SmartNode™ Industrial FXS/FXO VoIP Gateways

Model SN4140E Series

The SmartNode 4140E Series of VoIP Media Gateways supports up to eight telephones integrating PSTN, PBX, and standard phones for voice and fax over any IP network. The corporate, small, or remote office can use voice-over-packet services to eliminate toll charges, access local PSTN calling, and secure voice traffic. Now ruggedized to handle the extreme environmental conditions your application calls for.

Ruggedized protection you need

Operating Temperature: -40 to +70 °C

Humidity: 85% condensing. Conformal coating option available if 100% humidity is requested.

Vibration: IEC 60068-2-6, 7.5 mm, 5–8 Hz, 2g, 11 ms

Shock: IEC 60068-2-27, 15 g, 11 ms

Up to 8 FXS and/or FXO ports

Compact, reliable stand-alone VoIP gateway with a variety of port options. Supports simultaneous voice or fax calls on all ports.

Advanced Local Call Switching

Virtual interfaces and routing tables provide industry leading flexibility in call handling programming. Local call switching, soft fallback to alternative routes. Simultaneously connects to multiple SIP services/IP PBXs.

Complete SIP and T.38 support

Supports the complete range of industry standard VoIP: SIP, H.323, T.38 fax, fax and modem handling, DTMF relay. Codecs G.729, G.723, etc.

Easy Management & Provisioning

Web-based management, SNMP, command line interface. Automated mass provisioning for efficient large-scale deployments.

Outstanding Interoperability

Proven integration for voice and T.38 fax with 3CX®, Asterisk™, PingTel™ and other leading IP PBX systems and softswitch vendors.

Why SmartNode?

- *Patton Quality*
- *Made in the USA*
- *Unrivaled Customer Support*
- *FREE Tech Support and Upgrades*

The ruggedized SN4140E Industrial VoIP Gateway series is ideal for delivering Voice-over-IP telephony in outdoor or environmentally exposed environments where heating and cooling cannot be controlled. The unit can be vehicle-mounted and is suitable for military applications. Offering flexible combinations of up to eight analog (POTS) FXS and FXO interfaces, Patton's industrial VoIP gateway facilitates IP-based voice delivery for such applications as industrial automation, military communications, railways, public transportation, public and private outdoor phones—includingemergency phones in parking lots, along roadways and railways and within underground tunnels.

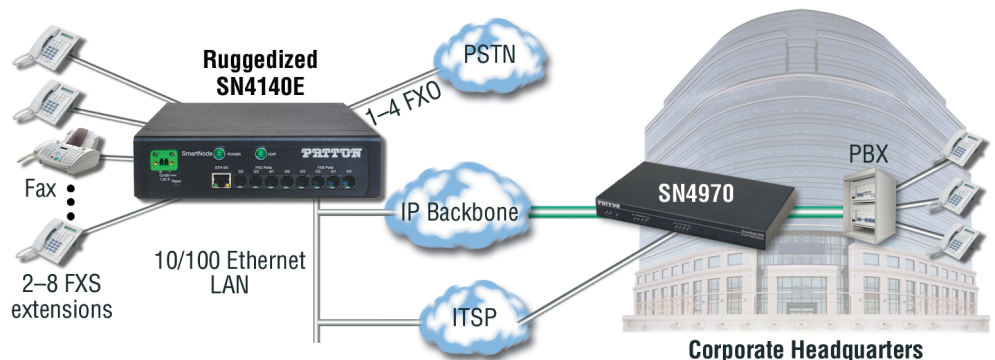The SN4140E gateway provides interconnection and conversion between modern IP-based Voice networks using Session Initiation Protocol (SIP) and traditional analog phones, analog PBX equipment or PSTN lines. All-IP means voice terminals everywhere need to be adapted to VoIP.

Housed in a hardened metal enclosure, the SN4140E device is designed to withstand shock (IEC 60068-2-27), vibration (IEC 60068-2-6), extreme temperatures (-40 to +70 °C), up to 85% humidity (conformal coating option protects up to 100%), condensation, and frost. DIN-rail mounting and shelf mounting are supported. 12-48 VDC terminal block power input is standard, while an AC-to-DC adapter, with a screw-down plug fastener, is available as an accessory.

Protection against power spike and surge is built in according to MIL STD 1275.

Visit www.patton.com/smartnode for more information.

