www.FGWilson.com

# FG Wilson Control Systems

# FG Wilson Control Systems



## Putting You in Control

Whatever your power requirements, FG Wilson can provide a control system to suit your needs. Our generator set experts design and validate FG Wilson control systems to optimise your generator set performance and put you in control.

All FG Wilson control panels are compact, versatile and easy to use. Our comprehensive range includes key-start analogue control panels for straightforward functionality and reliability; digital control panels suitable for use in mains failure applications, providing advanced metering, protection and diagnostics; and the next generation of advanced synchronising panels with integrated load management capability, suitable for synchronising up to 32 generator sets.

Our range of load transfer panels are designed to enhance the operation of your standby generator set in conjunction with our electronic control panels, to provide automatic control of your standby generator set in the event of a power outage, 24 hours a day, 365 days a year.

For more challenging power requirements, our Power Solutions Team is dedicated to the design and production of bespoke control systems to meet your individual needs, regardless of complexity.

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## Contents

# FG Wilson DCP


## FG Wilson DCP-10

The FG Wilson DCP range allows you to monitor and control your generator set with ease, providing important diagnostic information whilst ensuring your unit operates within safe parameters.

FG Wilson DCP digital control panels, provide simple, intuitive menu navigation and control of your generator set operations. Key information is displayed via the LCD screen and LED's using universally recognised symbols, eliminating the need for complex instructions or language settings.

## Features

- Automatic start control module
- Monitoring, protection, operational status, fault conditions and metering displayed via LCD & LEDs
- Run / Auto keys with LED indicators
- Symbols for simple, intuitive control
- Robust electronics package
- Configuration of parameters via panel or laptop installed free software
- True RMS Voltage Sensing
- Engine & AC monitoring
- Under / Over voltage protection
- Large graphic LCD screen
- RS232 USB port for set point programming

# PowerWizard


## PowerWizard 1.1, 1.1+, 2.1 and 2.1+

The FG Wilson PowerWizard range of digital control panels, combine straightforward menu navigation with advanced metering and protection technology. They are used in automatic mains failure applications in conjunction with transfer panels. Our PowerWizard range allows you to monitor and control your generator set with ease, whilst ensuring your unit operates within safe parameters and provides important diagnostic information when needed.

## Key Features

- Robust electronics package for industry leading reliability
- Single menu layout for ease of navigation and monitoring
- Two display languages (Customer & Technician Language)
- Shortcut keys for instant access to engine or AC metering
- Run/Auto/Stop keys with LED indicators
- Dedicated fault reset key & main menu key
- Serviced using standard EST
- 40 unique events log configuration
- 10.5-32V DC providing a single module to cover the whole FG Wilson generator set range
- Comprehensive range of standard features and options to ensure the most appropriate configuration for your needs
- 5 spare fault channels
- Configurable sender input
- True RMS Voltage Sensing
- Engine and AC Monitoring
- CAN 1 Data Link for communication to electronic engines, CAN 2 Accessory Data Link for additional modules (PW2.1)
- Integrated metering and controls aiding reliability and ease of service (PW2.1)
- Generator set voltage and over/under frequency protection (PW1.1+)
- MODBUS connection to building management system via RS485 (PW2.1)
- Power metering

# PowerWizard

## Remote Monitoring

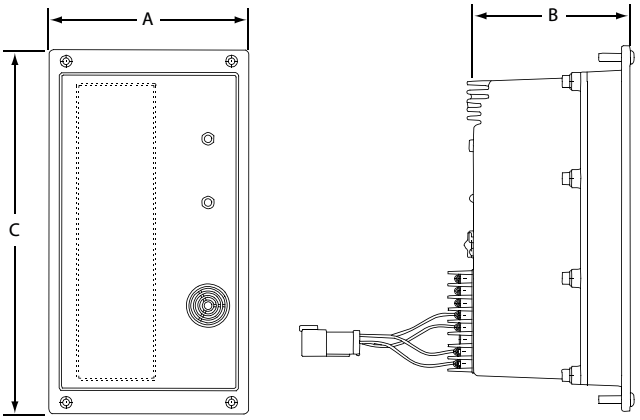
The PowerWizard Annunciator is a 16-channnel display unit for remotely monitoring the status of FG Wilson generator sets at a distance of up to 240 metres. The Annunciator communicates via the CAN 2 data link which comes as standard on generator sets fitted with the PowerWizard 2.1 Control Panel.

Each of the 16 channels on the Annunciator has two LEDs to display status and alarm signals directly from the PowerWizard 2.1 Control Panel on the generator 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 generator 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 2.1 | ANN16 | 158 (6.22) | 130 (5.12) | 288 (11.34) |



# easYgen–2500


The easYgen-2500 is a generator set-to-set controller for paralleling and load sharing applications of up to 16 generator sets. A special feature of the easYgen-2500 is the enhanced load sharing system. This provides advanced generator load dependent start / stop functionality with automatic generator set selection to ensure optimal system efficiency.

