easYgen-2200 Package P2

‘Connecting an APECS 4500 W/CAN via CAN bus‘
Optional Supplementary Information
General Information

The following alert boxes can be used in this publication:

**DANGER**
“DANGER” indicates a hazardous situation which, if not avoided, will result in death or serious injury.

**WARNING**
“WARNING” indicates a hazardous situation which, if not avoided, could result in death or serious injury.

**CAUTION**
“CAUTION”, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

**NOTICE**
“NOTICE” is used to address practices not related to personal injury.

**IMPORTANT**
“IMPORTANT” is used to address practices not related to personal injury.

Personnel

**WARNING**
Hazards due to insufficiently qualified personnel!

If unqualified personnel perform work on or with the control unit hazards may arise which can cause serious injury and substantial damage to property.

- Therefore, all work must only be carried out by appropriately qualified personnel.

For further Product Support Options, Product Service Options, Returning Equipment for Repair, and/or Engineering Services please download application note #37573.
Requirements

The following parts are mandatory to follow the instructions of this document:

<table>
<thead>
<tr>
<th>Device</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>easYgen-2200 Package P2</td>
<td>8440-1857, 8440-1858</td>
</tr>
<tr>
<td>APECS 4500 W/CAN</td>
<td>8800-1006</td>
</tr>
<tr>
<td>APECS 5000 Calibration Kit</td>
<td>SA-4488</td>
</tr>
<tr>
<td>Connector Kit</td>
<td>SA-4490</td>
</tr>
</tbody>
</table>
| PC or laptop with an appropriate version of ToolKit running and connected to the easYgen ATC configuration tool for the APECS controller. It can be downloaded at www.woodward.com.

Read this entire application note and all other publications pertaining to the work to be performed before installing, operating, or servicing this equipment. Practice all plant and safety instructions and precautions.

Failure to follow instructions can cause personal injury and/or property damage!

Any unauthorized modifications to or use of this equipment outside its specified mechanical, electrical, or other operating limits may cause personal injury and/or property damage, including damage to the equipment.

Any such unauthorized modifications: constitute "misuse" and/or "negligence" within the meaning of the product warranty thereby excluding warranty coverage for any resulting damage, and invalidate product certifications or listings.

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**Introduction**

The easYgen-2200 Package P2 has one analog output but a J1939 interface. It is a very easy and cost effective solution to add an APECS 4500 W/CAN to the system for controlling the frequency. Please follow the steps described below:

1. **Setup of the easYgen controller via ToolKit**

   In the “CAN interface 2 config.” menu adjust the settings to the values shown in the screenshot. The speed deviation setting depends on the engine.

   ![CANopen interface and J1939 interface](image)

2. **Setup of the APECS controller**

   Follow the setup wizard in the ATC tool for entering all engine related values. The analog input needs to be configured to “CAN input”

   ![APECS 4000 Calibration Wizard](image)
3. Setup wiring between easYgen and APECS

**WARNING**

Dangerous Voltage!
Some other terminal connections carry voltage with danger to life.
Take care for appropriate safety precautions.

The CAN bus between the units must be wired as follows:

<table>
<thead>
<tr>
<th>Terminal</th>
<th>APECS</th>
<th>easYgen</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN-H</td>
<td>J1-7</td>
<td>57</td>
</tr>
<tr>
<td>CAN-L</td>
<td>J1-6</td>
<td>58</td>
</tr>
</tbody>
</table>

A termination resistor (120 ohm) must be placed between CAN-H and CAN-L at both ends of the CAN line.

4. Displayed values in easYgen

In the J1939 analog values 1 the easYgen now displays the engine speed (SPN 190) and the throttle position (SPN 91). The throttle position only shows a percentage value when a potentiometer is wired to the APECS controller (J2-2; J2-11; J2-12):
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Please send comments to: stgt-doc@woodward.com
Please reference publication 37571.

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