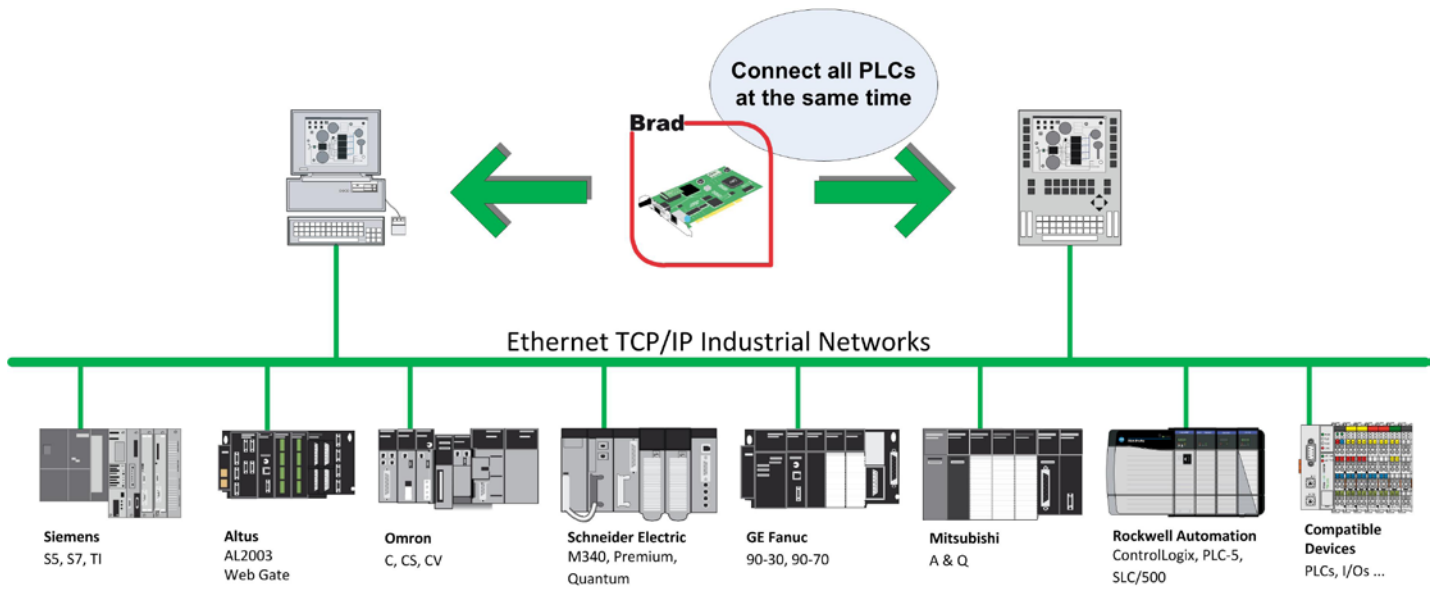
Conformance

- RoHS compliant
- CE
- OPC certified

Engineering No.	Standard Order No.	Description
APP-ETH-PCU-C	112000-0005	PCU2000ETH PCI Network Interface Card for Ethernet
APP-ETH-PCIE	112000-5026	PCIE2000ETH PCI Express Network Interface Card for Ethernet

Brad® applicom®
Network Interface Card
112000 Industrial Ethernet

TYPICAL APPLICATION



✓ **Up to 128x PLC connexions
(in both Client and Server mode)**

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FEATURES AND BENEFITS

Brad® applicom® Network Interface Card

112011 PROFIBUS for Scada/HMI



- Fast data acquisition between PC-based applications and industrial devices connected to PROFIBUS
- On board co-processor eliminates data bottlenecks, ensuring delivery of time critical information
- “All-in-One” - All protocols included in the package · Best choice for HMI/ SCADA applications
- High value engineering software tools; enabling fast integration of industrial communication into your applications (configuration, diagnostic, data servers, development libraries)
- One configuration and one diagnostic tool whatever the protocols used
- Quick “Return-Of-Investment”; Single development library and OPC server reduce the time required to learn and integrate applicom® products in your architectures
- Simultaneously run all PROFIBUS protocols
- Combine several cards (up to 8) and run simultaneously from 1 to 32 protocols in a single PC
- Combo protocol: Run all PROFIBUS protocols simultaneously (DP, PPI/ PPI+, S7/ MPI, FDL)
- Compatible with:
 - Simatic® S7 Series (S7-1200, S7-200, S7-300, S7-400)
 - Simatic® SS Series (95U, 115U, 135U, 155U)

SPECIFICATIONS

Description

- Engineering tools:
 - Engineering console
 - Test and diagnostic tools
- Compatible data servers:
 - OPC DA v3.0
 - Wonderware® DAServer
 - Wonderware I/O (SuiteLink/ FastDDE)
- Includes development libraries:
 - Visual Studio 6 (C++/C)
 - Visual Studio 2005 (VB .NET/C#)
- Supported OS:
 - Windows (32-bit and 64-bit): 8, 7 2012/2008/2003 Server, XP

