

## Introduction

The Corinex Smart Concentrator Unit (CXP-SGCON series) is our newest system component for AMI and Smart Grid solutions. The concentrator is a remote uplink/downlink communications node that integrates with the low- to medium-voltage power distribution grid to intelligently manage upwards of 1200 meters and/or other devices on the downlink, while providing data transfers between these devices and the utility's MDM system on the uplink channel.

The Smart Concentrator Unit, combined with IP-enabled communication, allows utilities to quickly modernize and integrate their existing networks by providing AMI, SCADA, and/or Street Lights management.



Figure 2: Angled and side profile

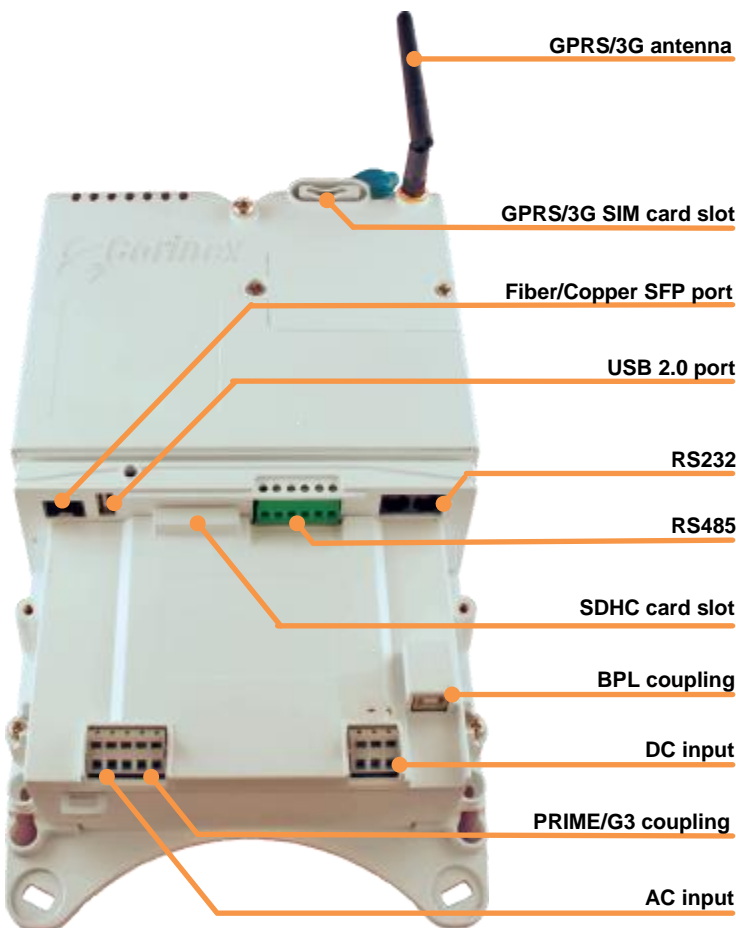


Figure 1: Concentrator (cover removed)

## KEY BENEFITS AND FEATURES

- **Multi-vendor device interoperability** achieved through conformity to DLMS/COSEM specification
- **Efficient backhaul capability** with choice of Gigabit fiber/copper or GPRS/3G wireless interfaces
- **Expandable functionality** via firmware updates
- **Modular design for customizability** and extended service life, with replaceable modules for GPRS/3G, power, SFP interface, BPL, and PRIME functionality

## Standards and Protocols

<b>PLC standards</b>	BPL, PRIME, G3 (optional), S-FSK (optional)
<b>Network protocols</b>	TCP/IP, DHCP, Webservices, HTTP, HTTPS, FTP, DLMS/COSEM, SNMP v3 (optional)
<b>Encryption</b>	AES-128

## Interfaces

<b>Southbound interface</b>	1. Broadband channel: BPL 2. Narrowband channel: PRIME, G3, S-FSK (optional)
<b>Northbound interface</b>	Gigabit fiber/copper, GPRS (up to 3G) wireless data

