

easYgen™ Series

Overview | GENSET CONTROLS FOR YOUR POWER GENERATION SYSTEM



POWER GENERATION

Always Innovating for a Better Future



easYgen™ Series

Genset Control and Optimization Solutions | BENEFITS AND APPLICATIONS

YOUR BENEFITS

- **Saves cost** over PLC-handled logical operations by the use of the integrated LogicsManager™
- **Reduces effort** for variants in different applications. One device fits many applications
- **Increases availability** and efficiency of parallel generators by high precision synchronization
- **Ensures high robustness** against external disturbances by galvanic isolation
- **Enables your genset** to speak your local language

If you are looking for a versatile, affordable, dependable genset control solution to simplify your design and provide smoother commissioning, look no further than the Woodward easYgen series.



easYgen™ Series

easYgen™-300 | FOR STANDARD APPLICATIONS

The easYgen-300 is an affordable, value-packed genset control for auto start and transfer switch operations. It provides all the essential functionality for standby diesel genset applications with monitoring, protection and event-recording options common to higher-end controls. A compact, fully enclosed molded housing, removable terminal connectors and fast, easy PC programmability make it the smart control choice for serial standby genset production.

CONNECTIVITY

The easYgen-300 has a serial interface for PC configuration and connection to an external modem. The optional CANbus interface allows the monitoring of common J1939 alarms from supported engine ECU breakers. Position inputs are used to interlock the GCB and MCB internally, ensuring that both cannot be closed at the same time and eliminating the need for external relays.

FEATURE OVERVIEW

- Single-breaker or two-breaker options
- Configurable for open and close breaker control
- Breaker position monitoring
- 1-phase and 3-phase configurable voltage-sensing options
- Generator protection
- CAN option for common J1939 alarms
- Digital display for voltage and frequency measured values, alarm annunciation and counters
- Password-protected PC and front-face programmability



Certifications & registrations
CE, UL/cUL, GOST-R

easYgen-300
The standard for auto start and transfer switch operation



Environmentally aware: easYgen™ controls contribute essentially to the reduction of CO₂ through heat and power coupling in natural gas and biogas power plants.

easYgen™-1000 | FOR SINGLE UNIT APPLICATION

The innovative features of the easYgen-1000, including flexible breaker configuration and start-stop logic, real and reactive power sensing and remote start capability make it the intelligent choice for specialized mobile power and emergency stand-by applications. Advanced CAN communication provides control of most common engine ECUs and allows connection to the Woodward IKD1 module for expansion on the onboard I/O set, and to the easylite-100 remote annunciation panel for NFPA- compliant installations.

VERSATILITY

The easYgen-1000 offers a variety of CAN interfaces and protocols:

- J1939 for ECU communications
- CANopen for external terminals (e.g. the Woodward IKD-1 extension card with up to 16 additional external I/O's)
- Woodward GW 4 (CAL) protocol for configuration via PC and for the Woodward Gw 4 gateway interface converter to communicate with PLCs
- Serial interfaces for configuration and interfacing with an external modem

Certifications & registrations

CE, UL/cUL, GOST-R, GL, LR

easYgen-1000

The ideal solution for all standby and emergency applications

FEATURE OVERVIEW

- Configure for 1 or 2 breakers in open transition
- Flexible start-stop logic for diesel and gas engines
- 3-phase, true RMS generator voltage-sensing
- Remote start and annunciation
- CT input for power sense and current monitoring
- Complete generator protection and mains monitoring, with configurable trip levels, delay timers and alarm classes
- Display panel can be configured in different languages



As flexible as possible: from a small generator to a large CHP, easYgen™ offers the right solution.



easYgen™-2000 | IMPROVING SYSTEM EFFICIENCY

The easYgen-2000 is a compact, affordable genset control and protection package for load sharing up to 16 gensets in island operation, or parallel operation of a single unit with a utility. Its integrated load-dependent start/stop programming allows the user to define how gensets are brought on- and off-line to support changing load demands. It even works with a mix of different-sized engines, so you can maintain the spinning reserve you need while optimizing fuel efficiency.

COMMUNICATION

Advanced interface capability provides communication at the genset control level, up to the system network level, and to your desktop half a world away. The easYgen-2000 works with many common industrial interfaces: CANopen for peer-to-peer load sharing; J1939 for engine ECU; Modbus RTU for PLC, HMI and SCADA; and modem for remote control and programming using Woodward toolkit software.

FEATURE OVERVIEW

- Load sharing of up to 16 gensets in island mode or parallel connection of a single genset to a utility
- Control 0, 1 or 2 breakers, open or closed transition, synchronization and soft load/unload
- LogicsManager™ Boolean programmability for complex system control
- Process-dependent start-stop logic
- Display panel can be configured in different languages
- Complete engine and generator protection and mains monitoring
- Asynchronous (inductive) and synchronous generator support



Certifications & registrations

CE, UL/cUL, GOST-R, LR

easYgen-2000

The genset control for optimum fuel economy



easYgen™-3000 | ONE UNIT – INFINITE OPPORTUNITIES

The easYgen-3000 is an exceptionally versatile genset control and protection package with all the flexibility and features needed to fit a wide range of power generation applications. It allows the user to standardize on a single, affordable control for many uses – from stand-alone emergency generators to isochronous parallel operation of up to 32 gensets. Common applications include emergency stand-by, cogeneration, marine ship/shore power, island prime power or utility paralleling with peak shaving and import/export control.