Included Hardware/Software

- Bus format:
 - PCI Universal bus 3.3V/5V (PCI-X compatible)
 - PCI Express 1x
- Hardware plug and play
- AMD SC520
- 16 Mb SDRAM
- 4 Mb flash memory
- 1 PROFIBUS port, DB9 female, galvanic insulation 500V
- Speed: 9.6 Kbps up to 1.5 Mbps

Compatible Protocols

- Master DP-V0, Class-1 and Class-2
- S7/MPI Client
- FDL S5 Master
- PPI/PPI+ Master
- Free FDL Send/Receive

Conformance

- RoHS compliant
- CE
- OPC certified
- PCI Express certified

ORDERING INFORMATION

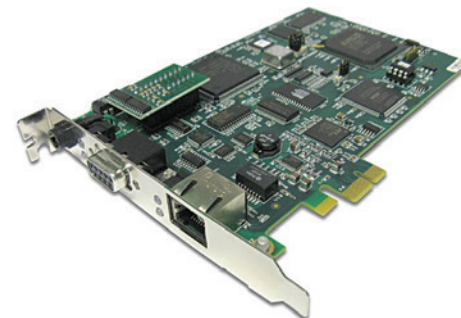
Engineering No.	Standard Order No.	Description
APP-PFB-PCU-C	112011-0004	PCU1500PFB PCI Network Interface Card for PROFIBUS
APP-PFB-PCIE	112011-5026	PCIE1500PFB PCI Express Network Interface Card for PROFIBUS

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FEATURES AND BENEFITS

- Fast data acquisition between PC-based applications and industrial devices connected to serial networks
- On board co-processor eliminates data bottlenecks, ensuring delivery of time critical information
- “All-in-One” - All protocols included in the package · Best choice for HMI/ SCADA applications
- High value engineering software tools; enabling fast integration of industrial communication into your applications (configuration, diagnostic, data servers, development libraries)
- One configuration and one diagnostic tool whatever the protocols used
- Quick “Return-Of-Investment”; single development library and OPC server reduce the time required to learn and integrate applicom® products in your architectures
- Combine several cards (up to 8) and run simultaneously from 1 to 32 protocols in a single PC
- Electrical interfaces available: RS232C, RS485/RS422, Current Loop; all with or without galvanic insulation (opto couplers)

Brad® applicom® Network Interface Card 112020 Serial Protocol for Scada/HMI



SPECIFICATIONS

Description

- Engineering tools:
 - Engineering console
 - Test and diagnostic tools
- Compatible data servers:
 - OPC DA v3.0
 - Wonderware® DAServer
 - Wonderware IO (SuiteLink/ FastDDE)
- Includes development libraries:
 - Visual Studio 6 (C++C), Visual Studio 2005 (VB, NET/C#)
- Supported OS:
 - Windows (32-bit and 64-bit) 8, 7 2012/2008/2003 Server, XP

Included Hardware/Software

- Bus format:
 - PCI Universal bus 3.3V/5V (PCI-X compatible)
 - PCI Express 1x
- Hardware: plug and play
- AMD SC520
- 16 Mb SDRAM
- 4 Mb flash memory
- 1x Serial Port:
 - D-Sub, 9pin, male
 - 2 leds (TX/RX)
 - 50 bps to 38.4 Kbps
- Electrical interface:
 - RS485/RS422 with galvanic insulation (500 V)

Compatible Protocols

- Allen-Bradley DF1 Master (PLC-5 and SLC Series)
- Elsag Bailey® Data Link Master (5000 and 2000 Series)
- GE Fanuc SNPX Master (90-xx and 80-xx Series)
- Moeller Group® Sucoma Master (PS32, PS316 Series)

- Modbus Master (ASCII and RTU)
- Modbus Slave (ASCII and RTU)
- Omron Sysmac Way Master
- Saia Burgess Controls S-Bus Master (PCD Series)
- Schneider Electric Uni-Telway Master/Slave (TSX 7 Series)
- Siemens 3964/3964R Free or RK512 Master
- Siemens AS511 Master (Simatic S5 Series)
- Siemens PPI/PPI+ Master (Simatic S7-200 Series)
- Siemens Ti-Dir Master (Simatic TI-505 Series)

Conformance

- RoHS compliant
- CE
- OPC certified
- PCI Express certified

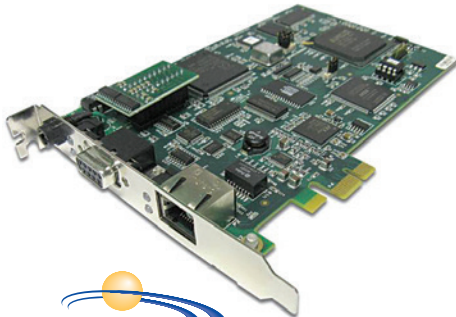
ORDERING INFORMATION

Engineering No.	Standard Order No.	Description
APP-SR1-PCU-C	112020-5017	PCU1000 PCI Network Interface Card for Serial networks
APP-SR1-PCIE	112020-5018	PCIE1000 PCI Network Interface Card for Serial networks

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FEATURES AND BENEFITS

Brad® applicomIO® Network Interface Card 112000 Ethernet Fieldbus



- Deterministic data acquisition for real time PC-based control applications
- On board co-processor eliminates data bottlenecks, ensuring delivery of time critical information

