

easYgen-1000 Series

Genset Control for Single Unit Applications

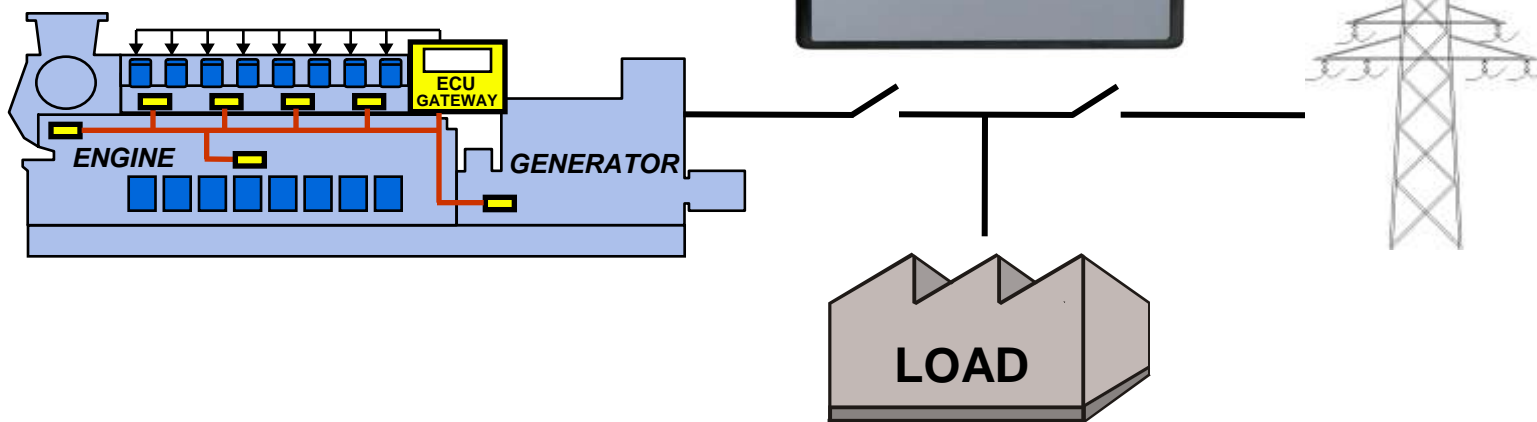


Introduction



Applications

- Rental Units
- Stand Alone
- Stand By (AMF)
- Open Transition



● Introduction

● DynamicsLCD™

● Main features

● FlexApp™

● FlexRange™

● FlexIn™

● LogicsManager™

● Interface

● CAN bus

● Connections

● Product Info

Introduction



- **FlexApp™**
Allows for easy application setup
- **FlexRange™**
Allows for the control to operate on a wide range of PT Voltage, inputs and CT set ups
- **FlexIn™**
Allows for the control to work with a wide range of resistive and mA senders
- **LogicsManager™**
A large number of inputs, internal states, CAN values, or constant values can be combined logically to operate a relay contact or an internal function.
- **FlexCAN™**
Allows for CANopen protocols



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Main Features



Operation

- Single unit operation
- Stand-by operation
- AMF loss of mains auto start/stop
- Start/stop logic for diesel and gas engines

Breaker

- Open GCB/MCB for protection
- Close GCB/MCB for operation
- Open transition breaker pair switching



Main Features



Protection

Levels

• Over-/undervoltage	2	[ANSI 59/27]
• Voltage asymmetry	1	[ANSI 47]
• Over-/underfrequency	2	[ANSI 81O/U]
• Overload	2	[ANSI 32]
• Reverse/reduced power	2	[ANSI 32R/F]
• Unbalanced load	2	[ANSI 46]
• Definite time-overcurrent	3	[ANSI 50/51]
• Inverse time-overcurrent	1	[IEC 255]
• Overspeed (MPU)	2	[ANSI 12]
• Calculated ground fault	2	[ANSI 64G]
• Measured ground current	2	
• Phase rotation field CW/CCW	1	

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Main Features



Monitoring

- Loss of mains
- Underspeed (MPU)
- Speed detection (f/n mismatch)
- Start failure
- Shutdown malfunction
- Unintended stop
- Dead bus operation
- GCB/MCB fail to open/fail to close
- Battery over-/ under voltage
- Interface CANopen
- Interface CAN CIA J1939
- Analog inputs 2 levels each
- Analog inputs wire break
- Digital inputs
- 4 flex limits

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Main Features



Alarm Classes

A

Warning	Display
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B

Warning	Display	Horn
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C

Shut down	Display	Horn	GCB open	Cooldown
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D

