

# **Terminal Servers**

Product Selection Guides
NPort® 6000 Terminal Servers
CN2600 Terminal Servers
Terminal Servers
Secure Terminal Servers
NPort® 6150 1-port RS-232/422/485 secure terminal server
NPort® 6250 Series 2-port RS-232/422/485 secure terminal servers
NPort® 6450 4-port RS-232/422/485 secure terminal server
NPort® 6600 Series 8/16/32-portRS-232/422/485 rackmount terminal servers 7-17
NM-GPRS/GSM Module 4-port cellular NM-GPRS/GSM module
NM-Modem Module PSTN modem network module
CN2600 Series 8/16-port RS-232/422/485 terminal servers with LAN redundancy 7-24

Terminal Servers



# **NPort® 6000 Terminal Servers**



			NPort®	NPort®			NPort®		NPort®
	NPort® 6150	NPort® 6250	6250-M-SC	6250-S-SC	NPort® 6450	NPort® 6610-8	6610-8-48V	NPort® 6610-16	6610-16-48V
LAN Interface									
10/100BaseT(X) Ports	1 port (8-pin RJ4	5 connector)							
Magnetic Isolation Protection	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV
100BaseFX Ports			1 (multi-mode)	1 (single-mode)					
Expansion Modules			(main mose)	(emgic mess)					
10/100BaseT(X) (RJ45)					V	V	<b>√</b>	V	V
Multi-mode Fiber (SC)					V	V	V	V	√
Single-mode Fiber (SC)					$\checkmark$	$\sqrt{}$	$\checkmark$	$\checkmark$	$\checkmark$
GSM/GPRS					√	√	√	√	√
Modem					$\sqrt{}$	$\sqrt{}$	$\sqrt{}$	$\sqrt{}$	$\sqrt{}$
Serial Interface									
RS-232 Ports						8	8	16	16
RS-232/422/485 Ports Connectors	DB9 male	2 DB9 male	2 DB9 male	2 DB9 male	4 DB9 male	 8-pin RJ45	 8-pin RJ45	 8-pin RJ45	8-pin RJ45
Communication						0-hiii un42	o-piii nu45	0-hiii unaan	o-piii NJ45
Parameters	Data Bits: 5, 6, 7,	, 8; Stop Bits: 1, 1.5	5, 2; Parity: None, E	ven, Odd, Space, M	ark				
Flow Control	RTS/CTS, DTR/D	,							
Baudrate		Kbps (supports non			1	1	1	1	1
15 KV ESD Protection 2 KV isolation	√	√	√	√	V	√	1	√	1
protection									
RS-485 Data Direction	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®
Control  RS-232 Console Port	√	√	√	√	√	√	√	√	√
Advanced Features	V	V	V	V	V	V	V	V	V
LCD Panel with 4 push					,		,		
buttons					$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\sqrt{}$
Serial Data Log	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
Offline Port Buffering	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
SD Slot Software Network Protocols	ICMP, IP, TCP, UE	√ DP, DHCP, BOOTP, T	√ elnet, DNS, SNMP	√ V1/V2c/V3, DDNS, F	V	√	V	v4, Turbo Ring, Turb	V
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Tel Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serial Manager (for Wind river (for 2.4.x, 2.6.	Telnet, DNS, SNMP, RADIUS, PAP, CHACONSOLE, WINDOWS	V1/V2c/V3, DDNS, H AP, TACACS+ Search Utility T, 2000, XP x86/x64,	√ HTTP, SMTP, HTTPS 2003 x86/x64, Vis	√ S, SSL, SSH, PPPoE, ta x86/x64, 2008 x86	√ RFC2217, IPv6, IP 6/x64, Embedded CI	√	√ o Ring 2 ded),
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serial Manager (for Winder river (for 2.4.x, 2.6.	elnet, DNS, SNMP RADIUS, PAP, CH/ Console, Windows ows 95, 98, ME, NT xx), Fixed TTY drive	√1/V2c/V3, DDNS, H AP, TACACS+ : Search Utility ; 2000, XP x86/x64, rr (for SCO Unix, SCI	TTP, SMTP, HTTP: 2003 x86/x64, Vis O OpenServer, Unix	√ 5, SSL, SSH, PPPoE, ta x86/x64, 2008 x86 Ware 7, UnixWare 2	RFC2217, IPv6, IPv	√ v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1	√ o Ring 2 ded),
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serial Manager (for Winder river (for 2.4.x, 2.6.	elnet, DNS, SNMP RADIUS, PAP, CH/ Console, Windows ows 95, 98, ME, NT xx), Fixed TTY drive	√1/V2c/V3, DDNS, H AP, TACACS+ : Search Utility ; 2000, XP x86/x64, rr (for SCO Unix, SCI	TTP, SMTP, HTTP: 2003 x86/x64, Vis O OpenServer, Unix	√ S, SSL, SSH, PPPoE, ta x86/x64, 2008 x86	RFC2217, IPv6, IPv	√ v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1	√ o Ring 2 ded),
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Tel Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S	DP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serial Manager (for Wind river (for 2.4.x, 2.6 1i)	elnet, DNS, SNMP RADIUS, PAP, CH, Console, Windows way 95, 98, ME, NT xx), Fixed TTY drive	√1/V2c/V3, DDNS, H AP, TACACS+ : Search Utility ; 2000, XP x86/x64, rr (for SCO Unix, SCI	HTTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix	√ 5, SSL, SSH, PPPoE, ta x86/x64, 2008 x8t Ware 7, UnixWare 2 Ethernet Modem, Pr	RFC2217, IPv6, IPv	√ v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1	√ o Ring 2 ded),
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Tel Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Intet Console, Serial Manager (for Wind river (for 2.4.x, 2.6. 11) -II Server, TCP Client, L	elnet, DNS, SNMP RADIUS, PAP, CH, Console, Windows way 95, 98, ME, NT xx), Fixed TTY drive	V1/V2c/V3, DDNS, H AP, TACACS+ Search Utility , 2000, XP x86/x64, Ir (for SCO Unix, SCI	HTTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix	√ 5, SSL, SSH, PPPoE, ta x86/x64, 2008 x8t Ware 7, UnixWare 2 Ethernet Modem, Pr	RFC2217, IPv6, IPv	√ v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1	√ o Ring 2 ded),
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-US 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Intet Console, Serial Manager (for Wind river (for 2.4.x, 2.6. 11) -II Server, TCP Client, L	elnet, DNS, SNMP RADIUS, PAP, CH, Console, Windows way 95, 98, ME, NT xx), Fixed TTY drive	V1/V2c/V3, DDNS, H AP, TACACS+ Search Utility , 2000, XP x86/x64, Ir (for SCO Unix, SCI	HTTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix	√ 5, SSL, SSH, PPPoE, ta x86/x64, 2008 x8t Ware 7, UnixWare 2 Ethernet Modem, Pr	RFC2217, IPv6, IPv	√ v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1	√ o Ring 2 ded),
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-US 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Intet Console, Serial Manager (for Wind river (for 2.4.x, 2.6. 11) -II Server, TCP Client, L	elnet, DNS, SNMP RADIUS, PAP, CH, Console, Windows way 95, 98, ME, NT xx), Fixed TTY drive	V1/V2c/V3, DDNS, H AP, TACACS+ Search Utility , 2000, XP x86/x64, Ir (for SCO Unix, SCI	HTTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix	√ 5, SSL, SSH, PPPoE, ta x86/x64, 2008 x8t Ware 7, UnixWare 2 Ethernet Modem, Pr	RFC2217, IPv6, IPv	√ v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1	√ o Ring 2 ded),
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions  Physical Characteristics Housing Weight	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serial Manager (for Wind river (for 2.4.x, 2.6 1i)  -II Server, TCP Client, L I, Secure TCP Serve ort  Metal 730 g	ielnet, DNS, SNMP RADIUS, PAP, CH, Console, Windows ows 95, 98, ME, NT .x), Fixed TTY drive  JDP, Pair Connection er, Secure TCP Clie  Metal 730 g	V1/V2c/V3, DDNS, HAP, TACACS+ Search Utility 7, 2000, XP x86/x64, rr (for SCO Unix, SCI on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g	HTTP, SMTP, HTTP:  2003 x86/x64, Vis 0 OpenServer, Unix  al, Reverse Telnet, ection, SSH, Rever  Metal (IP30) 1020 g	S, SSL, SSH, PPPoE, ta x86/x64, 2008 x86 Ware 7, UnixWare 2  Ethernet Modem, Pr se SSH  Metal (IP30) 3460 g	RFC2217, IPv6, IP  6/x64, Embedded CI .1, SVR 4.2, QNX 4.  inter, PPP, Disabled  Metal (IP30)  3460 g	√ v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1  Metal (IP30) 3580 g	o Ring 2  ded), 0, FreeBSD,  Metal (IP30) 3580 g
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions  Physical Characteristics Housing Weight Dimensions (mm)	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serier Manager (for Windoriver (for 2.4.x, 2.6 1i)  -II Server, TCP Client, L I, Secure TCP Serve	ielnet, DNS, SNMP RADIUS, PAP, CH/ Console, Windows ows 95, 98, ME, NT x/), Fixed TTY drive	V1/V2c/V3, DDNS, HAP, TACACS+ Search Utility 7, 2000, XP x86/x64, r (for SCO Unix, SCI on, RFC2217, Termin nt, Secure Pair Conn Metal	HTTP, SMTP, HTTPS  2003 x86/x64, Vis 0 OpenServer, Unix  al, Reverse Telnet, section, SSH, Rever	S, SSL, SSH, PPPoE, ta x86/x64, 2008 x86 Ware 7, UnixWare 2  Ethernet Modem, Pr se SSH  Metal (IP30)	RFC2217, IPv6, IP  6/x64, Embedded CI  1, SVR 4.2, QNX 4.  inter, PPP, Disabled  Metal (IP30)	v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1	o Ring 2  ded), 0, FreeBSD,  Metal (IP30)
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po Metal 700 g 67 x 100.4 x 28	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serial Manager (for Wind driver (for 2.4.x, 2.6 1i)  -II Gerver, TCP Client, L I, Secure TCP Serve ort  Metal 730 g 77 x 111 x 28	ielnet, DNS, SNMP RADIUS, PAP, CH, Console, Windows ows 95, 98, ME, NT ox), Fixed TTY drive  JDP, Pair Connectic er, Secure TCP Clie  Metal 730 g 77 x 111 x 28	V1/V2c/V3, DDNS, HAP, TACACS+ Search Utility 7, 2000, XP x86/x64, rr (for SCO Unix, SCi on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28	HTTP, SMTP, HTTP:  2003 x86/x64, Vis 0 OpenServer, Univ  al, Reverse Telnet, ection, SSH, Rever  Metal (IP30) 1020 g 158 x 103 x 35	ta x86/x64, 2008 x86 Ware 7, UnixWare 2  Ethernet Modem, Pr se SSH  Metal (IP30) 3460 g 440 x 195 x 44	NFC2217, IPv6, IP  6/x64, Embedded CI .1, SVR 4.2, QNX 4.  inter, PPP, Disabled  Metal (IP30) 3460 g 440 x 195 x 44	√ 4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1  Metal (IP30) 3580 g 440 x 195 x 44	√ o Ring 2  ded), 0, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Tel Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po Metal 700 g 67 x 100.4 x 28	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serial Manager (for Windorriver (for 2.4.x, 2.6. 11)  -II  Server, TCP Client, L  1, Secure TCP Server  Metal  730 g  77 x 111 x 28  0 to 55°C	JDP, Pair Connecticer, Secure TCP Clie	V1/V2c/V3, DDNS, F AP, TACACS+ Search Utility , 2000, XP x86/x64, or (for SCO Unix, SCO on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28	ATTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix al, Reverse Telnet, ection, SSH, Rever Metal (IP30) 1020 g 158 x 103 x 35 0 to 55°C	√ S, SSL, SSH, PPPoE, ta x86/x64, 2008 x8t Ware 7, UnixWare 2  Ethernet Modem, Pr se SSH  Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C	RFC2217, IPv6, IP  6/x64, Embedded Cl  1, SVR 4.2, QNX 4.  inter, PPP, Disabled  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C	v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C	√ o Ring 2  ded), 0, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm)  Environmental Limits Operating Temperature Operating Humidity	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Tel Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MiB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po Metal 700 g 67 x 100.4 x 28	DP, DHCP, BOOTP, T SSH, SSL, HTTPS, Intet Console, Serial Manager (for Windcriver (for 2.4.x, 2.6. 11)  -II  Server, TCP Client, L  Secure TCP Server  Metal  730 g  77 x 111 x 28  0 to 55°C  5 to 95% RH	JDP, Pair Connection of the TCP Clied Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH	V1/V2c/V3, DDNS, HAP, TACACS+ AP, TACACS+ Search Utility , 2000, XP x86/x64, ir (for SCO Unix, SCO on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH	ATTP, SMTP, HTTPS  2003 x86/x64, Vis 0 OpenServer, Unix  al, Reverse Telnet, section, SSH, Rever  Metal (IP30) 1020 g 158 x 103 x 35  0 to 55°C 5 to 95% RH	√ S, SSL, SSH, PPPoE, ta x86/x64, 2008 x86 Ware 7, UnixWare 2  Ethernet Modem, Pr se SSH  Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH	RFC2217, IPv6, IP  5/x64, Embedded Cl  .1, SVR 4.2, QNX 4.  inter, PPP, Disabled  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH	v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH	√ o Ring 2  ded), o, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm)  Environmental Limits Operating Temperature Operating Humidity Storage Temperature	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Tel Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po Metal 700 g 67 x 100.4 x 28	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serial Manager (for Windorriver (for 2.4.x, 2.6. 11)  -II  Server, TCP Client, L  1, Secure TCP Server  Metal  730 g  77 x 111 x 28  0 to 55°C	JDP, Pair Connecticer, Secure TCP Clie	V1/V2c/V3, DDNS, F AP, TACACS+ Search Utility , 2000, XP x86/x64, or (for SCO Unix, SCO on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28	ATTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix al, Reverse Telnet, ection, SSH, Rever Metal (IP30) 1020 g 158 x 103 x 35 0 to 55°C	√ S, SSL, SSH, PPPoE, ta x86/x64, 2008 x8t Ware 7, UnixWare 2  Ethernet Modem, Pr se SSH  Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C	RFC2217, IPv6, IP  6/x64, Embedded Cl  1, SVR 4.2, QNX 4.  inter, PPP, Disabled  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C	v4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C	√ o Ring 2  ded), 0, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, TE Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po Metal 700 g 67 x 100.4 x 28  0 to 55°C 5 to 95% RH -20 to 85°C	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, SH, SSL, HTTPS, Set Console, Serial Manager (for Windcriver (for 2.4.x, 2.6 1i)  -II Server, TCP Client, L I, Secure TCP Serve ort  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C	JDP, Pair Connecticer, Secure TCP Clie	V1/V2c/V3, DDNS, HAP, TACACS+ Search Utility , 2000, XP x86/x64, Ir (for SCO Unix, SCO  Int, Secure Pair Connot  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C	ATTP, SMTP, HTTPS  2003 x86/x64, Vis 0 OpenServer, Unix  al, Reverse Telnet, section, SSH, Rever  Metal (IP30) 1020 g 158 x 103 x 35  0 to 55°C 5 to 95% RH -20 to 70°C	ta x86/x64, 2008 x86 Ware 7, UnixWare 2  Ethernet Modem, Pr se SSH  Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	NET NOT NOT NOT NOT NOT NOT NOT NOT NOT NO	√4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	√ o Ring 2  ded), 0, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Tel Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per per Metal 700 g 67 x 100.4 x 28  0 to 55°C 5 to 95% RH -20 to 85°C	DP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serier Manager (for Wind river (for 2.4.x, 2.6 11)  -II Server, TCP Client, L I, Secure TCP Serve ort  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C	JDP, Pair Connection of the TCP Clied Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH	V1/V2c/V3, DDNS, HAP, TACACS+ AP, TACACS+ Search Utility , 2000, XP x86/x64, ir (for SCO Unix, SCO on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH	ATTP, SMTP, HTTPS  2003 x86/x64, Vis 0 OpenServer, Unix  al, Reverse Telnet, section, SSH, Rever  Metal (IP30) 1020 g 158 x 103 x 35  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	V4, Turbo Ring, Turb  E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	√ o Ring 2  ded), o, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, TE Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po Metal 700 g 67 x 100.4 x 28  0 to 55°C 5 to 95% RH -20 to 85°C	OP, DHCP, BOOTP, T SSH, SSL, HTTPS, SH, SSL, HTTPS, Set Console, Serial Manager (for Windcriver (for 2.4.x, 2.6 1i)  -II Server, TCP Client, L I, Secure TCP Serve ort  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C	ielnet, DNS, SNMP RADIUS, PAP, CH Console, Windows was 95, 98, ME, NT xx), Fixed TTY drive  JDP, Pair Connection er, Secure TCP Clie  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C	V1/V2c/V3, DDNS, HAP, TACACS+ .Search Utility , 2000, XP x86/x64, rr (for SCO Unix, SCI on, RFC2217, Termin nt, Secure Pair Conn  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C	ATTP, SMTP, HTTPS  2003 x86/x64, Vis 0 OpenServer, Unix  al, Reverse Telnet, section, SSH, Rever  Metal (IP30) 1020 g 158 x 103 x 35  0 to 55°C 5 to 95% RH -20 to 70°C	ta x86/x64, 2008 x86 Ware 7, UnixWare 2  Ethernet Modem, Pr se SSH  Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	NET NOT NOT NOT NOT NOT NOT NOT NOT NOT NO	√4, Turbo Ring, Turb E 5.0/6.0, XP Embed 25, QNX 6, Solaris 1  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	√ o Ring 2  ded), 0, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption Regulatory Approvals	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po Metal 700 g 67 x 100.4 x 28 0 to 55°C 5 to 95% RH -20 to 85°C	DP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serial Manager (for Wind river (for 2.4.x, 2.6. 11)  -II Server, TCP Client, L I, Secure TCP Serve ort  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C  12 to 48 VDC 333 mA @ 24 V	JDP, Pair Connections, Secure TCP Cliest Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 428 mA @ 12 V 219 mA @ 24 V 219 mA @ 24 V	V1/V2c/V3, DDNS, H AP, TACACS+ & Search Utility ; 2000, XP x86/x64, ir (for SCO Unix, SCO on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 376 mA @ 24 V	MHTTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix al, Reverse Telnet, ection, SSH, Rever Metal (IP30) 1020 g 158 x 103 x 35 0 to 55°C 5 to 95% RH -20 to 70°C 12 to 48 VDC 730 mA @ 12 V	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	√ o Ring 2  ded), o, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption  Regulatory Approvals EMC	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, ET, Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po Metal 700 g 67 x 100.4 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 285 mA @ 12 V 150 mA @ 24 V CE (EN55022 Cla	DP, DHCP, BOOTP, T SSH, SSL, HTTPS, SSH, SSL, HTTPS, Inter Console, Serial Manager (for Windcriver (for 2.4 x, 2.6 11)  -II  Server, TCP Client, L  Secure TCP Server  TA Secure TCP Server  TA Secure TCP Server  TOT  Metal  730 g  77 x 111 x 28  0 to 55°C  5 to 95% RH  -20 to 85°C  12 to 48 VDC  333 mA @ 12 V  173 mA @ 24 V  SS A, EN55024), FC	JDP, Pair Connections, Secure TCP Cliest Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 428 mA @ 12 V 219 mA @ 24 V 219 mA @ 24 V	V1/V2c/V3, DDNS, H AP, TACACS+ & Search Utility ; 2000, XP x86/x64, ir (for SCO Unix, SCO on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 376 mA @ 24 V	MHTTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix al, Reverse Telnet, ection, SSH, Rever Metal (IP30) 1020 g 158 x 103 x 35 0 to 55°C 5 to 95% RH -20 to 70°C 12 to 48 VDC 730 mA @ 12 V	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	√ o Ring 2  ded), 0, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption Regulatory Approvals	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per per Metal 700 g 67 x 100.4 x 28  0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 285 mA @ 12 V 150 mA @ 24 V  CE (EN55022 Cla UL (UL60950-1),	DP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serier Manager (for Wind river (for 2.4.x, 2.6 11)  -II Server, TCP Client, L I, Secure TCP Serve ort  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C  12 to 48 VDC 333 mA @ 12 V 173 mA @ 24 V  SSS A, EN55024), FC TÜV (EN60950-1)	JDP, Pair Connections, Secure TCP Cliest Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 428 mA @ 12 V 219 mA @ 24 V 219 mA @ 24 V	V1/V2c/V3, DDNS, H AP, TACACS+ & Search Utility ; 2000, XP x86/x64, ir (for SCO Unix, SCO on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 376 mA @ 24 V	MHTTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix al, Reverse Telnet, ection, SSH, Rever Metal (IP30) 1020 g 158 x 103 x 35 0 to 55°C 5 to 95% RH -20 to 70°C 12 to 48 VDC 730 mA @ 12 V	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V 190 mA @ 240 V	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C ±48 VDC 293 mA @ 48 V	Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	√ o Ring 2  ded), o, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption  Regulatory Approvals EMC	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, TE Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po Metal 700 g 67 x 100.4 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 285 mA @ 24 V CE (EN55022 Cla UL (UL60950-1), EN61000-4-2 (EE	DP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inst Console, Serial Manager (for Windcriver (for 2.4 x, 2.6 11)  -II Server, TCP Client, L I, Secure TCP Serve Drt  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 333 mA @ 12 V 173 mA @ 24 V  SSS A, EN55024), FC TÜV (EN60950-1) ED), Level 3 T), Level 3 T), Level 2	JDP, Pair Connections, Secure TCP Cliest Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 428 mA @ 12 V 219 mA @ 24 V 219 mA @ 24 V	V1/V2c/V3, DDNS, H AP, TACACS+ & Search Utility ; 2000, XP x86/x64, ir (for SCO Unix, SCO on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 376 mA @ 24 V	MHTTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix al, Reverse Telnet, ection, SSH, Rever Metal (IP30) 1020 g 158 x 103 x 35 0 to 55°C 5 to 95% RH -20 to 70°C 12 to 48 VDC 730 mA @ 12 V	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V 190 mA @ 240 V  EN61000-4-2 (ESI EN61000-4-4 (EFI	NET NOT NOT NOT NOT NOT NOT NOT NOT NOT NO	Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	√ o Ring 2  ded), o, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC
SD Slot  Software  Network Protocols Security Protocols Configuration Options  Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption  Regulatory Approvals EMC Safety	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per per Metal 700 g 67 x 100.4 x 28  0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 285 mA @ 12 V 150 mA @ 24 V  CE (EN55022 Cla UL (UL60950-1),	DP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inst Console, Serial Manager (for Windcriver (for 2.4 x, 2.6 11)  -II Server, TCP Client, L I, Secure TCP Serve Drt  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 333 mA @ 12 V 173 mA @ 24 V  SSS A, EN55024), FC TÜV (EN60950-1) ED), Level 3 T), Level 3 T), Level 2	JDP, Pair Connections, Secure TCP Cliest Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 428 mA @ 12 V 219 mA @ 24 V 219 mA @ 24 V	V1/V2c/V3, DDNS, H AP, TACACS+ & Search Utility ; 2000, XP x86/x64, ir (for SCO Unix, SCO on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 376 mA @ 24 V	MHTTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix al, Reverse Telnet, ection, SSH, Rever Metal (IP30) 1020 g 158 x 103 x 35 0 to 55°C 5 to 95% RH -20 to 70°C 12 to 48 VDC 730 mA @ 12 V	Metal (IP30) 3460 g 440 x 195 x 44 0 to 55°C 5 to 95% RH -20 to 70°C 100 to 240 VAC 285 mA @ 100 V 190 mA @ 240 V	NET NOT NOT NOT NOT NOT NOT NOT NOT NOT NO	Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	√ o Ring 2  ded), o, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC
SD Slot  Software  Network Protocols Security Protocols Security Protocols Configuration Options Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption  Regulatory Approvals EMC Safety EMS	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, TE Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per po Metal 700 g 67 x 100.4 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 285 mA @ 24 V CE (EN55022 Cla UL (UL60950-1), EN61000-4-2 (EE	DP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inst Console, Serial Manager (for Windcriver (for 2.4 x, 2.6 11)  -II Server, TCP Client, L I, Secure TCP Serve Drt  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 333 mA @ 12 V 173 mA @ 24 V  SSS A, EN55024), FC TÜV (EN60950-1) ED), Level 3 T), Level 3 T), Level 2	JDP, Pair Connections, Secure TCP Cliest Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 428 mA @ 12 V 219 mA @ 24 V 219 mA @ 24 V	V1/V2c/V3, DDNS, H AP, TACACS+ & Search Utility ; 2000, XP x86/x64, ir (for SCO Unix, SCO on, RFC2217, Termin nt, Secure Pair Conn Metal 730 g 77 x 111 x 28 0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 376 mA @ 24 V	MHTTP, SMTP, HTTPS 2003 x86/x64, Vis 0 OpenServer, Unix al, Reverse Telnet, ection, SSH, Rever Metal (IP30) 1020 g 158 x 103 x 35 0 to 55°C 5 to 95% RH -20 to 70°C 12 to 48 VDC 730 mA @ 12 V	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V 190 mA @ 240 V  EN61000-4-2 (ESI EN61000-4-4 (EFI	NET NOT NOT NOT NOT NOT NOT NOT NOT NOT NO	Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	√ o Ring 2  ded), o, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC
SD Slot  Software  Network Protocols Security Protocols Configuration Options Driver Support  Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption  Regulatory Approvals EMC Safety EMS Reliability	ICMP, IP, TCP, UE DES, 3DES, AES, Web Console, Te Windows Driver Linux Real TTY d AIX 5.x, HP-UX 1 SNMP MIB-II Static, RIP-I, RIP Real COM, TCP S Secure Real COM 8 sessions per per Metal 700 g 67 x 100.4 x 28  0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 285 mA @ 12 V 150 mA @ 24 V  CE (EN55022 Cla UL (UL60950-1), EN61000-4-2 (EE EN61000-4-5 (St	DP, DHCP, BOOTP, T SSH, SSL, HTTPS, Inet Console, Serier Manager (for Wind river (for 2.4.x, 2.6 11)  -II Server, TCP Client, L I, Secure TCP Serve ort  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C  12 to 48 VDC 333 mA @ 12 V 173 mA @ 24 V  SSS A, EN55024), FC TÜV (EN60950-1) SD), Level 2 TITP, Level 2 TITP, Level 2 TITP, Level 2 TITP, SSL, HTTPS, TOTAL	elnet, DNS, SNMP RADIUS, PAP, CH Console, Windows was 95, 98, MF, NT x,), Fixed TTY drive  JDP, Pair Connection er, Secure TCP Clie  Metal 730 g 77 x 111 x 28  0 to 55°C 5 to 95% RH -20 to 85°C 12 to 48 VDC 428 mA @ 12 V 219 mA @ 24 V	V1/V2c/V3, DDNS, HAP, TACACS+ .Search Utility ., 2000, XP x86/x64, .rr (for SCO Unix, SCI .nn, RFC2217, Termin .nt, Secure Pair Conn	Metal (IP30) 1020 g 158 x 103 x 35 0 to 55°C 5 to 95% RH -20 to 70°C 12 to 48 VDC 730 mA @ 12 V 330 mA @ 24 V	Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V 190 mA @ 240 V	RFC2217, IPv6, IP  S/x64, Embedded CI .1, SVR 4.2, QNX 4.  inter, PPP, Disabled  Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC 293 mA @ 48 V  D), Level 3 T), Level 3 T), Level 3 T), Level 3	Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V 190 mA @ 240 V	o Ring 2  ded), 0, FreeBSD,  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC 293 mA @ 48 V

