PowerWizard – Providing Safe Control of Your Generating Set

The FG Wilson PowerWizard range of digital control panels combine straight forward menu navigation with advanced metering and protection technology. This range of panels is used in automatic mains failure applications in conjunction with transfer panels.

Our PowerWizard range allows you to monitor and control your generating set with ease, whilst ensuring your unit operates within safe parameters and provides important diagnostic information when needed.

A comprehensive range of standard features and options are available from our range of PowerWizard panels, ensuring you can choose the most appropriate generating set control configuration for your needs.

Features available on PowerWizard Control Panels:

► 10.5-32V DC providing a single module to cover the whole FG Wilson generating set range

► Simple menu layout for ease of navigation and monitoring

► Two display languages (Customer language and Technician English) to aid service and commissioning

► Event log that stores multiple instances of the same event to aid fault finding. 20 event log available on PowerWizard 1.0 and 2.0. 40 event log available on 1.1, 1.1+ and 2.1 panels.

► Robust electronics package for industry leading reliability

► Shortcut keys for immediate access to engine or AC metering

► Integrated metering and controls reducing components and wiring, aiding reliability and ease of service

► Serviced using standard EST tool

Additional features available on PowerWizard 1.1+ and 2.1

► Up to 5 Spare fault channels for additional generating set protection and monitoring (dependant on other options selected)

► Generating set voltage and over/under frequency protection

► 'Main Menu', 'Reset All Events' and 'Event Log' shortcut keys (also available on PowerWizard 1.1 Panel)

Please see overleaf for full details of all standard features and options available on each PowerWizard Panel, including the remote monitoring and control options available with PowerWizard 2.0 and 2.1 panels.

PowerWizard Control Panel – Generating Set Model Configuration

Generating Set Model	PW 1.0	PW 1.1	PW 1.1+	PW 2.0	PW 2.1
3-Phase					
P9.5-2	O			O	
P13.5-4 – P22-4	O			O	
P33-1 – P88-1		O	O		O
P33-2 – P65-2		O	O		O
P88-2 – P200-2		●	O		O
P200H2 – P2200E	●			O	
Single Phase					
P7.5-2S	O			O	
P11-4S – P16.5-4S	O			O	
P26-1S – P50-3S		O	O		O
P80-2S		●	O		O

Key: ● Standard O Optional

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PowerWizard Range

PowerWizard 1.0 and 2.0

PowerWizard 1.1, 1.1+ and 2.1

Digital Control Systems & Remote Communication Options

PowerWizard Control Panel – Standard Features and Options

Instrumentation		PW 1.0	PW 1.1	PW 1.1+	PW 2.0	PW 2.1
LCD Display with auto power off		●	●	●	●	●
Battery Trickle Charge Ammeter		○			○	
Audible Alarm		○		○	○	○
Remote Annunciator					○	○
AC Metering	Voltmeter 3-phase (L - L & L - N)	●	●	●	●	●
	Amps (per phase and average)	●	●	●	●	●
	Frequency	●	●	●	●	●
	kW (total & per phase)				●	●
	kVA (total & per phase)				●	●
	kVAr (total & per phase)				●	●
	Power Factor (overall and per phase)				●	●
	kW Hours				●	●
	kVAr Hours				●	●
DC Metering	Battery Voltmeter	●	●	●	●	●
	Engine Hours Run	●	●	●	●	●
	Engine Jacket Water Temperature (in °C or °F)	●	●	●	●	●
	Lube Oil Pressure (in psi, kPA or bar)	●	●	●	●	●
	Engine Speed (rpm)	●	●	●	●	●
	Crank Attempt Counter				●	●
	Start Counter				●	●

