easYgen-3000XT Series

TelegramMapper for easYgen-3000XT Series

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.**

Personal

⚠ WARNING	**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.

www.woodward.com   Application Note #37684A, 10/2017
2 (9)

Documentation itself

![WARNING icon] **⚠WARNING**	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.

![CAUTION icon] **⚠CAUTION**	This publication may have been revised or updated since this copy was produced. If the cover of the publication states "Translation of the Original Instructions", the original source may have been updated since this translation was made. Be sure to check manual *26311*, *Revision Status & Distribution Restrictions of Woodward Technical Publications*, to verify whether this translation is up to date. Always compare with the original for technical specifications and for proper and safe installation and operation procedures. To verify that you have the latest revision, check manual *26311*, *Revision Status & Distribution Restrictions of Woodward Technical Publications*, on the publications page of the Woodward website:
	www.woodward.com/publications
	The latest version of most publications is available on the publications page. If your publication is not there, please contact your customer service representative to get the latest copy.

Requirements

Device	Part Number	Technical Manual
easYgen-3100XT/3200XT-P1(-LT)	8440-2081, 8440-2082, 8440-2083	37574
easYgen-3400XT/3500XT-P1(-LT)	8440-2084, 8440-2085, 8440-2086	37580
easYgen-3400XT/3500XT-P2(-LT)	8446-2087, 8440-2088, 8440-2089	37581

Table of Contents

Introduction

This document contains instructions that allow you to get started with the data TelegramMapper and let you create your own customized mapping(s). The Modbus data mapping capability provides flexibility to a PLC programmer,

- → to apply easYgen-3000XT especially in retrofits,
- → to define and size the content of the protocol to exact application needs and minimize communication delay,
- → to manage several protocols at once,
- → to apply simple scaling and offset to the mapped data.

The TelegramMapper is a tool that allows the user to create and edit customized data protocols for Modbus that can then be flashed into the Woodward easYgen-3000XT family genset controls to communicate with the Modbus master. The tool also generates an HTML file for easy visualization of the created data mapping. A through help guide is available on-board to let users quickly learn and apply the tool. When opened, a right mouse click allows to print it. CTRL-F allows to search in it.

Figure 1: A representative view of the TelegramMapper

Overview

The TelegramMapper is applied in 3 easy steps.

STEP 1   **Set the (base) Package:**

At first start, a package should be set for example an easYgen-3200XT-P1 or an easYgen-3500XT-P2. This defines the application for which the mapping shall be done. To do that, select the "File > Set Package" menu item. The program will query for a package.zip file. This file is provided by Woodward for each iteration and version of the easYgen-3000XT. Be sure that you use the package for the easYgen variant you want to develop a mapping file
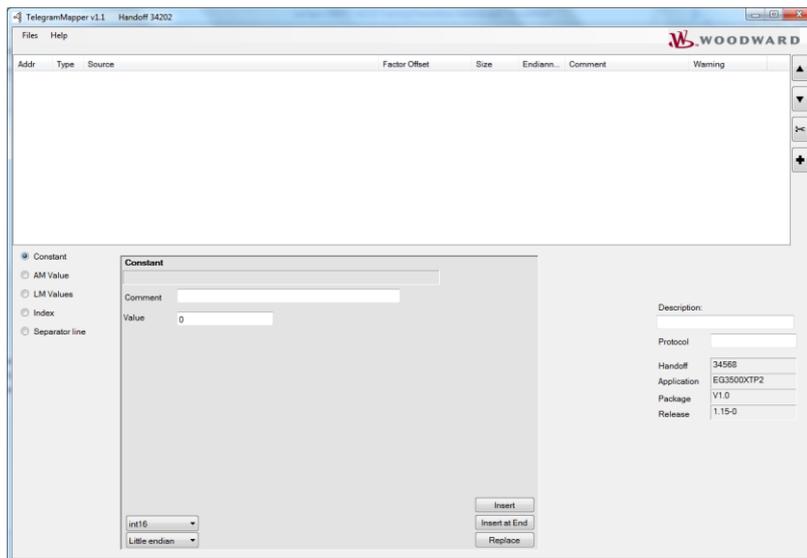
Figure 2:   Set the base package

STEP 2   **Create/Edit the mapping and make a (small) flash update file:**
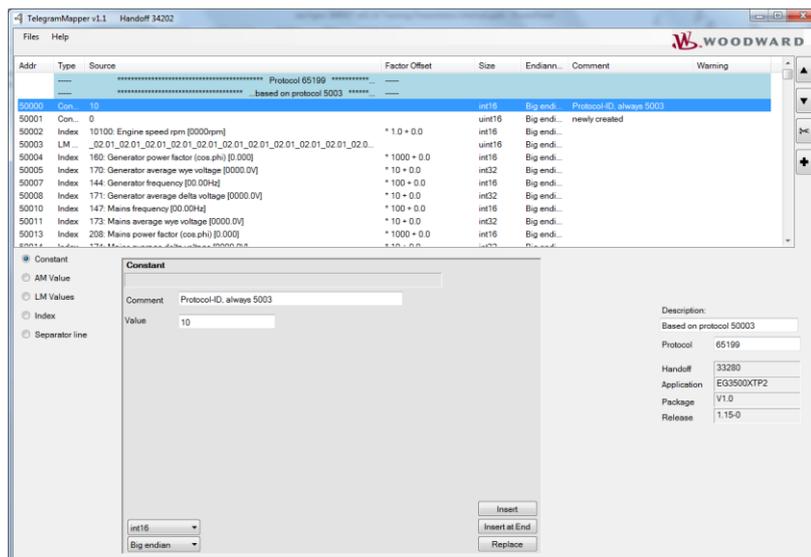
Figure 3:   Create/edit the mapping

The main view consists of three regions. On the **top** is the list of all mappings and buttons to move/insert/delete elements in that list. **Bottom** left is an area where a mapping can be

created/edited. This region will change depending of the data type to be mapped. On the right are fields and buttons for the whole mapping project.