# **NPort® 6000 Terminal Servers**



	NPort® 6610-32	NPort® 6610-32-48V	NPort® 6650-8	NPort® 6650-8-48V	NPort® 6650-16	NPort® 6650-16-48V	NPort® 6650-32	NPort® 6650-32-48V
LAN Interface								
10/100BaseT(X) Ports	1 port (8-pin RJ45	connector)						
Magnetic Isolation	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV
Protection 100BaseFX Ports								
Expansion Modules								
10/100BaseT(X) (RJ45)	V	V	V	V	<b>√</b>	$\sqrt{}$		V
Multi-mode Fiber (SC)	√ √	V	√ ·	√ √	V	√ √	√ √	√
Single-mode Fiber (SC)	√	√	√	√	√	√ √	√	√
GSM/GPRS	V	√	$\checkmark$	$\checkmark$	$\checkmark$	$\sqrt{}$	V	<b>√</b>
Modem	$\sqrt{}$	$\sqrt{}$	$\checkmark$	$\checkmark$	1	$\checkmark$	√	1
Serial Interface								
RS-232 Ports	32	32						
RS-232/422/485 Ports			8	8	16	16	32	32
Connectors	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45
Communication Parameters	Data Bits: 5, 6, 7, 8	; Stop Bits: 1, 1.5, 2;	Parity: None, Even, Od	dd, Space, Mark				
Flow Control	RTS/CTS, DTR/DSF	R, XON/XOFF						
Baudrate	50 bps to 921.6 Kb	ps (supports non-sta	andard baudrates)					
15 KV ESD Protection	V	$\sqrt{}$	$\checkmark$	$\checkmark$	$\sqrt{}$	$\checkmark$	$\checkmark$	$\sqrt{}$
2 KV isolation protection								
RS-485 Data Direction								
Control	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®
RS-232 Console Port	$\sqrt{}$	$\sqrt{}$	$\checkmark$	$\checkmark$	$\checkmark$	$\sqrt{}$	$\checkmark$	$\sqrt{}$
Advanced Features								
LCD Panel with 4 push buttons	$\checkmark$	$\sqrt{}$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	√
Serial Data Log	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB	64 KB
							OTIND	OTRE
						64 KB	64 KB	64 KB
Offline Port Buffering	64 KB √	64 KB √	64 KB √	64 KB √	64 KB √	64 KB √	64 KB √	64 KB √
Offline Port Buffering SD Slot	64 KB			64 KB	64 KB	64 KB √		
Offline Port Buffering SD Slot Software Network Protocols	64 KB √	64 KB √	64 KB √	64 KB √	64 KB √	1		<b>V</b>
Offline Port Buffering SD Slot Software Network Protocols Security Protocols	64 KB √  ICMP, IP, TCP, UDP, DES, 3DES, AES, S	64 KB √ P, DHCP, BOOTP, Telno SH, SSL, HTTPS, RA	64 KB √ et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC	64 KB √ V3, DDNS, HTTP, SN ACS+	64 KB √	1	1	<b>V</b>
Offline Port Buffering SD Slot Software Network Protocols Security Protocols	64 KB  √  ICMP, IP, TCP, UDP, DES, 3DES, AES, S Web Console, Telne	64 KB  √  7, DHCP, BOOTP, Telne SSH, SSL, HTTPS, RA et Console, Serial Co	64 KB  √  et, DNS, SNMP V1/V2c  DIUS, PAP, CHAP, TAC  nsole, Windows Search	64 KB  √	64 KB √ ITP, HTTPS, SSL, SSH,	√ PPPoE, RFC2217, IF	√ Pv6, IPv4, Turbo Ring, T	√ Furbo Ring 2
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver Ma	64 KB  √ P, DHCP, BOOTP, Telne SSH, SSL, HTTPS, RA et Console, Serial Col anager (for Windows ver (for 2.4.x, 2.6.x),	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Searct 95, 98, ME, NT, 2000,	64 KB  √ ///3, DDNS, HTTP, SN ACS+ 1 Utility  XP x86/x64, 2003 x8	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2	PPPoE, RFC2217, IF	1	√ Furbo Ring 2 bedded),
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver Ma Linux Real TTY driv	64 KB  √ P, DHCP, BOOTP, Telne SSH, SSL, HTTPS, RA et Console, Serial Col anager (for Windows ver (for 2.4.x, 2.6.x),	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Searct 95, 98, ME, NT, 2000,	64 KB  √ ///3, DDNS, HTTP, SN ACS+ 1 Utility  XP x86/x64, 2003 x8	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2	PPPoE, RFC2217, IF	√ 2v6, IPv4, Turbo Ring, T	√ Furbo Ring 2 bedded),
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support	ICMP, IP, TCP, UDP, DES, 3DES, AES, S Web Console, Teiné Windows Driver Linux Real TTY driv AIX 5.x, HP-UX 11	64 KB	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Searct 95, 98, ME, NT, 2000,	64 KB  √ ///3, DDNS, HTTP, SN ACS+ 1 Utility  XP x86/x64, 2003 x8	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2	PPPoE, RFC2217, IF	√ 2v6, IPv4, Turbo Ring, T	√ Furbo Ring 2
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation	ICMP, IP, TCP, UDP. DES, 3DES, AES, S Web Console, Telin Linux Real TTY driv VAIX 5.x, HP-UX 11 SMMP MIB-II Static, RIP-I, RIP-Ii	64 KB  DHCP, BOOTP, Telnor SH, SSL, HTTPS, RA et Console, Serial Co anager (for Windows ver (for 2.4.x, 2.6.x),	64 KB √  et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Searct 95, 98, ME, NT, 2000, Fixed TTY driver (for S	64 KB √ //V3, DDNS, HTTP, SM ACS+ 1 Utility XP x86/x64, 2003 x8 (CO Unix, SCO OpenS	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2	√ PPPoE, RFC2217, IF 2008 x86/x64, Ember xWare 2.1, SVR 4.2,	√ v6, IPv4, Turbo Ring, 1 ided CE 5.0/6.0, XP Em QNX 4.25, QNX 6, Solal	√ Furbo Ring 2
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver ML Linux Real TTY driv VAIX 5.x, HP-UX 11 SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Sei	64 KB  , DHCP, BOOTP, Telnn SH, SSL, HTTPS, RA et Console, Serial Co anager (for Windows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP	64 KB √  et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Searct 95, 98, ME, NT, 2000, Fixed TTY driver (for S	64 KB  √  ACV3, DDNS, HTTP, SN  ACS+  1 Utility  XP x86/x64, 2003 x8  600 Unix, SCO OpenS  2217, Terminal, Reve	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo	√ PPPoE, RFC2217, IF 2008 x86/x64, Ember xWare 2.1, SVR 4.2,	√ v6, IPv4, Turbo Ring, 1 ided CE 5.0/6.0, XP Em QNX 4.25, QNX 6, Solal	√ Furbo Ring 2
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver Mi Linux Real TTY driv AIX 5.x, HP-UX 11 SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Ser	64 KB  J. DHCP, BOOTP, Telnin, SSH, SSL, HTTPS, RA et Console, Serial Coi anager (for Windows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP Secure TCP Server, S	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Search 95, 98, ME, NT, 2000, Fixed TTY driver (for S	64 KB  √  ACV3, DDNS, HTTP, SN  ACS+  1 Utility  XP x86/x64, 2003 x8  600 Unix, SCO OpenS  2217, Terminal, Reve	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo	√ PPPoE, RFC2217, IF 2008 x86/x64, Ember xWare 2.1, SVR 4.2,	√ v6, IPv4, Turbo Ring, 1 ided CE 5.0/6.0, XP Em QNX 4.25, QNX 6, Solal	√ Furbo Ring 2 bedded),
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver ML Linux Real TTY driv VAIX 5.x, HP-UX 11 SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Sei	64 KB  J. DHCP, BOOTP, Telnin, SSH, SSL, HTTPS, RA et Console, Serial Coi anager (for Windows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP Secure TCP Server, S	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Search 95, 98, ME, NT, 2000, Fixed TTY driver (for S	64 KB  √  ACV3, DDNS, HTTP, SN  ACS+  1 Utility  XP x86/x64, 2003 x8  600 Unix, SCO OpenS  2217, Terminal, Reve	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo	√ PPPoE, RFC2217, IF 2008 x86/x64, Ember xWare 2.1, SVR 4.2,	√ v6, IPv4, Turbo Ring, 1 ided CE 5.0/6.0, XP Em QNX 4.25, QNX 6, Solal	√ Furbo Ring 2 bedded),
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver Mi Linux Real TTY driv AIX 5.x, HP-UX 11 SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Ser	64 KB  J. DHCP, BOOTP, Telnin, SSH, SSL, HTTPS, RA et Console, Serial Coi anager (for Windows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP Secure TCP Server, S	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Search 95, 98, ME, NT, 2000, Fixed TTY driver (for S	64 KB  √  ACV3, DDNS, HTTP, SN  ACS+  1 Utility  XP x86/x64, 2003 x8  600 Unix, SCO OpenS  2217, Terminal, Reve	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo	√ PPPoE, RFC2217, IF 2008 x86/x64, Ember xWare 2.1, SVR 4.2,	√ v6, IPv4, Turbo Ring, 1 ided CE 5.0/6.0, XP Em QNX 4.25, QNX 6, Solal	√ Furbo Ring 2
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver Mr Linux Real TTY driv AIX 5.x, HP-UX TI SNMP MIB-II Static, RIP-I, RIP-I Real COM, TCP Sei Secure Real COM, 8 sessions per port	64 KB  DHCP, BOOTP, Telnin, SH, SSL, HTTPS, RA et Console, Serial Coi anager (for Windows ver (for 2.4.x, 2.6.x), )  I rver, TCP Client, UDP Secure TCP Server, S t	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Search 95, 98, ME, NT, 2000, Fixed TTY driver (for S	64 KB  V/V3, DDNS, HTTP, SN ACS+  D Utility  XP x86/x64, 2003 x8 600 Unix, SC0 OpenS  2217, Terminal, Reve ure Pair Connection, S	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo  SSH, Reverse SSH	PPPoE, RFC2217, IF	√ Pv6, IPv4, Turbo Ring, 1 Ided CE 5.0/6.0, XP Em QNX 4.25, QNX 6, Solal	√ Furbo Ring 2 bedded), ris 10, FreeBSD
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Security Operation Modes Terminal Sessions Physical Characteristics Housing Weight	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver M. Linux Real TTY driv VAIX 5.x, HP-UX 11 Static, RIP-I, RIP-II Real COM, TCP Ser Secure Real COM, 8 sessions per port	64 KB  , DHCP, BOOTP, Telne SH, SSL, HTTPS, RA et Console, Serial Cor anager (for Vindows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP Secure TCP Server, S t  Metal (IP30)	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Search 95, 98, ME, NT, 2000, Fixed TTY driver (for S	64 KB  √  ACS+  1 Utility  XP x86/x64, 2003 x8  CO Unix, SCO OpenS  2217, Terminal, Reve  ure Pair Connection, 8  Metal (IP30)	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo  SSH, Reverse SSH  Metal (IP30)	PPPoE, RFC2217, IF 2008 x86/x64, Embec kWare 2.1, SVR 4.2, dem, Printer, PPP, Di	√v6, IPv4, Turbo Ring, 7 Ided CE 5.0/6.0, XP Em QNX 4.25, QNX 6, Solar sabled  Metal (IP30)	√ Furbo Ring 2 bedded), ris 10, FreeBSD Metal (IP30) 3600 g
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Security Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm)	ICMP, IP, TCP, UDP, DES, 3DES, AES, S Web Console, TS, S Secure Real COM, TCP Ser Secure Real COM, 8 sessions per port Metal (IP30) 3600 g	64 KB  , DHCP, BOOTP, Telne SH, SSL, HTTPS, RA et Console, Serial can ager (for Windows ver (for 2.4.x, 2.6.x), i)  I  rver, TCP Client, UDP  Secure TCP Server, S t  Metal (IP30) 3600 g	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Search 95, 98, ME, NT, 2000, Fixed TTY driver (for S c, Pair Connection, RFC Secure TCP Client, Secu	64 KB  V/3, DDNS, HTTP, SN ACS+  I Utility XP x86/x64, 2003 x8 CO Unix, SCO OpenS  2217, Terminal, Reve ure Pair Connection, 8  Metal (IP30) 3460 g	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo  SSH, Reverse SSH  Metal (IP30)  3580 g	PPPoE, RFC2217, IF 2008 x86/x64, Embec kWare 2.1, SVR 4.2, dem, Printer, PPP, Di Metal (IP30) 3580 g	√v6, IPv4, Turbo Ring, 1 Ided CE 5.0/6.0, XP Em QNX 4.25, QNX 6, Solar sabled  Metal (IP30) 3600 g	√ Furbo Ring 2 bedded), ris 10, FreeBSD Metal (IP30) 3600 g
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options	ICMP, IP, TCP, UDP, DES, 3DES, AES, S Web Console, TS, S Secure Real COM, TCP Ser Secure Real COM, 8 sessions per port Metal (IP30) 3600 g	64 KB  , DHCP, BOOTP, Telne SH, SSL, HTTPS, RA et Console, Serial can ager (for Windows ver (for 2.4.x, 2.6.x), i)  I  rver, TCP Client, UDP  Secure TCP Server, S t  Metal (IP30) 3600 g	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Search 95, 98, ME, NT, 2000, Fixed TTY driver (for S c, Pair Connection, RFC Secure TCP Client, Secu	64 KB  V/3, DDNS, HTTP, SN ACS+  I Utility XP x86/x64, 2003 x8 CO Unix, SCO OpenS  2217, Terminal, Reve ure Pair Connection, 8  Metal (IP30) 3460 g	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo  SSH, Reverse SSH  Metal (IP30)  3580 g	PPPoE, RFC2217, IF 2008 x86/x64, Embec kWare 2.1, SVR 4.2, dem, Printer, PPP, Di Metal (IP30) 3580 g	√v6, IPv4, Turbo Ring, 1 Ided CE 5.0/6.0, XP Em QNX 4.25, QNX 6, Solar sabled  Metal (IP30) 3600 g	√ Furbo Ring 2 bedded), ris 10, FreeBSD Metal (IP30) 3600 g
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Teine Windows Driver Mi Linux Real TTY dri AIX 5.x, HP-UX 11 SMMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Set Secure Real COM, 8 sessions per port Metal (IP30) 3600 g 440 x 195 x 44	64 KB  √  DHCP, BOOTP, Telnn SH, SSL, HTTPS, RA et Console, Serial Colanager (for Windows ver (for 2.4.x, 2.6.x), i)  I  rver, TCP Client, UDP  Secure TCP Server, S t  Metal (IP30) 3600 g 440 x 195 x 44	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Searct 95, 98, ME, NT, 2000, Fixed TTY driver (for S  Pair Connection, RFC Secure TCP Client, Secure  Metal (IP30) 3460 g 440 x 195 x 44	64 KB  V/V3, DDNS, HTTP, SN ACS+  1 Utility  XP x86/x64, 2003 x8 CO Unix, SCO OpenS  2217, Terminal, Reve ure Pair Connection, S  Metal (IP30) 3460 g 440 x 195 x 44	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo SSH, Reverse SSH  Metal (IP30)  3580 g  440 x 195 x 44	V PPPoE, RFC2217, IF 2008 x86/x64, Ember kWare 2.1, SVR 4.2,  dem, Printer, PPP, Di  Metal (IP30) 3580 g 440 x 195 x 44	√v6, IPv4, Turbo Ring, 1  Ided CE 5.0/6.0, XP Em  QNX 4.25, QNX 6, Solal  sabled  Metal (IP30)  3600 g  440 x 195 x 44	√ Furbo Ring 2  bedded), ris 10, FreeBSD,  Metal (IP30) 3600 g 440 x 195 x 4
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver M. Linux Real TTY driv AIX 5.x, HP-UX 11 SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Ser Secure Real COM, 8 sessions per port Metal (IP30) 3600 g 440 x 195 x 44	64 KB  √  DHCP, BOOTP, Telnin  SSH, SSL, HTTPS, RA  et Console, Serial Col  anager (for Windows  ver (for 2.4.x, 2.6.x),  i)  I  rver, TCP Client, UDP  Secure TCP Server, S  t  Metal (IP30)  3600 g  440 x 195 x 44  0 to 55°C	et, DNS, SNMP V1/V2c et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Searct 95, 98, ME, NT, 2000, Fixed TTY driver (for S ecure TCP Client, Secure  Metal (IP30) 3460 g 440 x 195 x 44	64 KB  √	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo  SSH, Reverse SSH  Metal (IP30)  3580 g  440 x 195 x 44  0 to 55°C	PPPoE, RFC2217, IF 2008 x86/x64, Embet 2008 x86/x64, Embet Ware 2.1, SVR 4.2,  dem, Printer, PPP, Di  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C	√ Pv6, IPv4, Turbo Ring, Turb	Metal (IP30) 3600 g 440 x 195 x