## Performance

<b>Hardware</b>	CPU: ARM9™ / Cortex™-A8 @ 800 MHz RAM: 1 GB Flash Memory: 512 MB Removable Storage: SDHC card (up to 16 GB) 3G data module: <ul style="list-style-type: none"> <li>• HSPA/UMTS 850/1900/2100 MHz</li> <li>• GSM/GPRS/EDGE 850/900/1800/1900 MHz</li> </ul>
<b>Power consumption</b>	16 Watts max.
<b>Network scalability</b>	1200 devices
<b>Southbound throughput</b>	<ul style="list-style-type: none"> <li>• 50 Mbps on BPL</li> <li>• 128 kbps on PRIME/G3</li> </ul>
<b>Northbound throughput</b>	<ul style="list-style-type: none"> <li>• 1 Gbps on SFP port</li> <li>• Variable (network-dependent) for GPRS/3G</li> </ul>
<b>Plug-and-Play functionality</b>	NAT-based routing, with DHCP support
<b>SmartGrid functions</b>	<ul style="list-style-type: none"> <li>• Remote tariff programming (TOU-based)</li> <li>• On-demand meter data readings</li> <li>• Meter profile readings and configuration</li> <li>• Event logging</li> <li>• Electricity disconnect/reconnect</li> <li>• Load management via relays and on-demand rate adjustments</li> </ul>
<b>Administration functions</b>	Polling intervals are configurable via MDM for the following: <ul style="list-style-type: none"> <li>• Load profile</li> <li>• Billing profile</li> <li>• Monthly profile</li> <li>• Event logs</li> </ul>

## Configuration Options

Product code	BPL	PRIME	3G	Ethernet router
CXP-SGCON-100	•	•	•	
CXP-SGCON-200	•		•	
CXP-SGCON-300		•	•	
CXP-SGCON-400	•	•		•
CXP-SGCON-500	•			•
CXP-SGCON-600		•		•

## Technical Specifications

<b>Dimensions</b>	<b>320 mm (L) x 180 mm (W) x 70 mm (H)</b>
<b>Enclosure</b>	Plastic, IP54 rating
<b>H/W Interfaces</b>	<ul style="list-style-type: none"> <li>• 1x Ethernet: SFP port for 1000Base-X or 1000Base-T</li> <li>• 2x RS232 ports: RJ11 connector (isolated)</li> <li>• 2x RS485 ports: terminal block connector (isolated)</li> <li>• 1x USB 2.0 port</li> <li>• 1x AC input: 90~265 V, 50/60 Hz</li> <li>• 1x DC input: 18~60 V</li> <li>• 1x AC coupling for BPL</li> <li>• 1x AC coupling for PRIME/G3</li> <li>• 1x external antenna port for GPRS/3G data module</li> <li>• 1x SIM card slot for GPRS/3G data module</li> </ul>
<b>Configuration and upgrade options</b>	<ul style="list-style-type: none"> <li>• PLC module (choice of either BPL or PRIME, factory-installed option)</li> <li>• External AC 5+1 coupler for BPL operation (sold separately)</li> <li>• GPRS/3G wireless module (factory-installed option)</li> <li>• Optional SFP modules (1000Base-X or 1000Base-T interface)</li> <li>• Replacable power module</li> </ul>
<b>Firmware</b>	Functions can be enhanced/expanded with firmware updates, done remotely or via USB direct PC interface
<b>Storage Temperature</b>	-40° to 80° C (-40° to 176° F)
<b>Operating Temperature</b>	-30° to 65° C (-22° to 149° F)
<b>Storage Humidity</b>	10% to 95% non-condensing
<b>Operating Humidity</b>	20% to 90% non-condensing
<b>Standard Safety and EMI</b>	CE, Class 2 device

# Corinex Smart Concentrator Unit Series



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