

SIS-AXS

(AMF on Remote Monitoring & Energy Management)

SIS-AXS(AMF) controller is an integrated multifunction high speed micro controller based System in-house developed solution



System Infra Solutions Pvt. Ltd.

Solutions for life time...

An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified Company

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Industry Challenges ▶

- Telecom industry has been struggling to contain the high operation cost due to various overheads & inefficiencies in their existing system. These inefficiencies can be broadly categorized as below:
- Inaccurate reporting of data which leads to increase in operational cost.
- Unavailability of reporting mechanism to contain the loss of energy which leads to site outages & high energy cost.
- Battery theft/tampering and health status go unnoticed in absence of real time notification.
- No mechanism to detect the excessive heating of the battery, which may lead to explosion.
- There is no centralized system to monitor battery bank health in real time, leading to energy losses and detection is largely dependent on inefficient mechanism.
- Delayed reporting of issue results in increased resolution time.
- Unavailability of real-time centralized energy metering for DG, EV & Battery Run-Hour and historical trend.
- Lack of centralized database to maintain historical data for trend analysis and decision making.

Our Solution ▶

Having worked with the leading telecom service provider/ operators for more than 17 yrs, System Infra solutions has come up with it's unique products to address the challenges being faces by the industry. The answers to these challenges is I-Protect, which is a cutting edge solution backed by AI based application framework.

- Centralized View of Tower Infrastructure
- Inhouse Designed and Developed
- Dedicated R&D team for future supports
- On-demand and scheduled reporting
- Multichannel Communication
- High availability, redundancy and scalability
- Reduced Capex
- Fast ROI
- Reduction in Opex by containing energy losses
- 2G, 3G, 4G, LTE & 5G site compatible
- Applicable in other industries like Smart City, Railways
- Shared or dedicated cloud hosting models.

Web & Mobile Interface

- SMS: messages sent to three levels of escalations assigned to each site
- Mail: e-mails sent to the assigned levels at a defined intervals
- Voice Messaging: dedicated dialer calls the assigned levels depending on nature of alarms
- Mobile App: Status can be accessed on the go with built-in notification mechanism
- Self customizable alarms: parameters can be set by user to receive the set alarms
- Mobile App: Customizable Alerts and notifications
- Web App: Real-time status and data access through secure web interface

Reporting

- On-demand automated and scheduled reporting
- Detailed Report generated on Daily, weekly, fortnightly, monthly or as customized
- Report parameters include Alarms, time metering, outage/uptime, Battery health
- Alarms: alarms generated on site (Activity, Motion, Door, Smoke, Temperature)
- Time Metering: Energy time metering of energy via Mains, Generator and Battery bank
- Outage: Uptime and outage data in hours and defined window
- Battery health: Battery health status and energy loss due to faulty battery

Why Remote Monitoring System??

Site Management	<ul style="list-style-type: none"> • Effective Resource allocation • Equipment performance history • Inventory Records
Failure Management	<ul style="list-style-type: none"> • Early fault identification • Site up status and nature of faults • Remote Intervention
Equipment Evaluation	<ul style="list-style-type: none"> • Site Battery condition • DG battery condition • Site temperature
Energy Management	<ul style="list-style-type: none"> • DG Energy • EB Energy • Battery Energy
Billing (Optional)	<ul style="list-style-type: none"> • Diesel Supplies • Grid consumption

Highlighting Feature :

- Can Monitor AMF/ PIU/ I2PMS through IOT based inbuilt NOC.
- Auto generate customized Report for telecom site like KWH/Run-hour for DG /EB and batteries and various other parameters remotely.
- The controller follows a rational approach towards power management through
 - Integrated AMF Function.
 - AC power measurement.
 - DG parameter monitoring.
 - Alarm Consolidation.
 - Remote monitoring facility
- Having a provision of single phase/three phase mains and DG with Automatic /manual modes of operations.
- Protection for mains and DG & generates alarm against tempering of EB & DG connection.
- Energy Management and fault detection.
- Opex Optimization.
- Adaptable for ACs, Batteries, Fire alarms, DGs, Security, AC/DC Power and SPDs.

