TelegramMapper

Quick Start Guide | Software Tool

TelegramMapper

Release 1.0

37673A

This is no translation but the original Technical Manual in English.
Designed in Germany.

Woodward GmbH

Handwerkstrasse 29

70565 Stuttgart

Germany

Telephone: +49 (0) 711 789 54-510

Fax: +49 (0) 711 789 54-101

E-mail: stgt-info@woodward.com

Internet: http://www.woodward.com

Brief Overview

The TelegramMapper is a Woodward Software Tool to create and edit an own customized data protocol for RS-485 or Modbus TCP via Ethernet. This user defined file can be uploaded to the Woodward easYgen-XT series genset controllers and used in the same way like other Woodward created Data Telegrams. It replaces the standard protocol (default for easYgen is 5010) after a power-cycle of the easYgen.

Those telegrams always start with address (4)50000 with a maximum length of 300 addresses.

The manually created protocol is stored in a *.map file for archiving and editing again. To get the created protocol running on the device a *.scp file can be created with the TelegramMapper tool and uploaded into the device with Woodward ToolKit software. Beside an HTML file (*.html) is generated for documentation purpose.

Supported devices

All Woodward devices that are using loadable Data Telegrams:

■ easYgen-3000XT series revision 1.14 or higher

Scope of delivery

The TelegramMapper tool software is delivered as an *"TelegramMapperInstaller.msi"* file with the product CD-ROM and needs to be installed before use at your PC/laptop.

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1   General Information

1.1   About This Manual

1.1.1   Revision History

Rev.	Date	Editor	Changes
NEW	2017-03-30	GG	**Describes software version 1.0** **Quick Start Guide** ■ Release = 1st issue

1.1.2   Depiction Of Notes And Instructions

Safety instructions

Safety instructions are marked with symbols in these instructions. The safety instructions are always introduced by signal words that express the extent of the danger.

> **DANGER!**
> This combination of symbol and signal word indicates an immediately-dangerous situation that could cause death or severe injuries if not avoided.

> **WARNING!**
> This combination of symbol and signal word indicates a possibly-dangerous situation that could cause death or severe injuries if it is not avoided.

> **CAUTION!**
> This combination of symbol and signal word indicates a possibly-dangerous situation that could cause slight injuries if it is not avoided.

> **NOTICE!**
> This combination of symbol and signal word indicates a possibly-dangerous situation that could cause property and environmental damage if it is not avoided.

Tips and recommendations

> *This symbol indicates useful tips and recommendations as well as information for efficient and trouble-free operation.*

Additional markings

To emphasize instructions, results, lists, references, and other elements, the following markings are used in these instructions:

Marking	Explanation
→	Step-by-step instructions
⇨	Results of action steps
↯	References to sections of these instructions and to other relevant documents
■	Listing without fixed sequence
[Buttons]	Operating elements (e.g. buttons, switches), display elements (e.g. signal lamps)
"Display"	Screen elements (e.g. buttons, programming of function keys)
"Screen xx ➔ Screen xy ➔ Screen xz" ...	Menu path. The following information and setting refer to a page on HMI screen or ToolKit located as described here.
⊐T̲kit ⊐HMI	Some parameters/settings/screens are available only either in ToolKit **or** in HMI/display.

> ⓘ **Dimensions in Figures**
> *All dimensions shown with no units specified are in **mm**.*

1.1.3   Copyright And Disclaimer

Disclaimer

All information and instructions in this manual have been provided under due consideration of applicable guidelines and regulations, the current and known state of the art, as well as our many years of in-house experience. Woodward assumes no liability for damages due to:

- ■ Failure to comply with the instructions in this manual
- ■ Improper use / misuse
- ■ Willful operation by non-authorized persons
- ■ Unauthorized conversions or non-approved technical modifications
- ■ Use of non-approved spare parts

The originator is solely liable to the full extent for damages caused by such conduct. The agreed upon obligations in the delivery contract, the general terms and conditions, the manufacturer's delivery conditions, and the statutory regulations valid at the time the contract was concluded, apply.

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Actions to the contrary will entitle us to claim compensation for damages. We expressly reserve the right to raise any further accessory claims.

1.1.4 Service And Warranty

Our Customer Service is available for technical information.

For regional support, please refer to:
http://www.woodward.com/Support_pgd.aspx.

In addition, our employees are constantly interested in new information and experiences that arise from usage and could be valuable for the improvement of our products.

Warranty terms

> *Please enquire about the terms of warranty from your nearest Woodward representative.*
>
> *For our contact search webpage please go to:*
> *http://www.woodward.com/Directory.aspx*

1.2 Safety

1.2.1 Intended Use

This software has been designed solely for the intended use described in this manual.

The genset control unit running the files created with this software must be used exclusively for engine-generator system management applications.

> **!**
> **NOTICE!**
> **Damage due to improper use!**
> Improper files created by using this software may cause damage to the connected components.

1.2.2 Personnel

> ⚠
> **WARNING!**
> **Hazards due to insufficiently qualified personnel!**
> If unqualified personnel perform work with software that communicates 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.