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements	64 KB  √  ICMP, IP, TCP, UDP  DES, 3DES, AES, S  Web Console, Telne Windows Driver Mi Linux Real TTY driv AIX 5.x, HP-UX 11  SMMP MIB-II  Static, RIP-I, RIP-II  Real COM, TCP Ser  Secure Real COM, 8  8 sessions per port  Metal (IP30)  3600 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C	G4 KB  CDHCP, BOOTP, Telnin SSH, SSL, HTTPS, RA et Console, Serial Coi anager (for Windows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP Secure TCP Server, St  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Searct 95, 98, ME, NT, 2000, Fixed TTY driver (for S  Pair Connection, RFC Secure TCP Client, Secure  Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	64 KB  V/V3, DDNS, HTTP, SN ACS+  D tillity  XP x86/x64, 2003 x8 CCO Unix, SCO OpenS  2217, Terminal, Reve ure Pair Connection, S  Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo  SSH, Reverse SSH  Metal (IP30)  3580 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C	PPPoE, RFC2217, IF 2008 x86/x64, Embec 2008 x8	√ Pv6, IPv4, Turbo Ring, 1 Ided CE 5.0/6.0, XP Em QNX 4.25, QNX 6, Solar  Sabled  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3600 g 440 x 195 x 4 0 to 55°C 5 to 95% RH -20 to 70°C
Offline Port Buffering SD Slot Software Vetwork Protocols Security Protocols Configuration Options Driver Support Wanagement P Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver Mi Linux Real TTY driv VAIX 5.x, HP-UX 11 Static, RIP-II, RIP-II Real COM, TCP Set Secure Real COM, 8 8 sessions per port Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	64 KB  √  DHCP, BOOTP, Telnin SISH, SSL, HTTPS, RA et Console, Serial Coi anager (for Windows ver (for 2.4.x, 2.6.x), i)  I  rver, TCP Client, UDP  Secure TCP Server, St  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Search 95, 98, ME, NT, 2000, Fixed TTY driver (for S Pair Connection, RFC Secure TCP Client, Secure Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	64 KB  V/V3, DDNS, HTTP, SN ACS+  D tvility  XP x86/x64, 2003 x8 CO Unix, SCO OpenS  2217, Terminal, Reve  ure Pair Connection, S  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo SSH, Reverse SSH  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	PPPoE, RFC2217, IF 2008 x86/x64, Embec 2008 x8	Ve6, IPv4, Turbo Ring, 1 Ided CE 5.0/6.0, XP Em ONX 4.25, QNX 6, Solar  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3600 g 440 x 195 x 4 0 to 55°C 5 to 95% RH
Offline Port Buffering SD Slot Software Vetwork Protocols Security Protocols Security Protocols Configuration Options Driver Support Wanagement P Routing Standard Operation Modes Secure Operation Modes Ferminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver M. Linux Real TTY driv AIX 5.x, HP-UX 11 SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Ser Secure Real COM, 8 sessions per port Metal (IP30) 3600 g 440 x 195 x 44 0 to 55°C 5 to 95% RH -20 to 70°C	G4 KB  CDHCP, BOOTP, Telnin SSH, SSL, HTTPS, RA et Console, Serial Coi anager (for Windows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP Secure TCP Server, St  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	et, DNS, SNMP V1/V2c  et, DNS, SNMP V1/V2c  DIUS, PAP, CHAP, TAC  nsole, Windows Searct  95, 98, ME, NT, 2000, Fixed TTY driver (for S  Pair Connection, RFC  Secure TCP Client, Secure  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C	64 KB  V/V3, DDNS, HTTP, SN ACS+  D tillity  XP x86/x64, 2003 x8 CCO Unix, SCO OpenS  2217, Terminal, Reve ure Pair Connection, S  Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo SSH, Reverse SSH  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V	PPPoE, RFC2217, IF 2008 x86/x64, Embec 2008 x8	Vec, IPv4, Turbo Ring, 1  Ided CE 5.0/6.0, XP Em  QNX 4.25, QNX 6, Solar  Metal (IP30)  3600 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C	Metal (IP30) 3600 g 440 x 195 x 0 to 55°C 5 to 95% RH -20 to 70°C
Offline Port Buffering SD Slot Software Vetwork Protocols Security Protocols Security Protocols Configuration Options Driver Support Management P Routing Standard Operation Modes Secure Operation Modes Ferminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver Mi Linux Real TTY driv AIX 5.x, HP-UX 11 Static, RIP-II, RIP-II Real COM, TCP Sei Secure Real COM, 8 8 sessions per port Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	64 KB  √  C DHCP, BOOTP, Telnin SSH, SSL, HTTPS, RA et Console, Serial Col anager (for Windows ver (for 2.4.x, 2.6.x), i)  I  rver, TCP Client, UDP Secure TCP Server, St  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC nsole, Windows Search 95, 98, ME, NT, 2000, Fixed TTY driver (for S Pair Connection, RFC Secure TCP Client, Secure Metal (IP30) 3460 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	64 KB  √  A/V3, DDNS, HTTP, SN  ACS+  D tillity  XP x86/x64, 2003 x8  CCO Unix, SCO OpenS  2217, Terminal, Reve  ure Pair Connection, S  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  ±48 VDC	64 KB  √  MTP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo SSH, Reverse SSH  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	PPPoE, RFC2217, IF 2008 x86/x64, Embec 2008 x8	Ve6, IPv4, Turbo Ring, 1 Ided CE 5.0/6.0, XP Em ONX 4.25, QNX 6, Solar  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3600 g 440 x 195 x 4 0 to 55°C 5 to 95% RH -20 to 70°C
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption Regulatory Approvals	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver Mi Linux Real TTY dri AIX 5-x, HP-UX 11 SMMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Ser Secure Real COM, 8 sessions per port Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C	64 KB  √  DHCP, BOOTP, Telnin  SSH, SSL, HTTPS, RA et Console, Serial Col  anager (for Windows ver (for 2.4.x, 2.6.x),  i)  I  rver, TCP Client, UDP  Secure TCP Server, S  t  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH  -20 to 70°C  ±48 VDC 293 mA @ 48 V	64 KB  √  et, DNS, SNMP V1/V2c  DIUS, PAP, CHAP, TAC  nsole, Windows Searct  95, 98, ME, NT, 2000, Fixed TTY driver (for S  Recure TCP Client, Sect  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  100 to 240 VAC  285 mA @ 100 V	64 KB  √  A/V3, DDNS, HTTP, SN  ACS+  D ttility  XP x86/x64, 2003 x8  CO Unix, SCO OpenS  2217, Terminal, Reve  ure Pair Connection, S  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  ±48 VDC  293 mA @ 48 V	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo SSH, Reverse SSH  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V	PPPoE, RFC2217, IF 2008 x86/x64, Embec 2008 x8	Vec, IPv4, Turbo Ring, 1  Ided CE 5.0/6.0, XP Em  QNX 4.25, QNX 6, Solar  Metal (IP30)  3600 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C	Metal (IP30) 3600 g 440 x 195 x 4 0 to 55°C 5 to 95% RH -20 to 70°C
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature	G4 KB  √  ICMP, IP, TCP, UDP  DES, 3DES, AES, S  Web Console, Telne Windows Driver Mi Linux Real TTY driv AIX 5.x, HP-UX 11  SMMP MIB-II  Static, RIP-I, RIP-II  Real COM, TCP Set  Secure Real COM, 8  8 sessions per port  Metal (IP30)  3600 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  100 to 240 VAC  285 mA @ 100 V  190 mA @ 240 V  CE (EN55022 Class	G4 KB  C DHCP, BOOTP, Telnin SSH, SSL, HTTPS, RA et Console, Serial Col anager (for Windows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP Secure TCP Server, St  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC 293 mA @ 48 V	et, DNS, SNMP V1/V2c  et, DNS, SNMP V1/V2c  DIUS, PAP, CHAP, TAC  nsole, Windows Searct  95, 98, ME, NT, 2000, Fixed TTY driver (for S  Pair Connection, RFC  Secure TCP Client, Secure  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C	64 KB  √  A/V3, DDNS, HTTP, SN  ACS+  D ttility  XP x86/x64, 2003 x8  CO Unix, SCO OpenS  2217, Terminal, Reve  ure Pair Connection, S  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  ±48 VDC  293 mA @ 48 V	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo SSH, Reverse SSH  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V	PPPoE, RFC2217, IF 2008 x86/x64, Embec 2008 x8	Vec, IPv4, Turbo Ring, 1  Ided CE 5.0/6.0, XP Em  QNX 4.25, QNX 6, Solar  Metal (IP30)  3600 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C	Metal (IP30) 3600 g 440 x 195 x 0 to 55°C 5 to 95% RH -20 to 70°C
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption Regulatory Approvals EMC Safety	G4 KB  √  ICMP, IP, TCP, UDP  DES, 3DES, AES, S  Web Console, Telne Windows Driver Mi Linux Real TTY driv  IX1X 5.x, HP-UX 11  STATE  STATE  SECURE REAL COM, TCP Set  SECURE REAL COM, TCP SECURE RE	G4 KB  CDHCP, BOOTP, Telnin SSH, SSL, HTTPS, RA et Console, Serial Coi anager (for Windows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP Secure TCP Server, St  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC 293 mA @ 48 V  S A, EN55024), FCC F ÜV (EN60950-1) ), Level 3 ), Level 2	64 KB  √  et, DNS, SNMP V1/V2c  DIUS, PAP, CHAP, TAC  nsole, Windows Searct  95, 98, ME, NT, 2000, Fixed TTY driver (for S  Recure TCP Client, Sect  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  100 to 240 VAC  285 mA @ 100 V	64 KB  √  A/V3, DDNS, HTTP, SN  ACS+  D ttility  XP x86/x64, 2003 x8  CO Unix, SCO OpenS  2217, Terminal, Reve  ure Pair Connection, S  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  ±48 VDC  293 mA @ 48 V	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo SSH, Reverse SSH  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V	PPPoE, RFC2217, IF 2008 x86/x64, Embec 2008 x8	Vec, IPv4, Turbo Ring, 1  Ided CE 5.0/6.0, XP Em  QNX 4.25, QNX 6, Solar  Metal (IP30)  3600 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C	Metal (IP30) 3600 g 440 x 195 x 4 0 to 55°C 5 to 95% RH -20 to 70°C
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption Regulatory Approvals EMC Safety EMS	ICMP, IP, TCP, UDP DES, 3DES, AES, S Web Console, Telne Windows Driver M Linux Real TTV M Linux Real TTV M Linux Real TTV M SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Set Secure Real COM, 3 8 sessions per port Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V 190 mA @ 240 V  CE (EN55022 Class UL (UL60950-1), T	G4 KB  CDHCP, BOOTP, Telnin SSH, SSL, HTTPS, RA et Console, Serial Coi anager (for Windows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP Secure TCP Server, St  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC 293 mA @ 48 V  S A, EN55024), FCC F ÜV (EN60950-1) ), Level 3 ), Level 2	64 KB  √  et, DNS, SNMP V1/V2c  DIUS, PAP, CHAP, TAC  nsole, Windows Searct  95, 98, ME, NT, 2000, Fixed TTY driver (for S  Recure TCP Client, Sect  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  100 to 240 VAC  285 mA @ 100 V	64 KB  √  A/V3, DDNS, HTTP, SN  ACS+  D ttility  XP x86/x64, 2003 x8  CO Unix, SCO OpenS  2217, Terminal, Reve  ure Pair Connection, S  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  ±48 VDC  293 mA @ 48 V	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo SSH, Reverse SSH  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V	PPPoE, RFC2217, IF 2008 x86/x64, Embec 2008 x8	Vec, IPv4, Turbo Ring, 1  Ided CE 5.0/6.0, XP Em  QNX 4.25, QNX 6, Solar  Metal (IP30)  3600 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C	Metal (IP30) 3600 g 440 x 195 x 4 0 to 55°C 5 to 95% RH -20 to 70°C
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Secure Operation Modes Secure Operation Modes Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption Regulatory Approvals EMC Safety EMS Reliability	G4 KB  √  ICMP, IP, TCP, UDP  DES, 3DES, AES, S  Web Console, Telné Windows Driver M Linux Real TTY driv AIX 5x. HP-UX 11  SNMP MIB-II  Static, RIP-I, RIP-II  Real COM, TCP Set  Secure Real COM, TCP Set  Secure Real COM, TCP Set  40 to 55°C  5 to 95% RH  -20 to 70°C  100 to 240 VAC  285 mA @ 100 V  190 mA @ 240 V  CE (EN55022 Class  UL (UL60950-1), T  EN61000-4-2 (ESD  EN61000-4-5 (Surg  E	G4 KB  √  I, DHCP, BOOTP, Telm ISH, SSL, HTTPS, RA et Console, Serial Colanager (for Windows ver (for 2.4.x, 2.6.x), i)  I  Iver, TCP Client, UDP Secure TCP Server, Set  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC 293 mA @ 48 V  SA, EN55024), FCC F  ÜV (EN60950-1) ), Level 2 pe), Level 2 pe), Level 2	et, DNS, SNMP V1/V2c DIUS, PAP, CHAP, TAC Secure TCP Client,	64 KB  √	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo SSH, Reverse SSH  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V 190 mA @ 240 V	PPPoE, RFC2217, IF 2008 x86/x64, Embec cWare 2.1, SVR 4.2,  dem, Printer, PPP, Di  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC 293 mA @ 48 V	Ve6, IPv4, Turbo Ring, 1 Ided CE 5.0/6.0, XP Em ONX 4.25, QNX 6, Solar  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V 190 mA @ 240 V	Metal (IP30) 3600 g 440 x 195 x 4 0 to 55°C 5 to 95% RH -20 to 70°C ±48 VDC 293 mA @ 48
Offline Port Buffering SD Slot Software Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Secure Operation Modes Secure Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Input Voltage Power Consumption Regulatory Approvals EMC	G4 KB  √  ICMP, IP, TCP, UDP  DES, 3DES, AES, S  Web Console, Telne Windows Driver Mi Linux Real TTY driv  IX1X 5.x, HP-UX 11  STATE  STATE  SECURE REAL COM, TCP Set  SECURE REAL COM, TCP SECURE RE	G4 KB  CDHCP, BOOTP, Telnin SSH, SSL, HTTPS, RA et Console, Serial Coi anager (for Windows ver (for 2.4.x, 2.6.x), i)  I rver, TCP Client, UDP Secure TCP Server, St  Metal (IP30) 3600 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  ±48 VDC 293 mA @ 48 V  S A, EN55024), FCC F ÜV (EN60950-1) ), Level 3 ), Level 2	64 KB  √  et, DNS, SNMP V1/V2c  DIUS, PAP, CHAP, TAC  nsole, Windows Searct  95, 98, ME, NT, 2000, Fixed TTY driver (for S  Recure TCP Client, Sect  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  100 to 240 VAC  285 mA @ 100 V	64 KB  √  A/V3, DDNS, HTTP, SN  ACS+  D ttility  XP x86/x64, 2003 x8  CO Unix, SCO OpenS  2217, Terminal, Reve  ure Pair Connection, S  Metal (IP30)  3460 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C  ±48 VDC  293 mA @ 48 V	64 KB  √  ITP, HTTPS, SSL, SSH,  6/x64, Vista x86/x64, 2 erver, UnixWare 7, Unix  rse Telnet, Ethernet Mo SSH, Reverse SSH  Metal (IP30) 3580 g 440 x 195 x 44  0 to 55°C 5 to 95% RH -20 to 70°C  100 to 240 VAC 285 mA @ 100 V	PPPoE, RFC2217, IF 2008 x86/x64, Embec 2008 x8	Vec, IPv4, Turbo Ring, 1  Ided CE 5.0/6.0, XP Em  QNX 4.25, QNX 6, Solar  Metal (IP30)  3600 g  440 x 195 x 44  0 to 55°C  5 to 95% RH  -20 to 70°C	Metal (IP30) 3600 g 440 x 195 x 4 0 to 55°C 5 to 95% RH -20 to 70°C

