

SYNC 3000 Datasheet

Overview

SYNC 3000 Gateways are high performance Front End Gateways for heavy duty substation data concentration and other similar applications.

The SYNC 3000 supports IEC 61850 Client, Server, IEC 60870-5-101, IEC 60870-5-104 and DNP3 protocols as well as ICCP. It has support for up to 120 IEC 61850 Client devices, and can also act as Control Center gateway on IEC 104. The hardware is NERC / CIP compliant and IEC 61850-3 certified meeting the modern substation automation requirements.

Features

- IEC 61850 Data Concentrator
- ICCP Gateway
- IEC 60870-5-104 Control Center Gateway
- Modbus RTU / TCP and DLMS COSEM Enabled
- TCP/IP, UDP, SMTP, POP, FTP, HTTP Support, SNMP
- SSL VPN with AES, DES or 3DES encryption over WAN
- IEC 61850-3 Compliant Interfaces
- 4/8/12/16 RS232/422/485 Interfaces
- 2/3/4/6 Ethernet Interfaces
- Transparent Channel / Tunneling support
- Channel Redundancy and Device Redundancy Support
- SNTP Support
- Also supports IEC 60870-5-101/103, DNP3, SPA, SEL, Courier and more
- NERC CIP Compliant

Applications

Substation

- Protocol Converters and Protocol Gateways for IEC 61850, IEC 60870-5-10X, DNP3, Modbus, DLMS, Courier, SPA, SEL etc.,
- Sub-station to control center gateway
- IEC 61850 Substation Data Concentrator
- Sub-Station PDC and Converter

AMI / Smart Grid / Metering

- AMI / Demand Side Controller Gateways
- Smart Grid Protocol Converter
- Sub-Station Metering Data Concentrator

SCADA/DMS

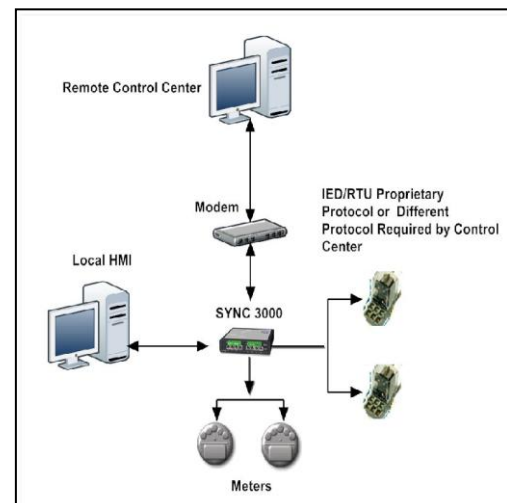
- Front End Processors & M2M Server / Gateway
- Substation Gateway and Protocol Converter

Models

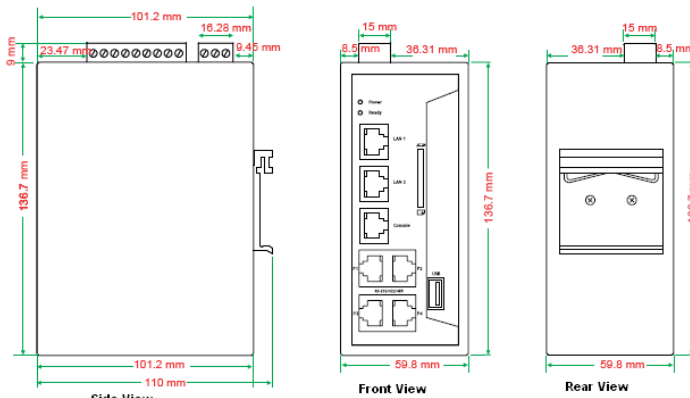
- SYNC 3000 - S4R2, S8R3, S16R4i, S12R6,

Related Products

- SYNC 4000 Head End System with ICCP Gateway Software, M2M Server
- Substation PDC

