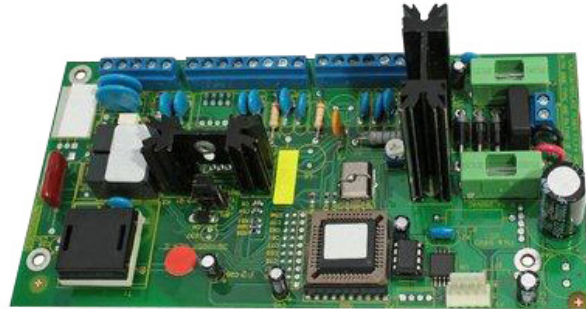




# AG 2010



AMANA 2000 is a series of electronic products designed to monitor asset, electrical and communication equipment, ie. machines, generators, mobile assets, communication towers, etc. located in urban and rural areas and installation sites, 24/7 and around the clock.

The model AG2010 is an Automatic Engine Control system designed to monitor and control power and Electrical Generators. This model is used to automatically start and stop engine, record status of various inputs and monitor each input against predefined settings and thresholds, and transmit input status to main control station at predefined intervals using the GSM/GPRS 1800/1900 MHz network.

User can define unlimited number of events and set different thresholds on each input. The system can monitor the status of each input and follow controls accordingly. The model AG2010 supports up to 9 different fully configurable (Analogue or Digital) inputs and 3 outputs including 1 relay.

System can transmit data to main control server at predefined intervals, or at any specific time, or immediately in case of alert, with optional alert notification message to be sent to manager's mobile phone in case of alert or critical events.

## 24/7 UNATTENDED CONTROL

- ON / OFF date and time
- Operation status (with or without load)
- Fuel and oil level
- Fire alarm, A/C and temperature control
- Input status and control
- Battery status
- Optional GPS for tracking mobile generators

## FUEL LEVEL STATUS

- Refilling date and time
- Refilling amount (liters)
- Consumption (hour/day/week/month)
- Adjustable parameter to work with various tanks (size and volumes)
- +/- 5 liters

## GSM / GPRS

- GPRS Quad band modem
- (GSM 850, EGSM 900, DCS 1800, and PCS 1900)
- GPRS packet up to 80 kbps
- TCP/IP support

## WIRELESS COMMUNICATION

- ZigBee 2.4 GHz
- IEEE 802.15.4 RF
- Range 400 ft

## MONITORING

- |                                 |  |
|---------------------------------|--|
| ■ Automatic mains failure       | ■ Engine coolant temperatures            |
| ■ Engine control                | ■ Fuel level                             |
| ■ Generator protection          | ■ Genset active power                    |
| ■ Built-in alarms and warnings  | ■ Genset power factor                    |
| ■ 3 phase mains voltage inputs  | ■ Periodic maintenance request indicator |
| ■ 3 phase Genset voltage inputs | ■ Daily / Weekly / Monthly exerciser     |
| ■ Engine oil pressure           | ■ Event logging with time stamp          |

## MEASUREMENTS

- |                                  |                              |
|----------------------------------|------------------------------|
| ■ Generator Volts U-N, V-N, W-N  | ■ Mains Volts: R-S, S-T, T-R |
| ■ Generator Volts: U-V, V-W, W-U | ■ Battery Voltage            |
| ■ Generator Amps: U, V, W        | ■ Engine Coolant Temperature |
| ■ Generator Total KW             | ■ Engine Oil Pressure        |
| ■ Generator Power Factor         | ■ Fuel Level                 |
| ■ Generator Frequency            | ■ CAN Bus                    |
| ■ Mains Volts: R-N, S-N, T-N     |                              |

PRODUCT CODE: FMS-21112-000

## TECHNICAL SPECIFICATIONS

Alternator Voltage	15-300 V-AC (PH-N)
Alternator Frequency	0-100 Hz
Mains Voltage	300 V-AC max (PH-N)
DC Supply Range	10-46V-DC
Cranking Dropouts	Survives 0V for 100 ms
Typical Standby Current	100 mA-DC
Maximum Operating Current	350 mA-DC (relay output open)
Generator Contractor Relay Output	16A / 250V
DC Relay Outputs	10A / 28V
Analogue Input Range	0 - 33V
Serial Port	RS-232, 57600 bps, no parity, 1 bit stop
Operating Temp.	-20 °C (-4 °F) to 75° C (158° F)
Storage Temp.	-30° C (-22° F) to 85° C (176° F)
Maximum Humidity	95% non-condensing
IP Protection	IP65 from front panel, IP30 from the rear
Dimensions	330 x 250 x 130 mm
Weight	460 g
Case Material	High temperature ABS (UL94-V0, 110C)

## TELEMETRY AND REMOTE PROGRAMMING

The model provides system administrator with various control tools via its shared RS-232 serial port or remotely via GPRS.

System Admin can use AMANA office software to login remotely and monitor engine and inputs status, run diagnose tools, and analyze information, and upload or download information, or upgrade device firmware over the air (OTA).

## FEATURES AND BENEFITS

- Records status of engine 24/7
- Anti-theft of fuel and asset
- Battery back-up-real time clock
- Weekly operation schedule programs
- Field adjustable parameters
- RS-232 serial port
- Customized reports
- Transmit events using GSM / GPRS network
- Remote start and shutdown
- Event logging up to 30 days
- Engine ON/OFF with or without load, exact date & time
- Remote control

## DIGITAL / ANALOGUE INPUTS

- 9 configurable digital / analogue inputs each can be programmed according to needs
- Alarm type: shutdown / warning / no alarm
- Alarm polling: when engine running / always. on mains OK
- Latching / non-latching operation
- Contact type: NO / NC
- Switching: BAT + / BAT
- Coolant temperature
- Oil pressure
- Fuel level

## OUTPUTS

- 3 programmable outputs
- 1 relay output



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