If a mapping file is already created, it can be loaded by selecting the "Files > Load mapping" menu item. An edited or newly created mapping file can be saved by selecting the "Files > Save mapping" menu item. The mapping file has a name with a file type *.map, like "65199.map".

The "Files > Create Mapping" menu item triggers multiple successive actions:

1. Checks current mapping for validity and rejects when not valid. If not valid, the sequence stops here. Some probable reasons are,

   a. Protocol must be between 65100 and 65199.

   b. The maximum number of Modbus addresses shall not exceed 300.

   c. There must be no warning in any mapping line

2. Creates a *.scp file to be used to upload a mapping into an easYgen-3000XT.

3. Creates a *.html file to document the mapping for easy visualization of the created data mapping by a PLC programmer

NOTICE The mapping starts at the Modbus address 50000. Sometimes in retrofit applications, an offset needs to be built in the Modbus master for the customized protocol to be backwards compatible.

STEP 3   **Flash the firmware into the easYgen-3000XT:**
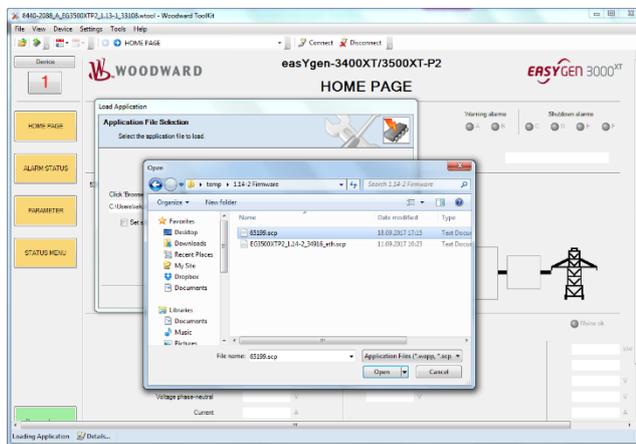

Figure 4: Flash the firmware into the easYgen-3000XT

Connect the ToolKit to the easYgen-3000XT variant and assign the Modbus protocol number (parameter ID#3184) to your customized protocol, e.g. 65199. Follow the flash update procedure contained in the manual #37630 and load the *.scp file to the control (File > Load Application). The new protocol is now available in your control.

NOTICE **If you change the ID #3184 after flashing *.scp file, it's necessary to restart the control else the new protocol is not recognized.**

Getting Started

1. Get TelegramMapper software for installation:
   - **at Woodwad web site http://www.woodward.com/software.aspx (search with "telegram")**
     and
   - **on the product CD-ROM**

2. Download and install the *.msi file.
   - **Now TelegramMapper is usually available under All Programs > Woodward > TelegramMapper**

3. Get the *.zip file according to the easYgen-XT control for which the data map is desired
   - **from the product CD-ROM**
     or ask your local Woodward support

   Three zip files are available:
   - **easYgen-3200XT-P1** includes easYgen-3200XT-P1-LT and easYgen-3100XT-P1
   - **easYgen-3500XT-P1** includes easYgen-3500XT-P1-LT and easYgen-3400XT-P1
   - **easYgen-3500XT-P2** includes easYgen-3500XT-P2-LT and easYgen-3400XT-P2

NOTICE	These zip files are valid for display, back panel mount and low temperature (LT) variants where applicable.

4. Save the zip file at the location of your choice where you wish to save the TelegramMapper data.

Further Support

On the top frame of the TelegramMapper window there is the version of the TelegramMapper tool and a "Handoff" number. This Handoff number serves as unique identifier for the TelegramMapper software and can be used together with the version when contacting our customer support, should further questions arise.

Tip: The handoff number is also visible on the ToolKit and on the HMI of the easYgen-XT.
→ In HMI: Next Page > Diagnostic > Version > Application
→ In ToolKit: Status Menu > Diagnostic/Version > Application

As first troubleshooting step, check that the Handoff number matches in all the three.

NOTICE	**Woodward easYgen-3000XT is always delivered with the standard firmware inside unless there exists a specific contract between the two parties. The customization is user's responsibility and excludes Woodward for any warranty & liability claims arising thereof.** **For any repaired item, Woodward delivers it with latest standard firmware. The customizations may be added again by the user.**

We appreciate your comments about the content of our publications.

Please send comments to: stgt-doc@woodward.com

Please reference publication 37684.

Homepage

www.woodward.com

**Woodward has company-owned plants, subsidiaries, and branches,
as well as authorized distributors and other authorized service and sales facilities throughout the world.
Complete address / phone / fax / email information for all locations is available on our website.**

www.woodward.com