



APPLICATIONS

The 2nd Generation of genset controls is designed to provide a maximum of flexibility in a user friendly and intuitive design with a large graphical display for various applications. This controller is one of a series of new and powerful genset controls (**easYgen**). This trend-setting technology offers a maximum of flexibility for each user. New technologies included are:

FlexApp™ - This intelligent and flexible feature provides the tools to easily configure for multiple applications. The user can configure the easYgen-1000 Series for use as

- Measuring transducer/engine control [0-CB-Mode {0}] for start/stop and measuring conversion
- 1-breaker-control [GCB open, {10}] above plus engine/generator protection
- 1-breaker-control [GCB open/close, {10c}] above plus stand-by power applications
- 2-breaker-control [GCB/MCB open/close, {20c}] above plus AMF, and open transition applications

DynamicsLCD™ - The graphical LCD provides softkeys that vary depending on application and operation.

FlexIn™ - The two analog inputs can be freely configured (adaptable for each type of sensor) by the user as:

- VDO (0 to 180Ohm [0 to 5bar/0 to 10bar]; 0 to 380Ohm [40 to 120°C/50 to 150°C]; 0 to 180 Ohm [0 to 100% level]; isolated (2-pole) and non-isolated (1-pole) ground senders only)
- Resistive input (Pt100 / linear 2point / user-defined 9point)
- 0/4 to 20 mA (linear 2point / user-defined 9point)

FlexCAN™ - Flexible isolated CAN bus for multiple use. Selectable during configuration: CANopen, or CAN (CAL); coupling of easYlite remote annunciator; coupling of 3rd party expansion cards supported (request detailed information from our sales department). J1939 protocol for ECU coupling and alarm management, remote start/stop with ECU possible (Scania, Volvo, Deutz, mtu).

LogicsManager™ - A large number of measuring values, inputs, internal states or constant values can be combined logically to operate a relay contact or an internal function.

Genset Control for Single Unit Operation

DESCRIPTION

I/Os

- **FlexRange™** - true RMS 3phase generator and mains voltage, measuring inputs:
 - Rated 120 Vac (max. 150 Vac) **and**
 - Rated 480 Vac (max. 600 Vac) **in 1 unit**
- True rms 3phase generator current/power
- True rms 1phase current input alternatively and freely configurable for
 - Mains current
 - Ground current (ground fault protection)
- 1 speed input (magnetic/switching)
- up to 8 configurable discrete alarm inputs
- **LogicsManager™** - up to 9 program. relays
- **FlexIn™** - 2 configurable analog inputs
- **FlexCAN™** - CAN bus communication (32 participants, isolated)

Protection (ANSI #)

Generator / Engine: Battery voltage, overspeed (12), over-/undervoltage (59/27), over-/underfrequency (81O/U), overload (32), reverse/reduced power (32R/F), unbalanced load (46), definite time-overcur. (50/51), inverse time-overcurrent (IEC255), calculated + measured ground fault

Features

- **FlexApp™** Technology (4 application modes)
- **DynamicsLCD™** - 128×64 pixel graphical interactive LC display with softkeys
- Start/stop logic for Diesel/Gas engines
- Engine pre-glow or purge control
- kWh meter, kvarh meter
- Operating hours/start/maintenance counters
- Configurable trip levels/delays/alarm classes
- Push-buttons (softkeys) for direct control
- PC and/or front panel configurable
- Multi-level password protection
- Multi-lingual capability (10 languages in 1 unit configurable: English, German, French, Italian, Spanish, Portuguese, Russian, Turkish, Chinese, Japanese)
- Event recorder (300 events, FIFO) with real time clock (battery backed; min. 6 years)
- Modem connectivity with DPC
- easYlite annunciator support via CAN bus
- Remote control via interface / digital signals