# **CN2600 Terminal Servers**













	CN2610-8	CN2610-16	CN2610-8-2AC	CN2610-16-2AC	CN2650-8	CN2650-16
LAN Interface			<u> </u>			
10/100BaseT(X) Ports	2 ports (8-pin RJ45 d	connector)				
Magnetic Isolation Protection	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV
Serial Interface						
RS-232 Ports	8	16	8	16		
RS-232/422/485 Ports					8	16
Connectors	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45	8-pin RJ45
Communication Parameters		Stop Bits: 1, 1.5, 2; Parity: No	ne, Even, Odd, Space, Mark			
Flow Control	RTS/CTS, DTR/DSR,					
Baudrate	50 bps to 921.6 Kbps		1	1	1	1
15 KV ESD Protection 2 KV isolation	√ 	V	√	√	V	√
protection						
RS-485 Data Direction Control	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®
RS-232 Console Port	$\checkmark$	$\checkmark$	$\sqrt{}$	$\checkmark$	$\sqrt{}$	$\checkmark$
Advanced Features						
LCD Panel with 4 push buttons	√	$\checkmark$	√	$\checkmark$	√	√
Serial Data Log	128 KB	128 KB	128 KB	128 KB	128 KB	128 KB
Offline Port Buffering Software	128 KB	128 KB	128 KB	128 KB	128 KB	128 KB
Network Protocols Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature	RADIUS, https, SSH, Web Console, Telnet Windows Driver Man Linux Real TTY drivel AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II	PAP, CHAP Console, Serial Console, Win ager (for Windows 95, 98, M r (for 2.4.x, 2.6.x), Fixed TTY	E, NT, 2000, XP x86/x64, 200 driver (for SCO Unix, SCO Op	3 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM,  Metal (IP30) 3980 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	are 2.1, SVR 4.2, QNX 4.25,	Metal (IP30) 3790 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C
Power Requirements	-20 to 70 C	-20 to 70 G	-20 10 70 0	-20 to 70 G	-20 t0 70 G	-20 t0 70 G
Number of Inputs Input Voltage	1 100 to 240 VAC 47 t	1 0.62 47	2	2	1	1
Power Consumption	100 to 240 VAC, 47 to 235 mA @ 100 VAC,					
Regulatory Approvals	200 IIIA W 100 VAU,	THE MIN W 240 V				
EMC	CF /FNEE022 Class A	FNEE004) FCC Doet 15 Cul	apart D. Class A			
Safety	UL (UL60950), TÜV (	ง, EN55024), FCC Part 15 Sub (EN60950)	IPAIT D GIASS A			
EMS	EN61000-4-2 (ESD), EN61000-4-4 (EFT), I EN61000-4-5 (Surge	Level 3 Level 4				
Reliability						
Buzzer, RTC, WDT	√	$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$	$\sqrt{}$
MTBF	99302 hrs					
Warranty	5 years (see www.mo	oxa.com/warranty)				