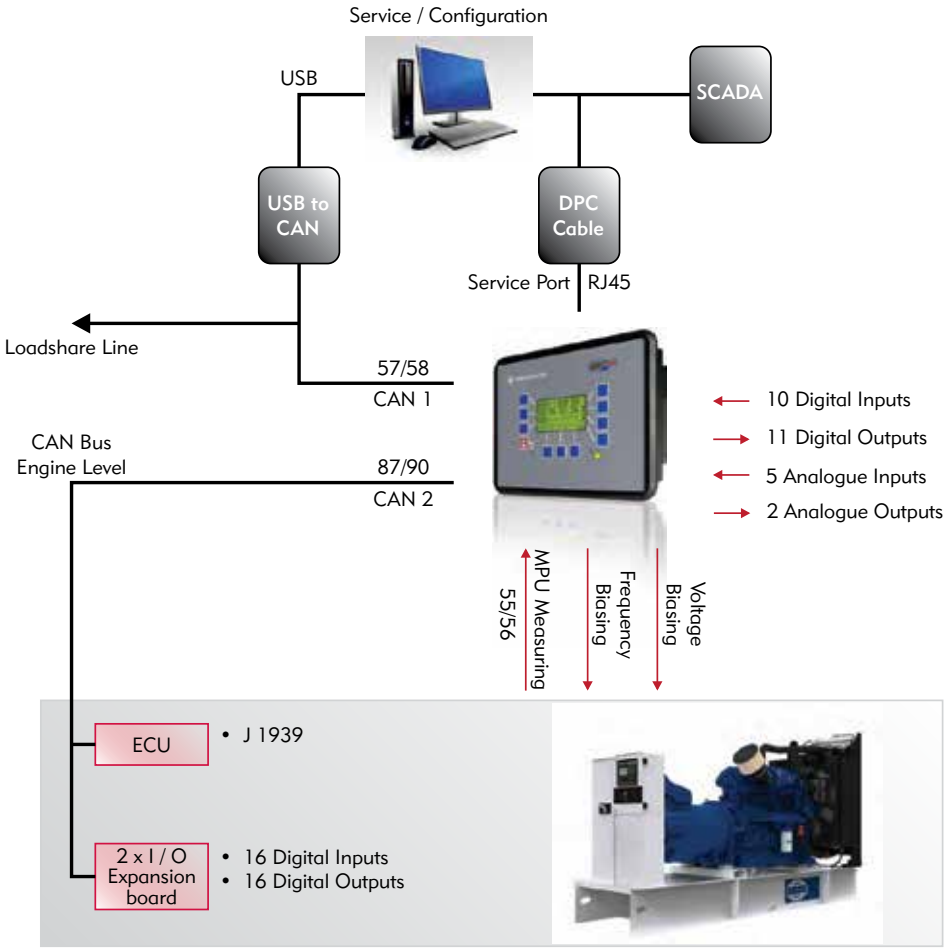
## Benefits

- Capable of set-to-set synchronising for up to 16 generator sets
- User friendly interface
- Easy system navigation via programmable soft keys
- Multiple communication protocols for communication with Engine Control Units (ECUs), external I/O boards, PLCs and modems
- Multilingual capability: English, Chinese, French, German, Italian, Japanese, Polish, Portuguese, Russian, Spanish and Turkish
- Capable of working with all common industrial interfaces

## Features

- Power and reactive power load sharing up to 16 units including load-dependent start / stop
- Engine start / stop and generator set measuring and protection
- Running hours balancing
- Breaker control: synchronization, open-close control, only-open control, breaker monitoring
- Dead bus closure negotiation
- PLC-like programming with Logics Manager
- 300-entry, time and date stamp log
- Operating hours / start / maintenance counters
- Configurable trip levels / delays / alarm classes
- Field configurable application settings
- Multi-level password protection

# easYgen–2500




## Protection

### Generator Set

- Over / under voltage
- Over / under frequency
- Dead bus detection
- Overload
- Reverse / reduced power
- Time over current
- Instantaneous over current
- Inverse time over current
- Phase rotation
- Unbalanced load
- Power factor

### Engine

- Over / under speed
- Battery over / under voltage
- Speed / frequency mismatch

## Inputs / Outputs (I/O)

- 3 phase true r.m.s. generator set current / power
- 1 speed input (magnetic / switching)
- 10 configurable discrete alarm inputs
- Five configurable analogue inputs
- Four configurable analogue outputs (+/– 10 V, +/– 20 mA, PWM; configurable)
- Two CAN bus interface (load share, Toolkit)
- 11 Relay Outputs Isolated
- RS485 Modbus interface
- Service Port – (RS232 – Woodward DPC cable required)

# easYgen–3000 Series


The easYgen-3000 series is a versatile control unit, incorporating all the features of the easYgen-2500 including enhanced load sharing. The easYgen-3000 combines complete engine-generator control and protection with advanced, peer-to-peer paralleling functionality and innovative features in a robust, attractive and user-friendly package. Typical applications include co-generation, standby, AMF, peak shaving, import / export or distributed generation. This control panel is suitable for synchronising up to 32 generator sets running in island mode, mains parallel and multiple unit mains parallel operations.

