

# CIP-401

## POTS MODEM CONVERTER TO IP



### POTS MIGRATION

Modem V21 to V34  
FXS interface

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### CYBERSECURITY

AES encryption  
IPSEC tunnel

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### RUGGEDIZED

Extended temperature  
Electromagnetic

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### LOW POWER

3.5 W

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## Description

**CIP-401** is a perfect solution to evolve communications from the plain old telephone system POTS and modems to new generation IP networks. **CIP-401** is a POTS modem to IP converter that emulates voice band communications for remote stations and enables easy migration to IP for the telecoms network and the management and data center.

**CIP-401** embeds a FXS telephone interface that emulates the public switched telephone network for both outgoing and incoming calls. It support both DTMF and pulse dialing. It embeds a modem data processor that is compliant with ITU-T V21 to V34 standards. So **CIP-401** emulates the end-to-end communication through the telephone network till the center modem pool and this is totally transparent to existing applications and remote equipment.

**CIP-401** provide data encapsulation into IP packets in compatibility with many industrial communication protocols designed for asynchronous RS232 or modem links. It provides options to secure communications with AES256 and IPSEC tunnels.

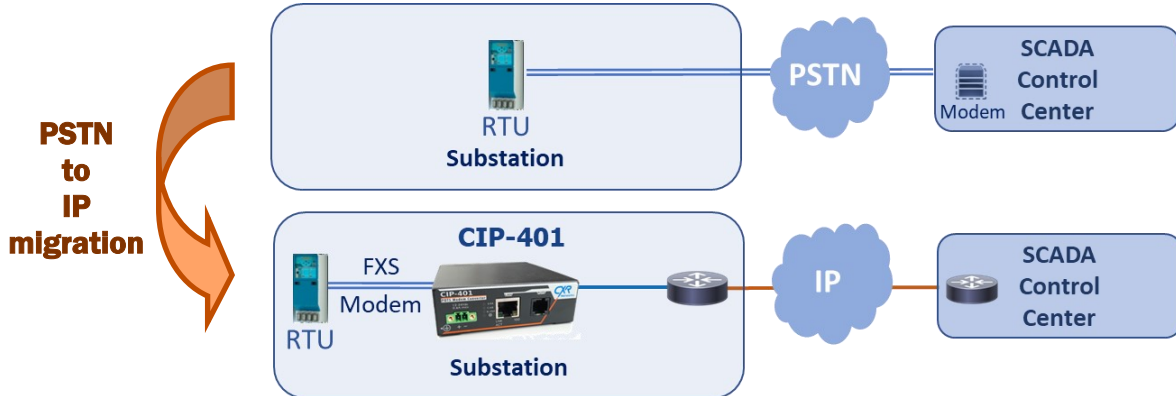
**CIP-401** is a ruggedized equipment that can be easily integrated in any industry environment. Its very small form factor enables integration in any existing system. It provides mounting brackets and DIN rail clip. Its management protocols can be disable so it becomes a totally secured black box.

