

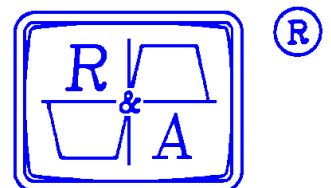
# AMF120-4 GSM MODEM

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Know the status of your Genset any time, anywhere via SMS.



**The SIM card PIN MUST be set to either 'No PIN' OR to '20354'.**



# INTRODUCTION

- The AMF120-4 can be set to SMS Alerts, Alarms and Warnings to three different cellphones.
- These numbers are set and can be changed at any time via SMS using simple commands.
- Sending of SMS's to each of the numbers can be disabled or enabled at any time via SMS using simple commands. This could be used to only enable SMS's to the person 'on call' over the weekend.

## Typical Alert SMS from an AMF120-4

Casino DBN set #3	← Location of the genset.
SMS from AMF120-4	
AUTO-Mains FAIL	← Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.
M=249V 256VH 248V	← Mains voltages (3 phases) and 'L'=low or 'H'=high voltage.
Genset ON load	← Mains or Genset ON load
G=232V 233V 230V	← Genset voltages (3 phases).
49.9 056.4 13.9 0.0	← Frequency, hour meter, battery voltage and battery charge amps.

- The status of the genset can be queried at any time, by any cellphone (even if it is not on the dial list) by simply sending an **Info** SMS.
- If a number is enabled as **Par** (Partial) ONLY Alarms and Warnings will be sent to that number.
- If a number is enabled as **All** then Alerts, Alarms and Warnings will be sent to that number.
- If the AMF120-4 Mode is **MANUAL** a single SMS is sent advising that the Mode is **MANUAL**.
- Alerts, Alarms and Warnings will **NOT** be sent until the Mode is changed to **AUTO** or **TEST**. This avoids unnecessary SMS's while commissioning or fault finding.

# ALARM SMS SENT BY AMF120-4

- For ease of use only the highest priority alarm is included in an SMS.
- If this alarm is cleared, the next highest priority alarm will be included in the **next** SMS.
- Start Inhibit or Shutdown alarms take priority over Warning alarms.

## 1. STANDBY WARNING ALARMS

Standby Warning alarms are displayed in the following priority (1 is highest priority):

- 1.1 Warning-Low Batt. V. ----- Low battery voltage.
- 1.2 Warning-High Batt. V. ----- High battery voltage.
- 1.3 Low Fuel.
- 1.4 Low Bulk Tank.

## 2. RUN WARNING ALARMS

Run Warning alarms are displayed in the following priority (1 is highest priority):

- 2.1 Warning-Low Batt. V. ----- Low battery voltage.
- 2.2 Warning-High Batt. V. ----- High battery voltage.
- 2.3 Warning-High Temp. ----- The engine temperature is higher than recommended.
- 2.4 Warning-Lo Oil Press. ----- Oil pressure is present but it is lower than recommended.
- 2.5 Low Fuel.
- 2.6 Charging Alternator fault. ----- The Charging Alternator is not charging the battery.
- 2.7 Low Bulk Tank.

## 3. START INHIBIT ALARMS

For ease of use, a maximum of two of the highest priority Start Inhibit alarms are included in an SMS.

If a start inhibit alarm is cleared, the next highest priority Start Inhibit alarm will be included in the next SMS.

If there is more than one Start Inhibit alarm two lines of the SMS are used.

### Line one:

- 3.1 Emergency Stop.
- 3.2 No fuel.
- 3.3 Oil Press. sensor.
- 3.4 Charging Alt. fault.

### Line two:

- 3.5 Remote Stop.
- 3.6 Low Water level.
- 3.7 Alternator volts.
- 3.8 Temperature sensor.

## 4. SHUTDOWN ALARMS

Shutdown alarms are displayed in the following priority (1 is highest priority):

### Line one:

- 4.1 Phase Rotation fault.
- 4.2 Over-speed.
- 4.3 Under-speed.
- 4.4 High Alternator volts.
- 4.5 Low Alternator volts.
- 4.6 No Fuel.