Shut down	Display	Horn	GCB open	Cooldown
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E

Shut down	Display	Horn	GCB open	Immediately
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F

Shut down	Display	Horn	GCB open	Immediately
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Control

For control purposes via LogicsManager

Main Features



Miscellaneous

- 12/24 Vdc (7 to 40 Vdc) power supply
- Event recorder (300 events, FIFO) with real-time clock (battery buffered)
- Relay contacts for 2.00 A@250 Vac / 2.00 A@24 Vdc
- Metallically isolated CAN bus with multiple protocols
- J1939 CAN bus connection to ECUs
- Modbus RTU Slave on RS-232 available
- IP21 from front (with gasket IP54)
- PC and/or front panel configurable
- CE marked, UL/cUL listed, GL/LR Approval

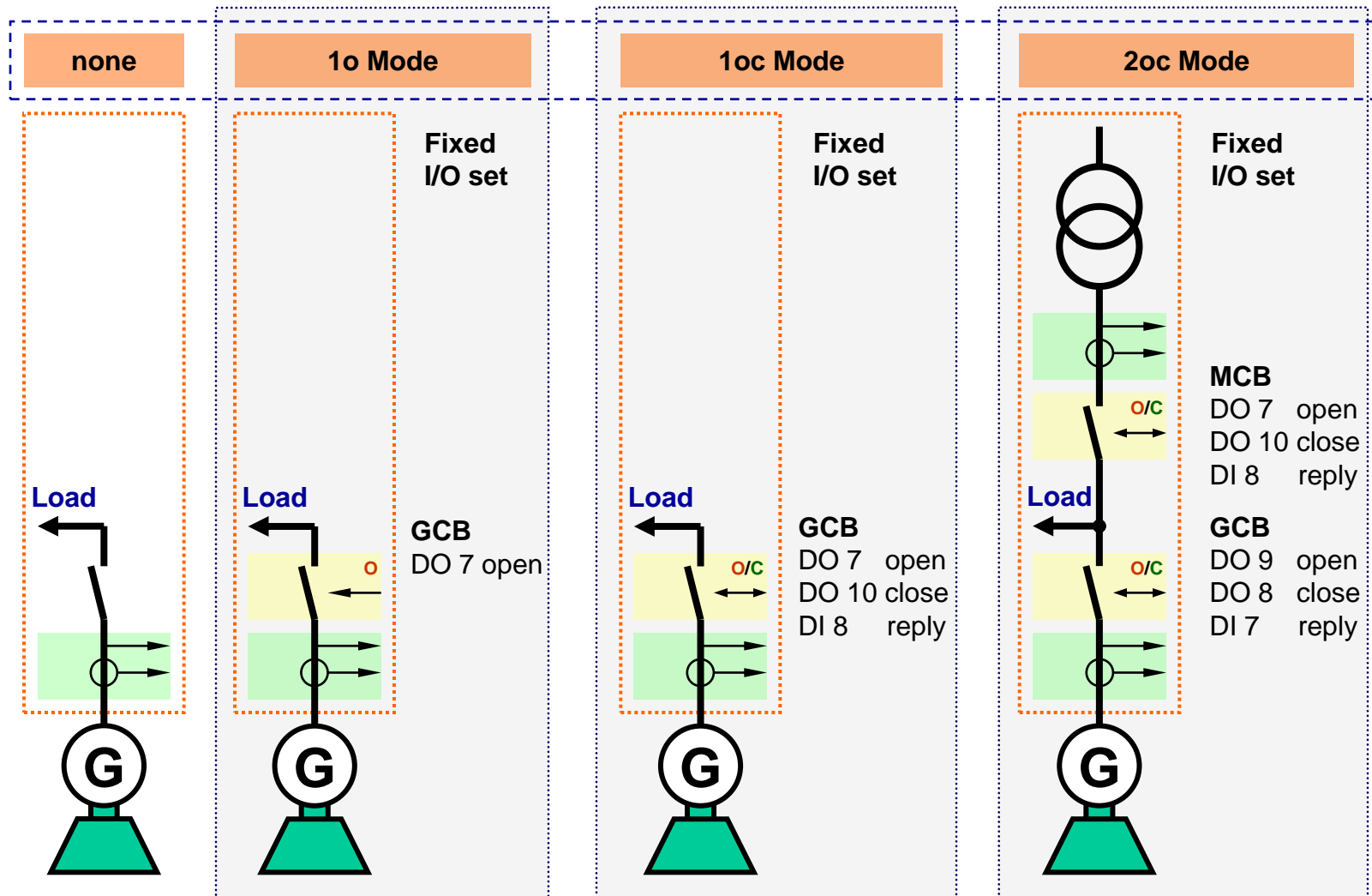
CE marked



GL,LR



FlexApp™ - The Four Operation Modes



Main Features - *LogicsManager™*

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Digital Signals

Discrete inputs
Relay status
External discrete inputs
External relays
Control via interface