- Very easy-to-use; no knowledge of protocol required
- Remote access via TCP/IP connection; to able configuration and diagnostic when using real time OS (VxWorks, Linux)

SPECIFICATIONS

Description

- Auto mapping of I/O in card DPRAM
- I/O exchange up to 14 Kbytes
- Hardware and software Watchdog
- Auto-Boot (Configuration stored in flash)
- Engineering tools:
 - Engineering console with automatic test and diagnostic tools
- Compantible data servers:
 - OPC DA v3.0, 2.05 and 1.0a
- Includes development libraries:
 - Windows (32-bit and 64-bit): 8, 7 2012/2008/2003 Server, XP Embedded
 - Others: Linux, VxWorks, RTX VenturCom

Included Hardware/Software

- PCI Universal bus 3.3V/5V (PCI-X compatible)
- Hardware plug and play
- AMD SC520
- 16 Mb SDRAM; 4 Mb flash memory
- 1 digital input plus 1 digital output
- 1 Ethernet port:
 - Fast Ethernet 10/100 Mbps, auto negotiating
 - Base-T (RJ45), 4 LEDs (Rx, Tx, Link, 10/100)

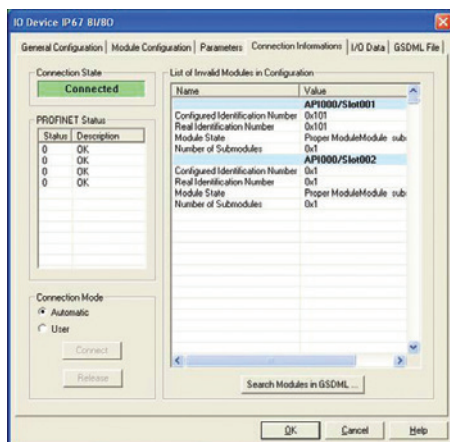
Compatible Protocols

EtherNet/IP

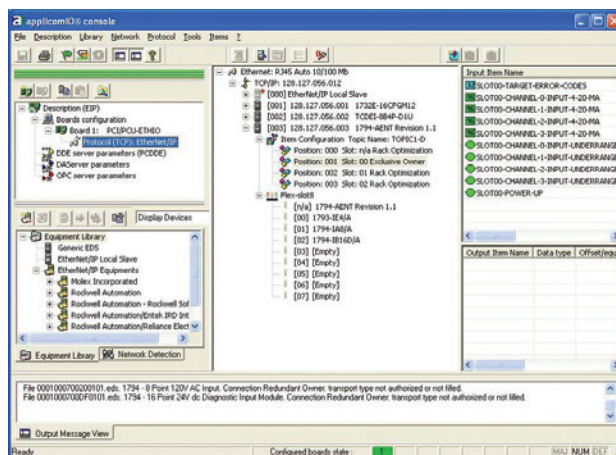
- Scanner and adapter
- Explicit messaging (Client/Server)
- Up to 128 simultaneous CIP connections
- EtherNet/IP Devices supported: Generic and Rockwell IO through EDS files (FlexIO, CompactLogix, etc)
- IP address settings configurable via the console or DHCP/BOOTP server
- Client DNS supported

Conformance

- RoHS compliant
- CE
- OPC certified
- ODVA conformance tested



Device Diagnostics



Configuration Console

ORDERING INFORMATION

Engineering No.	Order No	Description
DRL-EIP-PCU	112000-5030	PCU-ETHIO PCI Network Interface Card for EtherNet/IP
DRL-EIP-PCIE	112000-5033	PCU-ETHIO PCI Express Network Interface Card for EtherNet/IP

Brad® Software Development Kits EtherNet/IP Scanner and Adapter

112106 Ethernet Software Development Kits



EtherNet/IP Stack, SST-EIP-SCA

- Scanner and adapter protocol stacks can address both controller (Scanner) or device (Adapter) manufacturers who want to implement EtherNet/IP networks
- Brad stacks have no hardware and OS dependencies and can be easily implemented on a large range of hardware system platforms or software operating systems
- Sample applications with source codes are provided and can be quickly and easily implemented
- OEM engineering console software (EIP-CT) to quickly create configuration files to initialize the stack and perform commissioning and diagnostic of connected devices (this tool is protected by a USB dongle and can be customer branded)
- Brad stacks are successfully tested with ODVA conformance tool
- Molex can provide stack training, technical support and engineering development for both hardware and software design

SPECIFICATIONS

Basic Characteristics

- Conform to ODVA specifications EtherNet/IP (vol 1-3.14, vol 2-1.15)
- CIP features:
 - Implicit messaging (I/O process data)
 - Explicit messaging (configuration and diagnostic)
- Extensive Client/Server messaging support
- Fully compatible with EtherNet/IP conformance test suite CT11
- Stack resolution: Timing resolution in microseconds
- Supported objects according to CIP Standard
- Identity object
- Message router object
- Assembly object:
 - Connection Manager Object
 - TCP/IP Interface Object
 - Ethernet link object
 - QoS object
 - And any user objects

