



## SYNCHRONISING AUTO MAINS (UTILITY) FAILURE LOAD SHARE CONTROL MODULE

### KEY FEATURES

- Comprehensive synchronising & loadsharing capabilities
- Built in governor and AVR control
- Base load (kW export) control
- Positive & negative kVAr export control
- Mains (Utility) decoupling protection
- Mains (Utility) failure detection
- Mains (Utility) power (kW, kV Ar, kV A & pf) monitoring
- Mains (Utility) de-coupling protection
- Mains (Utility) kW export protection
- Peak lopping & shaving functionality
- 4-Line back-lit LCD text display
- Multiple Display Languages
- Five key menu navigation
- LCD alarm indication
- Heated display option available
- Customisable power-up text and images
- WHCNet® expansion compatibility
- Data logging & trending facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB, RS232, RS485 & Ethernet communication
- Front panel configuration with PIN protection
- Power save mode
- 3 phase generator sensing and protection
- Generator current and power monitoring (kW, kvar, kVA, pf)
- kW and kvar overload alarms
- Reverse power alarms
- Over current protection
- Unbalanced load protection
- Independent earth fault protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN
- 8 configurable DC outputs
- 2 configurable volt-free relay outputs
- 4 configurable analogue/digital inputs
- Built in sensors to support 0 V to 10 V & 4 mA to 20 mA
- 12 configurable digital inputs
- Configurable 5 stage dummy load and load shedding outputs
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Manual and automatic fuel pump control
- Engine run-time scheduler
- Fuel usage monitor and low fuel level alarms
- Simultaneous use of all communication ports
- Remote SCADA monitoring via various WHC software applications
- MODBUS RTU & TCP support with configurable MODBUS pages for integration into building management systems (BMS)
- 3 configurable maintenance alarms
- Compatible with a wide range of CAN engines, including tier 4 engine support
- Uses WHC Configuration Suite PC Software for simplified configuration

### KEY BENEFITS

- 132 x 64 pixel ratio display for clarity
- Real-time clock provides accurate event logging
- Ethernet communication, provides built in advanced remote monitoring.
- Can be integrated into building management systems (BMS) and programmable logic control (PLC)
- Increased input and output expansion capability
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- Extended internal PLC editor allows user configurable functions to meet specific application requirements.

### EXPANSION DEVICES

- WHC124 CAN/MSX Extender
- WHC2130 Input Expansion Module
- WHC2131 Ratio-metric Input Expansion Module
- WHC2133 RTD & Thermo-couple Expansion Module
- WHC2152 Ratio-metric Output Expansion Module
- WHC2157 Output Expansion Module
- WHC2548 LED Expansion

### SPECIFICATIONS

#### DC SUPPLY

**CONTINUOUS VOLTAGE RATING**  
5 V to 35 V Continuous

#### CRANKING DROPOUTS

Able to survive 0 V for 100 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

#### MAXIMUM OPERATING CURRENT

530 mA at 12 V, 280 mA at 24 V

#### MAXIMUM STANDBY CURRENT

320 mA at 12 V, 160 mA at 24 V

#### CHARGE FAIL/EXCITATION RANGE

0 V to 35 V

#### GENERATOR & MAINS (UTILITY)

##### VOLTAGE RANGE

15 V to 415 V AC (Ph to N)  
26 V to 719 V AC (Ph to Ph)

##### FREQUENCY RANGE

3.5 Hz to 75 Hz

##### MAGNETIC PICKUP

##### VOLTAGE RANGE

+/- 0.5 V to 70 V

##### FREQUENCY RANGE

10,000 Hz (max)

#### INPUTS

##### DIGITAL INPUTS A TO L

Negative switching

##### ANALOGUE INPUTS A TO D

Configurable as:  
Negative switching digital input  
0 V to 10 V sensor  
4 mA to 20 mA sensor  
0 Ω to 480 Ω sensor

#### OUTPUTS

##### OUTPUT A & B (FUEL & START)

15 A DC at supply voltage

##### OUTPUTS C & D

8 A AC at 250 V AC (Volt-free)

##### AUXILIARY OUTPUTS E to L

2 A DC at supply voltage

#### BUILT IN AVR GOVERNOR CONTROL

##### MINIMUM LOAD IMPEDANCE

500 Ω  
Fully isolated

##### GAIN VOLTAGE

0 V to 10 V DC  
Fully isolated

##### OFFSET VOLTAGE

0 V to 10 V DC  
Fully isolated

#### DIMENSIONS

##### OVERALL

245 mm x 184 mm x 51 mm  
9.6" x 7.2" x 2.0"

##### PANEL CUT-OUT

220 mm x 160 mm  
8.7" x 6.3"

##### MAXIMUM PANEL THICKNESS

8 mm  
0.3"