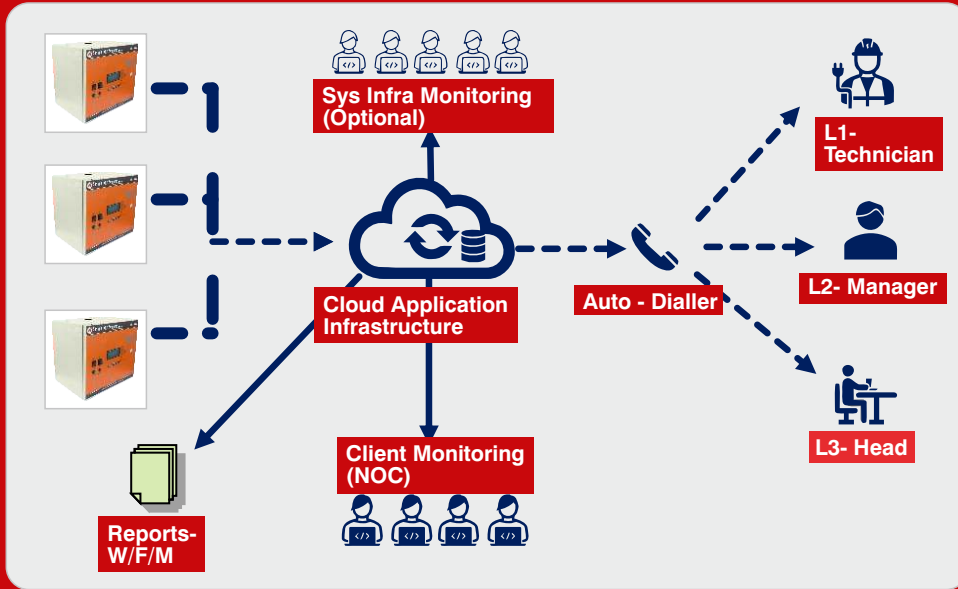
Scope of SIS-AXS

- Basic Information
- Detailed Parameter Monitoring
- Remote Operation
- Uninterrupted Power Supply

Our Solution

Capacity	Range of 5 to 125 KVA
Multi Phase Logic	SIS-AXS controller works on 1Phase, 2phase or 3Phase. Input voltage range on single phase – 145V–300V
Mechanical	CNC Fabricated box, using CRC Sheet duly powder coated, 1.6 mm thick CRC sheet. Split type modular design.
Safety	The equipment ensures IEC 60950 safety standards
MTBF	The MTBF of the AMF controller is more than 70000 hrs.
Compliance	CE, Tested for safety, EMI/RFI compliance
Micro Controller	High-Speed micro controller True RMS for all voltage & current All the inputs to the measurement board are duly protected against surge as per IEEE-62.41 The measurement circuit is rated at least twice of the maximum input range, each independent for AMF & module
Time	Real time & date-programmable
Event Logs	Last 2000 events
RS 232	For PC interface to adjust the critical data and unload the alarms, This Port is used for configuration of PFCs.
Energy	Measure the DG energy, EB Energy and battery energy (Cumulative KWH & Hrs)
Data Transfer	SIS-AXS controller is equipped with suitable GPRS modem / GPRS DTU and able to process the data.
DG on load	After DG starts and supply is healthy
Blackout delay	5 Seconds between mains and DG contactor changeover.
DG cooling time	15 minutes
DG start attempts	Three attempts with delay between attempts (40 -40 -40 sec)(settable)
DG Lock time	After three very short mains restoration 10-10-20 minutes, DG will run for 1hrs (settable) continuously
Stop Command duration	Settable from 10 to 50 seconds
Battery charger & DG controller unit	Automatic DG battery, SMPS charger with boost/trickle charging & with constant current charging facility (12V) Provision of Auto manual mode selection
Auto Phase selector	The AMF Controller is inbuilt with auto phase selector which selects any two phase or single phase out of 3 Phase. There is a electrical and mechanical interlock between each contactor to avoid short circuit in case of electronic failure
Set point-for high temperature alarm	Factory set ("ON" at 40°C and "OFF" at ON - 3°C)
DG set measurements	Mains/DG status, DG accumulated hours, DG voltage, DG Energy Measurement (DG KWH)
Mains measurements	Input Voltage, Output voltages for line conditioning module, Mains Energy Measurement (EB KWH)
Battery measurements	Battery running hrs & KWH (Accumulated)
LED Indications:	Mains ON, DG ON, Smoke/ Fire Alarm, DG Common Fault, Fuel Low, System battery low, High Shelter temperature
List of potential free dry contacts	Alarms are extended to NOC / TOC through changeover contact (both 'NO', 'NC'). Mains fail, Shelter Door open/ Intruder, Low fuel level, Common fault -- LLOP/Alt fault/HCT/HWT/V belt/Dg fail to start/DG fail to stop, Smoke/Fire, Load on DG, DG Fail to stop, DG Fail to start, DG over load, Shelter high temperature, Site on battery, BTS Battery Low.
Standard setting	Setting in the AMF Controller can change manually & Laptop.
Site Calibration	All measured parameter can you calibrate through S/W on field.
Dual DG Logic	Provide the Dual DG Logic on sequential basis.

