

# SN0116CO

16-Port Serial Console Server with Dual Power/LAN





ATEN SN01xxCO Series (<u>SN0108CO</u> / SN0116CO / <u>SN0132CO</u> / <u>SN0148CO</u>) provides IT and network administrators secure, out-of-band access to serial devices located at data centers or remote sites (such as network switches allowing console operation using RS-232 and USB console<sup>1</sup>). With dual power / LAN in SN01xxCO models, they integrate cutting edge technologies to provide convenient installation, secure serial device access, easy management and comprehensive control for data centers.

The SN01xxCO Series features Cisco pin-outs and auto-sensing DTE/DCE function, providing a direct connection to Cisco network switches (and other compatible devices) without rollover cables for even more time-saving IT infrastructure deployment. In addition, the SN01xxCO models support online detection of connected serial devices (including terminal blocks) for device status monitoring. An e-mail notification will be sent to the administrator when connected devices are offline. With dual Ethernet ports and power supplies, the SN01xxCO model for more flexible well as failover, or dual IP addresses access, ensuring 24/7 availability of access to serial devices. A DC power option is also available for each of the SN01xxCO model for more flexible implementation.<sup>2</sup>

Available in 8-, 16-, 32- and 48-port models, the SN01xxCO serial console servers offer both in-band and out-of-band (OOB) remote serial console and USB console access to servers and network devices via a direct Telnet / SSH client, Java viewer and WebClient. The serial console servers offer out-of-band access methods such as direct console connection from a local computer, USB console connection from a laptop, PSTN connection via modem, or hybrid network connection via the dual SFP or dual LAN ports (one connected to the production network) and the other connected to the module of the production network).

Implemented with various security technologies such as TLS 1.2 data encryption, RSA 2048-bit certificates, configurable user permissions for port access and control, local/remote/third-party authentication and authorization, IP/MAC address filter, and FIPS 140-2 certified cryptography, the SN01xxCO serial console servers assure administrators the security for easy and high-level access. For instance, access rights and privileges can be applied to 8/16/32/48 serial ports individually. Data encryption is provided to ensure that information and control are always protected. Logging and alerting of system events help to quickly resolve issues and mitigate risks. While secured by the above examples, the consolidated password authentication simplifies management.

The SN01xxCO Series is used to connect serial devices to an Ethernet network to allow access and control of demanding applications that manage industrial control, data acquisition, environment monitoring, remote facility operations and equipment management. Multiple operational modes are available to administrators including Console Management, Console Management Direct, Real COM Port, TCP Server/Client, UDP Server/Client, and Virtual Modem. Furthermore, the SN01xxCO Series works in tandem with ATEN's PDU remote power management systems. Both can be utilized through ATEN's C2000 software to provide centralized serial device access and integrated power management.

With its comprehensive features, the SN01xxCO Series helps to maximize IT productivity, increase scalability, as well as reduce installation and operational costs with easy and secure remote management of serial devices. The serial console servers save you time and money by allowing administrators to manage their data centers from practically anywhere – minimizing travel and MTTR (Mean Time to Repair) costs, ensuring the highest availability for data center services.

#### Note:

1. Compatible models: Cisco Catalyst 2960-C series.

2. DC power models include <u>SN0108CO</u>D, SN0116COD, <u>SN0132CO</u>D, and <u>SN0148CO</u>D.

### Features

### System Accessibility and Availability

- Secure in-band, out-of-band remote serial console and USB console <sup>1</sup> access
- Browser access with an intuitive GUI
- · Terminal-based access with a menu-driven UI
- Modem dial-in/dial-back/dial-out access
- Front USB ports for storage, USB console <sup>1</sup>, and <u>UC232B/UC232BF</u> connection
- Laptop USB Console (LUC) port for local console access via laptop
- Dual Ethernet ports allow fail control or dual IP address access
- Dual power supply

### Serial Console Management

• Auto-sensing DTE/DCE feature supports a direct connection to Cisco network switches (and other compatible devices) without rollover cables for more convenient IT infrastructure deployment