Differentiation

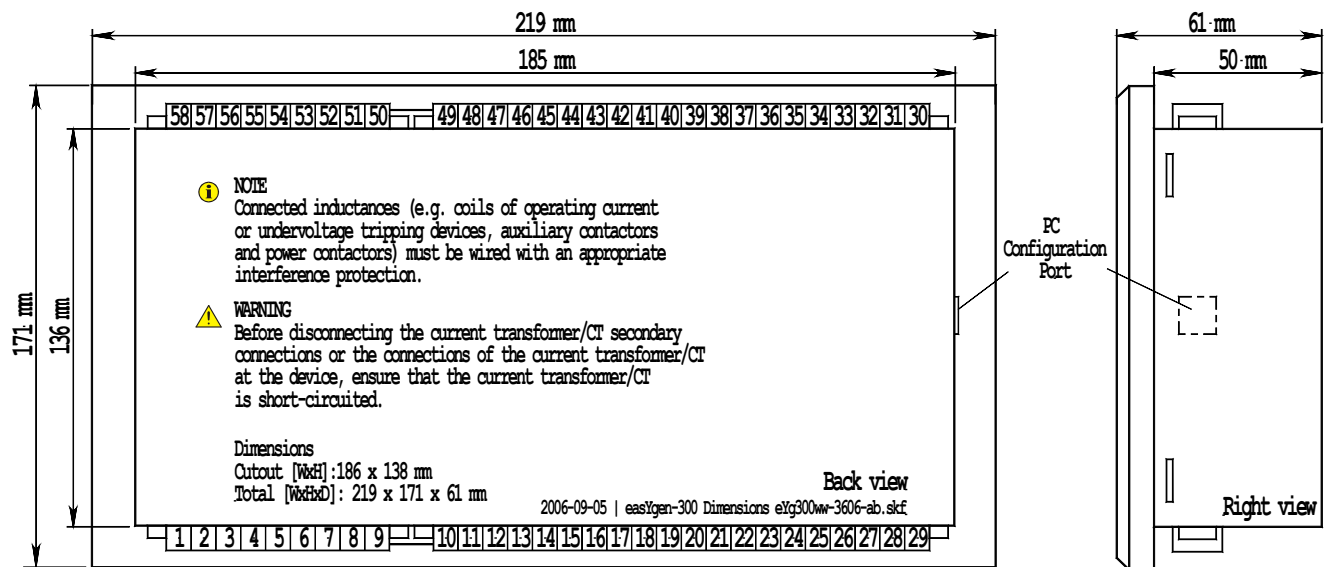
- Current input as ..5 A (standard) or ..1 A

- **FlexApp™** Technology
- Flexible and multifunctional **DynamicsLCD™**
- AMF/loss of mains auto start/stop
- Complete engine, generator, and mains protection in one unit
- True rms voltage sensing with **FlexRange™**
- True rms current/power sensing
- kWh meter
- Counters for engine starts, operating hours, maintenance call
- Freely configurable discrete inputs
- Freely configurable analog **FlexIn™** inputs
- Freely programmable relay outputs with **LogicsManager™**
- PC and/or front panel configurable
- Multi-lingual capability 10 languages in 1 unit
- **FlexCAN™** communication (32 participants, isolated)
- Modbus RTU Slave
- 6.5 to 40.0 Vdc power supply
- Flush-mounting
- CE marked
- UL/cUL Listed
- GL, LR Marine Approval

SPECIFICATIONS

Power supply	12/24 Vdc (6.5 to 40.0 Vdc)	Discrete inputs	isolated
Intrinsic consumption	max. 15 W	Input range	12/24 Vdc (6.5 to 40.0 Vdc)
Ambient temperature (operation)	-20 to 70 °C / -4 to 158 °F	Input resistance	approx. 6.7 kΩ
Ambient temperature (storage)	-30 to 80 °C / -22 to 176 °F	Relay outputs	isolated
Ambient humidity	95 %, non-condensing	Contact material	AgCdO
Voltage	(both ranges within one unit on different terminals, Δ/Δ)	Load (GP)	2.00 Aac@250 Vac
100 Vac [1]	Rated (V_{rated}) 69/120 Vac		2.00 Adc@24 Vdc / 0.36 Adc@125 Vdc / 0.18 Adc@250 Vdc
	Max. value (V_{max}) 86/150 Vac	Pilot duty (PD)	
	Rated ($V_{phase-ground}$) 150 Vac		1.00 Adc@24 Vdc / 0.22 Adc@125 Vdc / 0.10 Adc@250 Vdc
	Rated surge volt. (V_{surge}) 2.5 kV	Analog input	freely scaleable
and 400 Vac [4]	Rated (V_{rated}) 277/480 Vac	Type	variable
	Max. value (V_{max}) 346/600 Vac	Resolution	10 Bit
	Rated ($V_{phase-ground}$) 300 Vac	Housing	Flush Type easYpack
	Rated surge volt. (V_{surge}) 4.0 kV	Dimensions	Flush 219×171×61 mm
Accuracy	Class 1	Front cutout	Flush 186 [+1.1]×138 [+1.0] mm
Measurable alternator windings	3p-3w, 3p-4w, 1p-2w, 1p-3w	Connection	screw/plug terminals 2.5 mm ²
Setting range	primary 50 to 650,000 Vac	Front	insulating surface
Linear measuring range	1.25× V_{rated}	Protection system	with professional installation
Measuring frequency	50/60 Hz (40 to 70 Hz)		Front IP54 (with clamp fastening)
Input resistance per path	[1] 0.498 MΩ, [5] 2.0 MΩ		Front IP65 (with screw fastening)
Max. power consumption per path	< 0.15 W		Back IP20
Current	Rated (I_{rated}) [1] ..1 A or [5] ..15 A	Weight	approx. 800 g
Linear measuring range	$I_{gen} = 3.0 \times I_{rated}$, $I_{mains} = 1.5 \times I_{rated}$	Disturbance test (CE)	tested according to applicable EN guidelines
Burden	< 0.15 VA	Listings	UL/cUL listed
Rated short-time current (1 s)	[1] 50× I_{rated} , [5] 10× I_{rated}	Marine Approvals	GL, LR , others upon request