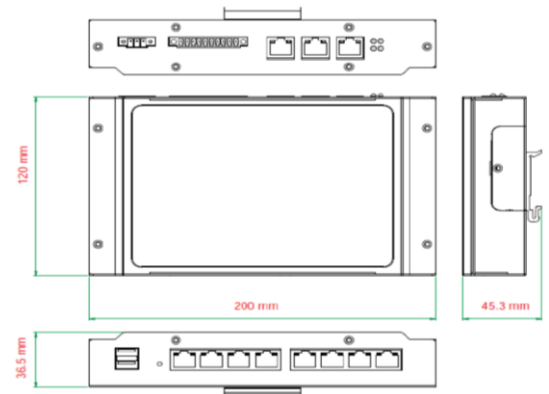


Application Highlight

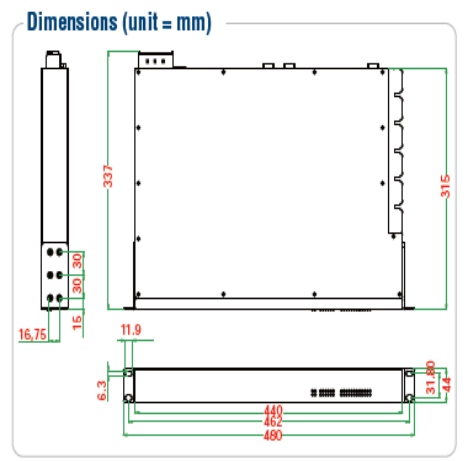


SYNC3000-S4R2

SYNC3000 S8R3

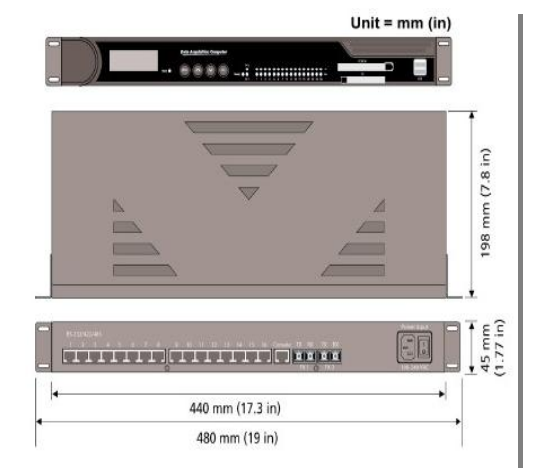


Dimensions (unit = mm)



← SYNC3000 S12R6

SYNC3000 S16R4i



SYNC 3000		S4R2	S8R3	S12R6	S16R4 / S16R4i
General					
Management		Kalkitech EasyConnect Configuration utility / Web Server & SSH Interface over Secure Network			
System Protocols		TCP/IP, UDP/IP, SMTP, POP, HTTP, FTP			
Power System / Metering Protocols		IEC 61850 Client / Server, Modbus RTU, Modbus TCP, IEC 60870-5-101/103/104, DNP3 Full List of Protocols available at - - http://www.kalkitech.com/offerings/sync-field_protocol_io_gateways/			
LEDs		LAN Ready, Data Transfer, Serial Port RX/TX, Status, Power			
Dimensions		60 x 137 x100 mm	200 x 37 x 120 mm 197 x 125 m	440 x 253 x 45mm(19"-1U)	480 x 45 x 198 mm (19"-1U)
Weight		430g	850 g	4.5 Kg	2.6 Kg
CPU Speed		192MHz	533MHz	1 GHz	533 MHz
Non Volatile Storage		16MB	32 MB	1 GB	32 MB
Volatile Storage		64 MB	256MB	1024 MB	128 MB
Serial Port Isolation		NO	NO	YES	YES (Ordering Option)
Operating System		Embedded Linux Kernel Version 2.6	Embedded Linux Kernel Version 2.6	Embedded Linux Kernel Version 2.6	Embedded Linux Kernel Version 2.6
Maintenance		Direct over Debug Port or Console Port / Remotely Over TCP/IP over GPRS/CDMA			
Datapoints	Devices (IEC61850/ICCP/SPA)	25	40	120	60
	Data-points (IEC61850/ICCP/SPA)	1500	2000	5000	2500
	Data-points (Other)	6000	8000	20000	10000
Network Management		SNMP Support for NMS			
Redundancy		NO	YES	YES	YES
Security		NERC/CIP Compliant, SSL Tunnel, SSHv2			
VPN		SSL based VPN with Blowfish /AES/3DES			
Logic		AND/OR/NOT Logic Support			
Interfaces					
Cellular		External CDMA/GPRS Interface			
Digital IO Interfaces		NA			
Analog IO Interfaces		NA			
IO Expansion		IEC 101 / Modbus IO Expansion			
Serial					
Ports		4 RS485/422/232	8 RS485/422/232	4 RS232, 8 RS 485	16 RS485/422/232*
Throughput		115.2 KBPS			
Pass-Through Channel		Pass-Through / Transparent Channel support			
Ethernet					
Ports		2 RJ45	3 RJ45	6 RJ45	4 RJ45
Physical Layer		10/100 Base-T			
Data Rate		10/100 Mbps (auto-sensing)			
Mode		Full or Half-Duplex (auto-sensing)			
Power Requirements					
Power Input		12-48 VDC	12 – 48 VDC	100-240 VAC / VDC	100-240 VAC / VDC
Power Supply		Optional adapters for 85-330 VAC and 12/24/48/110/220 VDC			
Power Consumption (Main CPU)		7W	15W	26W	15W
Environmental					
Operating Temperature		-10 to 60 °C (-14 to 140 °F)			
Storage Temperature		-20 to 80 °C (-4 to 176 °F)			
Relative Humidity		5% – 95% RH non condensing			
Ethernet Isolation		1500VAC min per IEEE802.3/ANSI X3.263			
Certifications					
CE / UL Certifications		EN55022 Class A, EN61000-3- 2 Class A, EN61000-3-3, EN55024 IEC61850: No UL/cUL, (UL60950- 1, CSA C22.2 No. 60950-1-03), TUV (EN60950-1) CE (EN55022 Class A, EN61000- 3-2 Class A, EN61000-3-3, EN55024), FCC (Part 15 Subpart B, CISPR 22 Class A)			
IEC 61850-3		NO	NO	YES	NO

*Serial port isolation available on all 16 ports for only SYNC 3000 S16R4i

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