##### STORAGE TEMPERATURE RANGE

-40 °C to +85 °C  
-40 °F to +185 °F

##### OPERATING TEMPERATURE RANGE

-30 °C to +70 °C  
-40 °F to +185 °F

##### HEATED DISPLAY VARIANT

-40 °C to +70 °C  
-40 °F to +158 °F

### RELATED MATERIALS

#### TITLE

WHC8620 MKII Installation Instructions

WHC8620 MKII Operator Manual

WHC8620 MKII PC Configuration Suite Manual

#### PART NO.

053-183

057-254

057-238



## SYNCHRONISING AUTO MAINS (UTILITY) FAILURE LOAD SHARE CONTROL MODULE

The WHC8620 MKII is an easy to use Synchronising Auto Mains (Utility) Failure Control Module suitable for paralleling single gensets (diesel or gas) with the mains (utility) supply. The controller can be configured for use as a Auto Start Control Module. When converted for use as the unit provides generator to generator load share.

Designed to synchronise a single genset with a single mains (utility) supply the WHC8620 MKII will automatically control the change over from mains (utility) to generator supply or run the generator in synchronisation with the mains (utility) to provide no break, peak lopping and peak shaving power solutions.

System alarms are annunciated on the LCD screen (multiple language options available), illuminated LED and audible sounder.

Comprehensive communications are also available via RS232, RS485 and Ethernet for remote PC control and monitoring and integration into building management systems

The event log will record 250 events to facilitate easy maintenance, and an extensive number of fixed and flexible monitoring, metering and protection features are included.

Designed to offer increased built in support for active sensors for 0 V to 10 V & 4 mA to 20 mA. Comprehensive communication and system expansion options are available.

Using the WHC PC Configuration Suite Software allows easy alteration of the operational sequences, timers and alarms. With all communication ports capable of being active at the same time, the WHC8620 MKII is ideal for a

wide variety of demanding load share applications.

### KEY LOAD SHARE FEATURES:

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

### ENVIRONMENTAL TESTING STANDARDS

#### ELECTRO MAGNETIC COMPATIBILITY

BS EN 61000-6-2  
EMC Generic Immunity Standard for the Industrial Environment  
BS EN 61000-6-4  
EMC Generic Emission Standard for the Industrial Environment

#### ELECTRICAL SAFETY

BS EN 60950  
Safety of Information Technology Equipment, including Electrical Business Equipment

#### TEMPERATURE

BS EN 60068-2-1  
Ab/Ae Cold Test -30 °C  
BS EN 60068-2-2  
Bb/Be Dry Heat +70 °C

#### VIBRATION

BS EN 60068-2-6  
Ten sweeps in each of three major axes  
5 Hz to 8 Hz at +/-7.5 mm, 8 Hz to 500 Hz at 2 gn

#### HUMIDITY

BS EN 60068-2-30  
Db Damp Heat Cyclic 20/55 °C at 95% RH  
48 Hours  
BS EN 60068-2-78  
Cab Damp Heat Static 40 °C at 93% RH  
48 Hours