# **CN2600 Terminal Servers**













	to manual	_				
	CN2650-8-2AC	CN2650-16-2AC	CN2650I-8	CN2650I-16	CN2650I-8-2AC	CN2650I-16-2AC
LAN Interface						
10/100BaseT(X) Ports	2 ports (8-pin RJ45 cor	nnector)				
Magnetic Isolation Protection	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV	1.5 KV
Serial Interface						
RS-232 Ports						
RS-232/422/485 Ports	8	16	8	16	8	16
Connectors	8-pin RJ45	8-pin RJ45	DB9 male	DB9 male	DB9 male	DB9 male
Communication Parameters		pp Bits: 1, 1.5, 2; Parity: Non	ne, Even, Odd, Space, Mark			
Flow Control	RTS/CTS, DTR/DSR, XO	ON/XOFF				
Baudrate	50 bps to 921.6 Kbps					
15 KV ESD Protection	√	√	√	√	$\sqrt{}$	√
2 KV isolation protection			√	√	√	√
RS-485 Data Direction Control	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®	ADDC®
RS-232 Console Port	$\sqrt{}$	V	V	V		$\sqrt{}$
Advanced Features						
CD Panel with 4 push puttons	√	√	√	√	√	√
Serial Data Log	128 KB	128 KB	128 KB	128 KB	128 KB	128 KB
Offline Port Buffering	128 KB	128 KB	128 KB	128 KB	128 KB	128 KB
Software						
the state of the s						
	ICMP, IP, TCP, UDP, DH	CP, BOOTP, Telnet, DNS, SNI	MP V1/V2c/V3, HTTP, SMTP,	ARP, PPPoE, DDNS		
Network Protocols Security Protocols	ICMP, IP, TCP, UDP, DH RADIUS, https, SSH, PA		MP V1/V2c/V3, HTTP, SMTP,	ARP, PPPoE, DDNS		
	RADIUS, https, SSH, PA Web Console, Telnet Co	AP, CHAP Insole, Serial Console, Wind	ows Search Utility			
Security Protocols	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (t	AP, CHAP insole, Serial Console, Wind er (for Windows 95, 98, ME	ows Search Utility	ARP, PPPoE, DDNS 3 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW	8 x86/x64, Embedded CE 5.0 are 2.1, SVR 4.2, QNX 4.25, I	)/6.0, XP Embedded), QNX 6, Solaris 10, FreeBSD
Security Protocols Configuration Options	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (i AIX 5.x, HP-UX 11i)	AP, CHAP insole, Serial Console, Wind er (for Windows 95, 98, ME	ows Search Utility	3 x86/x64. Vista x86/x64. 200	8 x86/x64, Embedded CE 5.0 are 2.1, SVR 4.2, QNX 4.25,	)/6.0, XP Embedded), QNX 6, Solaris 10, FreeBSD
Security Protocols Configuration Options Driver Support	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (i AIX 5.x, HP-UX 11i) SNMP MIB-II	AP, CHAP insole, Serial Console, Wind er (for Windows 95, 98, ME	ows Search Utility	3 x86/x64. Vista x86/x64. 200	18 x86/x64, Embedded CE 5.0 are 2.1, SVR 4.2, QNX 4.25, I	)/6.0, XP Embedded), QNX 6, Solaris 10, FreeBSD
Security Protocols Configuration Options Driver Support Management	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (I AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II	AP, CHAP Insole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d	ows Search Utility , NT, 2000, XP x86/x64, 200 Iriver (for SCO Unix, SCO Op	3 x86/x64. Vista x86/x64. 200	are 2.1, SVR 4.2, QNX 4.25,	0/6.0, XP Embedded), QNX 6, Solaris 10, FreeBSD
Security Protocols Configuration Options Driver Support  Management IP Routing Standard Operation Modes	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (I AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II	AP, CHAP Insole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d	ows Search Utility , NT, 2000, XP x86/x64, 200 Iriver (for SCO Unix, SCO Op	3 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW	are 2.1, SVR 4.2, QNX 4.25,	0/6.0, XP Embedded), QNX 6, Solaris 10, FreeBSD
Security Protocols Configuration Options Driver Support  Management P Routing Standard Operation Modes Ferminal Sessions	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTV driver (t AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server,	AP, CHAP Insole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d	ows Search Utility , NT, 2000, XP x86/x64, 200 Iriver (for SCO Unix, SCO Op	3 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW	are 2.1, SVR 4.2, QNX 4.25,	0/6.0, XP Embedded), QNX 6, Solaris 10, FreeBSD
Security Protocols Configuration Options Driver Support  Management P Routing Standard Operation Modes Ierminal Sessions Physical Characteristics	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTV driver (t AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server,	AP, CHAP Insole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d	ows Search Utility , NT, 2000, XP x86/x64, 200 Iriver (for SCO Unix, SCO Op	3 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW	are 2.1, SVR 4.2, QNX 4.25,	0/6.0, XP Embedded), QNX 6, Solaris 10, FreeBSD Metal (IP30)
Security Protocols Configuration Options Driver Support Management P Routing Standard Operation Modes Ferminal Sessions Physical Characteristics Housing	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (t AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port	AP, CHAP Insole, Serial Console, Wind or (for Windows 95, 98, ME or 2.4.x, 2.6.x), Fixed TTY d TCP Client, UDP, RFC2217,	ows Search Utility , NT, 2000, XP x86/x64, 200 Iriver (for SCO Unix, SCO Op Terminal, Reverse Telnet, PP	3 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I	are 2.1, SVR 4.2, QNX 4.25, Disabled	QNX 6, Solaris 10, FreeBSC
Security Protocols Configuration Options Driver Support Management P Routing Standard Operation Modes Ferminal Sessions Physical Characteristics Housing Weight	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (t AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port	AP, CHAP unsole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d  TCP Client, UDP, RFC2217,  Metal (IP30)	ows Search Utility , NT, 2000, XP x86/x64, 200 Iriver (for SCO Unix, SCO Op Terminal, Reverse Telnet, PP Metal (IP30)	3 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I	are 2.1, SVR 4.2, QNX 4.25, Disabled  Metal (IP30)	QNX 6, Solaris 10, FreeBSD
Security Protocols Configuration Options Driver Support  Management P Routing Standard Operation Modes Ferminal Sessions Physical Characteristics Housing Weight Dimensions (mm)	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver ( AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port	AP, CHAP unsole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d  TCP Client, UDP, RFC2217,  Metal (IP30) 3980 g	ows Search Utility , NT, 2000, XP x86/x64, 200 Iriver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I Metal (IP30) 3776 g	Disabled  Metal (IP30) 3932 g	QNX 6, Solaris 10, FreeBSD  Metal (IP30) 4022 g
Security Protocols Configuration Options Driver Support  Management P Routing Standard Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver ( AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45	AP, CHAP unsole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d  TCP Client, UDP, RFC2217,  Metal (IP30) 3980 g 440 x 198 x 45	ows Search Utility , NT, 2000, XP x86/x64, 200 friver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, 1 Metal (IP30) 3776 g 440 x 198 x 45	Disabled  Metal (IP30) 3932 g 440 x 198 x 45	Metal (IP30) 4022 g 440 x 198 x 45
Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver ( AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port	AP, CHAP unsole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d  TCP Client, UDP, RFC2217,  Metal (IP30) 3980 g	ows Search Utility , NT, 2000, XP x86/x64, 200 Iriver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I Metal (IP30) 3776 g	Disabled  Metal (IP30) 3932 g	QNX 6, Solaris 10, FreeBSD  Metal (IP30) 4022 g
Security Protocols Configuration Options Oriver Support Management P Routing Standard Operation Modes Ferminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity	RADIUS, https, SSH, P/ Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (1 AIX 5.x, HP-UX 11i) SIMIP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45	AP, CHAP Insole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d  TCP Client, UDP, RFC2217,  Metal (IP30) 3980 g 440 x 198 x 45  0 to 55°C	ows Search Utility , NT, 2000, XP x86/x64, 200 friver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C	B x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C	Disabled  Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C	Metal (IP30) 4022 g 440 x 198 x 45 0 to 55°C
Security Protocols Configuration Options Oriver Support  Management P Routing Standard Operation Modes Ferminal Sessions Physical Characteristics Housing Dimensions (mm) Convironmental Limits Operating Temperature Operating Humidity Storage Temperature	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTV driver (I AIX 5.x, HP-UX 11i) SMMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45	AP, CHAP Insole, Serial Console, Winder (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY description of the consoler of th	ows Search Utility , NT, 2000, XP x86/x64, 200 Iriver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH
Security Protocols Configuration Options Driver Support  Management P Routing Standard Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Decrating Temperature Operating Temperature Power Requirements	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTV driver (t AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45	AP, CHAP unsole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d  TCP Client, UDP, RFC2217,  Metal (IP30) 3980 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	ows Search Utility , NT, 2000, XP x86/x64, 200 friver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C
Security Protocols Configuration Options Driver Support  Management P Routing Standard Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Number of Inputs	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTV driver (t AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45 0 to 55°C 5 to 95% RH -20 to 70°C	AP, CHAP unsole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d  TCP Client, UDP, RFC2217,  Metal (IP30) 3980 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	ows Search Utility , NT, 2000, XP x86/x64, 200 Iriver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH
Security Protocols Configuration Options Driver Support  Management P Routing Standard Operation Modes Ferminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Deperating Temperature Deperating Humidity Storage Temperature Power Requirements Number of Inputs Input Voltage	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTV driver (t AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45	AP, CHAP  Insole, Serial Console, Winder (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY decorated to the for 2.4.x, 2.6.x), Fixed TTY decorated to the foreign for 2.4.x, 2.6.x), Fixed TTY decorated to the foreign foreign for 2.4.x, 2.6.x), Fixed TTY decorated to the foreign forei	ows Search Utility , NT, 2000, XP x86/x64, 200 friver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C
Security Protocols Configuration Options Driver Support  Management P Routing Standard Operation Modes Ferminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Diperating Temperature Departing Humidity Storage Temperature Power Requirements Jumber of Inputs Input Voltage Power Consumption	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (t AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45 0 to 55°C 5 to 95% RH -20 to 70°C	AP, CHAP  Insole, Serial Console, Winder (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY decorated to the for 2.4.x, 2.6.x), Fixed TTY decorated to the foreign for 2.4.x, 2.6.x), Fixed TTY decorated to the foreign foreign for 2.4.x, 2.6.x), Fixed TTY decorated to the foreign forei	ows Search Utility , NT, 2000, XP x86/x64, 200 friver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C
Security Protocols Configuration Options Oriver Support Management P Routing Standard Operation Modes Ferminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Number of Inputs Input Voltage Power Consumption Regulatory Approvals	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (1 AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45 0 to 55°C 5 to 95% RH -20 to 70°C	AP, CHAP Insole, Serial Console, Winder (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY description of the console of the	ows Search Utility , NT, 2000, XP x86/x64, 200: friver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C
Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Number of Inputs Input Voltage Power Consumption Regulatory Approvals EMC	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (1 AIX 5.x, HP-UX 11i) SIMMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port  Metal (IP30) 3900 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	AP, CHAP Insole, Serial Console, Winder (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY description of the console of the	ows Search Utility , NT, 2000, XP x86/x64, 200: friver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C
Security Protocols Configuration Options Driver Support Management IP Routing Standard Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Humidity Storage Temperature Power Requirements Number of Inputs Input Voltage Power Consumption Regulatory Approvals	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (t AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45 0 to 55°C 5 to 95% RH -20 to 70°C 2 100 to 240 VAC, 47 to 6 235 mA @ 100 VAC, 14 CE (EN55022 Class A, E UL (UL60950), TÜV (EN	AP, CHAP  Insole, Serial Console, Winder (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY decorated for 2.4.x, 2.6.x), FCC Part 15 Subplication for 2.4.x, 2.6.x, 2.6.x	ows Search Utility , NT, 2000, XP x86/x64, 200: friver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C
Security Protocols Configuration Options Oriver Support Management P Routing Standard Operation Modes Ferminal Sessions Physical Characteristics Housing Physical Characteristics Housing Proving Temperature Operating Temperature Operating Humidity Storage Temperature Power Requirements Number of Inputs Input Voltage Power Consumption Regulatory Approvals EMC Safety	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTV driver (I AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port  Metal (IP30) 3900 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C  2 100 to 240 VAC, 47 to 6 235 mA @ 100 VAC, 14  CE (EN55022 Class A, EUL (UL60950), TÜV (EN	AP, CHAP  Insole, Serial Console, Winder (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY decorated for 2.4.x, 2.6.x), FCC Part 15 Subplication for 2.4.x, 2.6.x, 2.6.x	ows Search Utility , NT, 2000, XP x86/x64, 200: friver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C
Security Protocols Configuration Options Oriver Support  Management P Routing Standard Operation Modes Ferminal Sessions Physical Characteristics Housing Dimensions (mm) Convironmental Limits Dimensions (mm) Convironmental Limits Departing Temperature Departing Humidity Storage Temperature Power Requirements Number of Inputs Input Voltage Power Consumption Regulatory Approvals EMC Safety  EMS Reliability	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTV driver (I AIX 5.x, HP-UX 11i) SMMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45 0 to 55°C 5 to 95% RH -20 to 70°C 2 100 to 240 VAC, 47 to 6 235 mA @ 100 VAC, 14 CE (EN55022 Class A, E UL (UL60950), TÜV (EN EN61000-4-2 (ESD), Le EN61000-4-5 (Surge),	AP, CHAP  Insole, Serial Console, Winder (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY decorated for 2.4.x, 2.6.x), FCC Part 15 Subplication for 2.4.x, 2.6.x, 2.6.x	ows Search Utility , NT, 2000, XP x86/x64, 200. Iriver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C  1	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C
Security Protocols Configuration Options Driver Support  Management IP Routing Standard Operation Modes Terminal Sessions Physical Characteristics Housing Weight Dimensions (mm) Environmental Limits Operating Temperature Operating Temperature Power Requirements Number of Inputs Input Voltage Power Consumption Regulatory Approvals EMC Safety	RADIUS, https, SSH, P/Web Console, Telnet Co Windows Driver Manag Linux Real TTY driver (t AIX 5.x, HP-UX 11i) SNMP MIB-II Static, RIP-I, RIP-II Real COM, TCP Server, 8 sessions per port Metal (IP30) 3900 g 440 x 198 x 45 0 to 55°C 5 to 95% RH -20 to 70°C 2 100 to 240 VAC, 47 to 6 235 mA @ 100 VAC, 14 CE (EN55022 Class A, E UL (UL60950), TÜV (EN	AP, CHAP Insole, Serial Console, Wind er (for Windows 95, 98, ME for 2.4.x, 2.6.x), Fixed TTY d  TCP Client, UDP, RFC2217,  Metal (IP30) 3980 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C  2  233 Hz 5 mA @ 240 VAC  EN55024), FCC Part 15 Subplication (Serial Subplication) (Serial	ows Search Utility , NT, 2000, XP x86/x64, 200: friver (for SCO Unix, SCO Op  Terminal, Reverse Telnet, PP  Metal (IP30) 3666 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	8 x86/x64, Vista x86/x64, 200 enServer, UnixWare 7, UnixW P, DRDAS, Redundant COM, I  Metal (IP30) 3776 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 3932 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C	Metal (IP30) 4022 g 440 x 198 x 45  0 to 55°C 5 to 95% RH -20 to 70°C

# **Secure Terminal Servers**

NPort® 6000 secure terminal servers provide serial-to-Ethernet connectivity that is both reliable and secure. They can be used to connect any serial device to an Ethernet network using a variety of operation modes—Real COM, TCP Server, TCP Client, UDP, RFC2217, Pair Connection, Ethernet Modem, Terminal, Reverse Terminal, Printer, and Dial in/out. For applications that require data security, such as banking, telecom, access control, and remote site management, secure modes are also available—Secure TCP Server. Secure TCP Client, Secure Pair-Connection, Secure Real COM, and Secure Terminal modes.

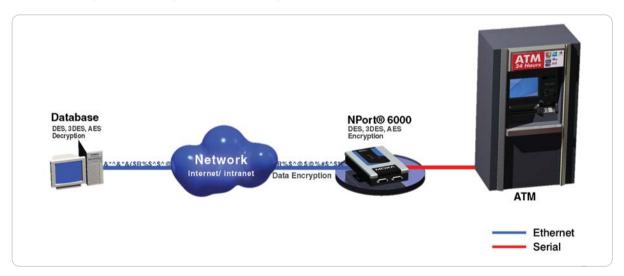


## **Safe Data Communication**

## **Secure Data Communication with SSL**

Network security is a critical issue for certain applications, and is especially important when data is transmitted over the Internet where it is vulnerable to interception by third parties. The NPort® 6000 secure terminal servers use SSL to implement secure data transmission for Secure TCP Server, Secure TCP Client, Secure Pair Connection,

and Secure Real COM modes. The NPort®'s drivers follow the SSL standard and automatically negotiate the encryption key, and to prevent hacker attacks, the NPort® will automatically switch from DES/3DES to AES encryption.



## Secure Remote Management and Configuration with SSH and SSL

Unauthorized access is a major concern for system managers, and the NPort® 6000 secure terminal servers help control access by supporting IP filtering and password protection. Extra protection from hackers is also provided by SSH and SSL. Secure configuration of the NPort® 6000 is provided by opening the web console with a web browser that supports https (e.g., Internet Explorer), or by opening the Telnet console using a terminal emulator that supports SSH (e.g., PuTTY).

## **Powerful Hardware Encryption Engine**

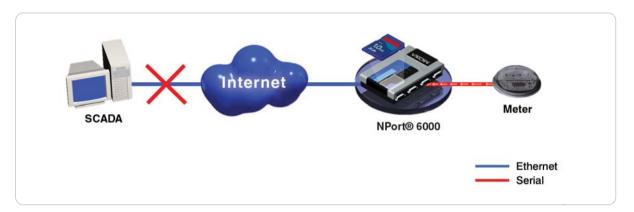
A powerful hardware encryption engine that supports the complete DES/3DES/AES encryption algorithms is built into the NPort® 6000. For DES and 3DES encryption, the NPort® 6000 supports ECB, CBC, CFB, and OFB modes. For AES encryption, the NPort® 6000 supports ECB, CBC, CFB, OFB, and CTR modes with a 128-bit, 192-bit, or 256-bit key.

## : Reliable Data Communication

## Port Buffering that Preserves Data if the Ethernet Fails

For mission-critical applications, data collected from a serial device must be safeguarded in case the Ethernet network gets disconnected. The NPort® 6000 provides exceptionally reliable data transmission by saving serial data to an internal 64 KB port buffer if the Ethernet

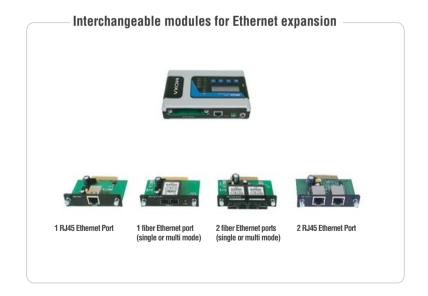
connection fails. When the Ethernet network is reconnected, data in the buffer is automatically released and sent to the appropriate destination. For the NPort® 6250, 6450, and 6650, this buffer can be expanded by installing an SD card.



## Ethernet Port Expansion (NPort® 6450/6600 only)

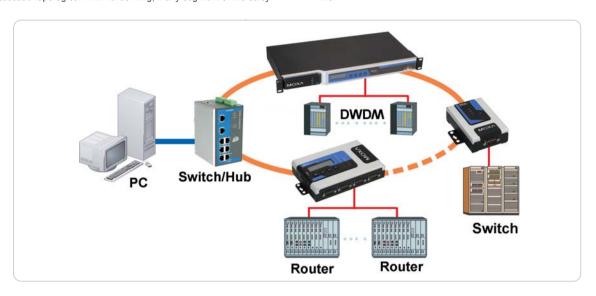
Although more and more devices are now Ethernet-ready, many legacy devices only provide a serial interface. The main purpose of a device server is to connect serial devices to an Ethernet network, allowing engineers to integrate all devices into an Ethernet environment. A problem can arise if both Ethernet-ready and legacy serial devices need to be connected from the same location. The NPort® 6000 can use the Ethernet expansion module to add additional Ethernet ports, effectively allowing operation as

a combination Ethernet switch/device server. By using the NPort® 6000's Ethernet expansion modules, users no longer need to invest in a more expensive switch or hub to connect every device. Modules are available for different Ethernet media, including copper Ethernet, multimode fiber, and single-mode fiber. Ethernet expansion modules can also be used to create a cascading topology in which device servers are connected to each other in a daisy chain arrangement.



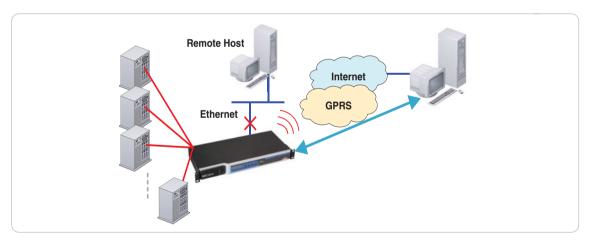
## **Ethernet Ring Topology with Fast Recovery**

NPort® 6000 secure terminal servers support the Turbo Ring protocol for cascade topologies. With Turbo Ring, if any segment of the daisychain ring is disconnected, the network will recover in less than 300



## Redundant Ethernet (NPort® 6450/6600 only)

The NM-GPRS/GSM and NM-Modem network modules can be used to provide NPort® 6000 secure terminal servers with an automatic backup capability. When the backup function is enabled, the NPort® 6000 will check the remote host connection on the Ethernet side after powering on. Once a connection failure has occurred, data from the serial device will be sent out through the GSM/GPRS and PSTN network. When the remote host on the Ethernet side returns to normal status, data will again be sent through the Ethernet connection. The NPort® 6000 backup function makes data transmission safer and more reliable.



## : Flexible and Easy to Use Design

## Supports ADSL Dial-up and DDNS

When serial devices are connected to an NPort® 6000 secure terminal server, any networked computer can be used to control the devices over an Ethernet network, intranet, or the Internet. Connections can be established using different operation modes, such as Real COM/TTY, TCP Server, and TCP Client. The NPort® 6000 also supports PPPoE for ADSL connections, and DDNS can be used to help locate NPort® 6000 secure terminal servers on the network. In addition, fiber optic models are available to extend the Ethernet connection distance.

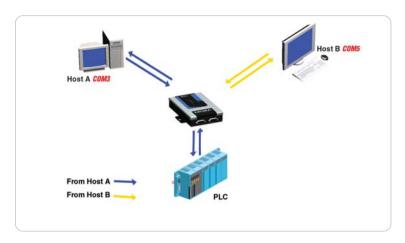
## Select Non-standard Baudrates between 50 bps and 921.6 Kbps

Engineers who use serial devices know that most device servers only support "standard" baudrates. However, some applications require special baudrates, such as 250 Kbps or 500 Kbps. One of the advantages of the NPort® 6000 device servers is that you can select any baudrate between 50 bps and 921.6 Kbps, allowing the NPort® 6000 to be used with serial devices that require special baudrates (the actual baudrate will be within 3% of the selected value; see the user's manual for details).