- 4.7 Low Water level.
- 4.8 High Temperature.
- 4.9 Low Oil Pressure.

### Typical Warning SMS from an AMF120-4

Casino DBN set #3	← Location of the genset.
SMS from AMF120-4	
AUTO-Mains FAIL	← Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.
M= 0VL 0VL 0VL	← Mains voltages (3 phases) and 'L'=low or 'H'=high voltage.
Genset ON load	← Mains or Genset ON load .
Warning-Low Fuel	← Warning detail.
G=232V 233V 230V	← Genset voltages (3 phases).
49.9 056:4 13.9 0.0	← Frequency, hour meter, battery voltage and battery charge amps.

### Typical Start Inhibit SMS from an AMF120-4

Casino DBN set #3	← Location of the genset.
SMS from AMF120-4	
AUTO-Mains FAIL	← Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.
M= 0VL 0VL 0VL	← Mains voltages (3 phases) and 'L'=low or 'H'=high voltage.
Genset ON load	← Mains or Genset ON load.
Gen Start Inhibit!!	← Start Inhibit
Low Water Level	← Start Inhibit detail.
G= 0V 0V 0V	← Genset voltages (3 phases).
49.9 056:4 13.9 0.0	← Frequency, hour meter, battery voltage and battery charge amps.

### Typical Shutdown SMS from an AMF120-4

Casino DBN set #3	← Location of the genset.
SMS from AMF120-4	
AUTO-Mains FAIL	← Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.
M= 0VL 0VL 0VL	← Mains voltages (3 phases) and 'L'=low or 'H'=high voltage.
Shutdown-Low Alt V	← Shutdown detail.
49.9 056:7 13.9 0.0	← Frequency, hour meter, battery voltage and battery charge amps.

### Typical Mode Alarm SMS from an AMF120-4

Casino DBN set #3	← Location of the genset.
SMS from AMF120-4	
Mode is OFF!!	← Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.

# ALERT SMS SENT BY AMF120-4

➤ Alert SMS's are only sent if a cellphone number is Enabled as **All**, for example #1=+27845372428=All.

## 1. MAINS FAIL / GENSET ON LOAD ALERT

Casino DBN set #3	←	Location of the genset.
SMS from AMF120-4		
AUTO-Mains FAIL	←	Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.
M=249V 256VH 248V	←	Mains voltages (3 phases) and 'L'=low or 'H'=high voltage.
Genset ON load	←	Mains or Genset ON load
G=232V 233V 230V	←	Genset voltages (3 phases).
49.9 056.4 13.9 0.0	←	Frequency, hour meter, battery voltage and battery charge amps.

## 2. MAINS RETURN / GENSET OFF LOAD ALERT

Casino DBN set #3	←	Location of the genset.
SMS from AMF120-4		
AUTO-Mains Normal	←	Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.
M=232V 230V 233V	←	Mains voltages (3 phases) and 'L'=low or 'H'=high voltage.
Mains ON Load	←	Mains or Genset ON load
Cool Down= 56s	←	Remaining cool down time
G=232V 233V 230V	←	Genset voltages (3 phases).
49.9 056.4 13.9 0.0	←	Frequency, hour meter, battery voltage and battery charge amps.

# SMS SENT TO AMF120-4

As well as sending SMS's, the AMF120-4 can receive SMS's.