Internal Conditions

Conditions

- CB status
- operating mode
- engine status

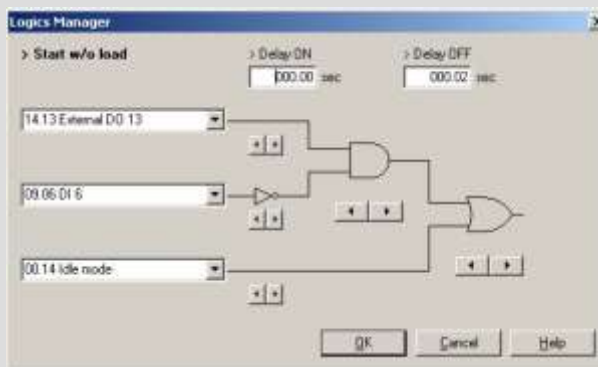
Alarms

- warning-alarm
- shutdown

Time/ Date

Assignment

with timer ON-delay and OFF-delay
8 additional/internal flags or logical operations



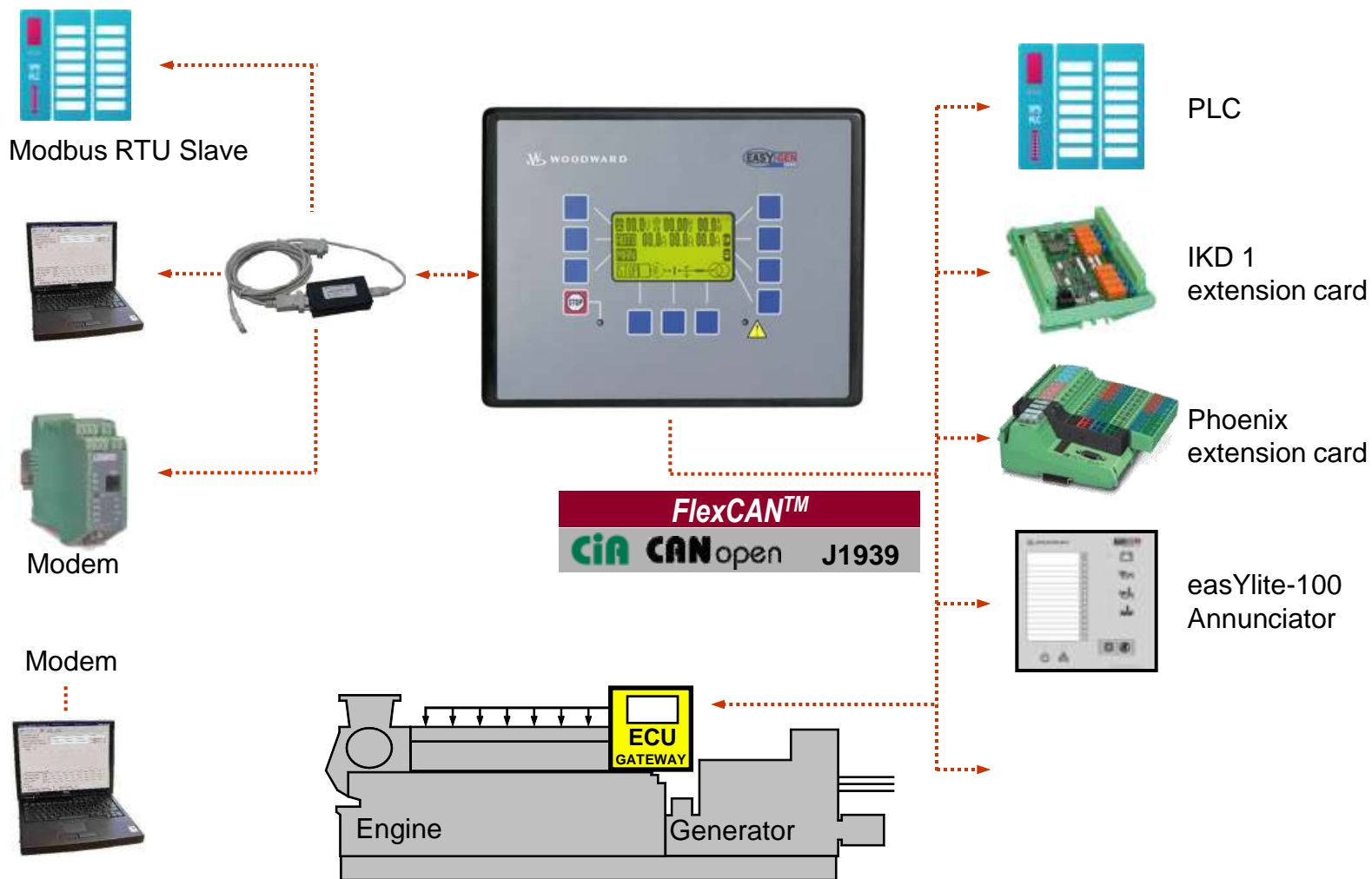
Relay Outputs

- operate free configurable outputs

Internal Conditions

- start/stop engine
- Change operation mode
- Acknowledge of alarms
- Inhibit emergency mode

Interface Overview



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FlexCAN: Visualization of a J1939 ECU

The easYgen reads & displays ECU values:

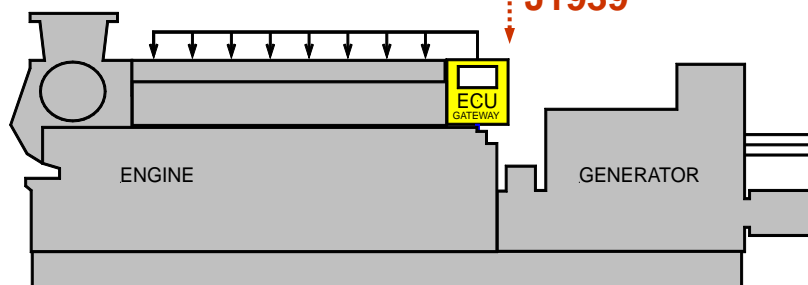
Alarms (failure code, blink code)

Pressure

Temperature

Other measured values

Visualization



FlexCAN: Monitoring of a J1939 ECU

The easYgen reacts to ECU messages with an alarm:



Via Flexible Limits

- SPN 100 oil pressure
- SPN 110 coolant temp.