FLEXIBILITY

The easYgen-3000 is available in two mounting styles: the back-panel-mounted easYgen-3100/3400 has a rugged aluminum chassis for use in harsh environments or confined spaces, the flush-mounted easYgen-3200/3500 has sealed soft keys and a large, easy to read back-lit display. The LS-5 circuit breaker control, when used with the easYgen-3400/3500, enables complex control of distribution systems having multiple mains and bus tie breakers. The integrated LogicsManager™ links internal states and input signals with logical operators and time elements to implement complex control tasks.

FEATURE OVERVIEW

- Load share 32 gensets in island mode or paralleled to a single utility
- Load-dependent start/stop
- Control 0, 1, 2 or 3 breakers, open or closed transition, with synchronization and soft load/unload
- Can be combined with RP-3000 remote panel and LS-5 system
- Complete engine/generator protection + mains monitoring
- Advanced communication (CANopen, J1939 and Modbus) to engine ECUs, PLCs, HMI, SCADA and external I/O
- Display panel can be configured in different languages



Certifications & registrations

CE, UL/cUL, CSA, GOST-R,
ABS, BV, DNV, GL, LR

easYgen-3000

For a wide range of applications –
from simple standby generators to
utility parallel of up to 32 gensets –
all in one unit

Overview

easYgen™ Series I

BASIC INFORMATION

easYgen Series*:	300	1000	2000	3000
Operation modes				
Island mode	•	•	•	•
Island parallel mode	-	-	•	•
Mains parallel mode	-	-	•	•
Applications				
Auto mains failure emergency standby	•	•	•	•
Base load (import/export)	-	-	•	•
Peak shaving	-	-	•	•
Marine approvals	-	•	•	•
Cogeneration	-	-	-	•
Load transfer options				
Open transition	•	•	•	•
Soft load/interchange	-	-	•	•
Closed transition	-	-	•	•
Busbar measurement	-	-	-	•
Protection				
Mains monitoring	•	•	•	•
Generator protection	•	•	•	•
Engine	•	•	•	•
Event recorder (# of events)	15	300	300	300
Communication hardware				
RS-232	• ¹	• ¹	• ¹	•
RS-485	-	-	•	•
CAN	1	1	2	3
Communication protocols				
J1939 ECU communication	•	•	•	•
CANopen	-	•	•	•
Modbus (RTU Slave)	-	• ¹	•	•
I/O set				
Onboard discrete inputs/outputs	5/6	8/11	10/11	23/22
External discrete inputs/outputs	-/-	16/16	16/16	16/16
Onboard analog inputs/outputs	-/-	2/-	4/4	10/5
External analog inputs/outputs ²	-/-	-/-	-/-	-/-
Optional external devices				
RP-3000 – remote annunciator	-	-	-	• ¹
LS-5 – circuit breaker control and protection	-	-	-	•
easYlite-100 – reporting unit	-	•	•	•
IKD-1 – I/O expansion modules	-	Up to 2	Up to 2	Up to 4
EPU-100	•	•	•	•
Phoenix expansion modules	-	•	•	•
Axiomatic expansion modules ³	-	-	-	•
Languages				
	N/A ⁴	10	11	14

• = standard

ACCESSORIES



RP-3000

Remote panel with the same feel and features as the easYgen-3200/3500 display, with CAN communication for the visualization and control of the easYgen-3000 series.



LS-5

Compact circuit breaker control and protection device with synchronization and soft load transfer designed for use with the easYgen-3400/3500 series, for complex distribution systems having multiple mains power feeds and bus tie breakers.

* Functions vary for each model. Please read the product data sheet for further information.

¹ External Woodward DPC cable required.

² Over CANopen. External Phoenix contact extension terminals required. Some packages of easYgen-3000 offers analog expansion over CANopen.

³ Via J1939. External axiomatic thermocoupler modules required.

⁴ Paper strips can be freely designed.

Further information can also be found in the documentation of the respective controls.



FURTHER INFORMATION

Please visit www.woodward.com or contact us for further product-related information.

Description	Specification	Manual
easYgen-3400/3500	37523	37528
easYgen-3100/3200	37258	37532
easYgen-3400/3500 Marine	37533	37531
easYgen-3500 Rental	37553	37536
easYgen-2000	37548	37535
easYgen-2500 Rental	37553	37537
easYgen-1000	37180	37390 - 37394
easYgen-300	37217	37218
RP-3000	37446	37534
LS-511/521	37522	37527
LS-511/521 Marine	37545	37542
easYlite-100	37279	37307, 37481
IKD-1	37171	37135
EPU-100	37562	37561



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