**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, {1o}]
  - above plus engine/generator protection
- 1-breaker-control [GCB open/close, {1oc}]
  - above plus standby power applications
- 2-breaker-control [GCB/MCB open/close, {2oc}]
  - above plus AMP, 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 1800 Ohm [0 to 5 bar]/0 to 10 bar]; 0 to 380 Ohm [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 easyYlite 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.

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**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/matching)
- 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 configuration: 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
- easyYlite annunciator support via CAN bus
- Remote control via interface / digital signals

**Differentiation**

- Current input as ../5 A (standard) or ../1 A
- 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)
Intrinsic consumption ........................................ max. 15 W
Ambient temperature (operation) .............. -20 to 70 °C / -4 to 158 °F
Ambient temperature (storage) .............. -30 to 80 °C / -22 to 176 °F
Ambient humidity ............................................. 95 %, non-condensing

Voltage .......................................................... (both ranges within one unit on different terminals, \( V \))

100 Vac \([1]\)  Rated (\( V_{\text{rated}} \)) ........................................ 69/120 Vac
Max. value (\( V_{\text{max}} \)) ........................................ 86/150 Vac
Rated surge volt. (\( V_{\text{surge}} \)) ........................................ 2.5 kV
and 400 Vac \([4]\)  Rated (\( V_{\text{rated}} \)) ........................................ 277/480 Vac
Max. value (\( V_{\text{max}} \)) ........................................ 346/600 Vac
Rated surge volt. (\( V_{\text{surge}} \)) ........................................ 4.0 kV

Burden .......................................................................................... < 0.15 VA
Measuring frequency ................................................ 50/60 Hz (40 to 70 Hz)
Accuracy .......................................................................................... Class 1
Rated surge volt. (\( V_{\text{surge}} \)) .................................................... 2.5 kV
Max. value (\( V_{\text{max}} \)) ........................................ 86/150 Vac
Rated surge volt. (\( V_{\text{surge}} \)) .................................................... 4.0 kV

Rated (\( V_{\text{phase-ground}} \)) ................................................. 300 Vac
Rated (\( V_{\text{phase-ground}} \)) ................................................. 150 Vac

100 Vac \([1]\)

Linear measuring range .............................................................. 1.25×\( V_{\text{rated}} \)
Input resistance per path ..................................... \([1]\) 0.498 MΩ, \([5]\) 2.0 MΩ
Max. power consumption per path ...................... < 0.15 W

Current .......................................................... (\( I_{\text{rated}} \))

1.1 A or \([5]\) 0.5 A

Linear measuring range .............................................................. \(1\) \( I_{\text{gen}} = 3.0\times I_{\text{rated}} \), \( I_{\text{max}} = 1.5\times I_{\text{rated}} \)

Burden .......................................................................................... < 0.15 VA
Rated short-time current (1 s) ....................... \([1]\) 50×\( I_{\text{rated}} \), \([5]\) 10×\( I_{\text{rated}} \)

NOTE

Connected inductances (e.g. coils of operating current or undervoltage tripping devices, auxiliary contactors and power contactors) must be wired with an appropriate interference protection.

WARNING

Before disconnecting the current transformer/CT secondary connections or the connections of the current transformer/CT at the device, ensure that the current transformer/CT is short-circuited.

Analog input .......................................................... freely scaleable
Type .......................................................... variable
Resolution ..................................................... 10 Bit

Housing

Dimensions

Flush ........................................ 219×171×61 mm
Front cutout  Flush ................................ 186 [+1.1]×138 [+1.0] mm
Connection ........................................................ screw/plug terminals 2.5 mm²

Front.....................................................insulating surface

Protection system ............................................... with professional installation
Front..................................................... IP54 (with clamp fastening)
Front..................................................... IP65 (with screw fastening)
Back..................................................... IP20

Weight .......................................................... approx. 800 g

Disturbance test (CE) ...................................tested according to applicable EN guidelines
Listings ........................................................... GL, LR , others upon request

Marine Approvals ............................................ GL, LR , others upon request

DIMENSIONS

PART NUMBERS AND ORDER CODES

<table>
<thead>
<tr>
<th>Model Mounting</th>
<th>Rated PT secondary</th>
<th>Rated CT secondary</th>
<th>Part Number (P/N)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FlexRange™ 1500</td>
<td>69/120 Vac (/5 A)</td>
<td>(/5 A)</td>
<td>8440-1809</td>
<td>EASYGEN-1500-55B</td>
</tr>
<tr>
<td>and 277/480 Vac</td>
<td>(/1 A)</td>
<td>8440-1810</td>
<td>EASYGEN-1500-51B</td>
<td></td>
</tr>
</tbody>
</table>
only connection for two-pole sensors is shown below.