## Benefits

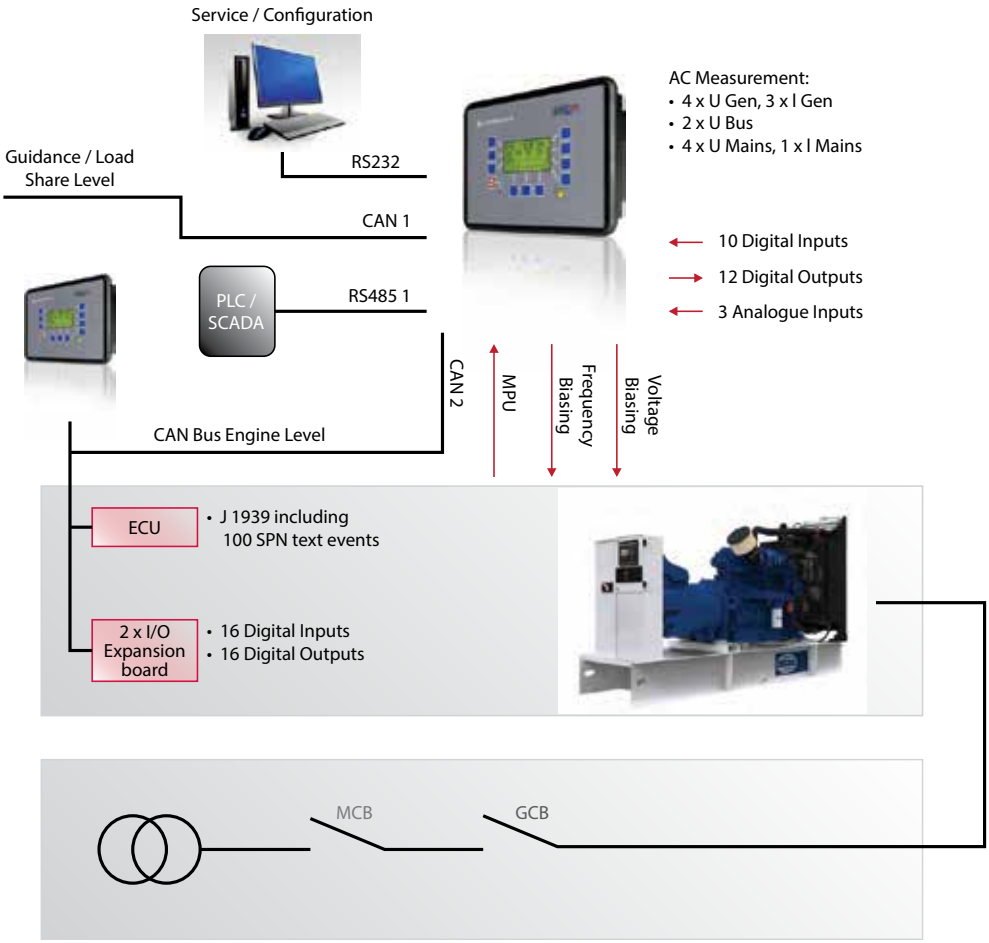
- Capable of generator set-to-set, set-to-mains and multiple set-to-mains synchronisation for up to 32 generator sets
- Enhanced system flexibility meets demanding customer specifications
- User friendly interface via 320x240 pixel graphical interactive 5.7" LCD
- Easy system navigation via programmable soft keys
- Multilingual capability: English, Chinese, French, German, Italian, Japanese, Polish, Portuguese, Russian, Spanish, Turkish and Finnish
- Multiple communication protocols for communication with Engine Control Units (ECUs), external I/O boards, PLCs and modems
- ECU monitoring and alarm management as well as remote start / stop and control commands

† **Available through Power Solutions**

## Features

- True RMS voltage and current sensing
- CAN network communication/control to engine ECU
- Serial Modbus RTU communication for SCADA annunciation and external control
- Configuration via PC/laptop with ToolKit service tool
- Engine start / stop and generator set measuring and protection
- Automatic base loading
- Running hours balancing
- Import / export control
- Dead bus closure negotiation
- 300-entry, time and date stamp log
- Operating hours / start / maintenance counters
- Configurable trip levels / delays / alarm classes
- Field configurable application settings
- Multi-level password protection
- RP3000 remote display panel available for management and control from adjacent plant room

# easYgen–3000 Series




## Protection

### Generator Set

- Over / under voltage and frequency
- Dead bus detection
- Overload
- Unbalanced load
- Reverse / reduced power
- Time over current
- Instantaneous over current
- Measured ground fault
- Phase rotation
- Power factor

### Engine

- Over / under speed
- Battery over / under voltage
- Auxiliary excitation
- Speed / frequency mismatch

### Mains

- Over / under voltage and frequency
- Phase shift
- Rotation field

## Inputs / Outputs (I/O)

- Two separate sets of 3-phase true r.m.s. voltage measuring inputs for the generator set and mains, and 2-phase busbar voltage
- 3-phase true r.m.s. generator set current / power
- 1-phase true r.m.s. current input freely configurable
- 1 speed input (magnetic / switching)
- 10 configurable discrete alarm inputs
- Up to 12 programmable discrete outputs
- Three configurable analogue inputs
- Two configurable analogue outputs
- Two CAN bus communication networks (up to 32 participants, isolated)
- Two serial ports supporting Modbus RTU Protocol, RS-485 and RS-232 (isolated)

# DeepSea 4520

The DSE4520 is a compact Auto Mains (Utility) Failure Control Module that has been developed to provide an outstanding range of features within a compact enclosure. Monitoring engine speed, oil pressure, coolant temperature, frequency, voltage, current, power and fuel level, the modules will give comprehensive engine and alternator protection. This will be indicated on a large back-lit LCD icon display via an array of warning, electrical trip and shutdown alarms.

## Benefits

- Displays information to the operator in a clear and concise format
- Ensures the display continues to operate in extreme cold weather conditions
- Provides true generator sensing
- Provides true generator and mains (utility) sensing
- Provides global flexibility
- Provides clear accurate power measurement information.
- Provides engine overload protection
- Provides multiple installation options
- Provides full monitoring flexibility
- Ensures the engine is fully monitored for improved operating performance
- Ensures the battery maintains enough power at all times
- Provides access to historical alarms and operational status
- Provides complete user-friendly configuration and easy-to-use high-level system control & monitoring

## Features

- Large back-lit icon LCD display
- 3-phase generator sensing
- 3-phase generator and mains (utility) sensing
- 600 V ph-ph nominal system compatibility
- Generator & load power monitoring (kW, kV A, kV Ar, pf)
- Generator overload protection (kW)
- Configurable inputs & outputs
- Fuel and start outputs (configurable on CAN)
- Configurable DC, volt-free and staged loading outputs
- CAN & alternator speed sensing
- Engine speed protection, engine hours counter, engine pre-heat, engine run-time scheduler, engine idle control for start/stop
- Battery voltage monitoring
- Configurable event log (50)
- DSE Configuration Suite PC Software

# DeepSea 7400 Series

The DSE7400 Series is a sophisticated mono display auto mains (utility) control module packed with industry leading features to enhance single-set control. The module can be used across a wide range of diesel and gas gen-set applications. The DSE7400 modules are compatible with electronic (CAN) and non-electronic (magnetic pickup/ alternator sensing) engines and offer a comprehensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet industry requirements.

