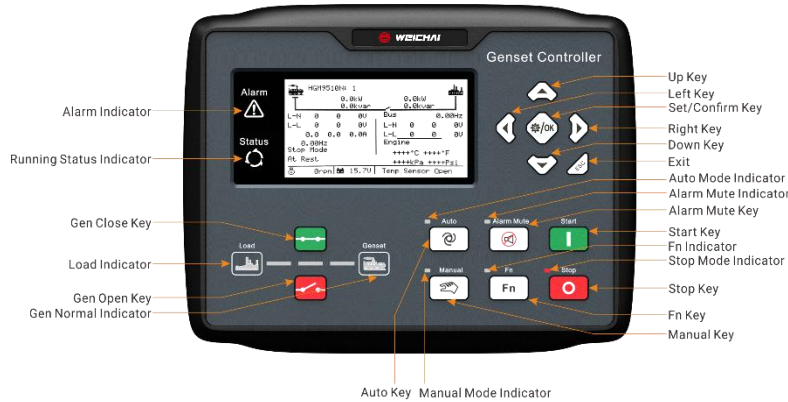


WEICHAI GPP3 / WHC9510N GENSET CONTROL CABINET



DESCRIPTION

WHC9510N paralleled genset controller is designed for gensets manual/auto parallel system with similar or different capacities. Additionally, it is suitable for single unit constant power output and mains paralleling to realize automatic start/stop, parallel running, data measurement, alarm protection as well as remote control, remote measurement and remote communication functions. It fits with large LCD display, optional Chinese, English and other languages interface, and it is reliable and easy to use.

WHC9510N paralleled genset controller has GOV and AVR control function, which can synchronize and share load automatically to parallel with gensets equipped with WHC9510N/9530N controller. Controller can precisely monitor all running status of gensets, and when abnormal occasions occur, gensets can parallel off from the bus and stop, in which process, fault status will be displayed on the LCD. Controller has SAE J1939 port, and can communicate with various ECU (Engine Control Unit) with J1939.

FEATURES OF THE CONTROL UNIT

KEY LOAD SHARE FEATURES:

- Peak lopping
- Sequential set start
- Manual voltage/frequency adjustment
- R.O.C.O.F. and vector shift
- Generator load demand
- Automatic hours run balancing
- Mains (Utility) de-coupling
- Mains (Utility) de-coupling test mode
- Dead bus sensing
- Bus failure detection
- Direct governor and AVR control
- Volts and frequency matching
- kW and kV Ar load sharing

KEY BENEFITS:

- RS232 & RS485 can be used at the same time
- DSENet connection for system expansion
- PLC functionality
- Auto voltage sensing
- Five step dummy load support
- Five step load shedding support
- High number of inputs and outputs
- Worldwide language support
- Configuration Suite PC software
- Direct USB connection to PC
- Ethernet monitoring
- USB host
- Data logging & trending

KEY FEATURES:

- Comprehensive loadshare capabilities
- Configurable inputs (11)
- Configurable outputs (8)
- Voltage measurement
- Built-in governor and AVR control
- kW overload alarms
- Comprehensive electrical protection
- Magnetic pick-up
- Electronic engine capability
- RS232 & RS485 remote communications
- Modbus RTU
- PLC functionality
- Multi event exercise timer
- Back-lit LCD 4-line text display
- Multiple display languages
- Automatic start/Manual start
- Audible alarm
- Fixed and flexible LED indicators
- Event log (250)
- Engine protection
- Fault condition notification to a designated PC
- Front panel mounting
- Protected front panel programming
- PC configuration protected by PIN code
- Configurable alarms and timers
- Configurable start and stop timers
- SMS alert messaging
- Remote Start communication monitoring

OPERATING MODE CONTROL UNIT

1. Locked | OFF. Controller is switched off, it is not allowed any operation on the Genset, all sequences are blocked. This has to be configured for maintenance operation.
2. Manual Mode | MAN. Gensets starts through frontal command, breaker closing is manual but all protection devices are activated..
3. Automatic Mode | AUTO.
 - a. Parallel with main| LOAD SHARING. Genset and the main work together sharing the load. Back-Synch is not available.
 - b. Parallel with main | BASE LOAD. Genset and the main work together. Genset works at a fixed power. Back-Synch is not available.
 - c. Parallel with main | PEAK SHAVING. Genset and the main work together. The main is the main supplier and the Genset supplies peaks. Back-Synch is not available.