**CIP-401** is able to carry traffic between 2 modems in Lease Line 2W mode

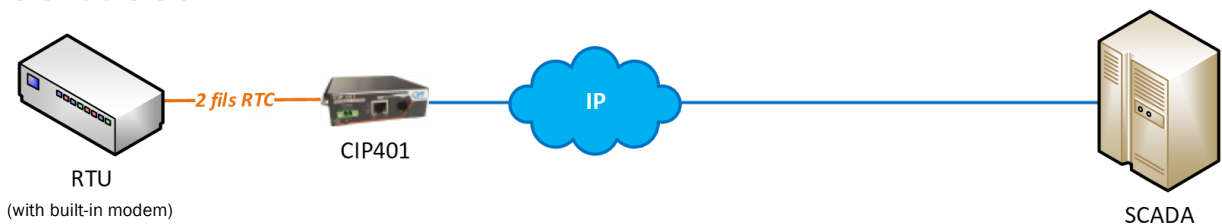


## Applications

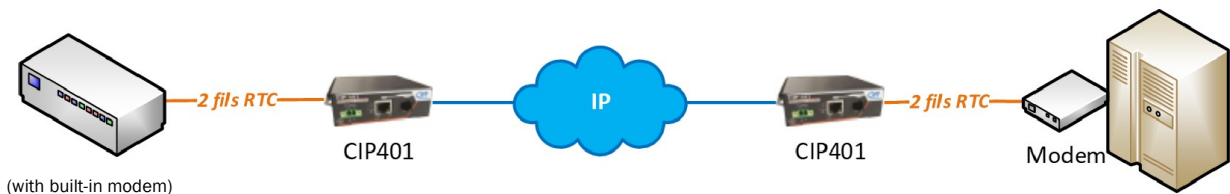
**CIP-401** is aimed at providing easy migration of industry applications that were designed for communications over the Public Switched Telephone Network (PSTN or POTS). This is often the case of alarm systems, remote metring, utility substations, payment terminal, automatic distribution machines (food, gas, etc.), ATM and other bank terminals, medical care and pharmaceutical terminals, etc.



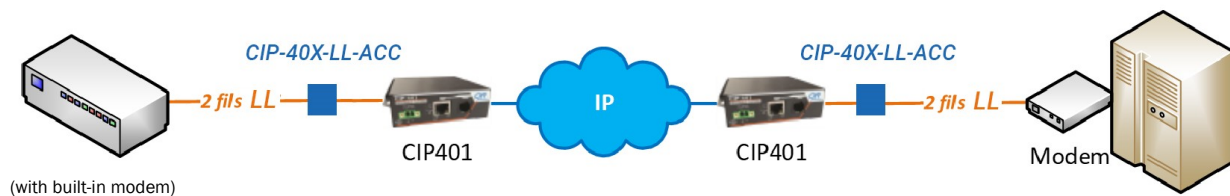
## Use cases



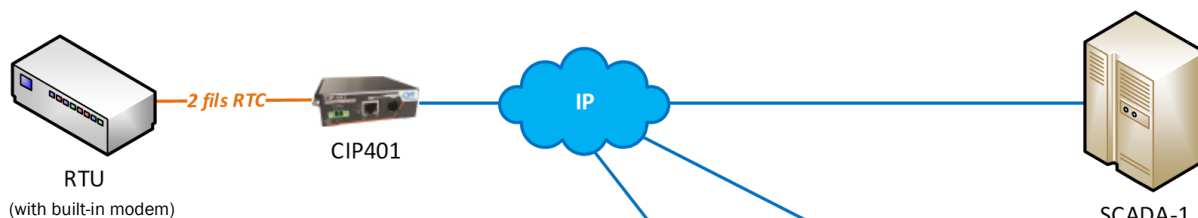
1. The built-in modem dials
2. Local CIP-401 detects and connects the SCADA (Remote @IP)
3. IP SCADA server detects IP session opening and transfers the data