- Online/Offline detection of connected serial devices (including terminal blocks) automatically send event notifications when the devices are offline (e.g. power failure) for device status monitoring
- Response Check checks the system status of the connected serial devices, and sends a notification if the check fails (e.g. system crash)
   Convenient and simple serial device access via selectable Telnet/SSH and third-party clients such as PuTTY
- Easy port access via selectable ActiveX or Java serial viewer
- Comprehensive viewer functions copy/paste, logging, data import, macros, broadcasting and message board
- Sun Solaris ready Sun "break-safe"
- Alert Strings whenever one of the pre-defined strings matches the message sent from the serial devices, you will be informed by serial console server via SNMP Trap alert and/or an email
- Command filter administrators can restrict users to execute only pre-defined commands
- Multiple users can simultaneously access the same port up to 16 connections per port
- Modes for simultaneous access Exclusive/Occupy/Share
   Integrates with ATEN PDU products for power management of each port

### Security

- Supports secure login from browsers with TLS 1.2 data encryption and RSA 2048-bit certificates
- Configurable user permissions for port access and control
- Local and remote authentication and login
- Third-party authentication via RADIUS, TACACS+, LDAP/AD and Kerberos
- Hind party administration was real-room of the party administration of the party admin
- Supports security level configuration High, Medium-high, Medium or Custom, to ensure a fine granularity of network access control
   IEEE 802.1X compliant

#### System Management

- System configuration via web browser. Telnet/SSH client and local console
- System log and event login
- Event Destination Event logs will be saved to Log server, Syslog server, and USB drive
- SNMP agent v1/v2c/v3 Event notification supports notification of SMTP email and SNMP Trap (v1/v2c/v3)
- Backup / Restore system configuration and upgradeable firmware
- Multi-browser support Internet Explorer, Chrome, Firefox NTP for time server synchronization
- IPv4 / IPv6 support
- LLDP support
- Integrates into <u>CC2000</u> software for centralized data center management
- Integrates into <u>CCVSR</u> software for user session recording

#### Serial Device Management

- Versatile serial operating modes Console Management, Console Management Direct, Real COM Port, TCP Server/Client, UDP Server/Client, and Virtual Modem
- Real COM driver for Windows 2000 or higher and Windows Server 2003/2008
- Real TTY driver for Linux
- $\, {\scriptstyle \circ} \,$  Fixed TTY driver for UNIX  $^2$
- Supports baud rates of 300, 600, 1200, 1800, 2400, 4800, 9600, 19200, 28800, 38400, 57600, 115200, 230400 bps

### Language

- Multi-language web-based GUI available in English, German, Japanese, Korean, Russian, Simplified Chinese and Traditional Chinese
  - Note:
  - 1. Compatible models: Cisco Catalyst 2960-C series
  - 2. Fixed TTY Driver supports:
  - OpenServer (Sco Unix)
  - UnixWare 7, SVR 5
  - UnixWare 2.1, SVR 4.2
  - QNX 4.25, QNX 6
  - FreeBSD
  - Solaris 10
  - AIX 5.x HP-UX 11i