## Benefits

- Makes the module ideal for standard and electronic engine applications
- Provides multiple installation options
- Tracks the amount of fuel being used and sounds an alarm if over/under fuel use is detected
- Provides secure and simple off site monitoring. All ports are continuously active
- Provides access to historical alarms and operational status
- Ensures additional applications are easily integrated into the system
- Provides clear accurate power measurement information
- Allows load options and dummy load requirements to be independently controlled
- Provides current and historical status information
- Provides complete user-friendly configuration and easy-to-use high-level system control & monitoring
- Ensures the control module can be used with the latest in modern electronic engine technology

## Features

- CAN and magnetic pick-up sensing
- Configurable inputs/outputs (11/8)
- Fuel usage monitor and low level alarms
- Remote communications (RS232, RS485, Ethernet, Modbus, RTU/TCP)
- Configurable event log (250)
- Integral PLC editor
- Power monitoring (kW h, kVAr, kv Ah, kV Ar h), reverse power protection, kW overload protection
- Load switching, load shedding & dummy load outputs
- Data logging (HDD/USB)
- DSE Configuration Suite PC Software
- Tier 4 CAN engine support

# Deif AGC-4


Suitable for a wide range of applications, the Deif AGC-4's standard sequences include backup power, start/stop, synchronisation and load sharing. The Deif AGC-4 supports serial communication protocols including Modbus (RS 485, USB and TCP/IP) and Profibus.

## Key Features

- The Automatic Genset Controller, AGC, contains all necessary functions for protection and control of your generator set
- Multiple operating modes including backup power, start/stop, synchronisation, and load sharing
- Fully compatible with AGC3
- Synchronisation of up to 56 breakers
- Multi-master power management
- Load-dependent start and stop
- Load management
- Emulation for Fast Training & I/O test
- Hot Standby – Change to backup generator set controller on the fly

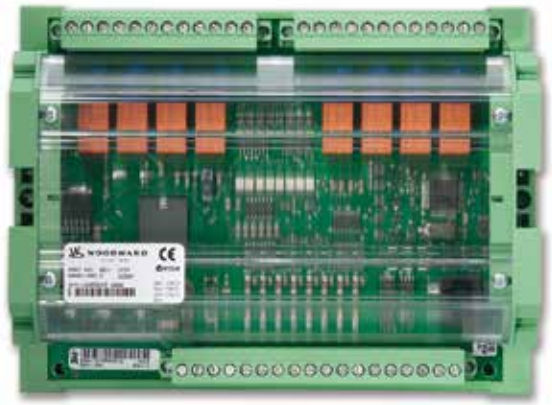
# Comap Intelligen


The ComAP InteliGen premium generator set controller for both single and multiple generator sets operating in standby or parallel modes. Generator set performance log for easy problem tracing and easy remote supervising and servicing. The InteliGen NTC Basebox is used in conjunction with the detachable InteliVision 5 colour display.

## Key Features

- Generator set controller for single or multiple generator sets operating in standby or parallel modes
- Multiple communication options – easy remote supervising and servicing
- Generator set performance log and Event-based history
- Automatic synchronizing and power control
- AMF function, Baseload, Import / Export, Peak shaving, Voltage and PF control (AVR)
- Generator set measurement, mains measurement
- Inputs and outputs configurable for various customer needs
- Controller redundancy
- Integrated PLC programmable functions
- Integrated fixed and configurable protections

# Control Panel Options

## NetBiter® FGW200

### Remote management

FG Wilson's, exclusively designed FGW200 software offers new opportunities for remote access through mobile and internet technology. The NetBiter unit is suitable for use in new / existing installations thanks to the Auto Detect software offering plug and play capability.

## Key Features

- Fuel level monitoring to optimise fuel inventory
- Start up logging to help prevent generator set misuse
- Multiple project / device management through NetBiter.net
- New Auto Detect software allowing simple retrofit
- Built in web interface for data monitoring
- Built in alarm manager for SMS, email and SNMP
- Built in data logger of historical trends
- GSM / GPRS modem included –Theft prevention through generator set tracking
- All software included, easily upgraded remotely and provided with no licensing cost
- Minimal downtime through instant information about equipment health. Reduction in travel to remote sites for maintenance purposes

## I/O Expansion Module†

### Remote management

Connection to and from external system devices enabling more flexibility to meet your specfic power requirements.

## Key Features

- 8 configurable discrete alarm inputs
- 8 configurable relay outputs
- Connection to easYgen control panel via CAN bus
- Input and output configuration via onboard easYgen relay manager
- Remote control of output relays via CAN bus
- The I/O Expansion Module can be used with other manufacturer's controls. Consult Woodward product manual 37135 for information regarding the address assignments of the CAN bus interface

† Available through Power Solutions

# Load Transfer Panels

## Load Transfer Panels - 24 Hour Power Protection 365 days a year...

**FG Wilson's range of intelligent Load Transfer Panels offer you peace of mind.**

The FG Wilson Load Transfer Panel range offers an electronically controlled response to power outages. With flexible, upgradeable options and a high level of functionality FG Wilson transfer panels provide 24-hour automatic control of standby generator sets, 365 days a year.

