



Doc No: AES/ABAM/Spec/01.

Auto BTS Alarm Manager

Technical Specifications

Areca Embedded systems pvt Ltd
(An ISO9001:2000 certified company)

Plot No 5B, Survey No 184 & 185, Phase-V, IDA Cherlapally, R.R District, 500 051, AP, India.
Tel: + 91 (40) 32566332, 32916873, Fax : +91 (40) 2714 4460 / 61 E Mail: info@areca.in
Web: www.areca.in



	Auto BTS Alarm Manager Specifications	Doc.No: AES/ABAM/Spec/01.	
		Issue No: 1	Rev. No: 00
		Page 3 of 7	

Auto BTS Site Alarm Manager (ABSAM)

The ABASM is based on high speed microcontroller integrated with GSM Modem. The Heart of the ABSAM is based on a ASTER GENERATOR AND BTS SITE CONTROLLER (GBSC)-1.2. ABSAM is provided with sufficient Input & Output capability to perform the monitoring of various site parameters and generate Alarms. The Alarms can be transmitted to remote user using GSM Modem through SMS text messages.

Major functions of the Auto BTS Alarm Manager:

1. Monitors the output to load for managing the DG set.
2. Monitors the fuel level in the DG Set.
3. Monitors the engine of DG Set (Cylinder temperature, Oil Pressure) to indicate fault in case of generator not producing the output.
4. Monitors the temperature of the enclosure/shelter.
5. Monitors the Power Plant and DG battery health.
6. Monitors the DG Run hours, Commercial Mains Run Hours and the Power Plant Battery usage time.
7. Sends periodic reports of DG, Commercial Mains and Power Plant Battery Usage Hours and transmits the same to remote location over GSM Modem in SMS format.
8. Can monitor upto 28 Alarm signals from the BTS site and transmits the same to remote location over GSM Modem in SMS format.

Data Logging

Logs and records the events with date-time stamps. Hence it is possible to go through the history.

Interfaces/Ports

GBSC in the panel provides 232 uplink – to send SMS to remote location using a GSM Modem.

Parameters Monitored

1. Commercial Power voltage 3 phases RN, YN, BN and NE
2. DG voltages 1/3 phase and frequency
3. Load current 1/2/3 phases.
4. BTS Battery (48V) voltage.
5. DG Battery (12V) voltage.
6. DG cylinder temperature.
7. Fuel level.
8. DG Engine Oil pressure as digital input.

	Auto BTS Alarm Manager Specifications	Doc.No: AES/ABAM/Spec/01.	
		Issue No: 1	Rev. No: 00
		Page 4 of 7	

Display 4 lines, 20 characters back lit LCD

Keypad

9 keys programming keypad

1. Auto/ Manual mode selection
2. Manual Start
3. Manual Stop
4. Up
5. Down
6. Left / Reset alarms
7. Right / Manual Load On
8. Escape
9. Enter

ABSAM Indications:

1. Visual indications through LEDs:

- | | | |
|---------------------|------|------------|
| a) Mains Present | ---- | Green Led |
| b) Load on Mains | ---- | Amber Led |
| c) DG present | ---- | Green Led |
| d) Load on DG | ---- | Amber Led |
| e) Manual/Auto mode | ---- | Yell |
| f) Low Fuel | ---- | Yellow Led |
| g) Global Alarm | ---- | Red Led |
| h) DG fault | ---- | Red Led |

2. Faults/Alarms which are extended over SMS (GSM MODEM):

ALARMS

SMS

- | | |
|-----------------------------|---|
| a) DG Failed to Start | Y |
| b) DG Failed to Stop | Y |
| c) DG Fuel Low | Y |
| d) DG Low Lube Oil Pressure | Y |
| e) DG Alternator Fail | Y |
| f) DG Low 12V Battery | Y |
| g) DG Cylinder Hot | Y |
| h) DG Over Speed | Y |
| i) DG Freq Not OK | Y |
| j) DG Volts Not OK | Y |
| k) DG Low Fuel Warning | Y |
| l) DG Under Speed | Y |



Auto BTS Alarm Manager
Specifications

Doc.No: AES/ABAM/Spec/01.