- The AMF120-4 can receive SMS's which are Request information or Command (change settings).
- For ease of use the SMS text is NOT case sensitive so 'info', 'Info and 'INFO' are all accepted.
- The AMF120-4 will reply to the cellphone sending the Request information or Command.
- Request information is always 4 characters for example **Info**
- Command is normally 3 characters plus = for example **Cn2=**
- Most Extended Commands also have 3 characters after the = , for example **Se2=par**
- One Extended Command also has a maximum of 20 characters after the = , for example **Loc=Casino DBN set #3**

## 1. SMS REQUEST INFORMATION

### Info

If **Info** is sent to an AMF120 in AUTO Mode, with normal mains and there are no Alarms it will reply with the following SMS:

Casino DBN set #3	← Location of the genset.
SMS from AMF120-4	
AUTO-Mains Normal	← Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.
M=232V 231V 233V	← Mains voltages (3 phases) and 'L'=low or 'H'=high voltage.
Mains ON load	← Mains or Genset ON load
0.0 056.4 13.9 1.2	← Frequency, hour meter, battery voltage and battery charge amps.

If **Info** is sent to an AMF120 in AUTO Mode, with a mains failure, Genset on load and there are no Alarms it will reply with the following SMS:

Casino DBN set #3	← Location of the genset.
SMS from AMF120-4	
AUTO-Mains FAIL	← Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.
M= 0VL 0VL 0VL	← Mains voltages (3 phases) and 'L'=low or 'H'=high voltage.
Genset ON load	← Mains or Genset ON load .
G=232V 233V 230V	← Genset voltages (3 phases).
49.9 056:4 13.9 0.0	← Frequency, hour meter, battery voltage and battery charge amps.

## Info

If **Info** is sent to an AMF120 in OFF/RESET Mode it will reply with the following SMS:

```
Casino DBN set #3
SMS from AMF120-4
Mode is OFF!!
```

- ← Location of the genset.
- ← Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.

If **Info** is sent to an AMF120 in AUTO Mode, mains normal, it will reply with the following SMS:

```
Casino DBN set #3
SMS from AMF120-4
AUTO-Mains Normal
M=232V 231V 233V
Mains ON load
0.0 056.4 13.9 1.2
```

- ← Location of the genset.
- ← Controller Mode: OFF, AUTO, MANUAL or TEST and Mains status.
- ← Mains voltages (3 phases) and 'L'=low or 'H'=high voltage.
- ← Mains or Genset ON load
- ← Frequency, hour meter, battery voltage and battery charge amps.

## Smsl

If **Smsl** is sent to an AMF120 in any Mode it will reply with the following SMS:

```
Casino DBN set #3
SMS from AMF120-4
#1=+27845372428=All
#2=+27746490961=Par
#3=No number
```

- ← Location of the genset.
- ← First number is enabled for SMS of ALL Alerts, Alarms and Warnings.
- ← Second number is enabled for SMS of Alarms and Warnings.
- ← No number set.

Variation with a number disabled.

```
Casino DBN set #3
SMS from AMF120-4
#1=+27845372428=All
#2=+27746490961=Par
#3=+27743371981=Off
```

- ← Location of the genset.
- ← First number is enabled for SMS of ALL Alerts, Alarms and Warnings.
- ← Second number is enabled for SMS of Alarms and Warnings.
- ← Third number is disabled for any SMS.

- The AMF120-4 uses the International numbering format of +27 in place of the 0, so a 082 number is shown as +2782XXXXXXX. This allows the receiving and sending of SMS's from a cellphone in one country to an AMF120-4 in another country.
- If the Mode is **MANUAL** then **Warning, Start Inhibit and Shutdown SMS's are not sent**. This avoids unnecessary SMS's while commissioning or fault finding.

## 2. SMS COMMANDS

### Loc=

- The Location is a description of where the genset is installed and is on the first line of an SMS sent by the AMF120-4.
- The Location is on the fifth line of a printed Log.
- The Location is a maximum of 20 characters long and is set via an SMS.