## Benefits

- Fully automatic mains failure sensing and generator set start signal
- Pre-programmed enabling the panel to run on installation with the ability to customise if necessary
- Fast acting switches reduce transfer times between set and utility power
- Available from 63 – 3200A
- Seamless integration with FG Wilson digital control panels

## Features

- Automatic and manual operation
- Automatically provides generator set start signal upon detection of mains failure, overvoltage or loss of phase
- Automatic mains re-transfer function
- Flexible, upgradeable options
- Test operations and sequences accessible from panel or remotely
- Manual switch operation possible via external handle
- LED functions display showing generator set / mains availability and switch position
- LCD display for voltage and timers
- Load transfer panel range meets ATS IEC 60947-6-1 standard

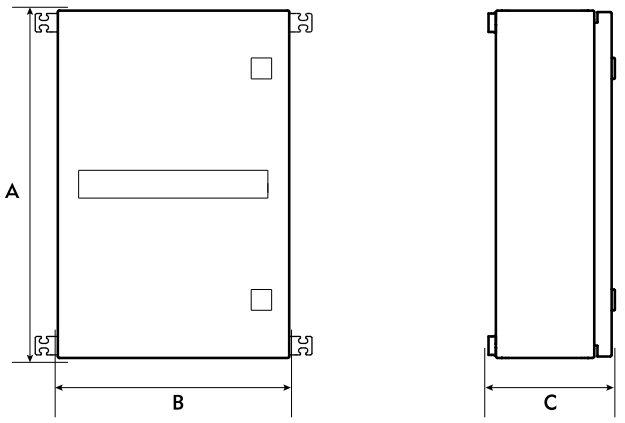
# Load Transfer Panels

| Model | Rating | ATI Transfer Dimensions | | | Weight |
|---|---|---|---|---|---|
| | | A mm (in) | B mm (in) | C mm (in) | kg |
| CTI 63 | 63A | 600 (23.6) | 400 (15.7) | 200 (7.9) | 19 |
| CTI 100 | 100A | 600 (23.6) | 400 (15.7) | 200 (7.9) | 19 |
| CTI 125 | 125A | 600 (23.6) | 400 (15.7) | 200 (7.9) | 19 |
| CTI 160 | 160A | 600 (23.6) | 400 (15.7) | 200 (7.9) | 19 |

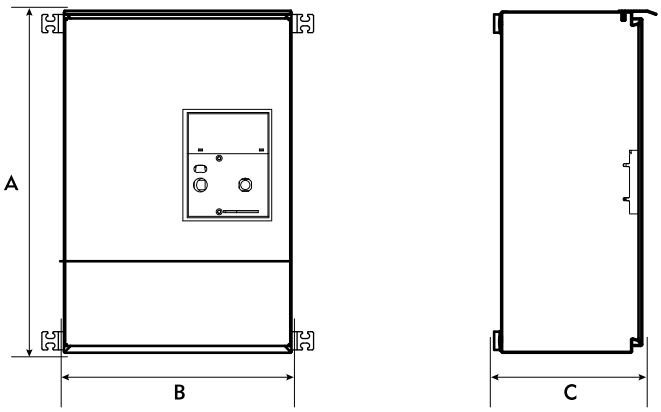
| Model | Rating | ATI Transfer Dimensions | | | Weight |
|---|---|---|---|---|---|
| | | A mm (in) | B mm (in) | C mm (in) | kg |
| ATI 250 | 250A | 500 (19.7) | 600 (23.6) | 300 (11.8) | 35 |
| ATI 400 | 400A | 600 (23.6) | 600 (23.6) | 375 (14.7) | 40 |
| ATI 630* | 630A | 900 (35.4) | 600 (23.6) | 475 (18.7) | 65 |
| ATI 800* | 800A | 1100 (43.3) | 775 (30.5) | 650 (25.6) | 120 |
| ATI 1000* | 1000A | 1100 (43.3) | 775 (30.5) | 650 (25.6) | 145 |
| ATI 1250* | 1250A | 1400 (55.1) | 1005 (39.6) | 650 (25.6) | 200 |
| ATI 1600* | 1600A | 1600 (63.0) | 1005 (39.6) | 800 (31.5) | 330 |
| ATI 2000* | 2000A | 1899 (74.8) | 1005 (39.6) | 1007 (39.6) | 550 |
| ATI 2500* | 2500A | 1899 (74.8) | 1005 (39.6) | 1007 (39.6) | 550 |
| ATI 3200* | 3200A | 1899 (74.8) | 1005 (39.6) | 1007 (39.6) | 600 |

*Floor standing.

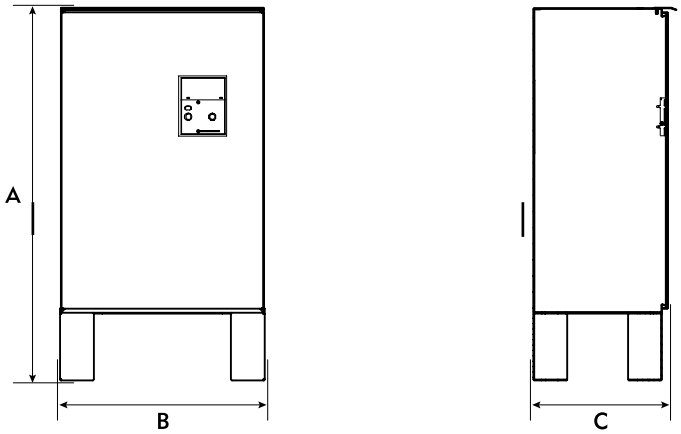
**CTI wall mounted**




**ATI wall mounted**




**Floor standing (ATI only)**



# CTI Panel Features

## CTI Load Transfer Panel – Ratings 63 – 160 Amps

Key: ○ – Standard Feature ☐ – Optional Feature

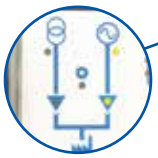
### Programmable Countdown Timers
Set routine times for delay on starts, delay on transfer, delay on re-transfer and run on timer.