- Switching/inductive
- Pickup

2 Anal input (T1)
- VDD & resistive & 0/4 to 20 mA
- Battery ground/common or genset chassis ground

- FlexApp
- FlexIn

Drive
G
GCB
MCB
Sensor
Sensor

Model easYgen-1500
- P/N 8440-1751 = ../1 A
- P/N 8440-1751 = ../5 A

Depending on the setting you have different I/O's available, respectively the control can operate the breakers for protection/delaying or not.

- Measuring transducer/engine control (ICB)
- 1-CB-control (GCB open)
- 2-CB-control (GCB/MCB open/close)

Subject to technical modifications.

Battery or another power supply; terminal 50 is pos. or neg. signal

The socket for the PC configuration is situated on the back of the item. This is where the DPC has to be plugged in.
# Features Overview

<table>
<thead>
<tr>
<th>easYgen-1500</th>
<th>Configured as</th>
<th>No CB control</th>
<th>1 CB control (GCB open)</th>
<th>1 CB control (GCB open / close)</th>
<th>2 CB control (GCB / MCB open / close)</th>
</tr>
</thead>
</table>

### Measuring
- Generator voltage (3phase/4-wire)
  - true rms
    - FlexRange™
      - rated 69/120 Vac: ✓ ✓ ✓ ✓
      - max. 86/150 Vac: ✓ ✓ ✓ ✓
      - rated 277/480 Vac: ✓ ✓ ✓ ✓
      - max. 346/600 Vac: ✓ ✓ ✓ ✓

- Generator current #1 (3phase/4-wire, true RMS)
  - 3 A or 5 A
  - FlexRange™
    - rated 69/120 Vac: ✓ ✓ ✓ ✓
    - max. 86/150 Vac: ✓ ✓ ✓ ✓
    - rated 277/480 Vac: ✓ ✓ ✓ ✓
    - max. 346/600 Vac: ✓ ✓ ✓ ✓

### Control
- Breaker control logic
  - FlexApp™
    - Number of controlled power circuit breakers: 0 0 1 2
    - GCB open
    - GCB open/close
    - GCB / MCB open/close

- AMF (auto mains failure operation)
- Stand-by operation
- Open transition (break-before-make)
- ATS (automatic transfer switching)

### Accessory
- Softkeys (advanced LC display)
  - DynamicsLCD™
  - Start/stop logic for Diesel/Gas engines
  - kWh meter, kvarh meter
- Operating hours/start/maintenance counter
- Configuration via PC
- Event recorder with real time clock (battery backup)
  - 300 300 300 300
- Flush-mounting

### Protection
- Generator: voltage/frequency
  - 59/27/810/81U
- Generator: overload, reverse/reduced power
  - 32/32R/32F
- Generator: unbalanced load
  - 46
- Generator: definite time-overcurrent
  - 50/51
- Generator: inverse time-overcurrent
  - IEC255
- Generator: ground fault
  - #5

### 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: LogicsManager™
  - Flexln™
  - 2 2 2
- CAN bus communication: LogicsManager™
  - FlexCAN™
  - 2 2 2
- RS-232 Modbus RTU Slave
  - #9

### Listings/Approvals
- UL/cUL Listed
- LR, GL Marine Approval
- CE Marked

### Example of the LogicsManager

**Selection during order:**
- Both 3 A (standard) or both 5 A (alternatively),
- The mains are measured and may be displayed, but they will not be evaluated.
- Dedicated to a fixed relay
- Selectable during configuration
- Resistor input (linear 2pt. or free chart 9pt.)
- 20 mA (0/4 to 20 mA, freely configurable)
- Freely selectable during configuration
- External electrical isolation required (e.g. DPC cable P/N 5417-557)

**Contact your sales rep to find out whether your desired unit has the required approval.**