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WOODWARD

EASYGEN 100

Product Specification
B37697A Revision H

easYgen-400 / easYgen-600 / easYgen-800

Genset Start/Stop Control

Do you package gensets, build switchgear or integrate systems? With several decades of experience in genset control technology, Woodward's easYgen family offers a one-stop-shop solution for all of your genset control needs. easYgen family genset controls cover the full range of generator system applications, ranging from simple functions, such as start/stop of a genset to complex ones, like synchronizing and power management of large fleet of gensets.

DESCRIPTION

The Woodward easYgen-100 series is designed for a single-generator set used in isolated stand-by or prime power applications. The controllers include purpose-built algorithms and logic to start, stop, control, and protect the genset, and open/close circuit breakers. Equipped with state-of-the-art communication interfaces, Woodward's easYgen-100 Series of genset controllers provides exceptional versatility and value for OEM genset packagers.

The easYgen-100 Series is available in three versions:

- **easYgen-400** small start/stop controller contains a big liquid crystal display (LCD), configurable I/Os and electronic engine support.
- **easYgen-600** compact start/stop controller offers a state-of-the-art LCD, adequate on-board I/Os and common industrial connectivity
- **easYgen-800** advanced start/stop controller comes with a large LCD, I/O expansion capability, Ethernet and SD card connectivity

ToolKit-SC is a single service tool for configuring easYgen-100 and -1000 series controllers. The module's password-protected integral front panel lets you adjust various parameters on-site.

FEATURES

- Three-phase true RMS power sensing
- Operation modes: AUTO, STOP, and MANUAL modes accessible through front panel, discrete inputs or via interfaces
- Remote control via multiple interfaces and discrete inputs
- Direct support of several ECUs such as Bosch, Cummins, John Deere, MTU, Perkins, Scania, Volvo, Woodward
- Dedicated relay outputs for cranking and fuel solenoid
- Event and data logging capabilities with real time clock
- Maintenance scheduler with multipurpose flexible timers
- Operating hours, start, maintenance counters and monitoring
- Three switchable parameter sets of AC system winding, Rated Voltage, Rated Frequency, Rated Current, Rated Power, Rated Speed
- Can be configured from computer via USB or front panel with password protection
- Manual breaker operation with tactile buttons on front panel
- Custom boot-up logo with adjustable screen display time
- Multilingual customizable user interface

easYgen-400 Unique Features

- ✓ Compact design – optimize footprint of your control panel
- ✓ CAN J1939 – direct communication with electronic engines
- ✓ Crank disconnect function - an additional layer of engine safety

- **Manual and Remote Start/Stop application in:**
  - **Single-unit isolated operation**
  - **Stand-by operation**
  - **Prime power operation**
  - **Rental power operation**
- **Easy to set up and commission**
- **Comprehensive engine, and generator protection**
- **Engine ECU interface to electronic engines**
- **Programmable I/Os**
- **Power metering**
- **Communication ports: CAN J1939, RS-485, USB**
- **Dedicated relays for engine and breaker interface**
- **Switchable parameter sets for mobile genset applications**
- **Can be configured from computer or front panel**
- **Event log and event-triggered data log**

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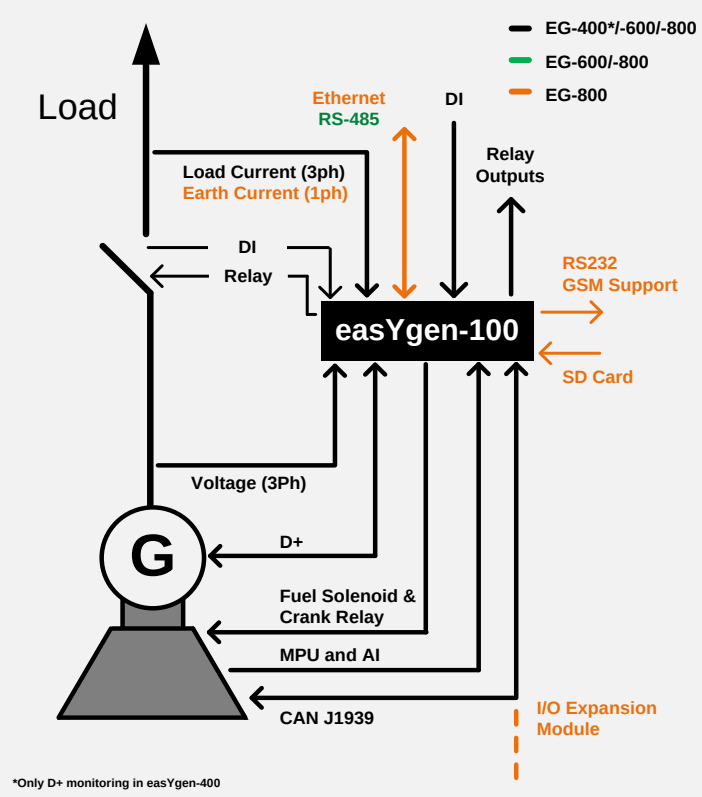
SPECIFICATIONS