DIMENSIONS



PART NUMBERS AND ORDER CODES

Model Mounting	Rated PT secondary <i>FlexRange™</i>	Rated CT secondary	Part Number (P/N)	Description
1500	69/120 Vac	..15 A	8440-1809	EASYGEN-1500-55B
	and			
	277/480 Vac	..1 A	8440-1810	EASYGEN-1500-51B



FEATURES OVERVIEW

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		easYgen-1500				
		Configured as ...	{0}	{1o}	{1oc}	{2oc}
			No CB control	1 CB control (GCB open)	1 CB control (GCB open / close)	2 CB control (GCB / MCB open / close)
Measuring						
Generator voltage (3phase/4-wire)	rated 69/120 Vac	✓	✓	✓	✓	
- true rms	max. 86/150 Vac	✓	✓	✓	✓	
- FlexRange™	rated 277/480 Vac	✓	✓	✓	✓	
	max. 346/600 Vac	✓	✓	✓	✓	
Generator current #1 (3phase/4-wire, true RMS)	..1 A or ..5 A	✓	✓	✓	✓	
Mains voltage (3phase/4-wire)	rated 69/120 Vac	(✓)#2	(✓)#2	(✓)#2	✓	
- true rms	max. 86/150 Vac	(✓)#2	(✓)#2	(✓)#2	✓	
- FlexRange™	rated 277/480 Vac	(✓)#2	(✓)#2	(✓)#2	✓	
	max. 346/600 Vac	(✓)#2	(✓)#2	(✓)#2	✓	
Mains current #1 (1phase/2-wire, true RMS)	..1 A or ..5 A	(✓)#2	(✓)#2	(✓)#2	✓	
Control						
Breaker control logic	FlexApp™	0	0	1	2	
Number of controlled power circuit breakers	GCB open#3		✓	✓	✓	
can be user configured depending on application needs out of 4 Modes	GCB open/close#3			✓	✓	
	GCB/ MCB open/close#3				✓	
Isolated single-unit operation				✓	✓	
AMF (auto mains failure operation)					✓	
Stand-by operation					✓	
Open transition (break-before-make)					✓	
ATS (automatic transfer switching)					✓	
Accessories						
Softkeys (advanced LC display)	DynamicsLCD™	✓	✓	✓	✓	
Start/stop logic for Diesel/Gas engines		✓	✓	✓	✓	
kWh meter, kvarh meter		✓	✓	✓	✓	
Operating hours/start/maintenance counter		✓	✓	✓	✓	
Configuration via PC #4		✓	✓	✓	✓	
Event recorder with real time clock (battery backup)		300	300	300	300	
Flush-mounting		✓	✓	✓	✓	
Protection ANSI#						
Generator: voltage/frequency	59/27/810/81U	(✓)#6	✓	✓	✓	
Generator: overload, reverse/reduced power	32/32R/32F	(✓)#6	✓	✓	✓	
Generator: unbalanced load	46	(✓)#6	✓	✓	✓	
Generator: definite time-overcurrent	50/51	(✓)#6	✓	✓	✓	
Generator: inverse time-overcurrent	IEC255	(✓)#6	✓	✓	✓	
Generator: ground fault #5		(✓)#6	✓	✓	✓	
I/Os						
Speed input (magnetic/switching; Pickup)		✓	✓	✓	✓	
Discrete alarm inputs (configurable)		8	8	7	5	
Relay outputs (configurable)	LogicsManager™	8	7	6	4	
Analog inputs #7 (configurable)	FlexIn™	2	2	2	2	
CAN bus communication #8	FlexCAN™	✓	✓	✓	✓	
RS-232 Modbus RTU Slave #9		✓	✓	✓	✓	
Listings/Approvals #10						
UL/cUL Listed		✓	✓	✓	✓	
LR, GL Marine Approval		✓	✓	✓	✓	
CE Marked		✓	✓	✓	✓	

- #1 Selection during order; both ..15 A (standard) or both ..1 A (alternatively);
 #2 the mains are measured and may be displayed, but they will not be evaluated
 #3 dedicated to a fixed relay
 #4 external Woodward DPC cable required.
 USB connector: P/N 5417-1251 / RS-232 connector: P/N 5417-557 or CAN connection by LeoPC1 software
 #5 calculated + measured ground current
 #6 possible (not dedicated to a fixed relay)

- #7 selectable during configuration
 VDO (0 to 180 Ohm, 0 to 5 bar, 2-pole)
 VDO (0 to 180 Ohm, 0 to 10 bar, 2-pole)
 VDO (0 to 380 Ohm, 40 to 120°C, 2-pole)
 VDO (0 to 380 Ohm, 50 to 150°C, 2-pole)
 Pt100
 Resistive input (linear 2pt. or free chart 9pt.)
 20 mA (0/4 to 20 mA, freely configurable)
 #8 freely selectable during configuration
 CANopen, CAN (CAL), or J1939; request info
 #9 external electrical isolation required (e.g. DPC cable P/N 5417-557)
 #10 contact your sales rep to find out whether your desired unit has the required approval

Example of the *LogicsManager*