Protection	PW 1.0	PW 1.1	PW 1.1+	PW 2.0	PW 2.1
Fail to start	●	●	●	●	●
Low oil pressure	●	●	●	●	●
High engine temperature	●	●	●	●	●
Underspeed, Overspeed	●	●	●	●	●
Loss of Engine Speed Detection	●	●	●	●	●
Low / High Battery Voltage	●	●	●	●	●
Battery Charger Failure (if battery charger fitted)	●	●	●	●	●
Under Volts, Over Volts			●	●	●
Under Frequency, Over Frequency			●	●	●
Overcurrent				●	●
Configurable Sender Input (For 'Oil Temperature' or 'Fuel Level' options only)			●	●	●
Name of Each Event	●	●	●	●	●
Engine Hours at First Occurrence of Event	●	●	●	●	●
Time and Date of First Occurrence of Event				●	●
Engine Hours at Last Occurrence of Event	●	●	●	●	●
Time and Date of Last Occurrence of Event				●	●
Number of Occurrences of Event	●	●	●	●	●
Earth Leakage Protection	○		○	○	○
Earth Fault Protection	○		○	○	○
Low Fuel Level Alarm	○	○	○	○	○
Low Fuel Level Shutdown	○	○	○	○	○
High Fuel Level Alarm	○		○	○	○
Fuel Transfer System Control				○	○
Low Coolant Level Shutdown	○	○	○	○	○
Low Coolant Temperature Alarm	○	○	○	○	○

Key: ● Standard   ○ Optional

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PowerWizard Control Panel – Standard Features and Options – continued

Protection	PW 1.0	PW 1.1	PW 1.1+	PW 2.0	PW 2.1
High Lube Oil Temperature Shutdown (available with 'Oil Temperature Display' option only)			O	O	O
Overload via Alarm Switch on Breaker			O	O	O
Overload via Over Current Relay	O				
Low Gas Pressure	O			O	
High Gas Pressure	O			O	
Spare Fault Channels					
Number of Channels Available	2	3	5	4	5
Exceptions:					
On models P730P1 – P1100E1	1			3	
On models P1250 – P2200E	0			2	
Controls					
2 LED Status Indicators (1 red shutdown, 1 amber warning)	●	●	●	●	●
Run key, Auto Key, and Stop Key with LED Indicators	●	●	●	●	●
Lamp Test	●	●	●	●	●
Alarm Acknowledge Key	●	●	●	●	●
Menu Navigation Keys	●	●	●	●	●
Dedicated Key to Reset All Events		●	●		●
Engine and AC Metering Short Cut Keys	●	●	●	●	●
Main Menu and Event Log Short Cut Keys		●	●		●
Control Module Keys with Tactile Feedback	●	●	●	●	●
CAN 1 Data Link – J1939 for communicating with electronic engine control modules	●	●	●	●	●
CAN 2 Accessory Data Link – for additional modules remote annunciator, digital input/output module				●	●
Remote Monitoring and Control Data Link (ModBus)				●	●
Real Time Clock				●	●
Service Maintenance Interval Warning				●	●
Remote Monitoring and Control				O	O
Static Battery Charger	O			O	
Static Battery Charger with Auto Boost	O	O	O	O	O
Volt free contacts for: Common Alarm & Genset Running	O		O	O	O
Engine Coolant Heater Controls	O	O	O	O	O
Control Panel Heater			O		O
Volts Adjust Potentiometer	O		O	O	O
Speed Adjust Potentiometer	O			O	
Speed Adjust Switch			O		O
Oil Temperature Display			O	O	O
Fuel Level Switch		O			
Fuel Level Sender & Display			O		O
Panel Display Languages					

Arabic, Bulgarian, Chinese, Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Icelandic, Italian, Japanese, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Slovak, Slovene, Spanish, Swedish, Turkish.