Power Supply	
Operating Voltage (Reverse polarity protected)	8.0 V_{DC} to 35.0 V_{DC}, Continuous Power Supply.
Maximum supply voltage	Short Time 80 V (5-10 s); Long T. 50 V
Minimum supply voltage	6.5 V
Maximum operating current (easYgen-800)	(All relays closed, LCD bright) 450 mA (12 V); 220 mA (24 V)
Maximum standby current (easYgen-800)	(All relays closed, LCD dimm) 420 mA (12 V); 200 mA (24 V)
Power Consumption	<4 W (standby ≤ 2 W)
Alternator Input Range 3-Phase 4-Wire 3-Phase 3-Wire Single-Phase 2-Wire 2-Phase 3-Wire	50 Hz/60 Hz AC15V – AC173V (ph-N) (according to UL6200) AC15V – AC360V (ph-N) (according to EN61010)
AC-Measurement Voltage Accuracy	1%; when V > AC100V
Minimum frequency	Generator: 10 Hz
Maximum frequency	Generator: 99.5 Hz;
Frequency resolution	0.1 Hz (10 … 99 Hz)
Frequency accuracy	±0.1 Hz
Nominal CT secondary rating	5 A
Overload Measurement	Max.: 10 A

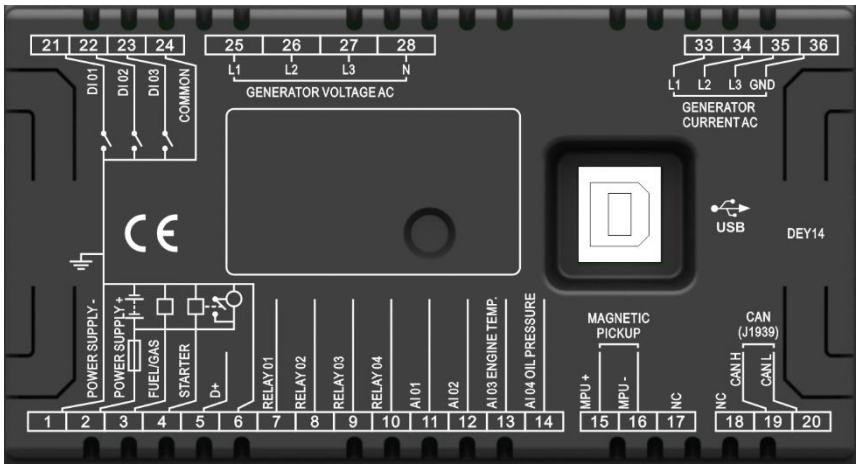
Current Accuracy	1 %
Excitation current D+ (easYgen-600, easYgen-800)	110 mA (12 V); 230 mA (24 V)
Start Relay and Fuel Relay Outputs	Rated 10Adc, 24Vdc running stand-alone. Rated 5Adc, 24Vdc when running together (easYgen-600/800 only) Rated 2Adc at 24Vdc (acc. to UL 6200)
Housing	
Case Dimensions	easYgen-400: 135 x 110 x 44 mm easYgen-600: 209 X 166 x 45 mm easYgen-800: 237 x 172 x 45 mm
Panel Cutout	easYgen-400: 116.5 x 90.5 mm easYgen-600: 187.5 x 142.5 mm easYgen-800: 214.5 x 160.5 mm
Operating Conditions	Temperature: (-25 to +70) °C. Humidity: max. 93%, non-condensing
Storage Condition	Temperature: (-25 to +70) °C Humidity: max. 93%, non-condensing
Protection Level	IP65 in the front, mounted with kit IP20 on rear side
Net Weight	easYgen-400: 0.3 kg easYgen-600: 0.56 kg easYgen-800: 0.85 kg

