easYgen-3100XT/3200XT(-LT)

Introduction Presentation
Overview

easyGen-3100XT-P1

easyGen-3200XT-P1
easYgen-3200XT series controls benefits

- **High Flexibility and Reduced Efforts** for variants at different applications. One device fits most applications.
- **Save Cost** for additional PLC as logical/analog operations can be handled by the controls LogicsManager / AnalogManager.
- **Ensure High Robustness** against external disturbances by galvanic isolation of the measuring inputs, relay contacts, biasing outputs and communication interfaces.
- **Simplified Configuration and Commissioning** through Ethernet & USB connectivity, On-board documentation and system update function.
- **Drop-In Replacement** extends system longevity.
- **Full** Mains, Generator and Engine **Protection** avoids additional protection relays.
- **Enable Your Genset** to speak your local language at the touch of a button with 14 built-in languages.
easYgen-3200XT – Product Features

- 3 Systems measurement (gen-set, utility and bus bar)
- Paralleling applications of up to 32 gen-sets in – Peak Shaving Operation, Stand-by Operation, AMF (Automatic Mains Failure) Operation, Emergency Operation, or Import/Export operation
- Master or slave control capability for diesel and gas gen-sets in island and utility parallel modes
- Open or closed transition control of up to 2 circuit breakers
- Load/var sharing and load dependent start/stop for genset fleet with same or different sizes
- Full mains, generator and engine protection
- LogicsManager and AnalogManager to create customized control commands
- 3 freely configurable PID governors for e.g. heating circuits
- Multi-lingual capability, supports 14 languages
easYgen-3200XT – Important Functions (1/2)

- True RMS measurement with 0,5% accuracy for voltage and current
- Automatic, manual, Test and Stop modes
- Synchronization
  - Slip frequency (Positive or Negative)
  - Phase matching
- Vector group adjustment to synchronize across transformers
- DynamicsLCD screen adapts to the configured application
- 2 programmable screens to visualize frequently used values
- 6 programmable alarm classes and 16 freely configurable alarms
easYgen-3200XT – Important Functions (2/2)

- 2 CAN interfaces for field and engine bus
- Modbus-TCP interface via RJ-45 and Modbus-RTU interface via RS-485
- USB connectivity to the Woodward service tool ToolKit (CANopen and Ethernet support also)
- Up to 19 analog inputs (3 on-board, 16 via external expansion cards)
- Up to 6 analog outputs (2 on-board, 4 via external expansion cards)
- Display and evaluation of J1939 analog values, “supported SPNs”
- Direct support of common ECU like ADEC, Deutz, E3, EMS2, MAN, MTU, Scania, Volvo.
- In-field ECU support through sequencer files
# easYgen-3200XT – Mains Protection

<table>
<thead>
<tr>
<th>Protection</th>
<th>#of trip levels</th>
<th>ANSI #</th>
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<tbody>
<tr>
<td>Over-voltage</td>
<td>2</td>
<td>59</td>
</tr>
<tr>
<td>Under-voltage</td>
<td>2</td>
<td>27</td>
</tr>
<tr>
<td>Over-frequency</td>
<td>2</td>
<td>81O</td>
</tr>
<tr>
<td>Under-frequency</td>
<td>2</td>
<td>81U</td>
</tr>
<tr>
<td>Voltage asymmetry</td>
<td>1</td>
<td>47</td>
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<tr>
<td>Phase shift</td>
<td>1</td>
<td>78</td>
</tr>
<tr>
<td>df/dt (ROCOF)</td>
<td>1</td>
<td>81</td>
</tr>
<tr>
<td>Sync-Check</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Time dependent voltage (FRT)</td>
<td>2</td>
<td>According to some EU countries MV guidelines</td>
</tr>
<tr>
<td>Mains voltage increase</td>
<td>1</td>
<td>According to German Low Voltage Directive VDE-AR-N 4105</td>
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## easYgen-3200XT – Differentiation

<table>
<thead>
<tr>
<th></th>
<th>easYgen-3100XT-P1</th>
<th>easYgen-3200XT-P1</th>
<th>easYgen-3200XT-P1-LT</th>
</tr>
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<tbody>
<tr>
<td>Integrated Display</td>
<td>No</td>
<td>Color LCD</td>
<td>Color LCD</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-20 to 70 °C</td>
<td>-20 to 70 °C</td>
<td>-40 to 70 °C</td>
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<tr>
<td>Freely Configurable PID Controllers</td>
<td>3</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Cylinder Temperature Monitoring</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>External analog inputs / outputs</td>
<td>16/4</td>
<td>16/4</td>
<td>16/4</td>
</tr>
<tr>
<td>External discrete inputs / outputs</td>
<td>32/32</td>
<td>32/32</td>
<td>32/32</td>
</tr>
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</table>
easYgen-3200XT – Application Examples

Multi Gen Island Parallel

Multi Gen Single Utility Parallel
easYgen-3200XT – Wiring Diagram

Terminals easYgen-3100XT/3200XT-P1
easYgen-3200XT – Accessories

• Remote Panel RP-3000XT

• Digital Expansion Card IKD1

• ToolKit
easYgen-3200XT – Accessories

• Load Share Gateway -LSG

• EPU-100

• easYlite-100
easYgen-3200XT – Accessories

• ProfiBus Gateway
  ESEPRO

• CAN-Fiber Optic
  Gateway

• Remote Access Gateway