System Architecture



Other Features

- AC distribution unit
- Fire Alarm module
- Aviation lamp controller
- Auto phase selector
- IPMS logic
- SVR Optional
- Real time and events recording
- One/Two DG control
- Configuration (almost fifty programmable parameters)
- Calibration (on site calibration facility for all analog parameter)

SIS-AXS Dashboard

The dashboard features a top navigation bar with 'Dashboard', 'Real Time Data', 'All Data', 'Reports', and a user profile 'bhaskar'. The main content area is titled 'Critical Bts Voltage' and includes a 'Site Name Site Id' filter. It contains seven monitoring widgets:

- Alarm Activity Status:** Shows counts for Door, Smoke, DG battery disconnections, and HRT, categorized by P1 and P2.
- Site Metering:** Shows RCA, KWH, Run Hour, and Batter backup time.
- Calling Reports Status:** Shows counts for No. of alarm generated, No. of call received, No. of call rejected, and No. of call not attended.
- Communications Site Status:** Shows counts for No. of site communications, No. of site non-communications, and Total sites.
- Power Supply Status:** Shows status for Site on mains, Site on DG, and Site on battery.
- Critical Attention Status:** Shows alerts for Alternator fault, Bts voltage less than 47V, DG battery voltage Less than 11V, and 3 Φ unbalance load.

At the bottom, a footer reads: 'SIS-AXS, Copyright © 2015-2016 System Infra. All rights reserved. Data owned by Bhaskar solar'.

SIS-AXS Dashboard

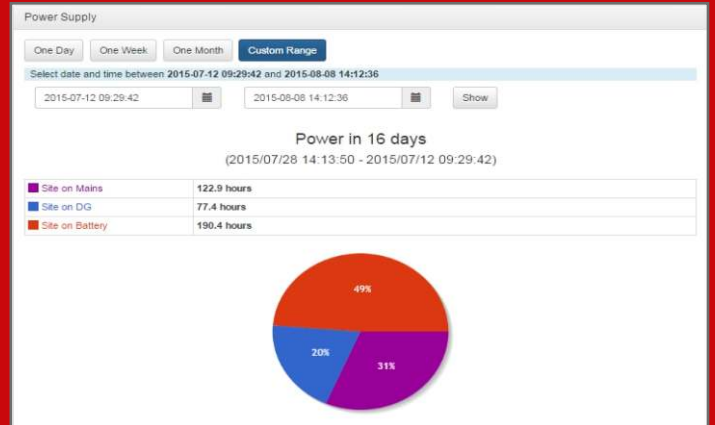
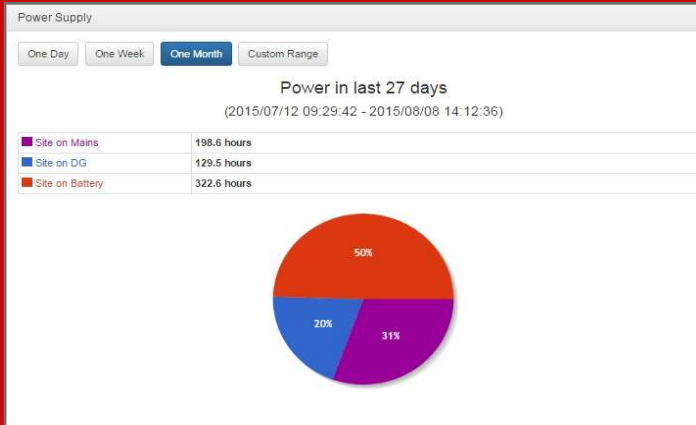
Data List