Typical Application

Ruggedized SN4140E

PATTON®
Let's Connect!™

SN4140E Series Multi-Port FXS/FXO VoIP Ruggedized Gateway

Industrial Specifications*

Power Input
- Terminal block, 12–48 VDC nominal
- Includes extended temperature external AC to DC power adapter. Two screws fasten the plug to the enclosure to lessen the chance of yanking it loose.

Optional Power Input
Also offer a nominal 48V input (36–60 VDC range)

Mounting
DIN-rail mounting clip on unit. Optional shelf mounting with the clip removed.

Enclosure
Metal enclosure to be installed in a cabinet on a DIN-rail or on a shelf.

Operating Temperature
-40 to +70°C

Humidity
85% condensing. Conformal coating option available if 100% humidity is requested.

Vibration
IEC 60068-2-6, 7.5mm, 5–8 Hz, 2g, 11 ms

Shock
IEC 60068-2-27, 15 g, 11 ms

Electrical Protection
Power Input spike and surge protection per MIL STD 1275

Optional
- Conformal coating for protection against condensation and frost. This is a viable option for the nonsealed version.
- MIL STD 1275 protection

Gateway Specifications*

Capacity
Up to 8 simultaneous low-bandwidth voice or HD calls with SRTP or T.38 fax calls

Voice Signaling
- SIPv2 / SIPv2 over TLS** (B2BUA capable, multi instance, simultaneous support of multiple registrars and direct IP dialing)
- SIP call transfer, redirect
- DTMF in-band & out-of-band
- All tones programmable (dial, ringing, busy)

Voice Processing
- G.722
- G.711m/A-law
- G.723.1 (6.4 kbps)
- G.729, 729a, 729ab (8 kbps)
- G.726 (16 ,24, 32, 40 Kbps)
- G.168-2004 echo cancellation (128 ms)
- Up to 8 simultaneous low-bandwidth voice or T.38 fax calls
- Up to 8 HD calls with SRTP
- Up to 200 SIP-to-SIP calls***
- Up to 4 SIP transcoded calls*
- Silence suppression and comfort noise
- Adaptive and configurable dejitter buffer
- Configurable RTP packet length

Call Switching and Services
- Regular expression based call routing and number manipulation
- Number blocking
- Short-dialing
- Digit collection, distribution and hunt groups
- Transparent line extension
- Fallback Routing: Soft fall back to alternative route(s)

FXS Connectivity
- 2-wire Loopstart on RJ-11/12
- EuroPOTS (ETSI EG201188)
- Programmable AC impedance, feeding, ring and onhook voltage
- Caller-ID FSK and ITU V.23/Bell 202 generation
- Long Reach FXS—10 km @ 3REN load
- Secondary Surge Protection*

FXO Connectivity
- 2-wire Loopstart—RJ11/12
- Programmable impedance
- Ring detection, tone detection
- Caller ID detection (FXS, DTMF)
- Disconnect supervision

Connectivity
- One or two 10/100/1000Base-T Ethernet ports
- USB port
- Auto-MDIX
- DHCP Client
- PPPoE Client (multi-session)
- IP Multi-Netting, VLAN, Secondary IP
- IPv4 and IPv6 - Dual Stack
- ICMP
- Dynamic and static NAT and NAPT
- ACL, Stateful Firewall
- DNS, DynDNS
- DHCP Server
- SNTP Client

Quality of Service
- PacketSmart™ Network Assessment & Monitoring**
- Voice priority, DownStreamQoS™
- Traffic Management, shaping policing
- IEEE 802.1p, IEEE 802.1Q, 4096 VLANs (Tag insertion/deletion), TOS, DiffServ Labeling

Management
- Web/HTTPS, CLI & SSH Telnet access
- Patton Cloud Management

- Fully Documented CLI
- Telnet and HTTPs access
- TR-069, TFTP, HTTP, HTTPS configuration & firmware up- and download
- SNMPv3 agent
- Separate config domain (LAN side config and WAN side config)
- MIB II and private MIB
- Built-in diagnostic tools
- Secure Auto-Provisioning with built in root CA

Power Consumption
~7.2 watts

Dimensions
8-1/16 W x 6-3/16 D x 2-1/8 H in. (20.3 W x 15.8 D x 5.4 H cm)

Weight
1 lb 15 oz (890 g)

Safety & Compliance
- EMC compliance: EN55022 and EN55024
- Safety compliance: EN 60950
- CE compliance
- FCC Part 15 Class A
- TBR21 (FXS)
- RoHS
- ITU-T K.21 protection (FXS ports)**

* Specifications subject to change without notice.

** Internal power supplies available on special order basis. For more information, contact sales@patton.com