## "Command by Command" Mode

For applications that require multiple hosts to communicate with one serial device, it is often necessary to require the NPort® to issue one command at a time. What this means is that after the NPort® issues a command, it waits for the next request before issuing another command. In other words, the NPort® issues a command, waits for a request, issues a command, waits for a request, and so on. The

"command by command" mode is designed specifically for this kind of multi-host application. With command by command mode, after issuing each command, the NPort® 6000 waits for a response before sending out the next command.



## **Two Powerful Utilities**

The NPort® Search Utility and NPort® Windows Driver Manager make it easy for users to build a new system. After connecting the NPort® 6000 to your computer, or to a local network, use the NPort® Search

Utility to search and load web console settings. After that, the NPort® Windows Driver Manager can be used to and map NPort® 6000 serial ports to Windows COM ports.

## **NPort® Search Utility**



# **NPort® 6150**

## 1-port RS-232/422/485 secure terminal server



- > Simple solution for connecting serial devices to a network
- > Secure operation modes for Real COM, TCP Server, TCP Client. Pair Connection, Terminal, and Reverse Terminal
- > Non-standard baudrates supported with high precision
- > Automatic RS-485 data direction control with Moxa's patented
- > Enhanced remote configuration with HTTPS and SSH
- > Port buffers for storing serial data when the Ethernet is off-line
- > Supports IPv6

The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.













## **Overview**

The NPort® 6150 is a 1-port device server that uses the SSL and SSH protocols to transmit encrypted serial data over Ethernet. The NPort®

6150's 3-in-1 serial port supports RS-232, RS-422, and RS-485, with the interface selected from an easy-to-access configuration menu.

## **Secure Data Transmission**

For many applications, guaranteeing secure data transmission is an important concern when connecting serial devices to a network. In answer to this concern, the NPort® 6150 supports the SSL and SSH protocols, which work by encrypting data before sending it over the network. With the NPort® 6150, users can rest assured that serial data is transmitted securely over both private and public networks.

## : Specifications

## **Ethernet Interface**

Number of Ports: 1

Speed: 10/100 Mbps, auto MDI/MDIX

Connector: 8-pin RJ45

Magnetic Isolation: 1.5 KV built-in

**Serial Interface** 

Number of Ports: 1

Serial Standards: RS-232/422/485

Connector: DB9 male

RS-485 Data Direction Control: ADDC® (Automatic Data Direction

Serial Line Protection: 15 KV ESD protection for all signals Console Port: Serial port doubles as RS-232 console port

## **Serial Communication Parameters**

Data Bits: 5, 6, 7, 8 **Stop Bits:** 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark Flow Control: RTS/CTS, DTR/DSR, XON/XOFF

**Baudrate:** 50 bps to 921.6 Kbps (supports non-standard baudrates)

Pull High/Low Resistor for RS-485: 1  $K\Omega$ , 150  $K\Omega$ 

## **Serial Signals**

RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

RS-422: Tx+. Tx-. Rx+. Rx-. GND RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND RS-485-2w: Data+, Data-, GND

Network Protocols: ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, ARP, PPPoE, DDNS Security Protocols: DES, 3DES, AES, SSH, SSL, HTTPS, RADIUS,

PAP, CHAP, TACACS+

Configuration Options: Web Console, Serial Console, Telnet Console,

Windows Search Utility

Windows Real COM Drivers: Windows 95, 98, ME, NT, 2000, XP x86/x64, 2003 x86/x64, Vista x86/x64, 2008 x86/x64, Embedded CE 5.0/6.0, XP Embedded

Fixed TTY Drivers: SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX

5.x, HP-UX 11i

Linux Real TTY Drivers: 2.4.x, 2.6.x Management: SNMP MIB-II IP Routing: Static, RIP-I, RIP-II

## **Operation Modes**

**Standard:** Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Terminal, Reverse Telnet, Ethernet Modem, Printer, PPP, Disabled

Secure: Secure Real COM, Secure TCP Server, Secure TCP Client,

Secure Pair Connection, SSH, Reverse SSH **Terminal Sessions:** 8 sessions per port

## **Physical Characteristics**

**Housing:** Metal **Weight:** 700 g **Dimensions:** 

Without ears:  $67 \times 100.4 \times 28$  mm ( $2.64 \times 3.95 \times 1.1$  in) With ears:  $90 \times 100.4 \times 28$  mm ( $3.54 \times 3.95 \times 1.1$  in)

## **Environmental Limits**

Operating Temperature: 0 to 55°C (32 to 131°F)

Operating Humidity: 5 to 95% RH

Storage Temperature: -20 to 85°C (-4 to 185°F)

## **Power Requirements**

Input Voltage: 12 to 48 VDC

Power Consumption: 285 mA @ 12 V, 150 mA @ 24 V

Power Line Protection: 1 KV burst (EN61000-4-4: EFT/B), 0.5 KV

surge (EN61000-4-5) **Regulatory Approvals** 

EMC: CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B

Class A

**Safety:** UL (UL60950-1), TÜV (EN60950-1)

EN61000-4-2 (ESD): Level 3 EN61000-4-4 (EFT): Level 2 EN61000-4-5 (Surge): Level 2

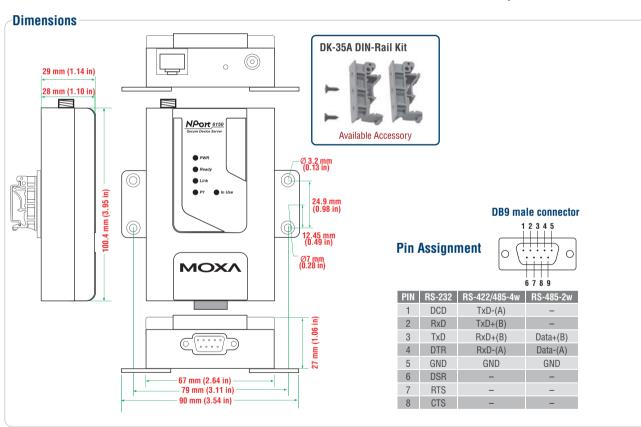
Reliability

Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)
MTBF (meantime between failures): 231709 hrs

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty



## **Constraint of the Constraint of the Constraint**

## **Available Models**

NPort 6150: 1-port RS-232/422/485 secure device server

## **Optional Accessories** (can be purchased separately)

DK-35A: Mounting Kit for 35-mm DIN-Rail

NP21101: DB25 male to DB9 female RS-232 cable, 30 cm

## **Package Checklist**

- NPort® 6150 device server
- Power Adaptor
- Document and Software CD
- · Quick Installation Guide (printed)
- Warranty Card

# NPort® 6250 Series

## 2-port RS-232/422/485 secure terminal servers



The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.

- > Simple solution for connecting serial devices to a network
- > Secure operation modes for Real COM, TCP Server, TCP Client. Pair Connection, Terminal, and Reverse Terminal
- > Non-standard baudrates supported with high precision
- > Choice of network medium: 10/100BaseTX or 100BaseFX
- > Enhanced remote configuration with HTTPS and SSH
- > Port buffers for storing serial data when the Ethernet is off-line
- > Supports IPv6













## : Overview

The 2-port NPort® 6250 device servers use the SSL and SSH protocols to transmit encrypted serial data over Ethernet. Models are available for connecting to a 10/100BaseTX copper Ethernet or 100BaseTX fiber network. Both single-mode and multi-mode fiber are supported.

## **No Data Loss if Ethernet Connection Fails**

The NPort® 6250 device servers help guarantee reliability by providing users with secure serial-to-Ethernet data transmission and a customer-oriented hardware design. If the Ethernet connection fails, the NPort® 6250 will queue all serial data in its internal 64 KB port

buffer. When the Ethernet connection is re-established, the NPort® 6250 will immediately release all data in the buffer in the order that it was received. Users can increase the port buffer size by installing an

## **Specifications**

## **Ethernet Interface**

Number of Ports: 1

Speed: 10/100 Mbps, auto MDI/MDIX

Connector: 8-pin RJ45

Magnetic Isolation: 1.5 KV built-in

Optical Fiber Interface (NPort 6250-S-SC/6250-M-SC)

Fiber Port: 100BaseFX, SC connector

Distance:

Multi-mode: 0 to 2 km, 1310 nm (62.5/125 μm, 500 MHz\*km) Single mode: 0 to 40 km, 1310 nm (9/125 µm, 3.5 PS/(nm\*km))

Min. TX Output: Multi-mode: -20 dBm Single-mode: -5 dBm Max. TX Output: Multi-mode: -14 dBm Single-mode: 0 dBm

Sensitivity:

Multi-mode: -34 to -30 dBm Single-mode: -36 to -32 dBm

## **Serial Interface**

Number of Ports: 2

**Serial Standards: RS-232/422/485** 

Connector: DB9 male

RS-485 Data Direction Control: ADDC® (Automatic Data Direction

Control)

Serial Line Protection: 15 KV ESD protection for all signals Console Port: Serial port 1 doubles as RS-232 console port

## **Serial Communication Parameters**

Data Bits: 5, 6, 7, 8 **Stop Bits:** 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark Flow Control: RTS/CTS, DTR/DSR, XON/XOFF

Baudrate: 50 bps to 921.6 Kbps (supports non-standard baudrates)

Pull High/Low Resistor for RS-485: 1  $K\Omega$ , 150  $K\Omega$ 

## **Serial Signals**

RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

RS-422: Tx+, Tx-, Rx+, Rx-, GND RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND RS-485-2w: Data+, Data-, GND **Memory Expansion Slot** 

Slot Type: SD socket (supports up to 1 GB)

## Software

Network Protocols: ICMP. IP. TCP. UDP. DHCP. BOOTP. Telnet. DNS, SNMP V1/V2c/V3, HTTP, SMTP, ARP, PPPoE, DDNS Security Protocols: DES, 3DES, AES, SSH, SSL, HTTPS, RADIUS,

PAP, CHAP, TACACS+

Configuration Options: Web Console, Serial Console, Telnet

Console, Windows Search Utility

Windows Real COM Drivers: Windows 95, 98, ME, NT, 2000, XP x86/x64, 2003 x86/x64, Vista x86/x64, 2008 x86/x64, Embedded CE

5.0/6.0, XP Embedded

**Fixed TTY Drivers:** SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX

5.x. HP-UX 11i

Linux Real TTY Drivers: 2.4.x, 2.6.x Management: SNMP MIB-II IP Routing: Static, RIP-I, RIP-II

## **Operation Modes**

**Standard:** Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Terminal, Reverse Telnet, Ethernet Modem, Printer, PPP, Disabled

Secure: Secure Real COM, Secure TCP Server, Secure TCP Client,

Secure Pair Connection, SSH, Reverse SSH **Terminal Sessions:** 8 sessions per port

## **Physical Characteristics**

**Housing:** Metal **Weight:** 730 g **Dimensions:** 

Without ears:  $77 \times 111 \times 28 \text{ mm}$  (3.30 x 4.37 x 1.1 in) With ears:  $89 \times 111 \times 28 \text{ mm}$  (3.50 x 4.37 x 1.1 in)

## **Environmental Limits**

Operating Temperature: 0 to 55°C (32 to 131°F)

Operating Humidity: 5 to 95% RH

Storage Temperature: -20 to 85°C (-4 to 185°F)

## **Power Requirements**

**Input Voltage:** 12 to 48 VDC **Power Consumption:** 

NPort 6250: 333 mA @ 12 V, 173 mA @ 24 V

NPort 6250-M-SC: 428 mA @ 12 V, 219 mA @ 24 V NPort 6250-S-SC: 376 mA @ 12 V, 193 mA @ 24 V

Power Line Protection: 1 KV burst (EN61000-4-4: EFT/B), 0.5 KV

surge (EN61000-4-5)

## **Regulatory Approvals**

EMC: CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B

Class

Safety: UL (UL60950-1), TÜV (EN60950-1)

**EN61000-4-2 (ESD):** Level 3 **EN61000-4-4 (EFT):** Level 2 **EN61000-4-5 (Surge):** Level 2

## Reliability

Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)

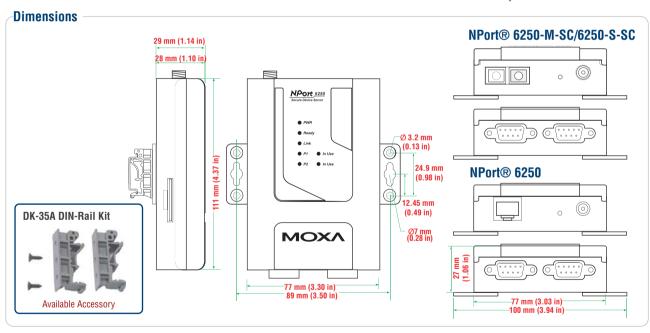
MTBF (meantime between failures):

NPort 6250: 226128 hrs NPort 6250-M-SC: 225762 hrs NPort 6250-S-SC: 225762 hrs

## Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty



## **Pin Assignment**

PIN	RS-232	RS-422/485-4w	RS-485-2w
1	DCD	TxD-(A)	-
2	RxD	TxD+(B)	-
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	-	-
7	RTS	-	-
8	CTS	-	-

DB9 male connector



## **Constraint Information**

#### **Available Models**

**NPort 6250:** 2-port secure device server, RS-232/422/485 to Ethernet

**NPort 6250-M-SC:** 2-port secure device server, RS-232/422/485 to multi-mode fiber (SC connector)

**NPort 6250-S-SC:** 2-port secure device server, RS-232/422/485 to single-mode fiber (SC connector)

## Optional Accessories (can be purchased separately)

DK-35A: Mounting Kit for 35-mm DIN-Rail

NP21101: DB25 male to DB9 female RS-232 cable, 30 cm

## **Package Checklist**

- NPort® 6250 device server
- Power Adaptor
- Document and Software CD
- Quick Installation Guide (printed)
- · Warranty Card

# NPort® 6450

## 4-port RS-232/422/485 secure terminal server



The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.

- > LCD panel for easy IP address configuration
- > Secure operation modes for Real COM, TCP Server, TCP Client, Pair Connection, Terminal and Reverse Terminal
- > Non-standard baudrates supported with high precision
- > Port buffers for storing serial data when the Ethernet is off-line
- > Supports IPv6
- > Ethernet redundancy (STP/RSTP/Turbo Ring) with network module















## **Overview**

The NPort® 6450 is a 4-port device server that uses the SSL and SSH protocols to transmit encrypted serial data over Ethernet. Up to 4 serial devices of any type can be connected to the NPort® 6450, witn

all four devices using the same IP address. The Ethernet port can be configured for a normal or secure TCP/IP connection.

## : No Data Loss if Ethernet Connection Fails

The NPort® 6450 is a reliable device server that provides users with secure serial-to-Ethernet data transmission and a customer-oriented hardware design. If the Ethernet connection fails, the NPort® 6450 will queue all serial data in its internal 64 KB port buffer. When the Ethernet connection is re-established, the NPort® 6450 will immediately release all data in the buffer in the order that it was received. Users can increase the port buffer size by installing an SD card.

