

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
- Two heavy duty 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 applied on pumping units as an indicating instrument (relays are inhibited)
- 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-600 Unique Features

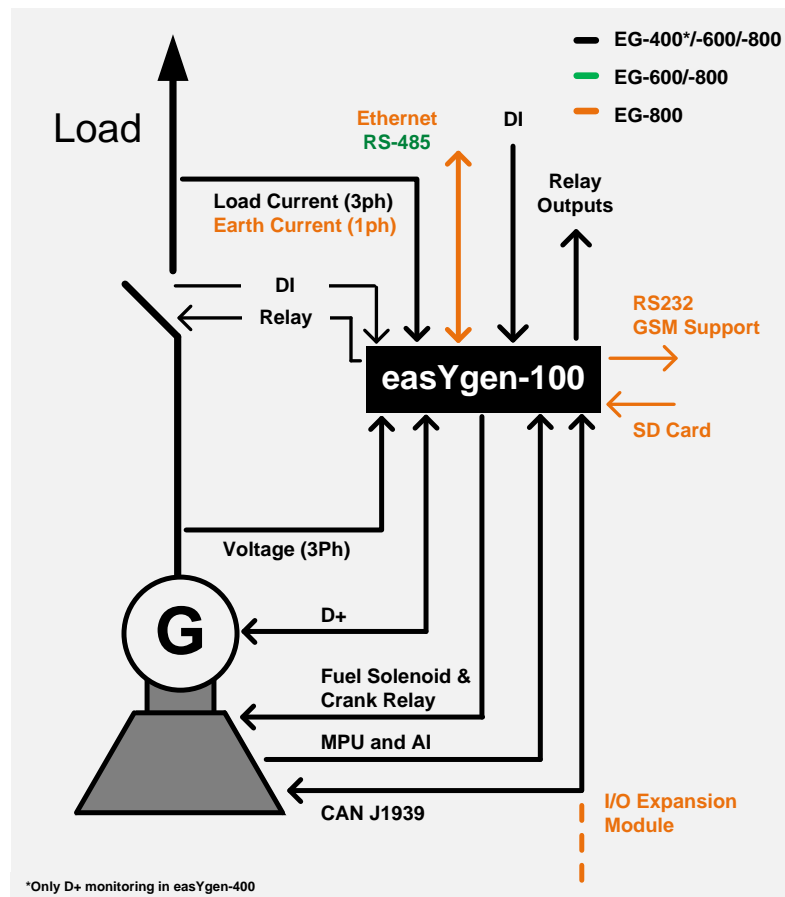
- ✓ Compact design – optimize footprint of your control panel
- ✓ CAN J1939 – direct communication with electronic engines
- ✓ Crank disconnect function - an additional layer of engine safety

- **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 heavy duty 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**

SPECIFICATIONS

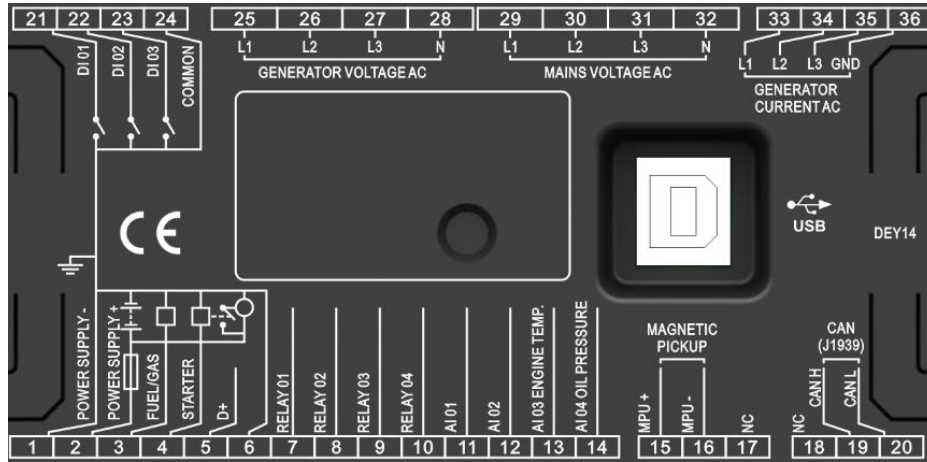
Power Supply		Overload Measurement	Max.: 10 A
Operating Voltage (Reverse polarity protected)	8.0 V _{DC} to 35.0 V _{DC} , Continuous Power Supply.	Current Accuracy	1 %
Maximum supply voltage	Short Time 80 V (5-10 s); Long T. 50 V	Excitation current D+ (easYgen-600 and easYgen-800)	110 mA (12 V); 230 mA (24 V)
Minimum supply voltage	6.5 V	Start Relay and Fuel Relay Outputs	16 A DC28V supply output in EG-600/-800 5 A DC28V supply output in EG-400
Maximum operating current (easYgen-800)	(All relays closed, LCD bright) 450 mA (12 V); 220 mA (24 V)	Housing	
Maximum standby current (easYgen-800)	(All relays closed, LCD dimm) 420 mA (12 V); 200 mA (24 V)	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
Power Consumption	<4 W (standby ≤ 2 W)	Panel Cutout	easYgen-400: 114 x 88 mm easYgen-600: 186 x 141 mm easYgen-800: 214 x 160 mm
Alternator Input Range		Operating Conditions	Temperature: (-25 to +70) °C; Humidity: (20 to 93) %RH
3-Phase 4-Wire	50 Hz/60 Hz	Storage Condition	Temperature: (-25 to +70) °C
3-Phase 3-Wire	AC15V - AC360V (ph-N)	Protection Level	IP65 in the front, mounted with kit IP20 on rear side
Single-Phase 2-Wire	AC30V - AC620V (ph-ph)	Net Weight	easYgen-400: 0.3 kg easYgen-600: 0.56 kg easYgen-800: 0.85 kg
2-Phase 3-Wire	AC15V - AC360V (ph-N)		
AC-Measurement			
Voltage Accuracy (400/480 V % rated)	Phase-phase: 100 .. 624 V : 1%; 50 .. 100 V : 1.5 % Phase-neutral: 100 .. 360 V : 1% 50 .. 100 V : 1.5 %		
Minimum frequency	Generator: 10 Hz; Mains: 27 Hz		
Maximum frequency	Generator: 99.5 Hz; Mains: 99.5 Hz		
Frequency resolution	0.1 Hz (10 .. 99 Hz)		
Frequency accuracy	±0.1 Hz		
Nominal CT secondary rating	5 A		