SDK Package

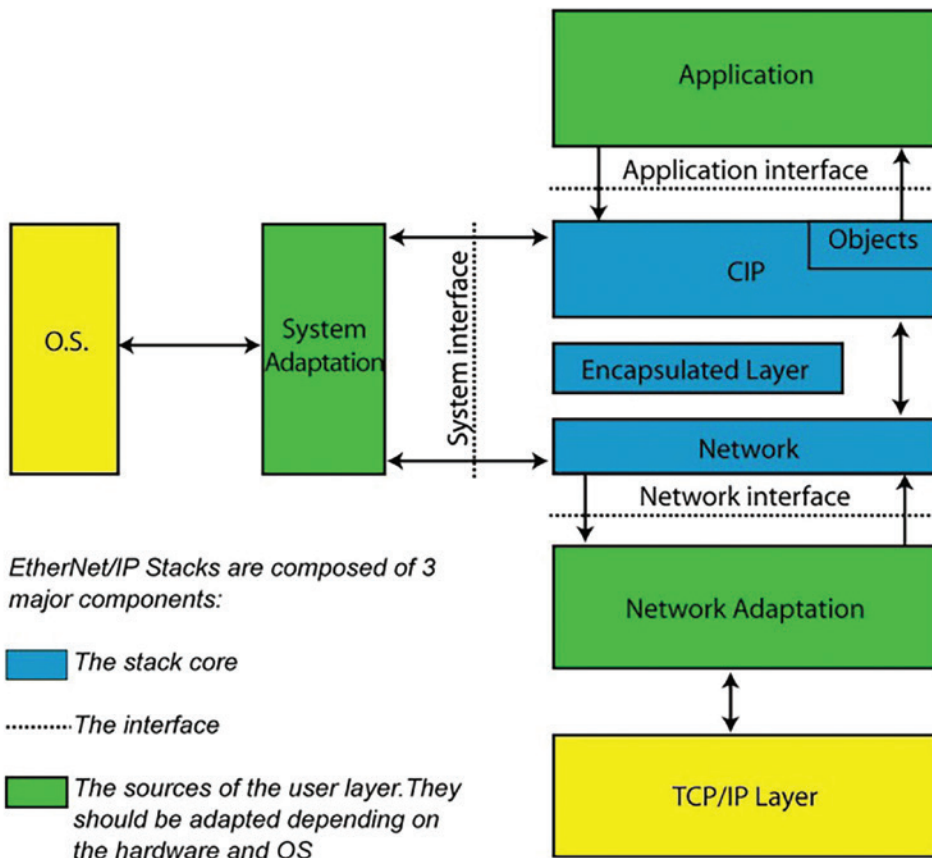
- ANSI C source code
- Electronic documentation
- Implementation example on several operating systems (Win32, Win64, VxWorks 6.4/6.6/6.8, Linux)
- EDS sample
- STC sample for ODVA conformance tool
- Sandbox application for testing SDK API
- EIP_Trace to log messages from target platform on a Windows host
- EIP_Tool to access CIP objects

Common Characteristics

- Hardware compatibility: 32-bit and 64-bit processor (Intel, PowerPC, ARM, SH4 already validated)
- Supported operating system: Any OS real-time or not (Windows, VxWorks, Linux, etc.)
- Hardware compatibility: Supports Motorola and Intel memory systems
- Stack implementation:
 - Single or multi task
 - Socket based or UDP optimization
- Code foot print (estimate but highly customizable):
 - 200 kB for Adapter
 - 400 kB for Scanner

EtherNet/IP Configuration Tool (EIP-CT)

- Windows (32-bit and 64-bit): XP, Vista, Seven, 2008 Server
- Generate scanner stack configuration files
- EDS device library management
- Adapter commissioning (Automatic device detection, online actions, etc.)
- Support of modular device like Rockwell FlexI/O and PointI/O devices with chassis and module management
- Integrated diagnostic
- OEM customization
- USB dongle protection
- Used by ODVA during plug fest interoperability tests



Brad® Software Development Kits EtherNet/IP Scanner and Adapter

112106 Ethernet Software Development Kits

EtherNet/IP Stacks are composed of 3 major components:

 The stack core

..... The interface

 The sources of the user layer. They should be adapted depending on the hardware and OS

ORDERING INFORMATION

Engineering No.	Standard Order No.	Description
112106-5003	SDK-EIP-SCA	EtherNet/IP Scanner and Adapter SDK
112106-5009	SDK-EIP-SCA-L	EtherNet/IP Scanner and Adapter License Fee
112106-5004	SDK-EIP-SCA-UDP-1	EtherNet/IP Scanner and Adapter SDK – Update Contract – 1 year
112106-5025	SDK-EIP-SCA-UDP-3	EtherNet/IP Scanner and Adapter SDK – Update Contract – 3 years
112106-5011	SDK-EIP-SCA-CNF-U	EtherNet/IP Configuration Tool (EIP-CT) for Scanner SDK
112106-0000	SDK-EIP-ADP	EtherNet/IP Adapter SDK
112106-5000	SDK-EIP-ADP-UPD-1	EtherNet/IP Adapter SDK – Update Contract – 1 year
112106-5023	SDK-EIP-ADP-UPD-3	EtherNet/IP Adapter SDK – Update Contract – 3 years

SUPPORT/TRAINING INFORMATION

Engineering No.	Standard Order No.	Description
860000-0141	SDK-EIP-EDS	Engineering Support for EtherNet/IP SDK
860000-0143	SDK-EIP-TRN	EtherNet/IP SDK Training