### Auto/Manual/Test Mode Status Indication
Allows on/off load tests at routine service checks.

### Solid Neutral Kit
Allows the connection of neutral cables from utility power, generator set and load without having the neutral broken by the switch during transfer operations.

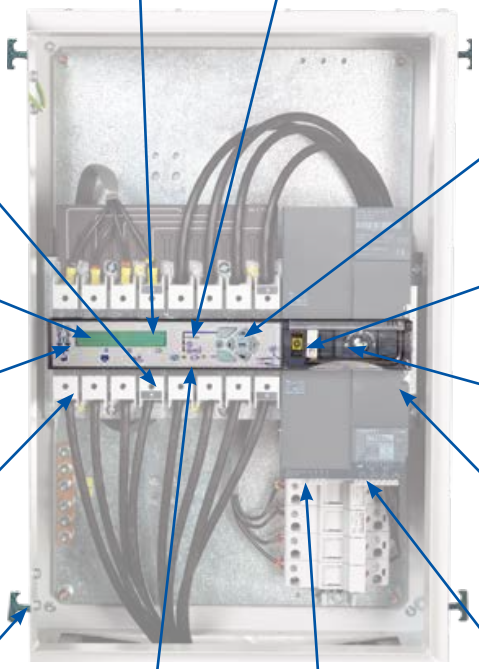
### LCD Display
Shows detailed status of system at all times for greater awareness and control.

### System Status Indicators
Shows status of utility power, generator set and switch at all times.



### Voltage Sensing Tap
Allows for pole voltage sensing.

### Wall Mounting Kit
Panel can be wall mounted for greater flexibility in positioning.



### Keypad
For straightforward programming and testing. Password protection is included.

### Padlockable
Switch can be padlocked in all three positions for added security and safety. Only possible in manual operation mode.

### Manual Handle
Fully integrated handle for manual operation.

### Auxiliary Contacts
Auxiliary/volt free contacts for remotely monitoring the switch position.

### Control Terminals
Generator set remote start signal and terminals for remotely monitoring the system.

### Terminal shroud
For added protection.

### Auxiliary Controls
Auxiliary inputs for automatic control, remote test on load and manual re-transfer.

### Top and Bottom Cable Entry
Aids ease of installation

### Ingress Protection IP54
Protection for the control panel

### Load Terminal Extensions
Improving ease of installation

### Lightning Protection
Ensuring system safety

# ATI Panel Features

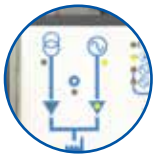
## ATI Load Transfer Panel – Ratings 250 – 1600 Amps

Key: ○ – Standard Feature ☐ – Optional Feature

### RS485 Communications Module
Enables access to the system remotely through telephone or PC via modem.

### Volt Free Contacts
For power available and generator available.

### System Status Indication
Shows status of utility power, generator set and switch at all times.



### Auto/Manual/ Test Mode Status Indication
Allows on/off load tests at routine service checks.

### Two Wire Start Signal
Simple two wire connection for automatic control.

### LCD Display
Shows detailed status of system at all times for greater awareness and control.

### Manual Handle
Fully integrated handle for manual operation.

### Power Metering
To measure load current, kW, kVAr, kVA, power factor.

### Padlockable
Switch can be padlocked in all three positions for added security and safety.

### Keypad
For straightforward programming and testing. Password protection is included.

### Solid Neutral
Allows the connection of neutral cables from utility power, generator set and load without having the neutral broken by the switch during transfer operations.

### Programmable Countdown Timers
Set routine times for delay on starts, delay on transfer, delay on re-transfer and run on timer.

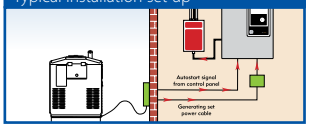
### Wall Mounting Kit
Panel can be wall mounted for greater flexibility in positioning (ATI 250 and 400).

### Lightning Protection
Ensures the safety of system during lightning storms (includes volt free contacts for utility power and generator set).

### Bottom Gland Plate
Removable gland plate providing increased accessibility with a sizeable area for utility power and generator set cables to be connected.

### Auxiliary Contacts
Auxiliary / volt free contacts for remotely monitoring system; switch position, padlock and automatic or manual operation.

### Installation
Typical installation set up



### Wall Mounting Panels
Wall mount with ease – includes fittings

### Ingress Protection IP54
Protection for the control panel

### Top Cable Entry
Aids eased installation

# ATI Panel Features

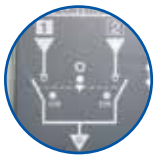
## ATI Load Transfer Panel – Ratings 2000 – 3200 Amps

Key: ○ – Standard Feature ☐ – Optional Feature

### RS485 Communications Module
Enables access to the system remotely through telephone or PC via modem.

### Volt Free Contacts
For power available and generator available.

### System Status Indication
Shows status of utility power, generator set and switch at all times.



### Two Wire Start Signal
Simple two wire connection for automatic control.

### Manual Handle
Fully integrated handle for manual operation.

### Padlockable
Switch can be padlocked in all three positions for added security and safety.

### Auto / Manual / Test Mode Status Indication
Allows on / off load tests at routine service checks.

### LCD Display
Shows detailed status of system at all times for greater awareness and control.

### Keypad
For straightforward programming and testing. Password protection is included.

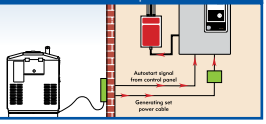
### Programmable Countdown Timers
Set routine times for delay on starts, delay on transfer, delay on re-transfer and run on timer.