Pictures are indicative, components features may change at any time.

ALARMS CONTROL UNIT

ENGINE ALARMS:

- High coolant temperature.
- Low oil pressure.
- Battery charge alternator
- Start failure.
- Low water level.
- Fuel storage.
- Overspeed.
- Under speed.
- Low battery voltage.
- High coolant temperature by sensor.
- Low oil pressure by sensor.
- Low fuel level by sensor.
- Unexpected shutdown.
- Stop failure.
- Low engine temperature.
- Genset voltage drops.
- Emergency stop.

GENERATOR ALARMS:

- Over-load
- Unbalanced voltage
- Over voltage
- Under voltage
- Over frequency
- Under frequency
- Over load
- Short-circuit
- Inverse Power
- Incorrect phase sequence
- Asymmetry among phases
- Emergency stop

READINGS CONTROL UNIT

ENGINE READINGS:

- Coolant temperature
- Oil pressures
- Fuel level (%)
- Battery voltage
- R.P.M.
- Battery charge alternator voltage

GENERATOR READINGS:

- Voltage among phases
- Voltage among phases and neutral
- Amperage
- Frequency
- Apparent power (kVA)
- Active power (kW)
- Reactive power (kVAr)
- Power factor

PROTECTIONS CONTROL UNIT

ENGINE PROTECTIONS:

- High water temperature
- High coolant temperature by sensor
- Low engine temperature by sensor
- Low oil pressure
- Low oil pressure by sensor
- Low coolant level
- Unexpected shutdown
- Fuel storage
- Fuel storage by sensor
- Stop failure
- Battery voltage failure
- Battery charge alternator failure
- Overspeed
- Under speed
- Start failure
- Emergency Stop

ALTERNATOR PROTECTIONS:

- High frequency
- Low frequency
- High voltage
- Low voltage
- Short-circuit
- Asymmetry among phases
- Incorrect phase sequence
- Inverse power
- Overload
- Genset signal droop

KEY LOAD SHARE FEATURES

Peak lopping/sharing with appropriate WHC mains (utility) controller	Mains (Utility) decoupling test mode
Manual voltage/frequency adjustment	Direct governor and AVR control
R.O.C.O.F. and vector shift protection	Volts and frequency matching
Mains (Utility) decoupling	kW and kvar load sharing

OPERATION FUNCTION

GPP3/WHC9510N Genset Redundancy Control Panel has manual/automatic start and stop working modes, closing, opening, alarms mute, emergency stop switch, etc functions.

SPECIFICATION

Technical Parameters

Items	Content
Working Voltage	DC24V
Speed sensor voltage	1.0V-24V(RMS)
Speed sensor frequency	Max.10000Hz
Control cabinet overall dimensions	1400mmx800mmx240mm
Working conditions	Temperature: (-25~+70)°C Humidity: (20~93)%
Protection level	IP44
Weight	80kg