Key: ● Standard O Optional

Note: Options available depends on the exact configuration of the generating set package. Not all options are available on all packages.
Please contact your local FG Wilson Dealer for more information

Communications and Control Options

In addition to the comprehensive range of options available with PowerWizard panels, there are additional remote monitoring and control options available for the PowerWizard 2.0 and 2.1 panels.
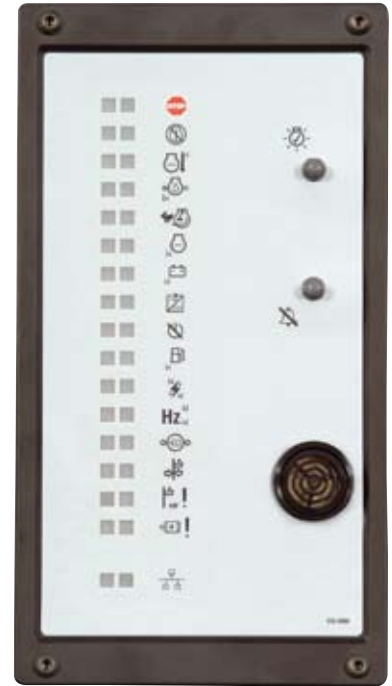
Remote Monitoring

The PowerWizard Annunciator is a 16-channnel display unit for remotely monitoring the status of FG Wilson generating sets at a distance of up to 240 metres. The Annunciator communicates via the CAN 2 data link which comes as standard on generating sets fitted with PowerWizard 2.0 or 2.1 Control Panels.

Each of the 16 channels on the Annunciator has two LEDs to display status and alarm signals directly from the PowerWizard 2.0 or 2.1 Control Panel on the generating set.

The pre-set channels linked to each LED display can be individually configured using the Electronic Service Tool (EST). This allows Operators to monitor different generating set status and alarm signals to suit site-specific requirements.

In addition to the LED display, the Annunciator includes an audible alarm, an alarm acknowledge pushbutton and a lamp test pushbutton.

PW Panel	Option Codes	Annunciator Dimensions		
		A mm (in)	B mm (in)	C mm (in)
PW 2.0	MCM 9	158 (6.22)	130 (5.12)	288 (11.34)
PW 2.1	ANN16	158 (6.22)	130 (5.12)	288 (11.34)
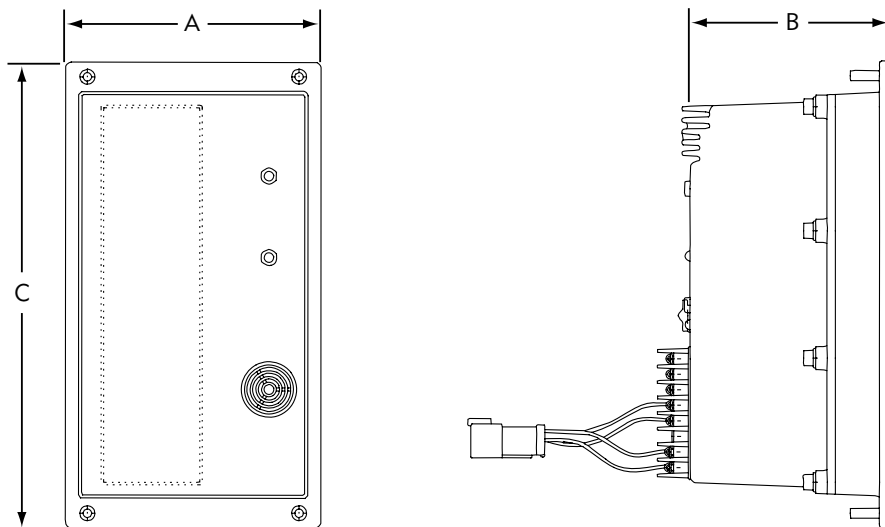
Remote Monitoring and Control