### Lightning Protection
Ensures the safety of system during lightning storms (includes volt free contacts for utility power and generator set).

### Bottom Gland Plate
Removable gland plate providing increased accessibility with a sizeable area for utility power and generator set cables to be connected.

### Auxiliary Contacts
Auxiliary / volt free contacts for remotely monitoring system; switch position, padlock and automatic or manual operation.

### Installation
Typical installation set up



### Ingress Protection IP54
Protection for the control panel

# Features and Options

| | | DCP-10 | PW 1.1 | PW 1.1+ | PW 2.1 | PW 2.1+ | easYgen 2500 | easYgen 3200+ | easYgen 3500+ | Deepsea 4520 | Deepsea 7420 | Deif AGC-4 | ComAP Intel |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Instrumentation** | | | | | | | | | | | | | |
| LCD Display with Auto Power off | | – | ● | ● | ● | | ● | ● | | ● | ● | | |
| Battery Trickle Charge Ammeter | | – | O | O | O | | O | O | | O | O | | |
| Audible Alarm | | ● | O | O | O | | O | O | | O | O | | |
| Remote Annunciator | | – | – | – | O | | O | O | | – | – | | |
| AC Metering | Voltmeter 3-phase ( L - L & L - N ) | ● | ● | ● | ● | | ● | ● | | ● | ● | | |
| AC Metering | Amps (per phase and average) | ● | ● | ● | ● | | ● | ● | | ● | ● | | |
| AC Metering | Frequency | ● | ● | ● | ● | | ● | ● | | ● | ● | | |
| AC Metering | kW (total & per phase) | – | – | – | ● | | ● | ● | | ● | ● | | |
| AC Metering | kVA (total & per phase) | – | – | – | ● | | ● | ● | | ● | ● | | |
| AC Metering | kVAr (total & per phase) | – | – | – | ● | | ● | ● | | ● | ● | | |
| AC Metering | Power Factor (overall and per phase) | – | – | – | ● | | ● | ● | | ● | ● | | |
| DC Metering | kW Hours | – | – | – | ● | | ● | ● | | ● | ● | | |
| DC Metering | kVAr Hours | – | – | – | ● | | ● | ● | | ● | ● | | |
| DC Metering | Battery Voltmeter | ● | ● | ● | ● | | ● | ● | | ● | ● | | |
| DC Metering | Engine Hours Run | ● | ● | ● | ● | | ● | ● | | ● | ● | | |
| DC Metering | Engine Jacket Water Temperature (in °C or °F) | ● | ● | ● | ● | | ● | ● | | ● | ● | | |
| DC Metering | Lube Oil Pressure (in Psi, kPA or bar) | ● | ● | ● | ● | | ● | ● | | ● | ● | | |
| DC Metering | Engine Speed (rpm) | – | ● | ● | ● | | ● | ● | | ●* | – | | |
| DC Metering | Crank Attempt Counter | – | – | ● | ● | | ● | ● | | – | – | | |
| DC Metering | Start Counter | – | – | ● | ● | | ● | ● | | ● | – | | |
| **Protection** | | | | | | | | | | | | | |
| 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) | | – | – | ● | ● | | ● | ● | | ● | ● | | |
| Earth Leakage Protection | | – | O | O | O | | O | O | | – | – | | |
| Earth Fault Protection | | – | O | O | O | | O | O | | – | – | | |
| Low Fuel Level Alarm | | O | O | O | O | | O | O | | O | O | | |
| Low Fuel Level Shutdown | | – | O | O | O | | O | O | | – | – | | |
| High Fuel Level Alarm | | – | O | O | O | | O | O | | – | – | | |
| Fuel Transfer System Control | | O | – | O | O | | O | O | | O | O | | |
| Low Coolant Level Shutdown | | – | O | O | O | | O | O | | – | – | | |
| Low Coolant Temperature Alarm | | ● | ● | ● | ● | | O | O | | – | – | | |
| High Lube Oil Temperature Shutdown | | – | O | O | O | | O | O | | – | – | | |
| Overload via Alarm Switch on Breaker | | – | O | O | O | | – | O | | – | – | | |
| Overload via Over Current Relay | | – | O | O | – | | – | O | | – | – | | |
| Low Gas Pressure | | – | – | – | – | | – | O | | – | – | | |
| High Gas Pressure | | – | – | – | – | | – | O | | – | – | | |

*Calculated using AC from generator (frequency)