- SPN 190 speed



- Amber **warning** lamp

- Red **stop** lamp

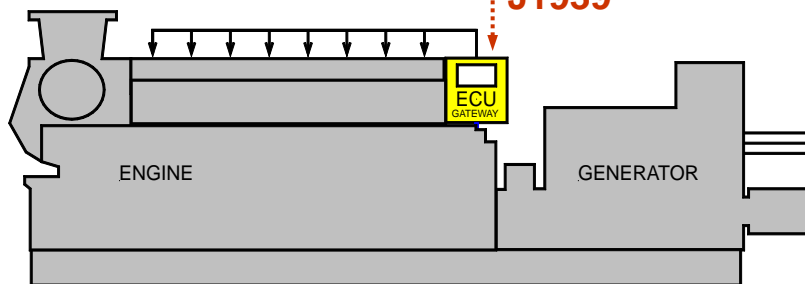
Adjustable alarm class for each bit

Visualization values



Warning / Alarm lamp

J1939



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FlexCAN: Control of a J1939 ECU

The easYgen sends commands to the ECU:

Request alarms (failure code, blink code)

Reset blink code (only Scania)

Acknowledge



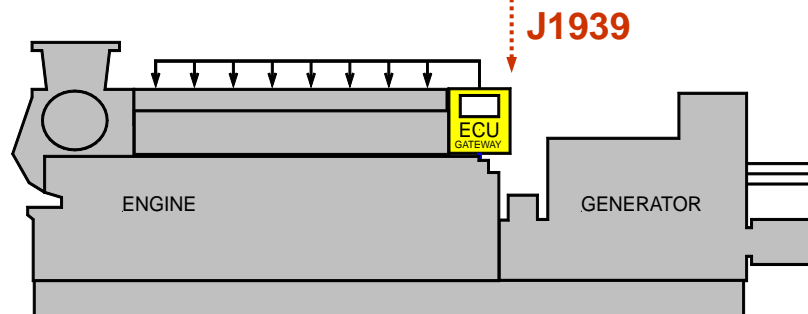
Start/Stop

Speed offset

Droop

Idle

Control — if supported by the ECU



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Configuration via DPC

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easYgen-1500
RJ45 socket on the side



Configuration cable
with galvanic isolation (black box)



Laptop with Windows
operation system
98, NT, ME, 2000, XP
LeoPC1
Configuration possible

Thank you for your attention

note:

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