Brad® Software Development Kits CIP Safety DeviceNet* Slave and EtherNet/IP Adapter

112115 DeviceNet Software Development Kits

112116 Software Development Kits - License

112117 EtherNet/IP Software Development Kits

- Faster time-to-market with TÜV approved stack
- Meets IEC 61508, SIL3 ensuring international market acceptance
- Approved by TÜV and tested by ODVA means a high-quality solution for minimal project risk and faster time-to-market
- Pre-tested modular ANSI C code is easy to compile using standard compilers; faster time-to-market
- Molex engineers can support protocol-integration requests minimizing investment required for in-house resources
- Designed for use with other Molex/Brad offerings: Hardware (DN4 network interface cards), Software (DeviceNet or EtherNet/IP software stacks) which results in a complete CIP communication solution



CIP Safety Stack, SST-EIP-SCA

SPECIFICATIONS

Description

- Design for dual channel architecture (1oo2)
- ANSI C code for the safety portion of the stack (Compliant with CIP Safety Specification 2.1)
- ANSI C code for black-channel components (NET_CTRL_IO)
- Interface specification for high-integrity and black-channel environments
- Safety integration manual (including safety measure requirements)
- Optionally, modified standard CIP stacks (software/firmware) for DeviceNet (Slave) or EtherNet/IP (Adapter)
- Optionally, ANSI C code for the platform adaptation layers (both safety and non-safety)
- All documentation required by certification bodies (TÜV, ODVA)
- Support during certification process of vendor's final product

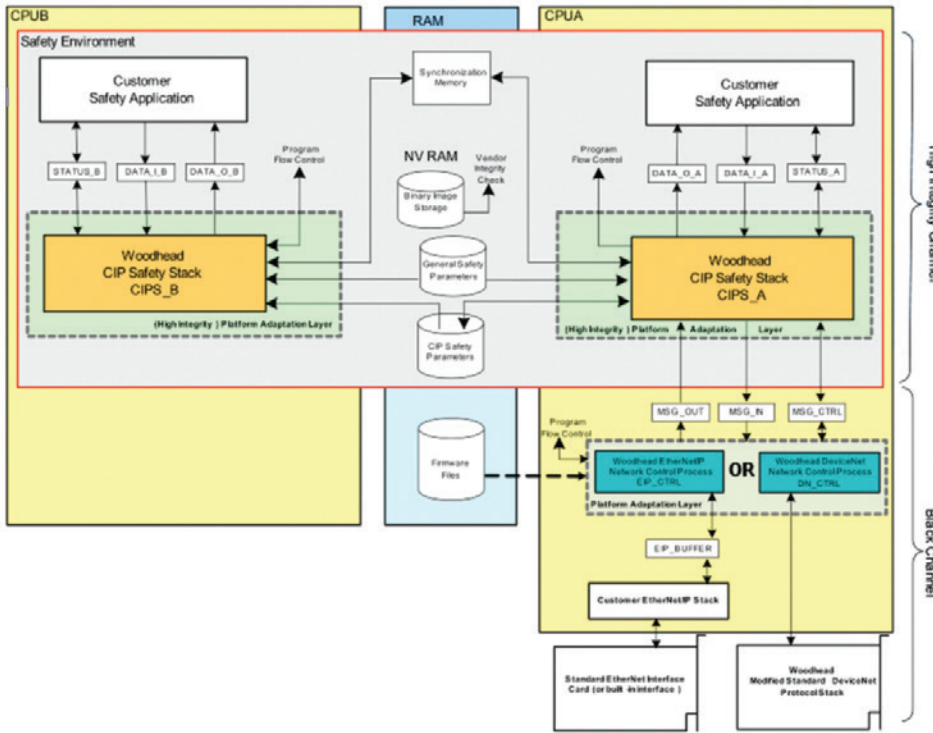
Conformance

- TÜV approved for SIL3 design
- ODVA conformance



Typical Products Requiring Safety

TYPICAL STACK ARCHITECTURE



Brad® Software Development Kits CIP Safety DeviceNet* Slave and EtherNet/IP Adapter

112115 DeviceNet Software Development Kits

112116 Software Development Kits - License

112117 EtherNet/IP Software Development Kits

ORDERING INFORMATION

Engineering No.	Standard Order No.	Network	Description
SDK-DNS-SAF	112115-0001	DeviceNet Slave	CIP Safety Software Development Kit
SDK-DNS-SAF-L	112116-0001		CIP Safety Software Development Kit, Royalty (per device)
SDK-DNS-SAF-UPD-1	860000-0271		CIP Safety Software Development Kit – Update Contract – 1 year
SDK-DNS-SAF-UPD-3	860000-0272		CIP Safety Software Development Kit – Update Contract – 3 years
SDK-EIP-ADP-SAF	112117-0001	EtherNet/IP Adapter	CIP Safety Software Development Kit
SDK-EIP-ADP-SAF-L	112116-0002		CIP Safety Software Development Kit, Royalty (per device)
SDK-EIP-ADP-UPD-1	860000-0271		CIP Safety Software Development Kit – Update Contract – 1 year
SDK-EIP-ADP-UPD-3	860000-0272		CIP Safety Software Development Kit – Update Contract – 3 years

