Kalkitech

SYNC 2000



SYNC 2000
Secure Substation Gateway





OVERVIEW

SYNC 2000 Secure Substation Gateways are rugged and secure devices ideal for substation automation and gateway applications. This security hardened gateway supports more than 40+ utility protocols with many to many protocol conversions of telemetry data. Substation gateway functionality has evolved to include protocol conversion combined with a security check point. Access to substation data is protected with a built-in firewall, secure role-based access control, security event logging, encrypted communications mandatory for a highly secured utility network. Additional features such as fault file collection and storage, local web-based monitoring and a built-in logic engine enables use of the platform for enhanced and decentralized automation applications.

GENERAL FEATURES

- License option to enable standard protocols DNP3.0, IEC 60870-5 101/103/104, DLMS-COSEM, Modbus, MQTT, IEC 61850 ed 2.0 and ed1.0
- Supports proprietary protocols such as SPABus, Courier, SEL and many more which are commonly used by utility legacy devices
- Many-to-many protocol conversions with multi-master connection support
- Fault file collection and conversion to COMTRADE format
- Events list file generation
- Automatic startup, initialization following power restoration
- Device software and hardware status, restart notification and many more diagnostic points
- Remote management and monitoring using Kalki.io
- SNMP agent/manager support to enable network asset monitoring
- Transparent tunneling for remote management of end device
- Hot-Standby device redundancy
- Parallel Redundancy Protocol (PRP) for network redundancy
- Multiple options to synchronize time of the gateway and downstream devices (NTP/SNTP/IEC104/DNP etc.)
- Internal (with dual SIM) and external pluggable cellular modem
- Wide range of AC and DC power supply

SECURITY FEATURES

- NERC CIPv5 support*
- IEEE1686 compliant*
- Secure device access (Linux users)
- Physical port control
- Firewall protection
- Data encryption
- Password protection
- Software license protection
- Digital right management
- Role based access control using Attribute certificate based on IEC 62351-8/OCSP
- Allows only signed firmware bundles from trusted sources
- Encrypted tunnel for configuration access and web-monitoring
- IEC 62351-3 transport layer security for TCP based utility protocol
- IEC 62351-5/Secure authentication for DNP3.0
- SSL based VPN with AES, DES or 3DES encryption over WAN/LAN
- All logs in syslog format
- Configurable alarms and events for security related incidents
- Integrated trusted platform module*

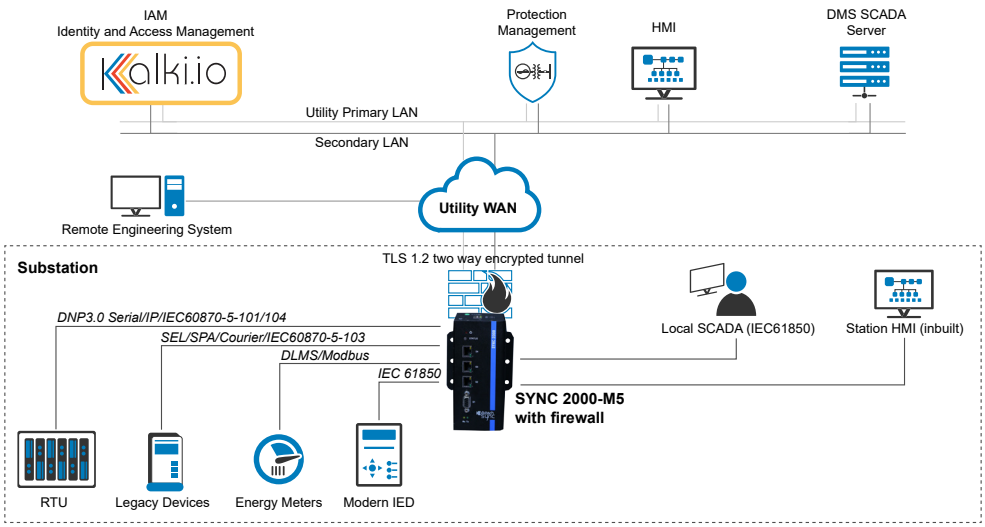
ORDERING OPTIONS

- SYNC 2000: 4 Serial ports, 2 Copper Ethernet ports (M5/S4R2)
- SYNC 2000: 4 Serial ports, 2 Fiber Ethernet ports (M6/S4F2)