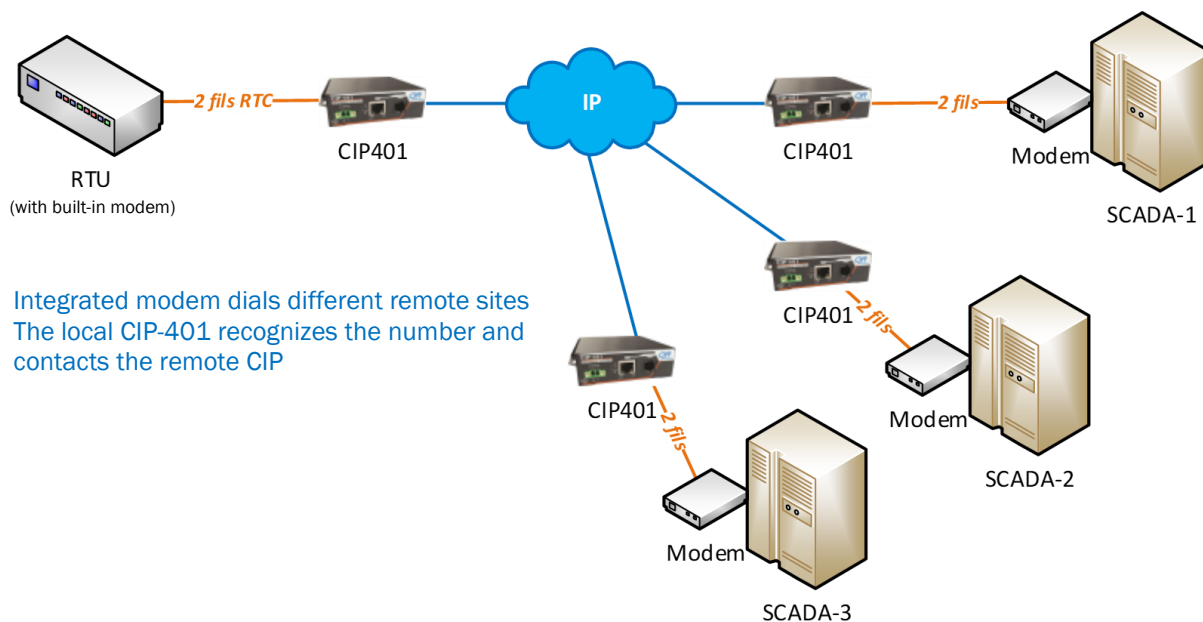
1. The built-in modem dials
2. Local CIP-401 detects and connects the remote CIP-401 (Remote @IP)
3. The remote CIP-401 generates a ringing tone on the remote modem
4. The serial SCADA server, detects an incoming call on a modem, and transfers data



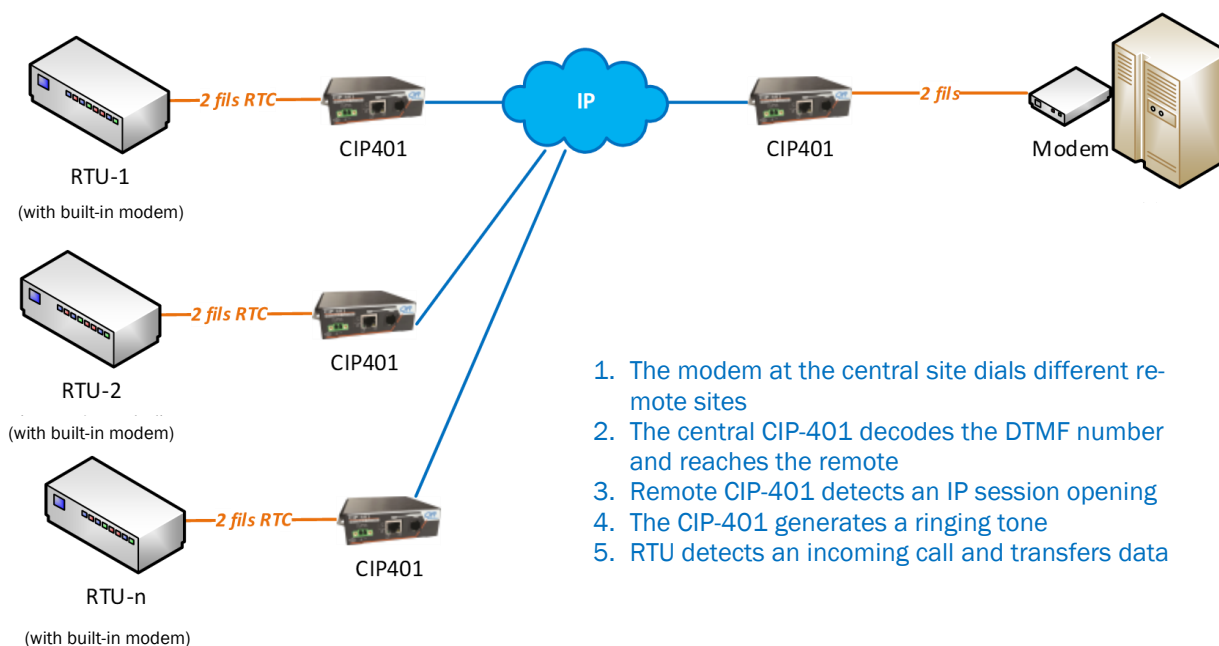
1. The built-in modem lease line
2. Local CIP-401 connects the remote CIP-401 (Remote @IP)
3. The serial SCADA server, connects on a modem, and transfers data