SUPPPORT/TRAINING INFORMATION

Engineering No.	Standard Order No.	Description
SDK-CIP-SAF-TRN	860000-0291	Engineering Support for CIP Safety SDK

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FEATURES AND BENEFITS

Brad® Direct-Link® Windows Compatible Protocol Drivers

112027 Serial and Ethernet TCP/IP



- Direct-Link® SW1000 provides data acquisition between Windows PC-based applications and industrial devices connected to Ethernet TCP/IP
- Economic solution; well suited for embedded and light architecture (laptop, panel PC, MMI)
- 100% software solution; use PC COM port or integrated Ethernet interface
- Wide variety of open and vendor specific industrial protocols

SPECIFICATIONS

Description

- Based on Windows TCP/IP socket
- All Ethernet protocols can run simultaneously
- All Ethernet protocols can run Client and Server modes
- Database (32 Kbits, 32 Kwords) for Server mode to exchange data with applications

Included Hardware/Software

- Engineering tools:
 - Engineering console
 - Test and diagnostic tools
- Compatible data servers:
 - OPC DA v3.0, 2.05 and 1.0a
 - Wonderware® DAServer
 - Wonderware IO (SuiteLink/ FastDDE)
- Includes development libraries:
 - Visual Studio 6 (C++C), Visual Studio 2005 (VB .NETC#)
- OS support:
 - Windows (32-bit and 64-bit): 8, 7 2012/2008/2003 Server, XP
- Software or USB dongle protection

Compatible Protocols

- Serial:
 - Modbus Master (ASCII and RTU)
 - Modbus Slave (ASCII and RTU)
 - Fanuc SNPX Master (90-xx and 80-xx Series)
 - Schneider Electric Uni-Telway Slave (TSX 7 Series)
 - Siemens AS511 Master (Simatic S5 Series)
 - Siemens PPI/PPI+ Master (Simatic S7-200 Series)
 - Siemens Ti-Dir Master (Simatic TI-505 Series)
- Ethernet TCP/IP:
 - Altus Alnet II (AL200x, webgate); Client/Server
 - Alstom SRTP (C80-35, C80-75); Client/Server
 - Allen-Bradley Logix5000 (ControlLogix and FlexLogix); Client/Server
 - Fanuc SRTP (C90-30, C90-70); Client/Server
 - Mitsubishi Electric Melsec (A and Q); Client/Server
 - Omron FINS (C, CV, CS); Client/Server
 - Schneider Electric Modbus TCP and UDP; Client/Server
 - Schneider Electric UNI-TE (Premium and Micro); Client/Server
 - Siemens Industrial Ethernet (S5, S7, TI); Client/Server

ORDERING INFORMATION

Engineering No.	Standard Order No.	Description
DRL-ALL-SWF-S	112027-0002	SW1000 software drivers, Full tags, Software key protection
DRL-ALL-SWF-U	112027-0003	SW1000 software drivers, Full tags, USB dongle protection
DRL-ALL-SWL-S	112027-0005	SW1000 software drivers, Full tags, Software key protection
DRL-ALL-SWL-U	112027-0006	SW1000 software drivers, Full tags, USB dongle protection

**Brad® DeviceNet*
Diagnostic Tools**

**112008 eNetMeter™
DN NetAlytix™**



eNetMeter, 112008-0008

eNetMeter DN and NetAlytix

eNetMeter DN is a passive device that continuously monitors a DeviceNet network and sends the information over Ethernet to a PLC or PC monitoring system. The information can be used to proactively respond to out-of-tolerance parameters before network failure occurs. Optionally, data can be accessed through NetAlytix software, an OPC server or a DLL.

FEATURES AND BENEFITS

- Continuously monitors a DeviceNet network in a passive state
- Provides feedback to an EtherNet/IP™ master or one of three methods to a personal computer (PC) residing on Ethernet:
 - NetAlytix™ software
 - OPC server
 - DLL interface
- High-speed sampling of network parameters
 - Signals are sampled millions of times per second providing accurate values
- Email based notification feature is now supported within the NetAlytix software tool
- AOI supports simple integration with Logix based controller allowing easy data transfer for an eNetMeter
- Information captured includes:
 - Overall network status and measurements
 - Individual node status and measurements
 - Detailed measurements of power (V+, V-), signal (CANH, CANL) and shield parameters
- Warning and fault flags indicate when a value has exceeded a set tolerance (levels are customizable)
- NetAlytix software enables quick graphical access to network issues including CAN and power waveform details
 - easily allows comparison of a known good waveform to current readings in order to diagnose problems

SPECIFICATIONS

Electrical

- Input power (Aux. or DeviceNet)
11 to 25V DC, 300 mA (typical at 24 VDC)
- Data rate:
DeviceNet: 125K, 250K and 500K baud
Ethernet: 10/100 M baud

Mechanical

- Diagnostic LEDs and control:
Ready, System/Boot, Power & Comm;
Reset (recessed)