# Features and Options

| | DCP-10 | PW 1.1 | PW 1.1+ | PW 2.1 | PW 2.1+ | easYgen 2500 | easYgen 3200+ | easYgen 3500+ | Deepsea 4520 | Deepsea 7420 | Deif AGC-4 | ComAP Intel |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High Exhaust Temperature Alarm | – | ● | ● | ● | | ○ | ○ | | – | – | | |
| **Protection Monitoring** | | | | | | | | | | | | |
| 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 | – | ● | ● | ● | | ● | ● | | ● | ● | | |
| Number of Occurrences of Event | – | ● | ● | ● | | ● | ● | | ● | ● | | |
| **Instrumentation** | | | | | | | | | | | | |
| Spare Fault Channels | | | | | | | | | | | | |
| Number of Channels Available | 0 | 3 | 5 | 5 | | 5 | 6 | | 3 | 7 | | |
| Exceptions: | | | | | | | | | | | | |
| On models P730P1 – P1100E1 | – | – | 3 | 3 | | 4 | 5 | | – | – | | |
| On models P1250 – P2500-1 | – | – | 2 | 2 | | 3 | 4 | | – | – | | |
| **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 | – | – | – | ○ | | ○ | ○ | | ○ | ● | | |
| Static Battery Charger | – | ○ | ○ | ○ | | ● | ● | | ○ | ○ | | |
| Static Battery Charger with Auto Boost | ○ | ○ | ○ | ○ | | ○ | ○ | | ○ | ○ | | |
| Volt Free contacts for: Common Alarm and Generator Set Running | ○ | ○ | ○ | ○ | | ○ | ○ | | ○ | ○ | | |
| Engine Coolant Heater Controls | – | ○ | ○ | ○ | | ○ | ○ | | ○ | ○ | | |
| Control Panel Heater | – | – | ○ | ○ | | – | ○ | | – | – | | |
| Volts Adjust Potentiometer | – | ○ | ○ | ○ | | ● | ● | | – | – | | |
| Speed Adjust Potentiometer | – | ○ | ○ | ○ | | ● | ● | | – | – | | |
| Speed Adjust Switch | – | ○ | ○ | ○ | | ○ | ○ | | – | – | | |
| Oil Temperature Display | – | – | ○ | ○ | | ○ | ○ | | – | – | | |
| Oil Temperature Gauge | – | ○ | ○ | ○ | | – | – | | – | – | | |
| Lube Oil Temeperature displayed on LCD screen | – | ○ | ○ | ○ | | ○ | ○ | | – | – | | |
| Fuel Level Switch | ○ | ○ | – | – | | ○ | ○ | | ○ | ○ | | |
| Fuel Level Sender & Display | – | – | ○ | ○ | | ○ | ○ | | – | – | | |
| Panel Lockdown Stop Push Button with security key | – | ○ | ○ | ○ | | – | – | | – | – | | |
| Netbiter Internet Monitoring and Control Unit | – | – | – | – | | ○ | ○ | | – | – | | |
| Mains Load Sensing Unit | – | – | – | – | | – | ○ | | – | – | | |
| Additional 8 inputs and 8 outputs | – | – | – | – | | – | ○ | | – | – | | |

**Key:** ● – Standard; ○ – Optional

# Features and Options

| | CTI | ATI < 1600A | ATI > 2000A |
|---|---|---|---|
| Facility for manual changeover | ● | ● | ● |
| **Protection** | | | |
| Utlity power available | ● | ● | ● |
| Utility power on load | ● | ● | ● |
| Generator available / Generator on load | ● | ● | ● |
| Utility power and generator off load | ● | ● | ● |
| Manual mode / Automatic mode | ● | ● | ● |
| Test on load / Test off load | ● | ● | ● |
| Manual re-transfer for enabled / required | ● | ● | ● |
| Power / Error indication (LED) | ● | ● | ● |
| **Facia** | | | |
| Universal symbols to allow for multiple languages | ● | ● | ● |
| **Liquid Crystal Display** | | | |
| Utility Power L1-2, L1-3, L2-3 voltage | ● | ● | ● |
| Utility Power L1-N, L2-N, L3-N voltage | ● | ● | ● |
| Generator Set L1-N, L2-N, L3-N voltage | ● | ● | ● |
| Generator Set L1-2, L1-3, L2-3 voltage | ● | ● | ● |
| Utility Power Frequency / Generator Set Frequency | ● | ● | ● |
| Number of times switch transfers from mains to generator set | ● | ● | ● |
| Timer settings | ● | ● | ● |
| **Standards** | | | |
| Complete enclosure meets standard IEC 60947-6-1 | ● | ● | ● |
| Switch meets standard AC31B | ● | ● | ● |
| **Controls** | | | |
| Under / Over frequency failure | ● | ● | ● |
| Under / Over frequency restoration | ● | ● | ● |
| Manual / Auto re-transfer | ● | ● | ● |
| Mode select push button | ● | ● | ● |
| Under / Over Volts Failure | ● | ● | ● |
| Under / Over Volts Restoration | ● | ● | ● |
| Delay on Start Timer | ● | ● | ● |
| Delay on Transfer | ● | ● | ● |
| Delay on Re-Transfer | ● | ● | ● |
| Dead Band Timer | ● | ● | ● |
| Run On Timer | ● | ● | ● |
| Auto / Manual Control Keyswitch | ● | ● | ● |
| Lamp Test Pushbutton | ● | ● | ● |
| Padlock facility | ● | ● | ● |
| Selection between Contactor or Switch Mode | ● | – | – |
| **Miscellaneous** | | | |
| Top cable entry | ● | – | – |
| Bottom cable entry | ● | ● | ● |
| Load Terminal Extensions - Improving ease of installation | O | – | – |
| Auxiliary Contacts – For monitoring of switch position | – | ● | ● |
| Lightning Protection – Ensuring the safety of system during lightning storms | O | O | O |
| Ingress Protection IP54 – Protection for control module | O | O | ● |
| Power Metering – To measure load current, kW, kVAr, kVA, Power factor | – | ● | – |
| Volt Free Cotacts – For utility power availability & generator available | ● | O | O |
| Communication Module - Plug in module that uses Jbus / modbus protocol to allow remote communication of the change over system | – | O | O |
| Voltage Sensing Tap – Allowing for pole voltage sensing | O | – | – |
| Solid Neutral Kit – To connect neutral cables from the mains, generator set and load | O | O | – |
| Terminal Shroud – For added protection | O | – | – |

**Key:** ● – Standard; O – Optional

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

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