Welcome to E-XFL.COM

Understanding Embedded - Microcontroller, Microprocessor, FPGA Modules

Embedded - Microcontroller, Microprocessor, and FPGA Modules are fundamental components in modern electronic systems, offering a wide range of functionalities and capabilities. Microcontrollers are compact integrated circuits designed to execute specific control tasks within an embedded system. They typically include a processor, memory, and input/output peripherals on a single chip. Microprocessors, on the other hand, are more powerful processing units used in complex computing tasks, often requiring external memory and peripherals. FPGAs (Field Programmable Gate Arrays) are highly flexible devices that can be configured by the user to perform specific logic functions, making them invaluable in applications requiring customization and adaptability.
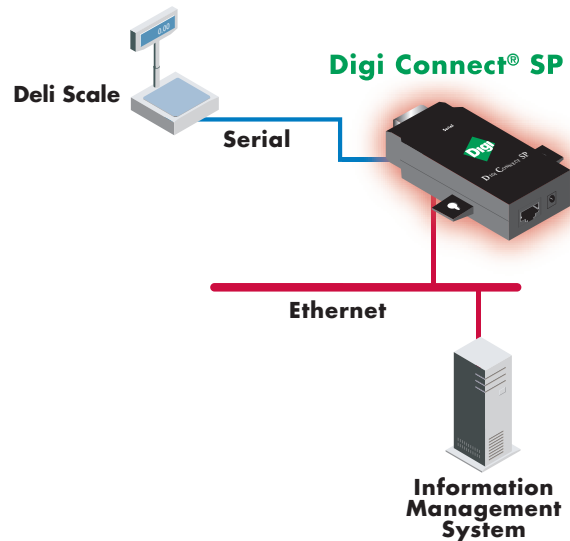
Applications of Embedded - Microcontroller,

Details

Product Status	Discontinued at Digi-Key
Module/Board Type	MPU Core
Core Processor	ARM7TDMI, NS7520
Co-Processor	-
Speed	55MHz
Flash Size	4MB
RAM Size	16MB
Connector Type	RJ45
Size / Dimension	3.88" x 1.68" (98.5mm x 42.7mm)
Operating Temperature	-40°C ~ 85°C
Purchase URL	https://www.e-xfl.com/product-detail/digi-international/dc-sp-01-c-25

Digi Connect SP® Family

Standard and Customizable Serial Servers

The Digi Connect SP serial server delivers a powerful, compact and cost-effective off-the-shelf hardware platform for standard plug and play applications or embedded networking solutions.

Deli Scale

Digi Connect® SP

Serial

Ethernet

Information Management System

Features/Benefits

- **Off-the-shelf hardware platform for standard or custom network applications**

- **Compact enclosure design with integrated mounting tabs**

- **RS-232 only or switch-selectable RS-232/422/485 serial interface**

- **Flexible 9-30VDC power input**

- **Product customization options**
  - **Web UI**
  - **Logos and color schemes**
  - **Factory defaults**

- **SSL/TLS with NIST-certified AES encryption for security sensitive environments**

- **Digi's patented RealPort with encryption for COM/TTY port redirection and control**

- **IPv6 capable**

- **SNMP support**

- **Support for SSHv2 connections**

- **Digi Connectware® Manager-ready**

Overview

More and more, electronic devices used in all types of commercial applications are being network-enabled so that data from those devices can be accessed, evaluated and utilized in real time. The Digi Connect SP device server is a simple and cost-effective solution for migrating electronic devices to this emerging world of networked device collaboration.

Built on Digi's 32-bit NET+ARM technology, the Digi Connect SP provides a powerful off-the-shelf hardware platform for standard plug and play device networking as well as a configurability for custom network applications. The award-winning NET+ARM architecture provides a seamless migration path to embedded modules and a fully-integrated system-on-a-chip solution.
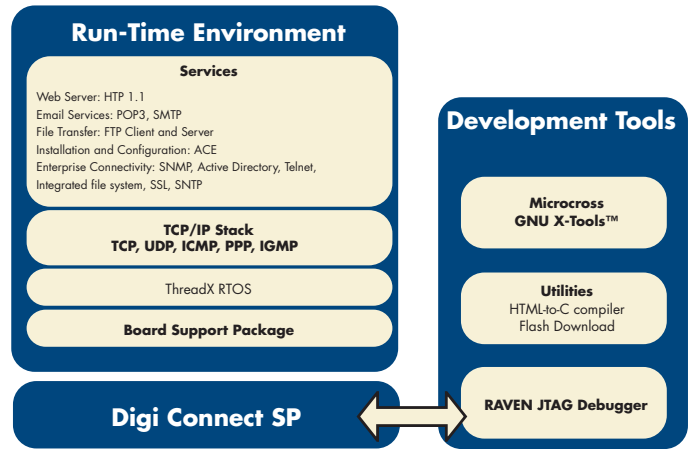
The Digi Connect SP also provides as an easy user interface, product customization options, intelligent remote management and monitoring capabilities through the Digi Connectware® Manager device management software, full IPv6 support and standard management interfaces including SNMP.