Physical

- Dimensions:
142.00mm (5.60") high;
102.00mm (4.08") deep;
38.00mm (1.53") wide
- Connectors:
DeviceNet—5-pole M12 Micro-Change®
Ethernet—RJ-45
- Enclosure: IP20
- Mounting:
DIN rail or panel (screw) mounted
- USB: USB 2.0 master, for transfer/
storage of configuration parameters
- Operating temperature: 0 to 60°C
- Storage temperature: -5 to 75°C
- Humidity: 5% to 95% non-condensing

Software

- NetAlytix full version includes OPC Server and API/DLL
- Supported within Windows 8, Server 2012, Windows 7 (64-bit), Vista, XP

Environmental

- Approvals: CE, cULus
- RoHS Compliant: Yes

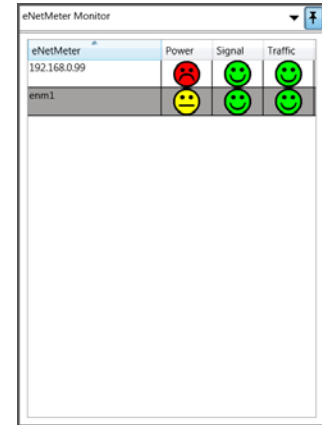


eNetMeter PTU, 112008-0016

*DeviceNet is a registered trademark of Open DeviceNet Vendor Association

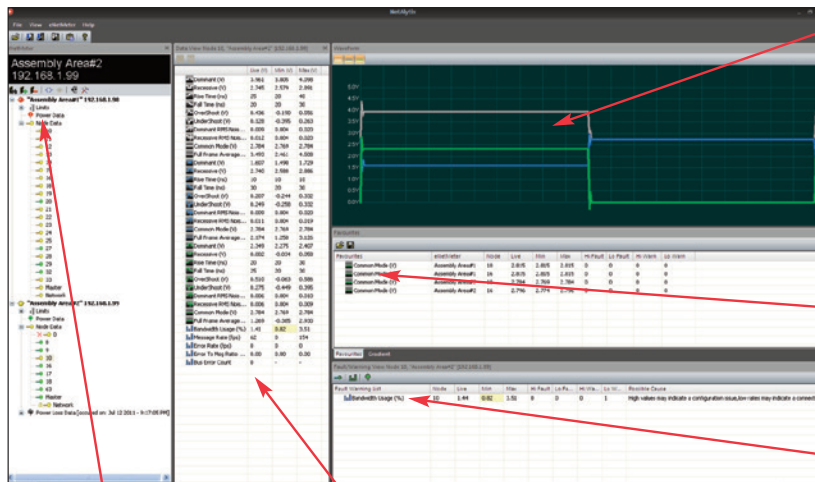
Engineering No.	Standard Order No.	Product Description
SST-ENM-DN1	112008-0008	eNetMeter™ DN diagnostic tool for DeviceNet
SST-NAS-DN1	112008-0011	NetAlytix™ software for eNetMeter DN (includes full application, DLL/API, OPC Server)
SST-ENM-SKT	112008-0012	Bundle of eNetMeter DN (1120080008) and NetAlytix (1120080011), with a limit of one per partner or end-customer site
SST-ENM-PTU	112008-0016	Bundle of eNetMeter DN (112008-0008) and NetAlytix (112008-0011) in portable test case (IP54) with DC power and external ports for network as well as AC power connections

Brad® DeviceNet* Diagnostic Tools
112008 eNetMeter™ DN NetAlytix™



eNetMeter Monitor software - included in NetAlytix software

NetAlytix™ Software V2



Data Waveform Area (colours match DeviceNet wiring)

Favourites Area (User defines own)

All Warnings & Faults are displayed together

Drop-down hierarchy shows all active eNetMeters and network nodes being monitored

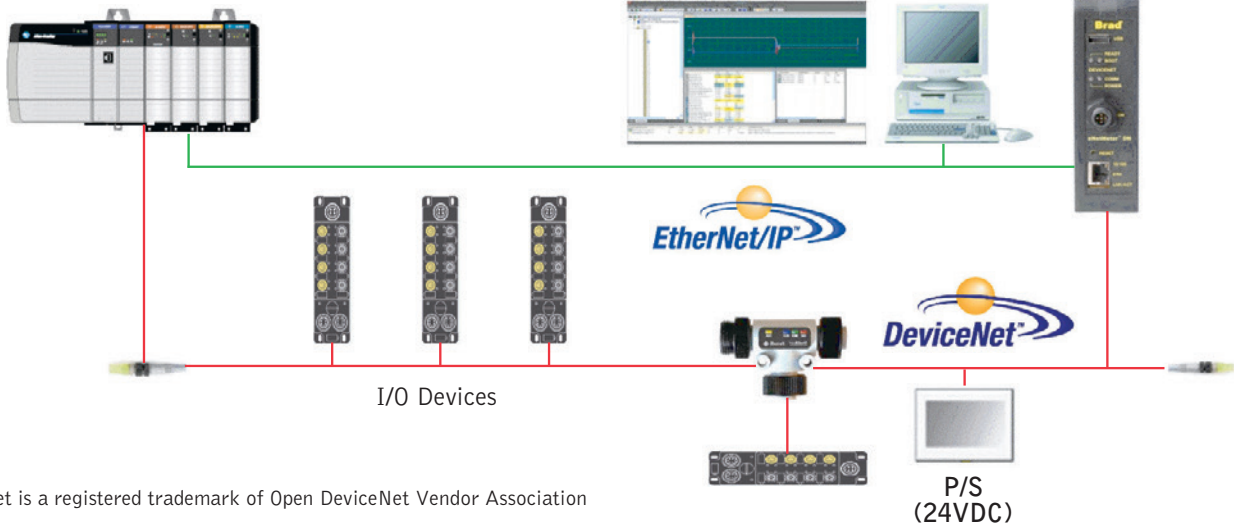
All data shown for network area selected in drop-down hierarchy (left panel)

