



## HGM4020NC

HGM4000N series genset controllers integrate digitization, intelligentization and network technology which are used for genset automation and monitor control system of single unit to achieve automatic start/stop, data measurement, alarm protection and etc. functions. It fit with LCD display, optional languages interface (Chinese, English, Spanish, Russian, Turkish, French, Portugal, and Polish), and it is reliable and easy to use.

Product Code : 6010075

Power Supply : DC(8-35)V

Case Dimensions : 135\*110\*44(mm)

Panel Cutout : 116\*90(mm)

Operating Temp. : (-25~+70)°C

Weight : 0.32kg

## COMPLETE DESCRIPTION

**HGM4000N** series genset controllers integrate digitization, intelligentization and network technology which are used for genset automation and monitor control system of single unit to achieve automatic start/stop, data measurement, alarm protection and etc. functions. It fit with LCD display, optional languages interface (Chinese, English, Spanish, Russian, Turkish, French, Portugal, and Polish), and it is reliable and easy to use.

**HGM4000N** series genset controllers adopt micro-processor technology with precision parameters measuring, fixed value adjustment, time setting and set value adjusting and etc. All parameters can be configured from front panel or through programmable interface (USB or RS485 interface) via PC. It can be widely used in all types of automatic genset control system with compact structure, advanced circuits, simple connections and high reliability.

### PERFORMANCE AND CHARACTERISTICS

**HGM4000N** series controller has six types:

**HGM4010N/HGM4010NC/HGM4010CAN:** ASM (Automatic Start Module), it controls generator to start/stop by remote signal;

**HGM4020N/HGM4020NC/HGM4020CAN:** AMF (Auto Mains Failure), updates based on HGM4010N/HGM4010NC/HGM4010CAN, moreover, has mains electric quantity monitoring and mains/generator automatic transfer control function, especially for automatic system composed by generator and mains.

Main features as follows:

- 132x64 LCD with backlight, selectable language interface (Chinese, English, Spanish, Russian, Turkish, French, Portugal, and Polish), push-button operation.
- Hard-screen acrylic material been used to protect screen with great wear-resisting and scratch-resisting functions.
- Silicone panel and pushbuttons can be used in extreme temperature environment.
- RS485 communication interface enable "Three remote functions" (remote control, remote measuring and remote communication) according to MODBUS protocol.
- Equipped with CANBUS port and can communicate with J1939 genset. Not only can monitor frequently-used data (such as water temperature, oil pressure, speed, fuel consumption and so on) of ECU machine, but also control starting up, shutdown, raising speed and speed droop via CANBUS port (need controller with CANBUS interface).
- Suitable for 3-phase 4-wire, 3-phase 3-wire, single phase 2-wire, and 2-phase 3-wire systems with voltage 120/240V and frequency 50/60Hz;
- Collects and shows 3-phase voltage, current, power parameter and frequency of generator or mains.

#### **Mains**

Line voltage (U<sub>ab</sub>, U<sub>bc</sub>, and U<sub>ca</sub>)

Phase voltage (U<sub>a</sub>, U<sub>b</sub>, and U<sub>c</sub>)

#### **Generator**

Line voltage (U<sub>ab</sub>, U<sub>bc</sub>, and U<sub>ca</sub>)

Phase voltage (U<sub>a</sub>, U<sub>b</sub>, and U<sub>c</sub>)

Frequency Hz  
Phase sequence

Frequency Hz  
Phase sequence

### Load

Current $I_a, I_b, I_c$	A (unit)
Each phase and total active power P	kW (unit)
Reactive power Q	kvar (unit)
Apparent power S	kVA (unit)
Power factor PF	
Accumulate total generator power W	kWh, kVarh, kVAh (unit)
Output percentage with load	%