## **Specifications**

## **Ethernet Interface**

Number of Ports: 1

Speed: 10/100 Mbps, auto MDI/MDIX

Connector: 8-pin RJ45

Magnetic Isolation: 1.5 KV built-in

**Optical Fiber Interface** (with network module)

Fiber Port: 100BaseFX, SC connector

Distance:

Multi-mode: 0 to 2 km, 1310 nm (62.5/125 µm, 500 MHz\*km) Single mode: 0 to 40 km, 1310 nm (9/125  $\mu$ m, 3.5 PS/(nm\*km))

Min. TX Output: Multi-mode: -20 dBm Single-mode: -5 dBm Max. TX Output:

Multi-mode: -14 dBm Single-mode: 0 dBm

Sensitivity:

Multi-mode: -34 to -30 dBm Single-mode: -36 to -32 dBm

**Serial Interface** 

Number of Ports: 4

Serial Standards: RS-232/422/485

Connector: DB9 male

RS-485 Data Direction Control: ADDC® (Automatic Data Direction

Serial Line Protection: 15 KV ESD protection for all signals Console Port: Serial port 1 doubles as RS-232 console port

## **Serial Communication Parameters**

Data Bits: 5, 6, 7, 8 **Stop Bits:** 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark Flow Control: RTS/CTS, DTR/DSR, XON/XOFF

**Baudrate:** 50 bps to 921.6 Kbps (supports non-standard baudrates)

Pull High/Low Resistor for RS-485: 1 K $\Omega$ , 150 K $\Omega$ 

Serial Signals

RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

RS-422: Tx+. Tx-. Rx+. Rx-. GND RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND RS-485-2w: Data+, Data-, GND

**Memory Expansion Slot** Slot Type: SD socket (supports up to 1 GB)

Software

Network Protocols: ICMP, IP, TCP, UDP, DHCP, BOOTP, Telnet, DNS, SNMP V1/V2c/V3, HTTP, SMTP, ARP, PPPoE, DDNS Security Protocols: DES, 3DES, AES, SSH, SSL, HTTPS, RADIUS,

PAP, CHAP, TACACS+

 $\textbf{Configuration Options:} \ \textbf{Web Console, Serial Console, Telnet}$ 

Console, Windows Search Utility

Windows Real COM Drivers: Windows 95, 98, ME, NT, 2000, XP x86/x64, 2003 x86/x64, Vista x86/x64, 2008 x86/x64, Embedded CE

5.0/6.0, XP Embedded

**Fixed TTY Drivers:** SCO Unix, SCO OpenServer, UnixWare 7, UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX

5.x, HP-UX 11i

Linux Real TTY Drivers: 2.4.x, 2.6.x Management: SNMP MIB-II IP Routing: Static, RIP-I, RIP-II

## **Operation Modes**

**Standard:** Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217, Terminal, Reverse Telnet, Ethernet Modem, Printer, PPP, Disabled

Disableu

Secure: Secure Real COM, Secure TCP Server, Secure TCP Client,

Secure Pair Connection, SSH, Reverse SSH
Terminal Sessions: 8 sessions per port
Physical Characteristics

Case: Metal, IP30 protection

Weight: 1020 g

Dimensions:

Without ears: 158 x 103 x 35 mm (6.22 x 4.06 x 1.38 in) With ears: 181 x 103 x 35 mm (7.13 x 4.06 x 1.38 in)

## **Environmental Limits**

Operating Temperature: 0 to 55°C (32 to 131°F)

Operating Humidity: 5 to 95% RH

Storage Temperature: -20 to 70°C (-4 to 158°F)

## **Power Requirements**

Input Voltage: 12 to 48 VDC

Power Consumption: 730 mA @ 12 V, 330 mA @ 24 V

Power Line Protection: 1 KV burst (EN61000-4-4: EFT/B), 0.5 KV

surge (EN61000-4-5)

## **Regulatory Approvals**

EMC: CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B

Class A

Safety: UL (UL60950-1), TÜV (EN60950-1)

EN61000-4-2 (ESD): Level 3 EN61000-4-4 (EFT): Level 2 EN61000-4-5 (Surge): Level 2

## Reliability

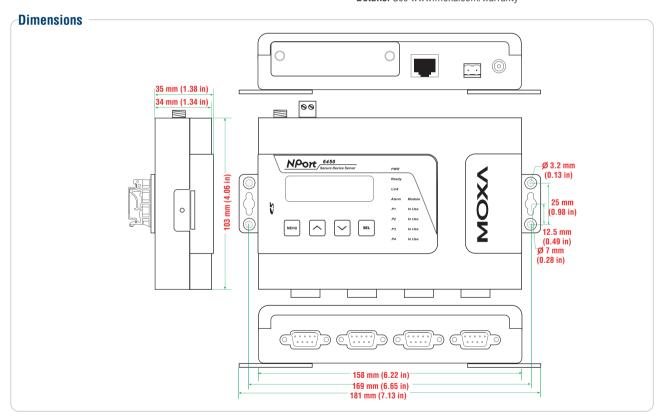
Alert Tools: Built-in buzzer and RTC (real-time clock)
Automatic Reboot Trigger: Built-in WDT (watchdog timer)

MTBF (meantime between failures): 120354 hrs

## Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty



## **Pin Assignment**

PIN	RS-232	RS-422/485-4w	RS-485-2w
1	DCD	TxD-(A)	-
2	RxD	TxD+(B)	-
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	-	-
7	RTS	-	-
8	CTS	-	_

## DB9 male connector



## : Ordering Information

## **Available Models**

NPort 6450: 4-port secure device server, RS-232/422/485 to Ethernet

## **Optional Accessories** (can be purchased separately)

DK-35A: Mounting Kit for 35-mm DIN-Rail

## Package Checklist

- NPort® 6450 secure device server
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card

				Us	e with the follow	ing NPort® mod	dels	
Expansion Modules			6150	6250	6450	6610-8 6650-8	6610-16 6650-16	6610-32 6650-32
NM-TX01		1 10/100BaseTX port			V	$\checkmark$	$\checkmark$	$\checkmark$
NM-TX02	STATE OF THE PARTY	2 10/100BaseTX port			√	$\checkmark$	V	$\checkmark$
NM-FX01-S-SC	1	1 100BaseFX port, single mode, SC connector			V	$\checkmark$	$\checkmark$	$\checkmark$
NM-FX01-M-SC		1 100BaseFX port, multi mode, SC connector			V	$\checkmark$	$\checkmark$	$\checkmark$
NM-FX02-S-SC		2 100BaseFX ports, single mode, SC connector			V	$\checkmark$	$\checkmark$	$\checkmark$
NM-FX02-M-SC		2 100BaseFX ports, multi mode, SC connector			V	$\checkmark$	V	$\checkmark$
NM-GPRS/GSM		1 GPRS/GSM modem module			√	$\checkmark$	V	$\checkmark$
NM-Modem		1 PSTN modem port with RJ11 connector			V	V	V	<b>V</b>

Note: Expansion modules can be purchased separately.

# NPort® 6600 Series

## 8/16/32-port RS-232/422/485 rackmount terminal servers



- > Up to 32 ports for high density environments
- > Non-standard baudrates supported with high precision
- > Port buffers for storing serial data when the Ethernet is off-line
- > Supports IPv6
- > Ethernet redundancy (STP/RSTP/Turbo Ring) with network
- Modular design for network expansion
- > Secure data transmission

The certification logos shown here apply to some or all of the products in this section. For details, see "Regulatory Approvals" under "Specifications" below.















## **Overview**

The NPort® 6600 series of secure device servers is the right choice for applications that use large numbers of serial devices packed into a small space. If you're worried about security, you can rest assured with the NPort® 6600, since it supports DES, 3DES, and AES, the

three most common standards for data encryption. Serial devices of any type can be connected to the NPort® 6600, and each serial port on the NPort® can be configured independently for RS-232, RS-422, or RS-485 transmission.

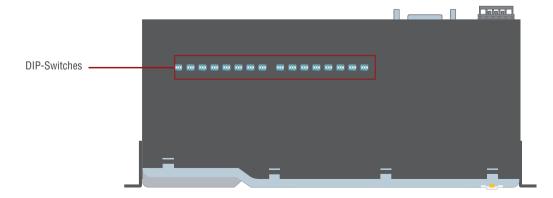
## **LCD Panel Makes Configuration Easy**

The NPort® 6600 has a built-in LCD panel for configuration. The panel displays the server name, serial number, and IP address, and any of the device server's configuration parameters, such as IP address, netmask, and gateway address, can be updated easily and quickly.



## Adjustable Resistor Values for RS-485 Communication

The NPort® 6600 provides adjustable termination, pull high, and pull low resistors for RS-485 communication. In some critical environments, termination resistors may be needed to prevent the reflection of serial signals, and the pull high and pull low resistors may need adjusting to maintain the integrity of the electrical signal. Since no set of resistor values works for every environment, the NPort® 6600 allows manual adjustment of the resistor values for each serial port using built-in DIP switches.



## : Specifications

#### **Ethernet Interface**

Number of Ports: 1

Speed: 10/100 Mbps. auto MDI/MDIX

Connector: 8-pin RJ45

Magnetic Isolation: 1.5 KV built-in

Optical Fiber Interface (with network module)

Fiber Port: 100BaseFX. SC connector

Multi-mode: 0 to 2 km. 1310 nm (62.5/125 um. 500 MHz\*km) Single mode: 0 to 40 km, 1310 nm (9/125 μm, 3.5 PS/(nm\*km))

Min. TX Output: Multi-mode: -20 dBm Single-mode: -5 dBm Max. TX Output: Multi-mode: -14 dBm Single-mode: 0 dBm

Sensitivity:

Multi-mode: -34 to -30 dBm Single-mode: -36 to -32 dBm

**Serial Interface** 

Number of Ports: 8, 16, or 32

Serial Standards: NPort 6610: RS-232 NPort 6650: RS-232/422/485 Connector: 8-pin RJ45

RS-485 Data Direction Control: ADDC® (Automatic Data Direction

Serial Line Protection: 15 KV ESD protection for all signals Console Port: Dedicated RS-232 console port on rear panel (8-pin

**Serial Communication Parameters** 

Data Bits: 5. 6. 7. 8 **Stop Bits:** 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark Flow Control: RTS/CTS, DTR/DSR, XON/XOFF

**Baudrate:** 50 bps to 921.6 Kbps (supports non-standard baudrates)

Pull High/Low Resistor for RS-485: 1  $K\Omega$ , 150  $K\Omega$ 

Terminator for RS-485:  $120 \Omega$ 

Serial Signals

RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND

RS-422: Tx+, Tx-, Rx+, Rx-, GND RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND RS-485-2w: Data+, Data-, GND **Memory Expansion Slot** 

**Slot Type:** SD socket (supports up to 1 GB)

Software

Network Protocols: ICMP. IP. TCP. UDP. DHCP. BOOTP. Telnet. DNS, SNMP V1/V2c/V3, HTTP, SMTP, ARP, PPPoE, DDNS Security Protocols: DES, 3DES, AES, SSH, SSL, HTTPS, RADIUS, PAP, CHAP, TACACS+

Configuration Options: Web Console, Serial Console, Telnet Console,

Windows Search Utility

Windows Real COM Drivers: Windows 95, 98, ME, NT, 2000, XP x86/x64, 2003 x86/x64, Vista x86/x64, 2008 x86/x64, Embedded CE

5.0/6.0, XP Embedded

Fixed TTY Drivers: SCO Unix. SCO OpenServer, UnixWare 7. UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX

5.x, HP-UX 11i

Linux Real TTY Drivers: 2.4.x, 2.6.x Management: SNMP MIB-II IP Routing: Static, RIP-I, RIP-II

**Operation Modes** 

Standard: Real COM, TCP Server, TCP Client, UDP, Pair Connection, RFC2217. Terminal. Reverse Telnet. Ethernet Modem. Printer. PPP.

Secure: Secure Real COM. Secure TCP Server. Secure TCP Client.

Secure Pair Connection, SSH, Reverse SSH Terminal Sessions: 8 sessions per port

**Physical Characteristics** 

Case: Metal. IP30 protection

Weight:

NPort 6600-8: 3460 a NPort 6600-16: 3580 g NPort 6600-32: 3600g

Dimensions:

Without ears: 440 x 195 x 44 mm (17.32 x 7.68 x 1.73 in) With ears: 480 x 195 x 44 mm (18.9 x 7.68 x 1.73 in)

**Environmental Limits** 

Operating Temperature: 0 to 55°C (32 to 131°F)

Operating Humidity: 5 to 95% RH

Storage Temperature: -20 to 70°C (-4 to 158°F)

**Power Requirements** 

Input Voltage:

AC Models: 100 to 240 VAC

DC Models: ±48 VDC (20 to 72 VDC, -20 to -72 VDC)

**Power Consumption:** 

AC Models: 285 mA @ 100 VAC, 190 mA @ 240 VAC

DC Models: 293 mA @ 48 VDC

Power Line Protection: 1 KV burst (EN61000-4-4: EFT/B), 0.5 KV

surge (EN61000-4-5)

**Regulatory Approvals** 

EMC: CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B

Class A

Safety: UL (UL60950-1), TÜV (EN60950-1)

EN61000-4-2 (ESD): 4 KV contact EN61000-4-4 (EFT): 1 KV power EN61000-4-5 (Surge): 2 KV power

Reliability

Alert Tools: Built-in buzzer and RTC (real-time clock) Automatic Reboot Trigger: Built-in WDT (watchdog timer)

MTBF (meantime between failures):

NPort 6610-8: 135891 hrs NPort 6610-16: 102373 hrs NPort 6610-32: 68707 hrs NPort 6650-8: 135370 hrs NPort 6650-16: 101783 hrs NPort 6650-32: 68177 hrs

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

# Dimensions and Pin Assignment West and the state of the

## 8-pin RJ45 connector



PIN	RS-232	RS-422/ 485-4W	RS-485- 2w
1	DSR (in)		
2	RTS (out)	TxD+	
3	GND	GND	GND
4	TxD (out)	TxD-	
5	RxD (in)	RxD+	Data+
6	DcD (in)	RxD-	Data-
7	CTS (in)		
8	DTR (out)		

## **Ordering Information**

## **Available Models**

NPort 6610-8: 8-port RS-232 to Ethernet secure terminal server, 100 to 240 VAC power input
NPort 6610-8-48V: 8-port RS-232 to Ethernet secure terminal server, ±48 VDC power input
NPort 6610-16: 16-port RS-232 to Ethernet secure terminal server, 100 to 240 VAC power input
NPort 6610-16-48V: 16-port RS-232 to Ethernet secure terminal server, ±48 VDC power input
NPort 6610-32: 32-port RS-232 to Ethernet secure terminal server, 100 to 240 VAC power input
NPort 6610-32-48V: 32-port RS-232 to Ethernet secure terminal server, ±48 VDC power input
NPort 6650-8: 8-port RS-232/422/485 to Ethernet secure terminal server, 100 to 240 VAC power input
NPort 6650-8-48V: 8-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input
NPort 6650-16: 16-port RS-232/422/485 to Ethernet secure terminal server, 100 to 240 VAC power input
NPort 6650-16-48V: 16-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input
NPort 6650-32: 32-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input
NPort 6650-32-48V: 32-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input
NPort 6650-32-48V: 32-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input
NPort 6650-32-48V: 32-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input
NPort 6650-32-48V: 32-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input
NPort 6650-32-48V: 32-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input
NPort 6650-32-48V: 32-port RS-232/422/485 to Ethernet secure terminal server, ±48 VDC power input

## Package Checklist

- NPort® 6600 device server
- CBL-RJ45M9-150: 8-pin RJ45 to DB9 male connection cable, 150 cm
- Power Cord (AC models only)
- · Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card

Serial Cables and Adaptors: See Appendix A for details

			Use with the following NPort® models					
Expansion Modules			6150	6250	6450	6610-8 6650-8	6610-16 6650-16	6610-32 6650-32
NM-TX01		1 10/100BaseTX port			<b>V</b>	<b>√</b>	1	√
NM-TX02		2 10/100BaseTX port			<b>√</b>	1	1	V
NM-FX01-S-SC		1 100BaseFX port, single mode, SC connector			<b>√</b>	√	√	V
NM-FX01-M-SC		1 100BaseFX port, multi mode, SC connector			$\checkmark$	√	√	√
NM-FX02-S-SC		2 100BaseFX ports, single mode, SC connector			$\checkmark$	√	√	√
NM-FX02-M-SC		2 100BaseFX ports, multi mode, SC connector			$\checkmark$	√	√	√
NM-GPRS/GSM		1 GPRS/GSM modem module			<b>√</b>	√	√	√
NM-Modem		1 PSTN modem port with RJ11 connector			<b>V</b>	<b>V</b>	1	<b>V</b>

Note: Expansion modules can be purchased separately.

# **NM-GPRS/GSM Module**

## 4-port cellular NM-GPRS/GSM module (for the NPort® 6400/6600 series)



- > Quad-band 900/1800, 850/1900 MHz GSM/GPRS
- > Cellular Status/Signal LED indicator
- > GPRS Class 10
- > CSD data connection
- > Up to 14,400 bps in Circuit Switched Data mode
- > Short message alerts
- > Real COM mode supported

## **Quad-band GSM/GPRS Communication**

Most countries in the world use the GSM-900 and GSM-1800 cellular frequencies. However, in the United States, Canada, and other parts of the Americas, GSM-850 and GSM-1900 are used. With the NM-GPRS/GSM quad-band cellular module, you don't need to worry about selecting different products for different parts of the world. The NM-GPRS/GSM module's GSM/GPRS band is configured at 900/1800 MHz by default, but can be easily reconfigured to 850/1900 MHz.



900 MHz **Other Countries** 1900 MHz

## : Real COM Mode

NPort® products come with Real COM drivers for Windows operating systems and Real TTY drivers for Linux operating systems used in a GSM/GPRS network environment. In Real COM mode, the bundled drivers are able to establish a transparent connection between a host

and a serial device by mapping the serial port on the NPort® to a local COM/TTY port on the host computer. One of the major conveniences of using Real COM mode is that it allows you to use software that was written for pure serial communication applications.



## **GSM CSD Data Connection**

CSD (Circuit Switched Data) provides direct modem access to remote devices, and system extensions can be used without installing cables and data lines. CSD transmits data at 9.6 to 14.4 Kbps to both GSM networks and the PSTN switching subsystem by calling direct. CSD overcomes the limitations of hard wiring and inaccessible terrain for easier, more flexible data collection and monitoring of applications that use NPort® device servers.



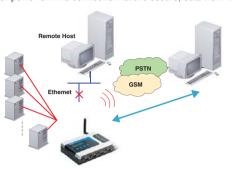
## **GPRS IP Connectivity**

A GPRS packet-switched system can be viewed as a special IP network that offers IP connectivity to IP terminals. Devices without PPP or TCP/IP capability can be easily connected to the IP network and the Internet through GPRS by using the NPort® GSM/GPRS module.

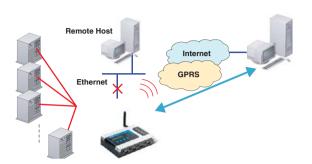


## : GSM/GPRS Backup Application

The NM-GPRS/GSM module can be used to provide the NPort® with automatic backup capability. When the backup function is enabled, the NPort® will check the remote host's connection on the Ethernet side after power-on. If a connection failure occurs, data from the serial



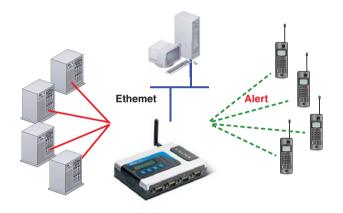
device will be sent out through the GSM/GPRS network. When the remote host on the Ethernet side returns to normal status, data will again be sent through the Ethernet connection. The NPort® backup function makes your data transmission safer and more reliable.