## Specifications

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Serial         16 x RJ 45 Formale           LAN Ports         2 x RJ 45 Formale           Power         2 x RJ 45 Formale (Reserved)           Power         1 x RJ 45 Formale (Reserved)           Modern         1 x RJ 45 Formale (Reserved)           Modern         3 x UB Type A Formale           Lappo USB Console (LUC)         1 x RJ 45 Formale           DSB Port         3 x RJ 45 Formale           Lappo USB Console (LUC)         1 x RJ 45 Formale           Modern         1 x RJ 45 Formale           Consol Console (LUC)         1 x RJ 45 Formale           Modern         1 x RJ 45 Formale           Consol Console (LUC)         1 x RJ 45 Formale           Modern         1 x RJ 45 Formale           Power Consumption         1 x Rossend Purbhotion           Power Consumption         AC (100 x 240 x - 16, 50 K0)FA           None:         In researcement in BrUth indicates the typical power consumption of the dovice with no external loading:           None:         In researcement in BrUth indicates the typical power consumption of the dovice with no external loading:           None:         In researcement in BrUth indicates the typical power consumption of the dovice with no external loading:           None:         In researcement in BrUth indicates the typical power consumption of the dovice with no external loading: <td>Connection</td> <td>16</td>	Connection	16
LNP Ports         2 x RJ 45 Female           Power         2 x IEC 60030/CI 4           Power         1 x RJ-45 Female (Reserved)           Modem         1 x RJ-45 Female (Reserved)           Modem         3 x USB Type A Female           Label DGS Console (LUG)         1 x Min USB           Label DGS Console (LUG)         1 x Min USB           Label DGS Console (LUG)         1 x Ru-45 Female           Label DGS Console (LUG)         1 x Ru-45 Female           Switches         2 x Ru-k5 Female           Power         2 x Ru-k6x Switch           Maximum Input Power Raim         100-2007- 1.4. S0(50/±2           Power Consumption         AC 1107 S SW SBBTU h AC 2007 S SW SBBTU h AC 200	Connectors	
Power         2 x IEC 60320101           PON         1 x RJ 45 Formale (Reserveg)           Modom         1 x RJ 45 Formale (Reserveg)           USB Port         3 x USB Type A Fernale           Laptop USB Console (LUC)         1 x Min USB           Discore (Lagonove)         1 x RJ 45 Formale           Laptop USB Console (LUC)         1 x RJ 45 Formale           Laptop USB Console (LUC)         1 x RJ 45 Formale           Switches         1 x RJ 45 Formale           Switches         1 x Racessed Nuthtion           Reset         1 x Racessed Nuthtion           Power Observe (Rule)         100 240/v- 1X, 500/01/e           LEDs         201           Serial         1 (Green)           1010100 Mpze         2 (Red / Grang/ Green)	Serial	16 x RJ-45 Female
PON         1 x R146 Famale (Reserved)           Modem         1 x R145 Famale           Modem         1 x R145 Famale           USB Port         3 x USB Type A Female           Lappop USB Console (LUC)         1 x Mini USB           Lacat Console         1 x R145 Famale           Switcher         1 x R45 Famale           Switcher         1 x Reseased Pursbutton           Power         1 x Reseased Pursbutton           Power         0 x Rober Switch           Maximum input Power Ratin         10x-240x - 14, 50 SoBt/z           Power Consumption         Account State Switch           Note:         Note:           Switcher Orage Green)         Console Management, Console Management, Direct, Real Com Port, TCP SorverClient, UDP SorverClient, Vintal Modern           Information         2 (Red / Orage / Green)           Power <t< td=""><td>LAN Ports</td><td>2 x RJ-45 Female</td></t<>	LAN Ports	2 x RJ-45 Female
Modem         1 x RJ x 5 Female           USB Port         3 x USB Type A Famale           Lactor USB Console (LUC)         1 x Mri USB           Lactor USB Console (LUC)         1 x RJ-x 5 Female           Switches         1 x Recessed Pushbutton           Switches         2 x Rocker Switch           Resol         1 x Recessed Pushbutton           Power         2 x Rocker Switch           Maximum Input Power Falming         100-240V-: 1A, 5000Hz           Power Consumption         Ac2020V S WSBTUTh Ac2020V S WSBTUTH Ac2020	Power	2 x IEC 60320/C14
LSB Port         3 x USB Type A Female           Lightp USB Conole (LUC) Port         1 x Mri USB           Lacal Console         1 x N-4 5 Female           Switches         1 x R-cessed Pushbutton           Beaet         1 x R-cessed Pushbutton           Power         2 x Rocker Switch           Maximum Input Power Patient         105-240V-; 14, 5080Hz           Power Consumption         AC110V S SW/SBBTUh AC220VS SW/SBBTUH AC20VS SW/SBBTUH AC20VS SW/SBBTUH AC20VS SW/SBBTUH AC20VS SW/SBBTUH AC20VS SW/SBBTUH AC20VS SW/SBBTUH AC20VS SW/SBBT	PON	1 x RJ-45 Female (Reserved)