PARAMETER SETTINGS

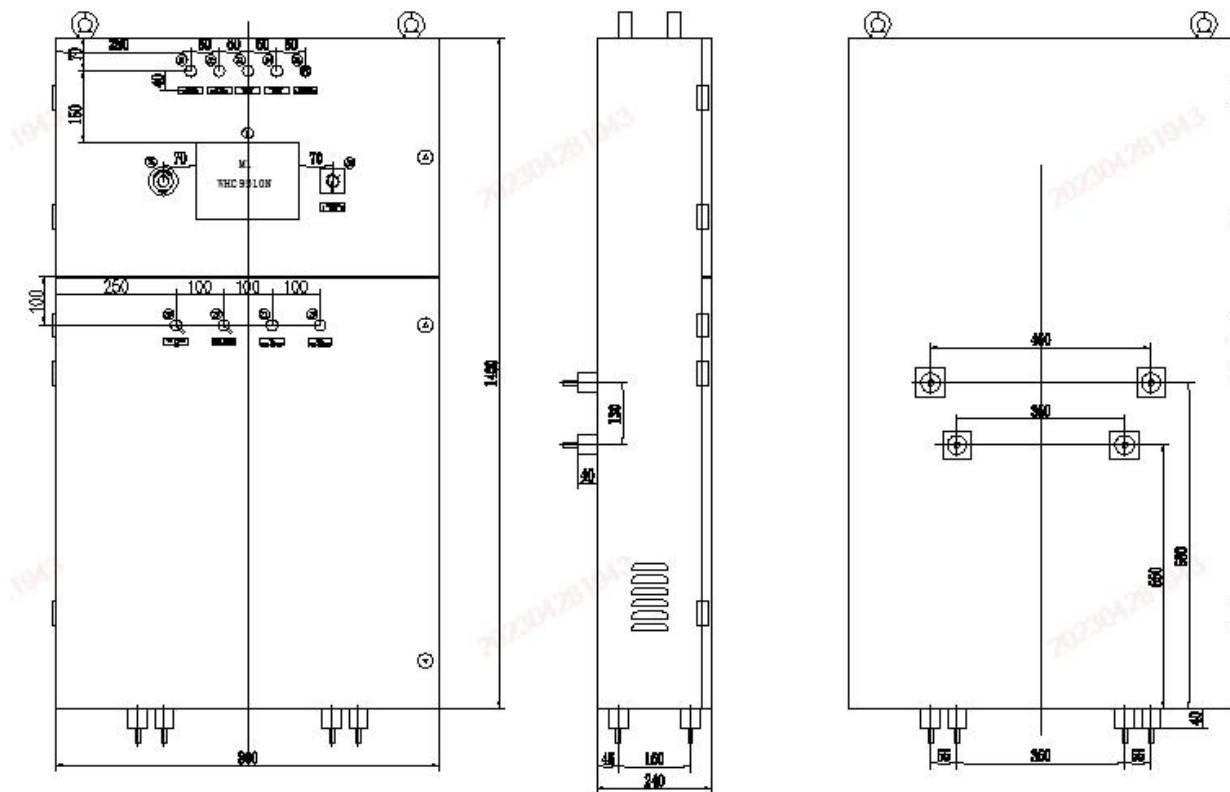
Main Parameter Settings

Name	Setting limits	Function	Setting limits	Function
High water temp.	>103°C	Alarm	>105°C	Alarm shutdown
Low oil pressure	<250Kpa	Alarm	<200Kpa	Alarm shutdown
Over speed	>1650rpm	Alarm	>1710rpm	Alarm shutdown
Under speed	<1290rpm	Alarm	<1200rpm	Alarm shutdown

High discharge temp.	>700°C	Alarm	>800°C	Alarm shutdown
Winding temp.	>145°C	Alarm	—	—
Bearing temp.	>95°C	Alarm	—	—
Over voltage			>120%	Alarm shutdown
Under voltage			<80%	Alarm shutdown
Over current			>115%	Alarm shutdown
Overload			>115%	Alarm shutdown
Battery voltage	<19v	Alarm		

OVERALL DIMENSIONS AND INSTALLATION DIMENSIONS

Unit: mm



Certifications and standards

WEICHAI control panel, developed in Weichai Power Co., Ltd, allow the complete control and management of the Weichai & Baudouin genset meet the requirements of ISO 9001, GM and CCSR, CE certificates, EN 61000-6-2; EN 61000-6-4; EN 61010-1; EN 60068-2-1 (-20 °C/16 h for std, -40 °C/16 h for LT version); EN 60068-2-2 (70 °C/16 h); EN 60068-2-6 (2±25 Hz / ±1,6 mm; 25±100 Hz / 4.0 g); EN 60068-2-27 (a=500 m/s²; T=6 ms); EN 60068-2-30:2005 25/55°C, RH 95%, 48hours; EN 60529 (front panel IP55, back side IP20); UL 6200 Other standards and certifications can be considered on request.