### Loc=Casino DBN set #3

- The Location can be viewed on the AMF120-4 LCD.

```
GSM Location:  
Casino DBN set #3
```

### Cn2= OR Cn3=

- Sets the second or third number in the GSM SMS Numbers list to the number of the cellphone sending the SMS.
- The GSM SMS Numbers can be viewed by sending a **Smsl** SMS the AMF120-4 as described on the previous page.
- The GSM SMS Numbers can be viewed on the AMF120-4 LCD.

```
GSM Cell Numbers:  
1 = +27845372428  
2 = +27746490961  
3 = No Number
```

### Se2=XXX OR Se3=XXX

- Changes the SMS Enable setting of the second or third number in the GSM SMS Numbers list.
- A number can ONLY be enabled for SMS if it has been set using Cn2= or Cn3=. In the example above '3 = No Number', so Se3=Par or Se3=All will not be actioned.
- Where XXX = **Off** - disables the sending of any SMS's.
- Where XXX = **Par** - enables the sending of certain SMS's.
- Where XXX = **All** - enables the sending of all SMS's.

- The GSM SMS Numbers can be viewed by sending a **Smsl** SMS to the AMF120-4 as described on the previous page.
- The GSM SMS Enable can be viewed on the AMF120-4 LCD.
- The GSM SMS Enable can be changed using the AMF120-4 LCD and function buttons.

```
GSM SMS Enable:  
> #1=Enabled-all  
#2=Enabled-partial  
#3=Disabled
```

### Mod=test

- Changes the AMF120-4 mode to TEST.
- This command is ONLY actioned if the controller is in AUTO.
- **This command is ONLY actioned if the number of the cellphone sending the SMS is in the numbers list.**
- The controller will automatically return to the AUTO mode after ~4 minutes.

### 3. GSM Modem Status

- The GSM Modem Status can be viewed on the AMF120-4 LCD.

```
**GSM is installed**  
GSM Network Status:  
GSM Home Network  
Signal=17 Tower=811B
```

- A signal of 10 or higher is required for reliable sending and receiving of SMS's.

#### 4. SMS Summary

<b>Info</b>	<b>Genset status</b>
<b>Smsl</b>	<b>Numbers list and enable type</b>
<b>Loc=</b>	<b>Sets the Genset location</b>
<b>Cn2=</b>	<b>Sets the second number in the Numbers list</b>
<b>Se2=All</b>	<b>Changes the SMS Enable setting to All</b>
<b>Se2=Par</b>	<b>Changes the SMS Enable setting to Partial</b>
<b>Se2=Off</b>	<b>Changes the SMS Enable setting to Off</b>
<b>Cn3=</b>	<b>Sets the third number in the Numbers list</b>
<b>Se3=All</b>	<b>Changes the SMS Enable setting for #3 to All</b>
<b>Se3=Par</b>	<b>Changes the SMS Enable setting to Partial</b>
<b>Se3=Off</b>	<b>Changes the SMS Enable setting to Off</b>
<b>Mod=test</b>	<b>Runs the Genset in Test mode for 4 minutes</b>

## WARRANTY

Reid & Associates CC warrants each new product manufactured and sold to be free from defects in material, workmanship and construction and that when installed in accordance with the Installation Manual and used in accordance with this Operation Manual will perform to applicable specifications for a period of one year after original delivery.

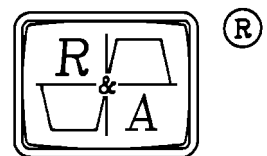
If examination by Reid & Associates CC discloses that the product has been defective, then our obligation is limited to repair or replacement, at our option, of the defective unit or its components.

Reid & Associates CC is not responsible for products which have been subject to misuse, alteration, accident or repairs not performed by Reid & Associates CC.

Products must be returned to Reid & Associates CC properly packed with transport charges prepaid to Reid & Associates CC, return transport charges will be F.O.B. Reid & Associates CC.

The foregoing warranty constitutes Reid & Associates CC sole liability, and is in lieu of any other warranty, of merchantability or fitness. Reid & Associates CC shall not be responsible for any incidental or consequential damages arising from any breach of warranty.

# ***Reid & Associates CC***



P.O. Box 17291      PH:            +27 31 205 3329  
Congella            Fax:            +27 31 205 4060  
Durban, 4013        E-mail:        info@ reid.co.za  
SOUTH AFRICA      Web site: <http://www.reid.co.za>

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