Laping USB Console (LUC) Port         1 x Min USB           Local Console         1 x RJ45 Female           Switches            Reset         1 x Recessed Pusibutton           Power         2 x Rocker Switch           Maximum Input Power Faing         100-240V-, 1A, 50/60H2           Power Consumption         AC110V.5.SW.58BTUh AC220V 5.SW.SBBTUh AC220V 5.SW.SBBTUH AC2	Modem	1 x RJ-45 Female
Parti         Independenci (Console (Consol	USB Port	3 x USB Type A Female
Switches           Reset         1 x Recessed Pushbutton           Power         2 x Rocker Switch           Maximum Input Power Rating         100-240V-, 1A, 50/60Hz           Power Consumption         AC110V:5:SW:SBBTUIN AC200V: 5:W:SBBTUIN AC200V: 5:W:SBBTUIN		1 x Mini USB
Reset         1 x Recessed Pushbutton           Power         2 x Rocker Switch           Maximum Input Power Rating         100-240V~, 1A, 50/60Hz           Power Consumption         Ac110V.SSWSBBTU/h AC220V.SSWSBBTU/h AC220V.SSWSBBTU/h Note: - The measurement in Watts indicates the typical power consumption of the device with no external loading. - The measurement in Watts indicates the typical power consumption of the device when it is fully loaded.           LEDs         -           Serial         16 (Green)           10100/1000 Mbps         2 (Red / Orange / Green)           Power         2 (Blue)           Mode of Operation         Console Management Direct.Real Com Port, TCP Server/Client, UDP Server/Client, Virtual Modem           Environmental         -           Operating Temperature         0 - 40°C           Storage Temperature         20 - 60°C           Humidity         0 - 80% RH, Non-condensing           Physical Properties         -           Housing         Metal           Weight         43.8 kg (9.65 lb)           Dimensions (L, XW XH)         43.7 kg 29.8 x 4.40 cm (17.21 x 12.98 x 1.73 kn.5)           Note         Shot116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V1/16.22W) available at customers	Local Console	1 x RJ-45 Female
Power         2 x Rocker Switch           Maximum Input Power Rating         100-240V-, 1A, 50/60Hz           Power Consumption         AC110V-55/W-58BTU/h AC220V-5.5W-58BTU/h AC220V-5W-5W-58BTU/h AC220V-5W-5W-58BTU/h AC220V	Switches	
Maximum Input Power Rating         100-240V-, 1A, 50/60Hz           Power Consumption         AC110V-5.5W/58BTU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/5.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220V/S.5W/SBETU/h AC220	Reset	1 x Recessed Pushbutton
Power Consumption         AC110V:S.SW:SBBTU/h AC220V:S.SW:SBTU/h AC220V:S.SU:SBTU/h AC220V:S.SU:SBTU/h AC220V:S.SU:SBTU/h AC220V:S.SU:SBTU/h AC220V:S.SU:SBTU/h AC220V:S.SU:SBTU/h AC220V:S.SU:SD AC220V:S.SU:SD AC220V:S.SU:SD AC220V:S.SU:SD AC220V:S.SU:SD AC220V:S.SU:SD AC20V:S.SU:SD AC220V:S.SU:SD AC220V:S.SU:SD AC20V:SU:SD AC220V:S.S	Power	2 x Rocker Switch
AC220V:5:SWISBBTU/h         Note:         The measurement in Watts indicates the typical power consumption of the device with no external loading.         IEDS         Serial       16 (Green)         10/100/1000 Mbps       2 (Red / Orange / Green)         Power       2 (Blue)         Mode of Operation       Console Management, Console Management Direct, Real Com Port, TCP Server/Client, UDP Server/Client, Virtual Modem         Environmental       -20 - 60 °C         Humidity       0 - 40 °C         Storage Temperature       -20 - 60 °C         Humidity       0 - 80% RH, Non-condensing         Physical Properties       Humidity         Housing       Metal         Weight       4 38 kg (9.65 lb)         Dimensions (L x W x H)       37.27 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)         Note       SN0116CCD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Maximum Input Power Rating	100-240V~, 1A, 50/60Hz
LEDs         Serial       16 (Green)         10/100/1000 Mbps       2 (Red / Orange / Green)         Power       2 (Blue)         Mode of Operation       Console Management Direct, Real Com Port, TCP Server/Client, UDP Server/Client, Virtual Modem         Environmental       0 - 40°C         Operating Temperature       0 - 40°C         Storage Temperature       0 - 80% RH, Non-condensing         Physical Properties       Housing         Housing       Metal         Weight       4.38 kg (9.65 lb)         Dimensions (L x W x H)       3.72 x 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)         Note       SN0116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Power Consumption	AC220V:5.5W:58BTU/h Note:  The measurement in Watts indicates the typical power consumption of the device with no external loading.