APPLICATION EXAMPLE

Typical PLC/PAC (can access eNetMeter™ DN data with Add-On Instruction)

PC running NetAlytix™ software

eNetMeter™ DN



* DeviceNet is a registered trademark of Open DeviceNet Vendor Association

**Brad® DeviceNet*
Diagnostic Tools
112008 NetMeter®**



NetMeter, 11200-80013



NetMeter Kit, 112008-0014

NetMeter

NetMeter cuts troubleshooting time by providing technical details, yet it simplifies and summarizes, allowing both a DeviceNet expert and novice to effectively identify and diagnose network problems. It summarizes DeviceNet bus health by displaying a happy face icon, indicating a healthy network; a sad face, indicating a serious problem; or a neutral face, indicating nominal performance (a good indication to repair things before they actually fail). NetMeter then walks the user through each fault condition and its potential source.

FEATURES AND BENEFITS

- Certifies proper network operation:
 - Measures 677 key network parameters
 - Compares with DeviceNet specification
- Accelerates fault troubleshooting:
 - AutoSearch finds all bad network parameters
 - Full traffic and error analysis by node address
 - Power quality, shield voltage, signal quality
- Battery-powered:
 - Save readings for off-line analysis

SPECIFICATIONS

Electrical

- Power supply: 7V—30V (30 mA at 24V) battery 2x AA alkaline (for offline review of stored measurements)

Mechanical

- Baud rates supported: 125K, 250K, 500K (auto-detect)
- Analog range (with over/under range indication):
 - Bus Power: 0 to 25V
 - Bus Signal: -5 to 10V

Physical

- Connectors: DeviceNet Standard "Sealed Micro" Adapter cable included for DeviceNet Standard "Sealed Mini"

ORDERING INFORMATION

Engineering No.	Standard Order No.	Product Description
DN-MTR (E)	112008-0013	NetMeter for DeviceNet
DN-MTR-KIT (E)	112008-0014	NetMeter Kit for DeviceNet (includes carrying case, PowerMonitor T and LED Termination Resistor)
DN-MTR-BAG	112008-0003	NetMeter carrying case
DN-MTR-CAL	112008-0004	NetMeter ISO calibration
715-0016	112062-0048	NetMeter User Guide, pocket book, 28 pages

*DeviceNet is a registered trademark of Open DeviceNet Vendor Association

FEATURES AND BENEFITS

- Minimizes maintenance repair and downtime by analyzing bus power quality
- Predicts power faults by logging outside of specification power conditions thereby increasing uptime
- Helps quickly certify new installations

SPECIFICATIONS

Reference Information

- UL File No.: E152210
- CSA File No.: LR6837

Electrical

- Power supply: 7–30V DC, < 50mA
- Basic analog accuracy: ± 100mV
- Minimum “Low” voltage threshold: <12.96V
- Nominal “OK” voltage range: 12.96V–24.78V
- Maximum “high” voltage threshold: >24.78V
- Glitch/Ripple threshold (AV/AT): Var 75 V/S at 16mS to 640 V/S at 1.0mS
- Reset: Magnet at drop “reset” changes mag reed switch state

Physical

- Connector face: Thermo plastic elastomer
- Molded body: Thermo plastic elastomer
- Coupling nut: Zinc diecast black e-coat
- Operating temperature: -20 to +80°C

Environmental

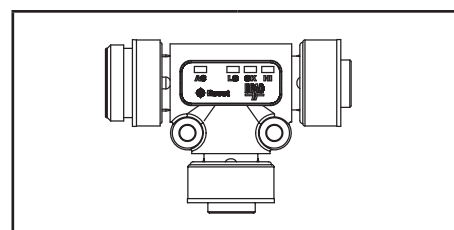
Protection: IP67
NEMA Rating: NEMA 6

DeviceNet* Brad® Mini-Change® Diagnostic Power Monitor® Tees

130035 Male/Female
Thick Media



DeviceNet* Brad® Mini-Change®
Diagnostic Power Monitor® Tees



ORDERING INFORMATION

Diagnostic Type	Left Trunk Gender	Right Trunk Gender	Drop Gender	Engineering No.	Order No.
Standard Bus Drop Tee with Diagnostics	Male	Female	Female	DN3020PM-1	130035-0060
	Female	Male	Female	DN3020PM-3	130035-0061

Diagnostic Tee

Indication	Led Display	Condition
OK	Green	Normal
HI	Red	Overvoltage
LO	Blue	Undervoltage
HI	Flashing Red	Surge within last 24 hours
LO	Flashing Blue	Brown out within last 24 hours
AC	Flashing Yellow	Power glitch within last 24 hours

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