Please contact us at 1-877-OEM-DIGI or 952-912-3444 for additional information or to discuss your application requirements.

Customizable Firmware Models

The Digi Connect SP device server is the ideal platform for custom web- and network-enabled applications. It eliminates the hardware design effort and delivers a true device networking solution that is powerful enough to meet your future performance requirements.

The Digi Connect SP Development Kit is an easy-to-use and royalty-free development platform that significantly reduces traditional design risk and accelerates the overall software development process. Based on Digi's NET+OS® development platform, it delivers the integrated building blocks and tools to quickly and cost effectively create flexible and secure embedded applications for integrated, high-performance web and networking solutions.

Run-Time Environment

Services
Web Server: HTP 1.1
Email Services: POP3, SMTP
File Transfer: FTP Client and Server
Installation and Configuration: ACE
Enterprise Connectivity: SNMP, Active Directory, Telnet,
Integrated file system, SSL, SNTP

TCP/IP Stack
TCP, UDP, ICMP, PPP, IGMP

ThreadX RTOS

Board Support Package

Development Tools

Microcross GNU X-Tools™

Utilities
HTML-to-C compiler
Flash Download

RAVEN JTAG Debugger

Digi Connect SP

DEVELOPMENT KIT CONTENTS

- Digi Connect SP w/JTAG
- Macgraigor Raven JTAG debugger
- NET+OS software components
  - Microcross™ GNU X-Tools with command line and visual GDB debugger
  - ThreadX® Real-Time Operating System with picokernel™ architecture
  - Fusion™ TCP/IP stack with full networking protocol and extended networking services support
  - TCP, UDP, ICMP, IGMP, DNS, SNMPv2, LDAP, POP, SMTP, PPP, FTP, SNTP, Telnet, FastIP, Fast Sockets, Multi-Homing
  - Universal IP address assignment through Address Configuration Executive (ACE)
  - Static IP, DHCP, BOOTP, Auto-IP, RARP, ARP/Ping

  - Allegro Software embedded web server with HTTPS support
  - SSL 3.0/TLS 1.0 with strong encryption
    - DES (56-bit)
    - 3DES (168-bit)
    - AES (128/256-bit)
  - Flexible and robust file system supporting RAM and Flash (with wear leveling)
- SMICng MIB compiler
- Micro XML SAX parser
- Additional utilities
  - HTML-to-C compiler
  - Flash download
- Sample code
- Documentation
  - Digi Connect SP Hardware Reference
  - NET+OS® Programmer's Guide
  - NET+OS API Reference

  - NET+OS Advanced Web Server Toolkit
  - NS7520 Hardware Reference
- Cables
  - Straight-thru and crossover serial cables
  - Straight-thru and crossover network cables
- Loop-back adapter
- Power supplies
- Significantly improves time-to-market by eliminating hardware design process
- Easy-to-use and royalty-free, out-of-the-box development kit solution
- Quick and cost-effective embedded application software development
- Seamless migration path to a fully integrated system-on-chip solution

MODEL.....................PART NUMBERS

Model	North America	International
Digi Connect SP Development Kit (GNU) - Includes unit w/JTAG interface, hardware debugger, NET+OS platform CD, documentation, cables and power supplies	DC-SP-01-GN	DC-SP-01-GN
Units for Custom Applications		
Digi Connect SP Bulk (RS-232 only)	DC-SP-01R-C	DC-SP-01R-C-W
Digi Connect SP Bulk (RS-232/422/485)	DC-SP-01-C	DC-SP-01-C-W
Digi Connect SP Bulk (25-unit pack w/ 25 power supplies)	DC-SP-01-C-25	DC-SP-01-C-W-25
Accessories		
Replacement Power Supply	76000737	76000738

Single-unit and bulk packs include unit with power supply. Please order Development Kits for product development purposes.

Units for custom applications are designed for deployment of embedded software solutions developed using the NET+OS Development Kit.

Standard Firmware Models

The Digi Connect SP delivers a true plug-and-play device networking solution that combines a compact form factor with proven serial port connectivity. Unlike the similarly-sized Digi One® SP, the Digi Connect SP provides a more extended operating temperature range, IPv6 support, the ability to issue automated email alerts and SNMP traps, and unique product customization capabilities. These and other features make the Digi Connect SP an attractive solution for a broad range of applications in retail/POS, manufacturing, building security, government and medical.