Show All Data Hide Data

SITE NAME	SITE ID	Circle	Device	Make	Type	Date Time	Status	DG Running Hours	Mains RUN HOURS	Battery RUN HOURS	O/P Mains Energy	DG Energy	I/P Mains Energy	DG Battery Voltage	Battery Charging Current	Battery Discharging Current	Battery Status	Battery Back Up Time	Battery Charging Energy	Battery Discharging Energy
North S.K.Puri	IDEABPA084	Bihar	SYSTEM INFRA CONTROLE	Selvon	P	2015-08-08 12:29:32	0100000400	0.0	179.2	2.9	387.0	0.0	0.0	13.2	2	0	0	0	9.6	8.5
North S.K.Puri	IDEABPA084	Bihar	SYSTEM INFRA CONTROLE	Selvon	P	2015-08-08 12:23:25	0100000400	0.0	179.1	2.9	386.7	0.0	0.0	13.1	1.6	0	0	0	9.6	8.5
North S.K.Puri	IDEABPA084	Bihar	SYSTEM INFRA CONTROLE	Selvon	P	2015-08-08 12:17:18	0100000400	0.0	179.0	2.9	386.4	0.0	0.0	13.3	1.7	0	0	0	9.6	8.5
North S.K.Puri	IDEABPA084	Bihar	SYSTEM INFRA CONTROLE	Selvon	P	2015-08-08 12:11:11	0100000400	0.0	178.9	2.9	386.1	0.0	0.0	13.1	1.7	0	0	0	9.6	8.5
North S.K.Puri	IDEABPA084	Bihar	SYSTEM INFRA CONTROLE	Selvon	P	2015-08-08 12:05:04	0100000400	0.0	178.8	2.9	385.8	0.0	0.0	13.2	1.7	0	0	0	9.6	8.5
North S.K.Puri	IDEABPA084	Bihar	SYSTEM INFRA CONTROLE	Selvon	P	2015-08-08 11:58:57	0100000400	0.0	178.7	2.9	385.5	0.0	0.0	13.2	1.6	0	0	0	9.6	8.5



Energy Status One Day/One week/ One month/custom range



SIS-AXS Equipment Details

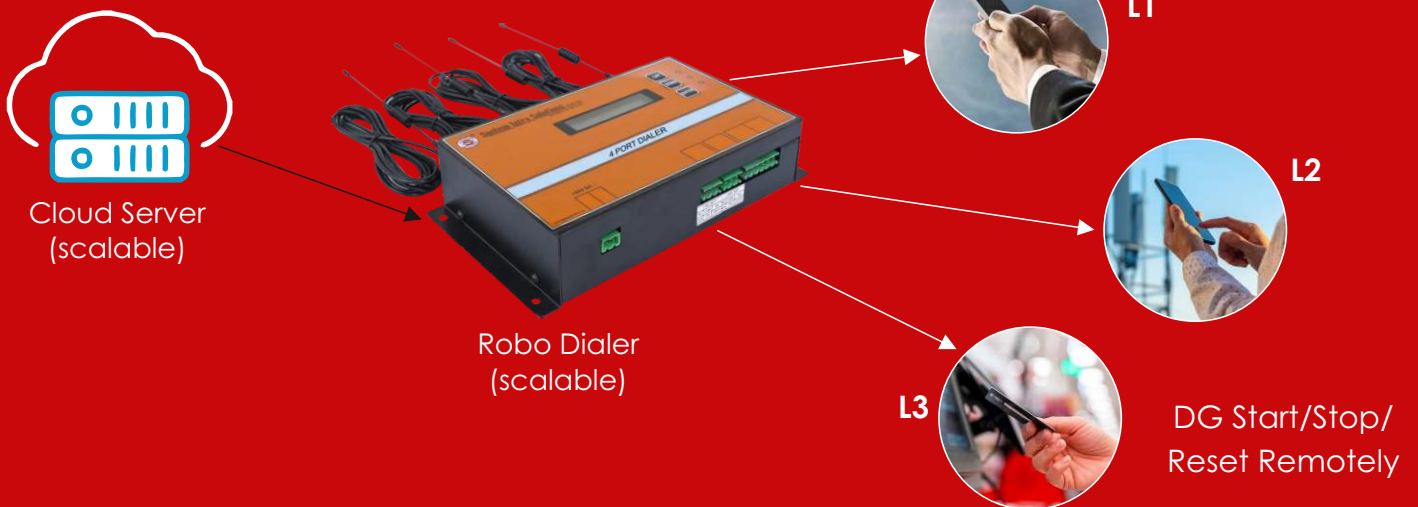
Data Type	Periodic
Operation Mode	Automatic
Dual DG Logic	EB
Generator Status	Off

SIS-AXS : Management Expert Efficient O&M

Real-Time Monitoring
Report Management
Alarm Management
Battery Mgmt
DG Management
EB Management
Assets Record

Equipment Details and Control

Device Name	System Infra Controle
Device Make	Selvon
DG Details	40 KVA
Generator Status	Off
Generator Control	Generator control details not available



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