Issue No: 1

Rev. No: 00

Page 5 of 7

- m) DG V-Belt Fail Y
- n) Fuel Theft Alarm Y
- o) DG Contactor Fail Y
- p) EB Contactor Fail Y
- q) Mains Fail Y
- r) Over Load Y
- s) Room Hot Y
- t) RT Sensor Faulty Y
- u) Neutral Fail Y
- v) GCU-RTC Failure Y
- w) GCU-EEP Failure Y
- x) SMS Link Fail Y
- y) Emergency Shut OFF Y
- z) Shelter Door Open Y
- aa Low Power Plant Y
- bb DG FAULT (Any Fault) Y

3. Visual Indications through LCD:

- a) Low Oil Pressure
- b) DG failed to start
- c) DG failed to stop
- d) Low fuel level
- e) DG volts Not OK
- f) Low 12V Battery
- g) Fuel Warn Level
- h) DG Frequency not ok
- i) Over load
- j) Emergency shutoff
- k) Neutral Fail
- l) GBSCEPROM failure
- m) GBSC RTC failure
- n) SMS Link Fail
- o) Low 48V Battery
- p) Room Hot

4. Status Information:

- a) PC Mode (AUTO/Manual)
- b) Mains ½/3 Phases Voltages (in Volts)
- c) Load on EB
- d) DG 1/3 Phases Voltages (in Volts)
- e) Load on DG



Auto BTS Alarm Manager
Specifications

Doc.No: AES/ABAM/Spec/01.

Issue No: 1

Rev. No: 00

Page 6 of 7

- f) DGOFF
- g) DG Running
- h) DG Battery Voltage (in Volts)
- i) 1/2/3 Phases load currents.(in Amps)
- j) DG Run Hours (HH:MM:SS format)
- k) Current fuel levels in DG (in Liters)
- l) DG frequency (in Hz)
- m) DG running status
- n) Status Time
- o) Telecom Battery Voltage (in Volts)
- p) Alarms None (if Alarms are not present)
- q) Room Temperature (in centigrade)
- r) Current Time in 24Hours Format
- s) Status Log Description


ABSAM Module Metering

The ABSAM Controller will have following Metering

1. AC Load Currents in the 1/2/3 phases
2. Mains Voltages in the 1/2/3 phases
3. DG voltages in 1/3 Phases
4. DG Frequency
5. Power Plant battery Voltage
6. DG Battery Voltage
7. DG Run Hours
8. Current Fuel Level
9. Current Time in 24 Hours format
10. Room Temperature

Generator and BTS Site Controller

I/P Range 7 to 15 V. reverse polarity protection.
Brown out voltage < 5 V
Over voltage with stand 38 V max.
Reverse voltage with stand 100V max.
Minimum Operating current 60 mA (LCD Back light off)
Maximum operating current 150 mA (LCD Back light ON)
Input from DG Set
Input Range 0 to 300 V AC (Ph-N) @ 50 Hz (1/3-phases)
Maximum Over Voltage 500 V

	Auto BTS Alarm Manager Specifications	Doc.No: AES/ABAM/Spec/01.	
		Issue No: 1	Rev. No: 00
		Page 7 of 7	

Total Harmonic Distortion $\leq 15\%$

Input from commercial mains

Input Range 0 to 300 V AC (ph-N) @ 50 Hz (1/2/3-phases)

Maximum Over Voltage 500 V

Total Harmonic Distortion $\leq 15\%$

Other specifications

Operating Temperature Range -0 °C to +70°C

Dimension (GBSC) 196X96X100 mm

Weight 2.5kgs

Product Supply

The product Aster Auto BTS Alarm Manager is supplied with the following:

Aster Generator and BTS Site Controller (GBSC)- 1

GSM MODEM (with coaxial cable and Antenna)- 1 set

RS 232C Cable (for connecting GBSC with MODEM)- 1