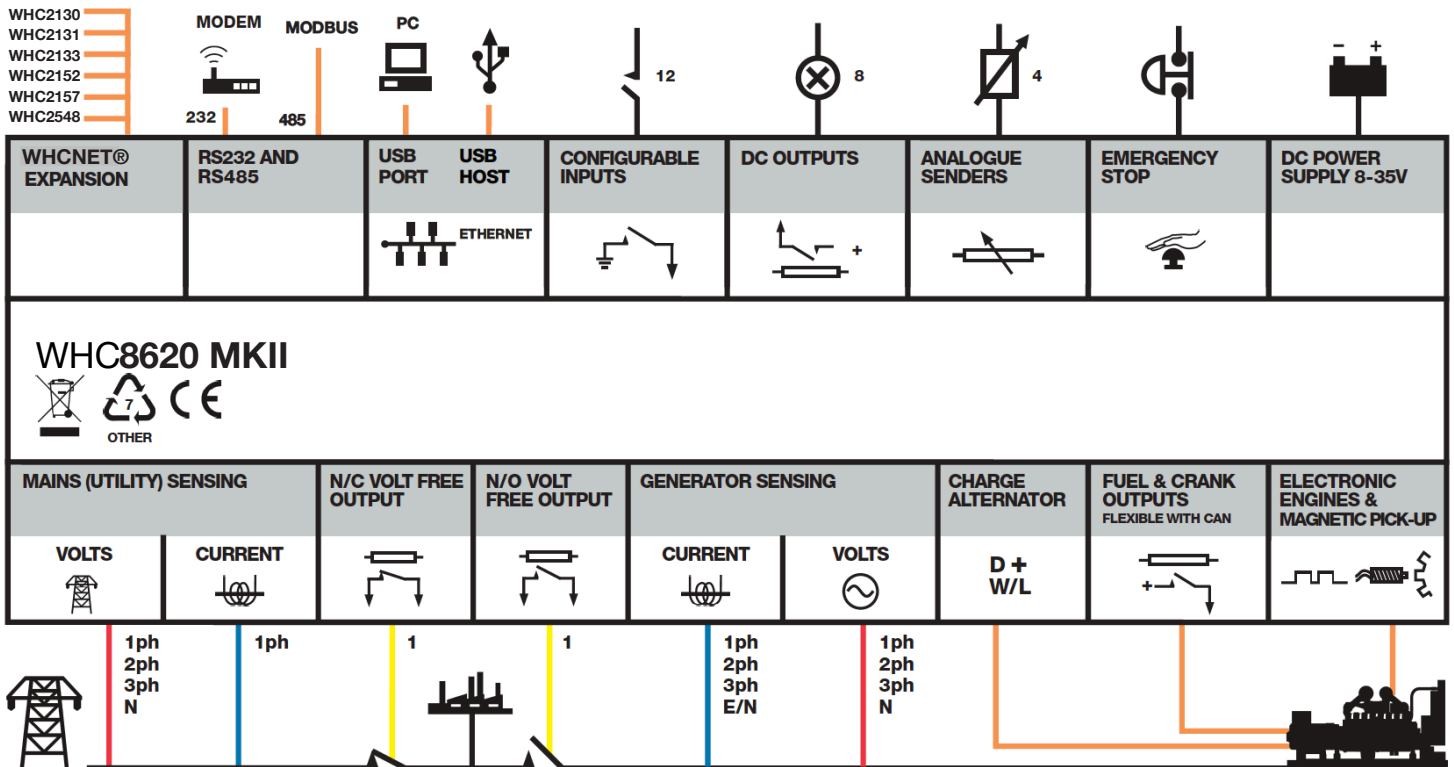
#### SHOCK

BS EN 60068-2-27  
Three shocks in each of three major axes  
15 gn in 11 ms

#### DEGREES OF PROTECTION PROVIDED BY ENCLOSURES

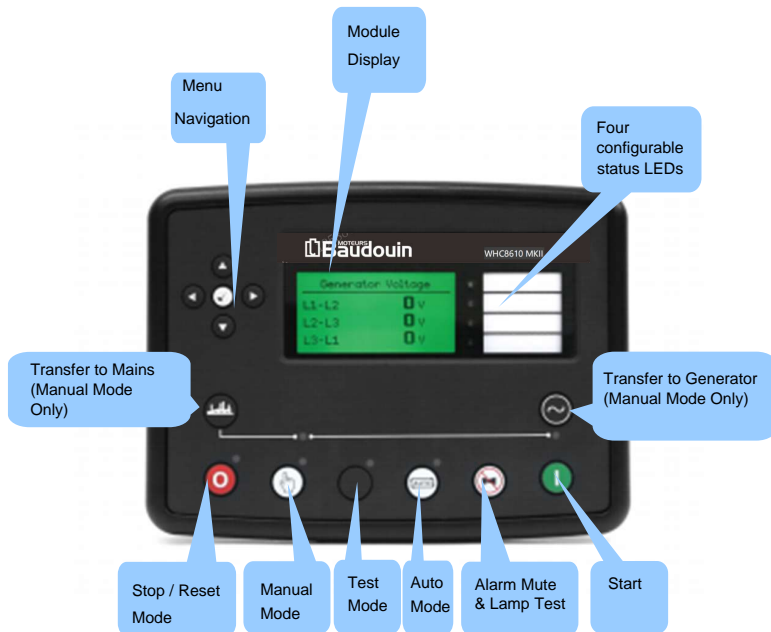
BS EN 60529  
IP65 - Front of module when installed into the control panel with the supplied sealing gasket.