APPLICATION

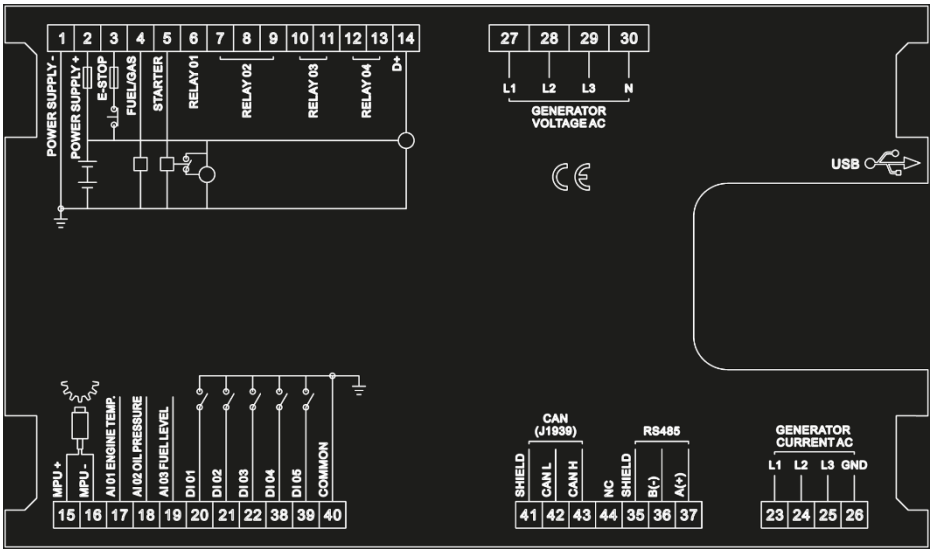


TERMINALS

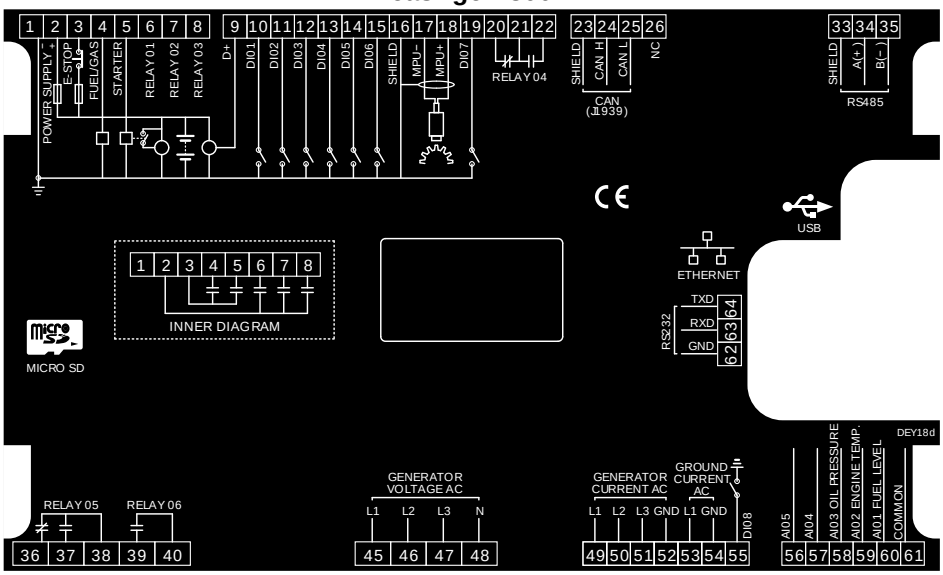
easYgen-400



easYgen-600



easYgen-800



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FEATURES OVERVIEW

EASYGEN 100	Model	easYgen-100 Series: easYgen-400	easYgen-600	easYgen-800
Measuring				
Generator voltage (3-phase/4-wire)		✓		
Generator current (3x true r.m.s.)				
Earth current (1x true r.m.s.)		—	—	✓
Control				
Isolated single unit operation		✓		
Stand-by operation				
GCB control				
Start/stop sequence for diesel and gas engines		Diesel	Diesel	Diesel/Gas
Tactile buttons to start/stop the genset and open/close the breaker		✓		
Protection				
Generator	Voltage / # of levels	✓ / 1		✓ / 2
	Frequency / # of levels			
	Voltage asymmetry	-	-	✓
	Rotation Field	-	-	✓
	Current	✓	✓	✓
	Reverse Power	-	-	✓
	Overload	✓	✓	✓
	Earth fault (measured)	—	—	✓
Engine	Over speed / # of level	✓ / 1		✓ / 2
	Under speed / # of level			
	Speed signal	✓	✓	✓
	Crank disconnect	✓	✓	✓
Battery voltage		✓	✓	✓
HMI, Counters, and Event Log				
Integral display with tactile buttons		Monochrome LCD (132 x 64)	Monochrome LCD (132 x 64)	TFT LCD (480 x 272)
Customizable power-up text and image		✓	✓	✓
Front panel configuration with PIN protection		✓	✓	✓
Flush mounting		✓	✓	✓
Operating hours/start/maintenance counters		✓	✓	✓
Event recorder with real time clock		50	50	99 internal; extended data log using SD card
kWh, kvarh		✓/-	✓/-	✓/✓
Switchable parameter sets		—	—	✓
I/Os and Interfaces				
Discrete inputs		3 (+2 switchable as AI/DI)	1x E-Stop, 5x configurable	1x E-Stop, 8x configurable
Relay outputs		6	6	8
Analog inputs		4x resistive (2 switchable as AI/DI)	3x resistive	5x resistive
Speed input (MPU)		1	1	1
Aux. excitation (D+)		1	1	1
Ethernet (TCP/IP)		—	—	1
CAN (J1939)		1	1	1
USB service port		1	1	1
RS485		—	1	1
RS232		—	—	1
External DI/DO via CAN bus		-/-	-/-	16 / 16
Micro SD card support		—	—	1
Listings/Approvals				
CE Marked, EAC		✓		
UL / cUL Listing		✓	✓	✓
Part Numbers				
Control with connectors and fastening kit		**8440-2250**	**8440-2252**	**8440-2254**
Spare connector kit		**10-009-352**	**10-004-674**	**10-004-675**

RELATED PRODUCTS

- Configuration tool **ToolKit-SC** (Product Specification # 37695): P/N 9927-2684
- I/O Expansion Board **IKD1** (Product Specification # 37171): P/N 8440-2116
- Small Engine Control Module **SECM-70** (Product Specification # 36363)

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