## **SMS Alerts by Event**

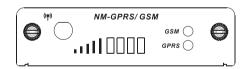
The NM-GPRS/GSM module provides the NPort® device server with an SMS alert function that support up to 4 phone numbers. As shown in the table, there are four event categories (System, Network, Configure, Serial Port), and a total of eight different options that can be configured.

System Events	Network Events	Configure Events	Serial Port Events
Cold start	Ethernet link down	Console login authentication failure	DCD changed
Warm start		Ethernet IP changed	DSR changed
		Password changed	



## **Appearance**





	Cellular Status and Signal Strength LEDs				
GSM	Lights up when the GSM is connected				
GPRS	Lights up when the GPRS is connected				
Signal Strength	Number of lit LEDs indicates the signal strength				

## : Specifications

## **Cellular Interface**

Standards: GSM and GPRS

**Band Options:** 850/900 MHz and 1800/1900 MHz guad-band

GPRS Multi-slot Class: Class 10 **GPRS Terminal Device Class:** Class B GPRS Coding Schemes: CS1 to CS4

CSD Data Transmission Rate: Up to 14,400 bps

SIM Control: Point-to-point Text/PDU, Mobile Originated (MO) and Mobile Terminated (MT Cell Broadcast is in accordance with GSM

Antenna: SMA female type connecter, 50 W impedance and 1 dBm

peak gain

7-21

# **NM-Modem Module**

# PSTN modem network module (for the NPort® 6400/6600 series)



- > Dial-in
- > Dial-out
- > Auto-answer
- > PSTN leased-line mode (modem always on)
- > PSTN economy-line mode (modem connects periodically)
- > PSTN backup mode

## Overview

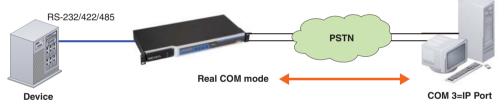
The NM-Modem PSTN module can be used with any of the 4, 8, 16,

and 32-port models. The module enables NPort® 6000 terminal servers to transmit data over PSTN networks.

## Real COM Mode Supported

NPort 6000 device servers come with Real COM /TTY drivers for PSTN network applications. Real COM drivers are available for Windows operating systems and Real TTY drivers are available for Linux operating systems. In Real COM mode, the drivers can establish a transparent connection between a host and a serial device by

mapping an NPort® 6000 serial port to a local COM/TTY port on the host computer. One of the major conveniences of using Real COM mode is that you can use software that was written for pure serial communication applications.



## PSTN Leased-line Mode—Modem Always On

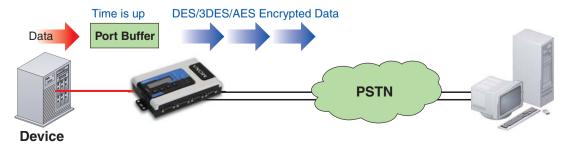
When Trunk-line mode is being used, the PSTN connection is always on, and data coming from the serial device will be sent out through the PSTN network as soon as the NPort® receives the data. In addition, the remote PC/Server will be able to manage the NPort® and poll for data from the serial device through the PSTN. Once the NPort® 6000 is powered on, the NM-Modem will always be on, making this operation mode suitable for applications that use a PSTN leased line.



## PSTN Economy-line Mode

When Economy-line mode is being used, the PSTN connection is activated periodically. In this case, data coming from the serial device will be stored in the NPort's buffer until the next PSTN activation time. Only then will the data be sent out through the PSTN network. In addition, when the PSTN connection is active, the remote PC/Server will be able to manage the NPort and poll for data from the serial

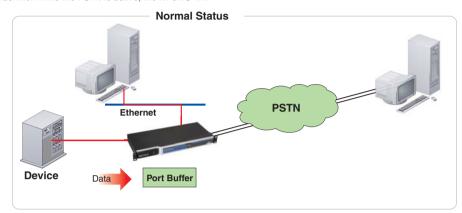
device through the PSTN. When in Economy-line mode, the NPort® will de-activate the PSTN line if there is no data transmission activity for a preset idle time. Economy-line mode is suitable for non-urgent data transmission and message collection applications, and for applications that use a non-leased PSTN line.

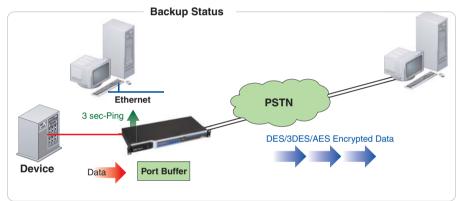


## **PSTN Backup Mode**

The NM-Modem module can be used to provide the NPort® with an automatic backup over a PSTN. When the backup function has been enabled, the NPort® will activate the PSTN line whenever the Ethernet fails. The backup data can either be sent to the same PC/server, or to an alternate backup machine. While the PSTN is active, the NPort® will

repeatedly ping the PC/Server host over the Ethernet until it receives a response. Once the NPort® determines that the Ethernet has been reactivated, the PSTN will be de-activated, and the NPort® will resume sending and receiving data over the Ethernet.





## **Appearance**



## **LED Indicators**

<b>LED Name</b>	Color	Meaning	
DCD	Green	Carrier detected	
	Off	No carrier detected	
TxD	Green	Data is being transmitted to the PSTN	
	Off	No data is being transmitted through the PSTN	
RxD	Green	Data is being received from the PSTN	
	Off	No data is being received through the PSTN	

## Specifications

#### Modem

Serial I/O Interface: 3 V TTL

Error Correction: V.42, MNP 2-4, 10-error V92HM-RC Data Rate: 56 Kbps max.

Data Compression: V.42bis and MNP-5

336HM-RC Data Rate: 33.6 Kbps max.

FAX: 14.4K send/receive

144HM-RC Data Rate: 24.4 Kbps max.

## **Additional Features:**

- Low Power Sleep Mode
- Caller ID and DTMF tone detection
- Digital Line Guardd Protection
- Extension Pickup, Line in Use Detection
- Completely Integrated On Board DAA

# Environmental Limits

Operating Temperature: -40 to 85°C (-40 to 185°F)

# Regulatory Approvals

Medical Device: EN60601-1

FCC/IC: FCC Part 68 and IC CS03 approved UL: UL 60950 recognized component Green Product: RoHS compliant

**CE Certification:** EN60950-1, IEC 60950-1, EN55024, EN55022,

TS103 021-2

# **CN2600 Series**

# 8/16-port RS-232/422/485 terminal servers with LAN redundancy



The certification logos shown here apply to some or all of the products in this section. Please see the **Specifications** section or Moxa's website for details.

- > LCD panel for easy IP address configuration
- > Dual-LAN cards with two independent MAC addresses and IP addresses
- > Redundant COM function available when both LANs are active
- > Dual-host redundancy can be used to add a backup PC to your system
- > Dual AC power inputs
- > Real COM/TTY drivers for Windows and Linux















## Overview

Redundancy is an important issue for industry, and several different solutions have been developed to prevent damage caused by equipment or software failures. "Watchdog" hardware is required to utilize redundant hardware, and a "Token" switching mechanism is required for software. The CN2600 terminal server uses its built-in dual-LAN ports to implement a "redundant COM" mode that keeps your applications running smoothly.

## **Dual-LAN Redundancy**

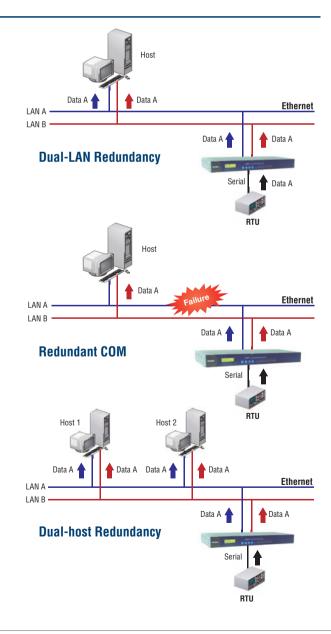
The CN2600 has two separate LAN ports that can be connected to separate LAN networks. Dual-LAN redundancy involves setting up two separate physical networks to connect the PC host with the CN2600. In this case, the PC host must also be installed with two LAN cards. If one of the networks fails, the PC host will still be able to communicate with your serial devices over the redundant LAN.

#### Redundant COM

The "Redundant COM" (patent pending) operation mode can be used to set up a redundant LAN between the CN2600's COM ports and the host computer. The redundant structure involves using the CN2600's two LAN ports to set up two independent LANs that connect the CN2600 to the host computer. If either of the two LANs fails, the other LAN will continue transmitting packets between the serial devices and the host, with the data transmitted through the CN2600. One of the biggest advantages of using Moxa's Redundant COM mode is that the "switching time" is zero. What this means is that if one of the LANs fails, data transmission between the PC host the serial devices will not be interrupted.

## **Dual-host Redundancy**

The CN2600's dual LAN cards can also be used to set up "dual-host" redundancy. In this case, both networks (LAN A and LAN B in the figure) are connected to two different hosts. If either of the two hosts shuts down unexpectedly, the other host will continue transmitting packets to (and receiving packets from) the serial devices connected to the CN2600.

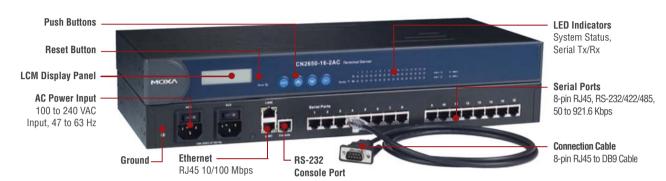


## **Dual-AC Model Supported**

Dual-power redundancy uses two power inputs and redundant internal power supplies to ensure that all of the CN2600's functions will be available, even in the event of power circuit failure.



## **Appearance**



## **Specifications**

## **Ethernet Interface**

Number of Ports: 2

Speed: 10/100 Mbps, auto MDI/MDIX

Connector: 8-pin RJ45

Magnetic Isolation: 1.5 KV built-in

#### **Serial Interface**

Number of Ports: 8 or 16 Serial Standards:

CN2610: RS-232

CN2650/2650I: RS-232/422/485

Connector:

CN2610/2650: 8-pin RJ45 CN2650I: DB9 male

RS-485 Data Direction Control: ADDC® (Automatic Data Direction

Control)

**Serial Line Protection:** 

15 KV ESD protection for all signals 2 KV optical isolation (CN2650I)

Console Port: Dedicated RS-232 console port on rear panel (8-pin

## **Serial Communication Parameters**

Data Bits: 5. 6. 7. 8 Stop Bits: 1, 1.5, 2

Parity: None, Even, Odd, Space, Mark Flow Control: RTS/CTS, DTR/DSR, XON/XOFF

Baudrate: 50 bps to 921.6 Kbps

Pull High/Low Resistor for RS-485: 1  $K\Omega$ , 150  $K\Omega$ 

Terminator for RS-485: 120  $\Omega$ 

Serial Signals

RS-232: TxD. RxD. RTS. CTS. DTR. DSR. DCD. GND

RS-422: Tx+, Tx-, Rx+, Rx-, GND RS-485-4w: Tx+, Tx-, Rx+, Rx-, GND RS-485-2w: Data+, Data-, GND

## Software

Network Protocols: ICMP. IP. TCP. UDP. DHCP. BOOTP. Telnet. DNS, SNMP V1/V2c/V3, HTTP, SMTP, ARP, PPPoE, DDNS

Security Protocols: RADIUS, HTTPS, SSH, PAP, CHAP

Configuration Options: Web Console, Serial Console, Telnet Console,

Windows Search Utility

Windows Real COM Drivers: Windows 95, 98, ME, NT, 2000, XP x86/x64, 2003 x86/x64, Vista x86/x64, 2008 x86/x64, Embedded CE

5.0/6.0, XP Embedded

Fixed TTY Drivers: SCO Unix. SCO OpenServer, UnixWare 7. UnixWare 2.1, SVR 4.2, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX

5.x, HP-UX 11i

Linux Real TTY Drivers: 2.4.x, 2.6.x Management: SNMP MIB-II IP Routing: Static, RIP-I, RIP-II

#### **Operation Modes**

Standard: Real COM, TCP Server, TCP Client, UDP, RFC2217, Terminal, Reverse Telnet, PPP, DRDAS, Redundant COM, Disabled

## **Applications**

Terminal Sessions: 8 sessions per port

## **Physical Characteristics**

Case: Metal, IP30 protection

Weiaht:

CN2610-8: 3525 g CN2610-16: 3560 g CN2610-8-2AC: 3760 g CN2610-16-2AC: 3810 g CN2650-8: 3740 g CN2650-16: 3790 g CN2650-8-2AC: 3900 g CN2650-16-2AC: 3980 g CN2650I-8: 3666 a CN2650I-16: 3776 g CN2650I-8-2AC: 3932 q CN2650I-16-2AC: 4022 g



#### Dimensions:

Without ears: 440 x 198 x 45 mm (17.32 x 7.80 x 1.77 in) With ears: 480 x 198 x 45 mm (18.9 x 7.80 x 1.77 in)

## **Environmental Limits**

Operating Temperature: 0 to 55°C (32 to 131°F)

Operating Humidity: 5 to 95% RH

Storage Temperature: -20 to 70°C (-4 to 158°F)

## **Power Requirements**

Input Voltage: 100 to 240 VAC, 47 to 63 Hz

Power Consumption: 235 mA @ 100 VAC, 145 mA @ 240 VAC Power Line Protection: 1 KV burst (EN61000-4-4: EFT/B). 2 KV

surge (EN61000-4-5)

## **Regulatory Approvals**

EMC: CE (EN55022 Class A, EN55024), FCC Part 15 Subpart B

Class A

Safety: UL (UL60950), TÜV (EN60950)

EN61000-4-2 (ESD): Level 3 EN61000-4-4 (EFT): Level 4 EN61000-4-5 (Surge): Level 2

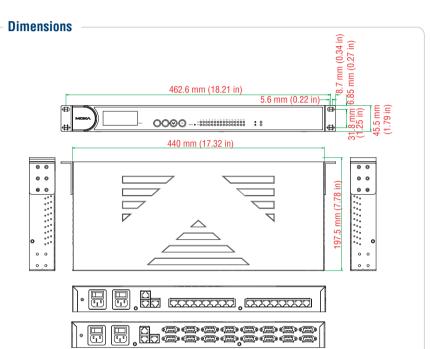
Alert Tools: Built-in buzzer and RTC (real-time clock) Automatic Reboot Trigger: Built-in WDT (watchdog timer)

MTBF (meantime between failures): 99302 hrs

## Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty



## Pin Assignment

## 8-pin RJ45 connector



PIN	RS-232	RS-422/485-4w	RS-485-2w
1	DSR	-	-
2	RTS	TxD+(B)	-
3	GND	GND	GND
4	TxD	TxD-(A)	_
5	RxD	RxD+(B)	Data+(B)
6	DCD	RxD-(A)	Data-(A)
7	CTS	-	-
8	DTR	-	_

## **DB9** male connector



RS-232	RS-422/485-4w	RS-485-2w
DCD	TxD-(A)	-
RxD	TxD+(B)	-
TxD	RxD+(B)	Data+(B)
DTR	RxD-(A)	Data-(A)
GND	GND	GND
DSR	-	_
RTS	-	-
CTS	-	-
	DCD RxD TxD DTR GND DSR RTS	DCD         TxD-(A)           RxD         TxD+(B)           TxD         RxD+(B)           DTR         RxD-(A)           GND         GND           DSR         -           RTS         -

## : Ordering Information

## **Available Models**

CN2610-8: Dual-LAN terminal server with 8 RS-232 ports

CN2610-16: Dual-LAN terminal server with 16 RS-232 ports CN2610-8-2AC: Dual-LAN, dual-AC-power terminal server with 8 RS-232 ports

CN2610-16-2AC: Dual-LAN, dual-AC-power terminal server with 16 RS-232 ports

CN2650-8: Dual-LAN terminal server with 8 RS-232/422/485 ports CN2650-16: Dual-LAN terminal server with 16 RS-232/422/485 ports

CN2650-8-2AC: Dual-LAN, dual-AC-power terminal server with 8 RS-232/422/485 ports

CN2650-16-2AC: Dual-LAN, dual-AC-power terminal server with 16 RS-232/422/485 ports

CN2650I-8: Dual-LAN terminal server with 8 RS-232/422/485 ports and 2 KV optical isolation

CN2650I-16: Dual-LAN terminal server with 16 RS-232/422/485 ports and 2 KV optical isolation

CN2650I-8-2AC: Dual-LAN, dual-AC-power terminal server with 8 RS-232/422/485 ports and 2 KV optical isolation

CN2650I-16-2AC: Dual-LAN, dual-AC-power terminal server with 16 RS-232/422/485 ports and 2 KV optical isolation

## **Optional Accessories** (can be purchased separately)

Serial Cables and Adaptors: See Appendix A for details

## Package Checklist

- · CN2600 terminal server
- CBL-RJ45F9-150: 8-pin RJ45 to DB9 female connection cable, 150 cm
- 2 power cords (AC models only)\*
- Document and Software CD
- Quick Installation Guide (printed)
- Warranty Card