The FG Wilson Communications Interface Module and Software Package allows operators to monitor and control all generating set functions from a virtual control panel on their PC.
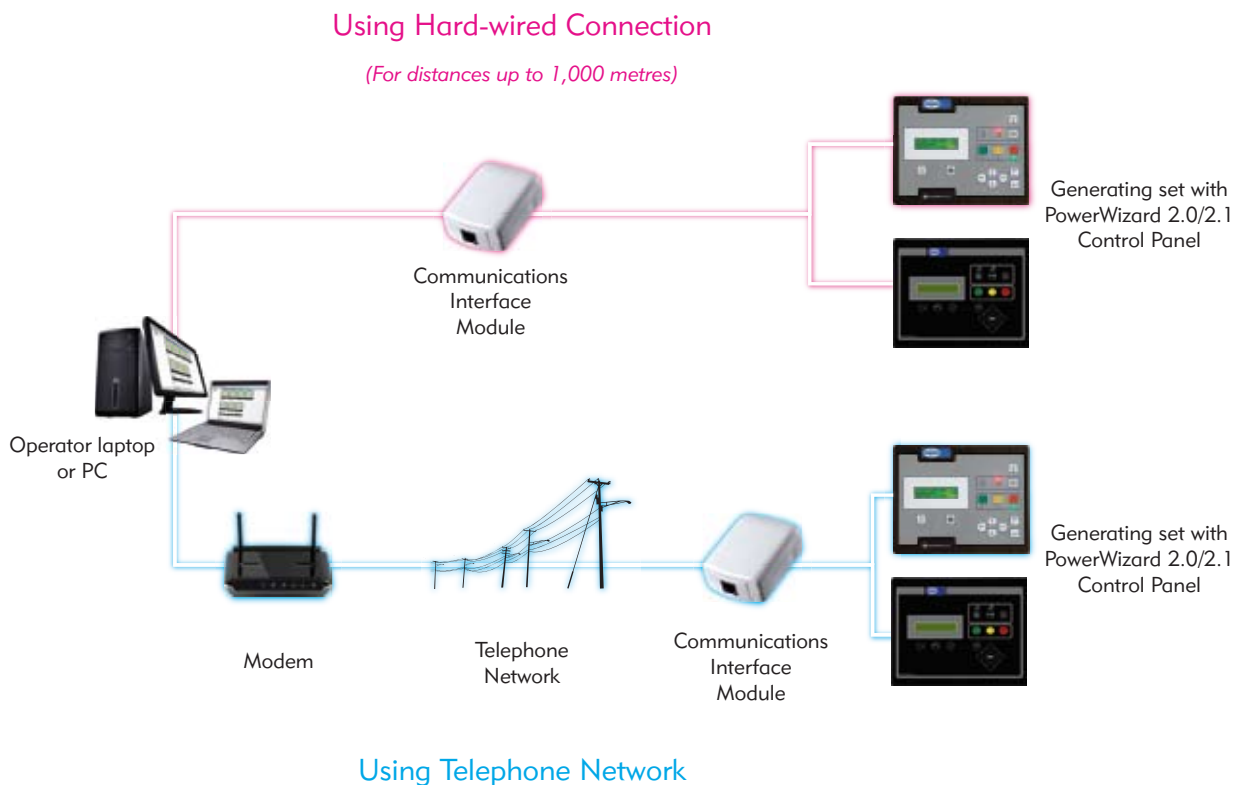
Depending on the operator's distance from the generating set and the type of connection available to link to the generating set, two options are offered:

► For distances up to 1,000 metres, where it is convenient to have a hard-wired connection, a generating set can be monitored using the Communications Interface Module and Software Package on the Operator's PC or laptop.

► Alternatively, when laying a hard-wired connection is not convenient, the same monitoring and control functionality is available, but communication between the Operator's PC or laptop and the Control Panel is made through a modem and the telephone network.

Connection Via	Panel Option Codes	
	PW 2.0	PW2.1
Hard-wired Connection (Up to 1,000 metres)	MCM 7	REM 1
Telephone Network	MCM 8*	REM 2*

*Modem to link the Operator's PC or laptop with the telephone network is not included.

Note: PC or laptop is not included in any of the above options.

Using Hard-wired Connection

(For distances up to 1,000 metres)

Communications Interface Module

Generating set with PowerWizard 2.0/2.1 Control Panel

Operator laptop or PC

Modem

Telephone Network

Communications Interface Module

Generating set with PowerWizard 2.0/2.1 Control Panel

Using Telephone Network

Additional remote monitoring and control options, via the internet, GSM and GPRS are available with PowerWizard 2.0 and 2.1 Control Panels. Please contact your local FG Wilson Dealer for further information.

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