1. RTU modem dials to different remote sites
2. The CIP-401 identifies the number, recognizes DTMF and connects the SCADA to the associated IP address



1. Integrated modem dials different remote sites
2. The local CIP-401 recognizes the number and contacts the remote CIP



1. The modem at the central site dials different remote sites
2. The central CIP-401 decodes the DTMF number and reaches the remote
3. Remote CIP-401 detects an IP session opening
4. The CIP-401 generates a ringing tone
5. RTU detects an incoming call and transfers data

## Specifications

Modem PSTN interface		Administration	
Modem	<ul style="list-style-type: none"> <li>V21, V22, V22Bis, V23, V32, V34</li> <li>V42, V42Bis</li> <li>asynchronous</li> </ul>	Mode	<ul style="list-style-type: none"> <li>administration : enable, disable</li> </ul>
		Protocols	<ul style="list-style-type: none"> <li>http, https, ssh, snmp v3, syslog</li> <li>Web server</li> <li>Power and system status</li> </ul>
FXS interface (PSTN)	<ul style="list-style-type: none"> <li>CTR-21 ; 600 Ohms, 48 Vdc / 10 mA, 300-3400 Hz</li> <li>DTMF and pulse dialling</li> <li>Ring signal : 25 Hz, &gt; 24 Vrms</li> <li>Transmission power : -10 to -16 dBm</li> <li>Input power : -10 to -36 dBm</li> </ul>	Light indicators	<ul style="list-style-type: none"> <li>FXS - Modem status</li> <li>Ethernet status</li> <li>IP status</li> </ul>
Encapsulation over IP		General characteristics	
Encapsulation	<ul style="list-style-type: none"> <li>UDP or TCP</li> <li>transparent : raw-ip</li> <li>Bloc - Message, compatible with DNP3</li> <li>HNZ S2, break</li> </ul>	Format	<ul style="list-style-type: none"> <li>Compact metallic enclosure</li> <li>DIN rail mounting clip</li> <li>Protection IP-40</li> <li>1x Ethernet RJ45, 10/100BT</li> </ul>
Operability	<ul style="list-style-type: none"> <li>TLV layer, user defined</li> </ul>	Interfaces	<ul style="list-style-type: none"> <li>1x FXS Modem RJ11</li> <li>1x power input, 12 Vdc</li> </ul>
Encryption	<ul style="list-style-type: none"> <li>AES128, AES256</li> </ul>	Dimensions	<ul style="list-style-type: none"> <li>91 x 100 x 44 mm</li> </ul>
Ethernet Interface		Weight	<ul style="list-style-type: none"> <li>0.4 kg</li> </ul>
Ethernet	<ul style="list-style-type: none"> <li>1x 10/100BaseT port</li> </ul>	Operating temperature	<ul style="list-style-type: none"> <li>-20 to +70 °C</li> </ul>
Protocols		Hygrometry	<ul style="list-style-type: none"> <li>10 to 95% HR</li> </ul>
Ethernet	<ul style="list-style-type: none"> <li>VLAN, 802.1q</li> <li>QoS, 802.1p</li> </ul>	Power supply	<ul style="list-style-type: none"> <li>9~18 Vdc</li> </ul>
IP	<ul style="list-style-type: none"> <li>IP v4, IP v6, dual stack</li> <li>DHCP client</li> </ul>	MTBF	<ul style="list-style-type: none"> <li>420 000 Hours</li> </ul>
Security	<ul style="list-style-type: none"> <li>Firewall</li> <li>ACL, MAC and IP filter</li> </ul>	Environment	<ul style="list-style-type: none"> <li>EN-61000-6-2, EN-61000-6-4</li> <li>EN-63268-1</li> </ul>

## Ordering information

Reference	Ethernet	Modem PSTN
CIP-401	1x RJ45	1



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