APPLICATION

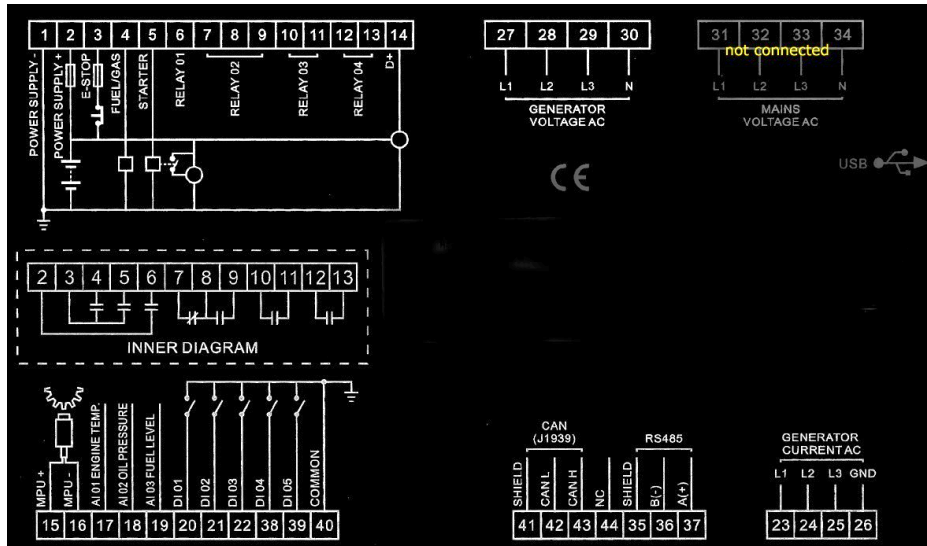


TERMINALS

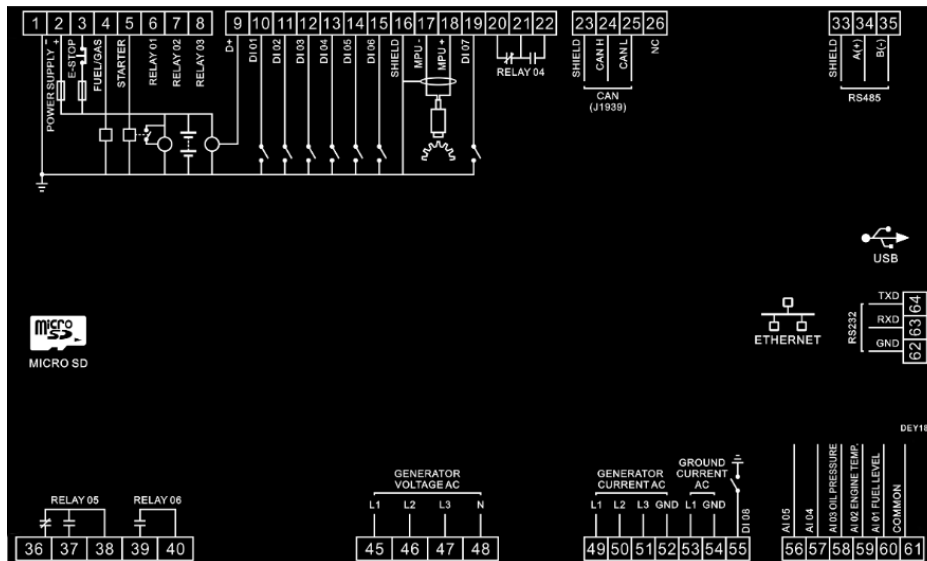
easYgen-400



easYgen-600



easYgen-800



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FEATURES OVERVIEW

		easYgen-100 Series		
		Model	easYgen-400	easYgen-600
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			✓	
Remote monitoring and control over SMS (modem support)		-	--	✓
Protection				
Generator	Voltage			
	Frequency			
	Loss of phase			
	Phase sequence		✓	
	Current			
	Reverse Power			
	Overload			
	Earth fault	-	--	✓
Engine	Over speed		✓	
	Under speed		✓	
	Loss of speed		✓	
	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		1x Fuel (5A), 1x Start (5A), 4x configurable	1x Fuel (16 A), 1x Start (16 A), 4x configurable	1x Fuel (16 A), 1x Start (16 A), 6x configurable
Analog inputs		4x resistive (2 switchable as AI/DI)	3x resistive	5x (VDO, RTD, mA)
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 slot		-	-	1
Listings/Approvals				
CE Marked			✓	
UL / cUL Listing			Pending	
EAC			Pending	
Part Numbers				
Control with connectors and fastening kit		8440-2231	8440-2229	8440-3003
Spare connector kit		10-009-352	10-004-674	10-004-675

RELATED PRODUCTS

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