10/100/1000 Mbps     2 (Red / Orange / Green)       Power     2 (Blue)       Mode of Operation     Console Management, Console Management Direct, Real Com Port, TCP Server/Client, UDP Server/Client, Virtual Modem       Environmental     0 - 40°C       Operating Temperature     0 - 40°C       Storage Temperature     -20 ~ 60°C       Humidity     0 - 80% RH, Non-condensing       Physical Properties     -       Housing     Metal       Weight     4.38 kg (9.65 lb)       Dimensions (L x W x H)     3.72 x 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)       Note     SN0116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	LEDs	
Power       2 (Blue)         Mode of Operation       Console Management, Console Management Direct, Real Com Port, TCP Server/Client, UDP Server/Client, Virtual Modem         Environmental          Operating Temperature       0 - 40°C         Storage Temperature       -20 ~ 60°C         Humidity       0 - 80% RH, Non-condensing         Physical Properties          Housing       Metal         Weight       4.38 kg (9.65 lb)         Dimensions (L x W x H)       4.372 x 32 :98 x 4.40 cm (1/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Serial	16 (Green)
Image: Node of Operation       Console Management, Console Management Direct, Real Com Port, TCP Server/Client, UDP Server/Client, Virtual Modem         Environmental       Environmental         Operating Temperature       0 - 40°C         Storage Temperature       -20 ~ 60°C         Humidity       0 - 80% RH, Non-condensing         Physical Properties       Image: Non-condensing         Housing       Metal         Weight       4.38 kg (9.65 lb)         Dimensions (L x W x H)       3.72 x 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)         Note       SN0116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	10/100/1000 Mbps	2 (Red / Orange / Green)
Environmental         Operating Temperature       0 - 40°C         Storage Temperature       -20 ~ 60°C         Humidity       0 - 80% RH, Non-condensing         Physical Properties       -20 - 60°C         Housing       Metal         Weight       4.38 kg (9.65 lb)         Dimensions (L x W x H)       43.72 x 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)         Note       SN0116CCD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Power	2 (Blue)
Operating Temperature       0 - 40°C         Storage Temperature       -20 ~ 60°C         Humidity       0 - 80% RH, Non-condensing         Physical Properties	Mode of Operation	Console Management, Console Management Direct, Real Com Port, TCP Server/Client, UDP Server/Client, Virtual Modem
Storage Temperature     -20 ~ 60°C       Humidity     0 - 80% RH, Non-condensing       Physical Properties       Housing     Metal       Weight     4.38 kg ( 9.65 lb )       Dimensions (L x W x H)     43.72 x 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)       Note     SN0116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Environmental	
Humidity     0 - 80% RH, Non-condensing       Physical Properties       Housing     Metal       Weight     4.38 kg ( 9.65 lb )       Dimensions (L x W x H)     43.72 x 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)       Note     SN0116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Operating Temperature	0 - 40°C
Physical Properties         Housing       Metal         Weight       4.38 kg (9.65 lb )         Dimensions (L x W x H)       43.72 x 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)         Note       SN0116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Storage Temperature	-20 ~ 60°C
Housing     Metal       Weight     4.38 kg ( 9.65 lb )       Dimensions (L x W x H)     43.72 x 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)       Note     SN0116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Humidity	0 - 80% RH, Non-condensing
Weight       4.38 kg (9.65 lb)         Dimensions (L x W x H)       43.72 x 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)         Note       SN0116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Physical Properties	
Dimensions (L x W x H)       43.72 x 32.98 x 4.40 cm (17.21 x 12.98 x 1.73 in.)         Note       SN0116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Housing	Metal
Note       SN0116COD with dual DC power (I/P Rating: 36-48 V DC; 1.6 A in 5-Pin Terminal Block, Power Consumption: DC48V/16.22W) available at customer's request	Weight	4.38 kg ( 9.65 lb )
request	Dimensions (L x W x H)	
Note For some of rack mount products, please note that the standard physical dimensions of WxDxH are expressed using a LxWxH format.	Note	
	Note	For some of rack mount products, please note that the standard physical dimensions of WxDxH are expressed using a LxWxH format.



Diagram