SOFTWARE FEATURES

- Automated security alerts via email and SNMP traps
- IPv6 support for compatibility with next-generation networks
- Easy-to-use Digi plug-and-play firmware offers complete serial-to-network connectivty and unique product customization flexibility
- Strong SSL/TLS encryption with NIST-certified AES encryption for security sensitive environments
- Digi's patented RealPort® technology for COM/TTY port redirection and control

- Robust on-board TCP/IP stack with built-in web server
- Universal IP address assignment
  - Static IP, DHCP, Auto-IP
- Dynamic DNS support (DHCP Option 12)
- Secure web user interface (HTTP/HTTPS) with context-sensitive online help
- Pre-defined and custom device profiles
- Customizable web interface with optional Java applet support
  - File system w/512 kb user space
- Telnet command line interface
- Modem emulation and port logging
- Serial configuration interface
  - Command line, XML Remote Command Interface (RCI)

- User-defined network service/port configuration
  - HTTP/HTTPS, Telnet, Rlogin, Advanced Digi Discovery Protocol (ADDP), SNMP, RealPort, SSL/TLS, TCP/UDP
- TCP/UDP forwarding characteristics
  - Bytes, idle time, data pattern
- User-configurable TCP/UDP Socket ID
- Data pattern event notification via email/SNMP traps
- Intelligent SNMP device management
- Strong SSL/TLS based encryption
  - DES (56-bit), 3DES (168-bit), AES (128/256-bit)

MODEL.................PART NUMBERS

Model	North America	International
Digi Connect SP (RS-232 only)	DC-SP-01R-S	DC-SP-01R-S-W
Digi Connect SP (RS-232/422/485)	DC-SP-01-S	DC-SP-01-S-W
Digi Connect SP Bulk (25-unit pack w/ 25 power supplies)	DC-SP-01-S-25	DC-SP-01-S-W-25
Accessories		
Replacement Power Supply	76000737	76000738

Single-unit and bulk packs include unit with power supply.

Features/Specifications

HARDWARE

- 32-bit NET+ARM high-performance RISC processor (NS7520 55 MHz)
- 4 MB Flash and 16 MB RAM
- RS-232 or switch-selectable RS-232/422/485 serial interface (DB-9M connector)
  - Throughput up to 230,400 bps
  - 7/8 data bits
  - 1/1.5/2 stop bits
  - None/even/odd parity
  - Full signal support with software/hardware flow control
- Auto-sensing 10/100 Mbit Ethernet interface and network link
- Flexible 9-30VDC power supply

LEDS
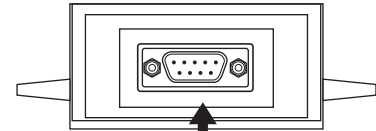
- Network link
- Ethernet activity
- Power (red)

ENVIRONMENTAL

- Storage temperature: -40° C to 90° C (-40° F to 194° F)
- Operating temperature: 0° C to 60° C (32° F to 140° F)
- Relative humidity: 5% to 90% (non-condensing)
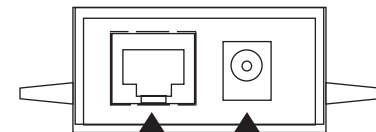- Altitude: 12,000 Feet (3658 Meters)

REGULATORY APPROVALS

- FCC Part 15, Class A
- EN 55022
- EN5J024
- VCCI
- AS 3548
- UL60950
- CSA 22.2 NO. 60950
- EN 60950

POWER REQUIREMENTS

- 9-30VDC @ 370 mA
- Power supply included
  - North America: 120VAC
  - International: 90-264VAC

DIMENSIONS

Length: 3.876 in (9.846 cm)
Width: 1.680 in (4.267 cm)
Depth: 0.999 in (2.537 cm)
Weight: 2.29 oz (6.50 g)

Digi Connect SP - Front

DB-9M

Digi Connect SP - Back

Ethernet Power

DIGI SERVICE AND SUPPORT - You can purchase with confidence knowing that Digi is here to support you with expert technical support and a strong five-year warranty. www.digi.com/support

WHEN *RELIABILITY* *MATTERS* ™

Digi International
11001 Bren Road E.
Minnetonka, MN 55343
U.S.A.
PH: 877-912-3444
      952-912-3444
FX: 952-912-4952
email: info@digi.com

Digi International France
31 rue des Poissonniers
92200 Neuilly sur Seine
PH: +33-1-55-61-98-98
FX: +33-1-55-61-98-99
www.digi.fr

Digi International KK
NES Building South 8F
22-14 Sakuragaoka-cho,
Shibuya-ku
Tokyo 150-0031, Japan
PH: +81-3-5428-0261
FX: +81-3-5428-0262
www.digi-intl.co.jp

Digi International (HK) Limited
Suite 1703-05, 17/F.,
K Wah Centre
191 Java Road
North Point, Hong Kong
PH: +852-2833-1008
FX: +852-2572-9989
www.digi.cn

Digi International, the leader in device networking for business, develops reliable products and technologies to connect and securely manage local or remote electronic devices over the network or via the web. With over 20 million ports shipped worldwide since 1985, Digi offers the highest levels of performance, flexibility and quality.

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