RELATED PRODUCTS

- Kalki.io: Energy IoT Platform
- SYNC 4000: Control Center Gateway/Front-end Processor
- SYNC 3000: Substation Data Concentrator

Application Architecture



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Specifications		SYNC 2000 (M5/S4R2)	SYNC 2000 (M6/S4F2)
General	Management	EasyConnect configuration utility	
		Kalki.io Energy IoT Platform with Identity and access management service	
		Web server/SNMP/Telemetry protocols	
	Maintenance	Debug port or console port	
		SSH Interface over secure network	
	Certifications*	IEC 61850-10, IEC 61850-3, CE	
	Protocol Conversion	Many-to-many conversion	
Software Capability	Communication		
	Standard protocol set	IEC 60870-5-101/103/104, DNP3 serial/TCP, Modbus RTU/ASCII/TCP, IEC 62056-DLMS/COSEM, IEC 61850, MQTT, SFTP, SNMP Manager, SNMP Agent	
	Proprietary protocol set	ABB - RP570, ABB- RP571, ABB SPA bus, Areva Courier, SEL Fast Message, Event Logger	
		Refer to the full list of protocols at https://www.kalkitech.com/knowledge-center/protocols/	
	Time synchronization	SNTP, NTP, IEC 60870-5-101/103/104, DNP3.0	
	Redundancy	Device Redundancy (Hot-Standby)	
		Downstream/upstream communication, Parallel Redundancy Protocol (PRP)	
	Security		
	SSL VPN	Tunnel Blowfish/AES/3DES	
	Cipher suites supported based on IEC 62351-3	TLS_RSA_WITH_3DES_EDE_CBC_SHA, TLS_RSA_WITH_RC4_128_SHA, TLS_DH_RSA_WITH_3DES_EDE_CBC_SHA, TLS_DHE_ANON_WITH_AES_256_CBC_SHA	
	DNP Authentication	Secure Authentication v2	
	Programming		
	Inbuild	AND/OR/NOT/Bit SHIFT/Split/Index support for digital and analog data delay operations	
	Advanced	IEC 61131-3 based logic engine	
	Monitoring		
	Local	EasyConnect configuration utility	
		Web HMI	
	Remote	SNMP Agent	
		Kalki.io	
		SMS (short message service)**	
	Devices Supported		
	SPA/IEC 61850/DLMS	50	
	DNP3, IEC 60870, Modbus and other Proprietary Protocols	100	
	Data point supported		
	SPA	2000	
	DNP3, IEC 60870, Modbus and other proprietary protocols	10000	
Interfaces	Serial		
	Connector	1 x DB9-RS232 (Full modem) 1 x RJ45-RS232/485 (Half duplex)/Debug 2 x RJ45-RS232/485(Half duplex)	
	Data Rate	110bps - 38.4kbps	
	Ethernet		
	Connector	2 x RJ45	2 x SC (FIBER)
	Physical Layer	10/100/1000 Mbps	100 Mbps
	Isolation	1500VAC min per IEEE802.3/ANSI X3.263	
	I/O Contacts		
	Alarm contact	1 x NO & NC (Form C) programmable	
	Modem		
	Internal Pluggable*	4G LTE with dual SIM	
Power Requirement	Power Supply	Option 1: 19 - 58VDC	
		Option 2: 85 - 264VAC 50 - 60Hz, 100 - 370VDC	
	Consumption	10W	
	Consumption with modem	15W	
Mechanical	Dimensions (H x W x D)	75mm x 140mm x 160mm	
	Weight (In grams)	1000 (excluding modem)	
	Mounting	Option 1: DIN Rail	
		Option 2: Wall mounting**	
		Option 3: Rack mounting**	
	LED Indications	Power, LAN link/status, serial port RX/TX, Modem Status, User programmable LED	

* Contact sales for more details
** Additional order item

Corporate Headquarters: **Bangalore, India**
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