## COMPREHENSIVE FEATURE LIST TO SUIT A WIDE VARIETY OF LOAD SHARE APPLICATIONS



# Baudouin controller WHC8620 MKII

## SYNCHRONISING & LOAD SHARING AUTO START CONTROL MODULE



### KEY FEATURES

- Comprehensive synchronising & loadsharing capabilities
- Built in governor and AVR control
- Base load (kW export) control
- Positive & negative kVAr export control
- Mains (Utility) decoupling protection
- 4-Line back-lit LCD text display
- Multiple Display Languages
- Five key menu navigation
- LCD alarm indication
- Heated display option available
- Customisable power-up text and images
- Expansion compatibility
- Data logging & trending facility
- Advanced PLC editor
- Protections disable feature
- Fully configurable via PC using USB, RS232, RS485 & Ethernet communication
- Front panel configuration with PIN protection
- Power save mode
- 3 phase generator sensing and protection
- Generator current and power monitoring (kW, kvar, kVA, pf)
- kW and kvar overload alarms
- Reverse power alarms
- Over current protection
- Unbalanced load protection
- Independent earth fault protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN
- 8 configurable DC outputs
- Monitoring parameters are displayed on the screen and settings can be adjusted via buttons.
- Display Parameters: DC (battery) voltage, 3-phase line/phase voltage, 3-phase current, frequency, oil pressure, RPM, 3-phase apparent power, power factor, coolant temp, % load.
- 2 configurable volt-free relay outputs
- 4 configurable analogue/digital inputs
- Built in sensors to support 0 V to 10 V & 4 mA to 20 mA
- 12 configurable digital inputs
- Configurable 5 stage dummy load and load shedding outputs
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Manual and automatic fuel pump control
- Engine run-time scheduler
- Fuel usage monitor and low fuel level alarms
- Simultaneous use of all communication ports
- Remote SCADA monitoring via various WHC software applications
- MODBUS RTU & TCP support with configurable MODBUS pages for integration into building management systems (BMS)
- Advanced SMS messaging (additional external modem required)
- Start & stop capability via SMS messaging
- 3 configurable maintenance alarms
- Compatible with a wide range of CAN engines, including tier 4 engine support
- Uses Configuration Suite PC Software for simplified configuration
- Power modes for when in parallel with the mains
- Redundant MSC communication wired to CAN ports
- True manual breaker control when in CAN mode
- Water in fuel digital input
- Fuel tank bund alarm digital input
- Separate ramp up and ramp down rates configurable via PLC
- Configurable CAN message time-outs
- In-built SNMP
- Configurable CAN transmit & receive
- Battery chargers on Net®
- Persistent governor & AVR outputs
- Filter generator voltage display
- Filter bus voltage display
- Inhibit remote start
- Power & reactive power control
- Remote start on load demand
- Configurable engine icons
- Alternative load demand schemes
- Variable speed generator support
- CAN AVR support

### ENGINE PROTECTION FEATURES

Low oil pressure (shutdown)  
High engine oil temp (alarm/shutdown),  
Low coolant temp (alarm)  
Low coolant level (alarm)  
High coolant temp (alarm/shutdown)  
Overspeed  
High/low battery voltage.

### ALTERNATOR PROTECTION FEATURES

Gen Over Frequency  
Gen Under Frequency  
Gen Over Voltage  
Gen Under Voltage  
Gen Reverse Power  
Gen Short Circuit  
Loss Of Excitation  
Reverse reactive power (kVAr)  
Gen Over Current

### EVENT LOG FEATURES

Engine Running Hours  
Number Of Attempts  
Event History (Up to 250 events)

### REMOTE CONTROLLER FEATURES

Remote Start/Stop  
Remote Emergency Stop.

### SCHEDULE

Configurable maintenance schedule by date or running hours, programmable logic functionality (PLC).

# Baudouin controller WHC8620 MKII

## SYNCHRONISING & LOAD SHARING AUTO START CONTROL MODULE



The WHC8620 MKII is a market-leading Synchronising Auto Start Control Module suitable for use in a multi-generator loadshare system, designed to synchronise up to 32 generators including electronic and non-electronic engines.

The WHC8620 MKII monitors the generator and indicates operational status and fault conditions, automatically starting or stopping the engine on load demand or fault conditions.

System alarms are annunciated on the LCD screen (multiple language options available), illuminated LED and audible sounder.

The event log records 250 events to facilitate easy maintenance, and an extensive number of fixed and flexible monitoring, metering and protection

features are included.

Designed to offer increased built in support for active sensors for 0 V to 10 V & 4 mA to 20 mA. Comprehensive communication and system expansion options are available.

Using the WHC PC Configuration Suite Software allows easy alteration of the operational sequences, timers and alarms. With all communication ports capable of being active at the same time, the WHC8620 MKII is ideal for a wide variety of demanding load share applications.

The Advanced PLC tool within Configuration Suite provides users with an extremely powerful configuration tool for the most demanding applications.

### KEY LOAD SHARE FEATURES:

- Peak lopping/sharing (with appropriate WHC mains controller)
- Sequential set start
- Manual voltage/frequency adjustment
- R.O.C.O.F. and vector shift protection
- Generator load demand
- Automatic hours run balancing
- Mains (Utility) decoupling
- Mains (Utility) decoupling test mode
- Dead bus sensing
- Bus failure detection
- Direct governor and AVR control
- Volts and frequency matching
- kW and kvar load sharing
- Dead bus synchronising

## COMPREHENSIVE FEATURE LIST TO SUIT A WIDE VARIETY OF LOAD SHARE APPLICATIONS