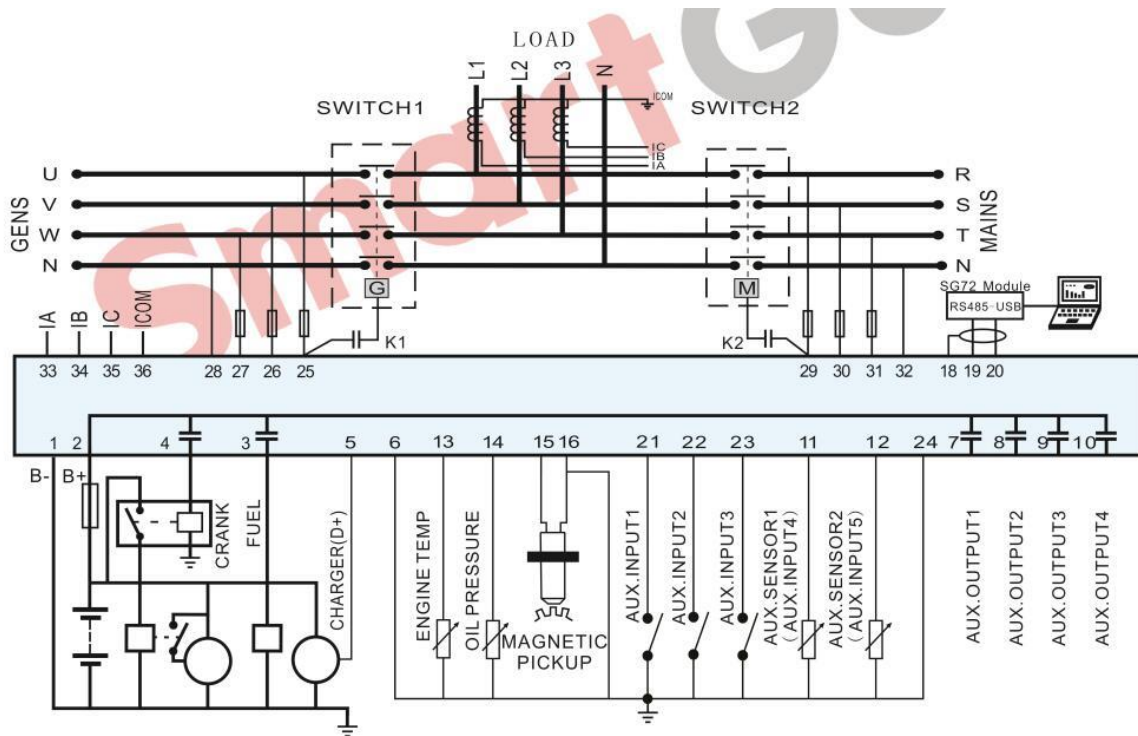
- For Mains, controller has over and under voltage and loss of phase detection functions; for generator, controller has over and under voltage, over and under frequency, over current and over power detection functions.
- Precision measure and display parameters about Engine.

Temp. (WT)	°C/°F both be displayed
Oil Pressure (OP)	kPa/psi/bar all be displayed
Fuel Level (FL)	%(unit) Fuel Quantity Left L(unit)
Speed (RPM)	r/min (RPM)
Voltage of Battery	V (unit)
Voltage of Charger	V (unit)
Hour count accumulation	
Start times accumulation	

- Protection: automatic start/stop of the gen-set, ATS(Auto Transfer Switch) control with perfect fault indication and protection function.
- With ETS (energize to stop), idle control, pre-heat control and rise/drop speed control functions, which are all relay outputs.
- Parameter setting: parameters can be modified and stored in internal FLASH memory and cannot be lost even in case of power outage; most of them can be adjusted using front panel of the controller and also can be modified using PC via USB or RS485 port.
- With multiplex input port 4 and 5. Input port 4 can be configured as switch input port or fuel level sensor; input port 5 can be set as switch input port or programmable sensor. It can flexible application in different occasions.
- Multiple temperature, pressure, oil pressure sensor can be used and self-defined directly.
- With one programmable sensor can be configured as temperature, pressure or liquid level sensor. It is achieved double temperature, pressure or liquid level sensor detections.
- Multiple crank disconnect conditions (speed sensor, oil pressure, generator frequency) are optional.
- With emergency start function.
- With flywheel tooth number automatic recognition function.
- Widely power supply range DC(8~35)V, suitable to different starting battery voltage environment.
- All parameters used digital adjustment, instead of conventional analog modulation with normal potentiometer, more reliability and stability.
- With maintenance function. Types (date and running time) can be optional and actions (warning, shutdown or trip and stop) can be set when maintenance time out.

- Event log, real-time clock, scheduled start & stop generator (can be set as start genset once a day/week/month whether with load or not). Maximum 99 event logs can be memorized.
- Waterproof security level IP55 due to rubber seal installed between the controller enclosure and panel fascia.
- Metal fixing clips enable perfect in high temperature environment.
- Modular design, anti-flaming ABS plastic enclosure, pluggable connection terminals and embedded installation way; compact structure with easy mounting.

## HGM4020nc Typical Application



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