This manual specifies the personnel qualifications required for the different areas of work, listed below:

- Well trained for writing genset control communication protocols.
- Skilled and competent to be aware especially of the local safety regulations.
- Experienced in working on communication and control devices.
- Allowed to manage the controlled (engine/generator) system.

The workforce must only consist of persons who can be expected to carry out their work reliably. Persons with impaired reactions due to, for example, the consumption of drugs, alcohol, or medication are prohibited.

When selecting personnel, the age-related and occupation-related regulations governing the usage location must be observed.

2 Overview

2.1 Customer Specific Data Telegram(s)

General notes

- The Woodward TelegramMapper enables to create customer specific Data Telegrams for Modbus.
- Customer specific Data Telegrams (*.scp files) can be uploaded to an easYgen-XT device via:
  - Woodward ToolKit
- easYgen-XT revision 1.14 or higher is able to select and run Modbus communication with customer defined mapped Data Telegrams.

> **Device and Application Specific!**
>
> *The Data Telegram created by the Telegram-Mapper is customer specific but even device specific (based on device specific package .zip file e.g. EG3500XTP2_1.14-0_33280_PACKAGE.zip).*

> **CAUTION!**
>
> The protocol's direct or indirect effect/impact on the genset and/or connected items is on your own risk!
>
> Be aware if application specific values are transmitted! Using a Data Protocol for other devices/applications, too, is even more on your own risk!

2.2 How to use the software?

General Notes

> **Expert level**
>
> *Writing Modbus telegrams requires Modbus expert knowledge.*

The software intentionally offers a basic set of functions for file management and building blocks - in this case: Modbus frames (lines). An integrated HELP file will be installed together with the software tool and explains the process and all necessary details to create and/or update customized Data Telegrams.

How to handle the created files to be used with easYgen-XT devices is described in the easYgen-XT Technical Manual(s).

Overview

How to use the software?

3 Installation

The Installer

The Woodward TelegramMapper software can be installed from the CD-ROM delivered with your Woodward device. The latest version can be downloaded from Woodward web site - search with "telegrammapper" guides you quickly to the appropriate web page.

> **Personal Security**
>
> *The Woodward software is created and tested carefully. Nevertheless you must follow your local installation guidelines BEFORE installing the software!*

Follow the instructions ...

Special tool: ■ "TelegramMapper" Installer

1. ▸ Select *"TelegramMapperInstaller.msi"*

2. ▸ Accept WINDOWS security alert

3. ▸ Follow the installation procedure

⇨ A new folder at *"C:\Program Files (x86)\Woodward \TelegramMapper"* (default location)

and a new entry in START menu under Woodward

> *The TelegramMapper software can be used now - independent from any other Woodward software installed and even without a Woodward device connected to the PC/laptop you installed the TelegramMapper.*
>
> *A package file (xxx.zip) is mandatory - otherwise TelegramMapper will not start edit mode. This package file is part of the easYgen CD-ROM delivered with the device.*
>
> *If you need help, please contact your local Woodward support.*

4   Create Data Telegram (Mapping)

Please read the HELP file installed with the TelegramMapper software.

■   Open tab *"Help ➔ Help"* to open the HELP document

Easy MAP creation

There are just a few steps to follow the Help file guides through:

1. ▶ Select the package with device specific library (package) by selecting the appropriate *.zip file e.g., *"EG3500XTP2_1.14-0_33280_PACKAGE.zip"*

   ⇨   The TelegramMapper loads the device specific data

2. ▶ Edit the data telegram (*.map) by creating a new or changing a loaded file

   ⇨   The DataTelegram is filled with customer specific content

3. ▶ **Save** your mapping for use and reuse

   ⇨   Editable *.map file will be created

4. ▶ **Create** your mapping for upload, documentation, use and reuse

   ⇨   Files for device upload (*.scp) , documentation (*.html), and "next/further" edit (*.map) are created

The Files Created

As result of creating the customize Data Telegram there will be three files:

File name	Content	Use
xxx.map	TelegramMapper source file	The editable original source to use with the TelegramMapper
xxx.scp	Sequencer file containing Data Telegram (protocol data) to be selected by easYgen-XT and used for interface communication via protocol	The file to be uploaded to the easYgen-XT. File name without extension is the Data Protocol number selected in easYgen-XT for communication e.g. 65102.
		Notes The protocol number (xxx part of the file name) must be in the range of 65100 to 65199.
xxx.html	Source text	A internet browser readable text version of the TelegramMapper file for documentation

5   How to use the mapped Data Telegram with Woodward devices

To use the customer specific DataTelegram created with the Tele-gramMapper ...

- ■ the device must be able to handle customer specific Data Pro-tocols (easYgen-XT, revision 1.14 or higher)
- ■ the Data Protocol must be the selected Modbus protocol number
  (replace selected Data Protocol e.g. 5010 per default)
- ■ the *.scp file must be uploaded onto the device
- ■ the easYgen must have gone through a power cycle after pro-tocol (number) selection
- ■ Modbus interface must be configured and used

5.1   Select the Customer Specific Data Protocol

To use the customer specific Data Telegram it must be selected for Modbus communication.

Configure parameter 3184 *"Modbus protocol number"* to the number of the customer specific protocol (file name of the '.scp file without suffix).

> *The protocol number (xxx part of the file name xxx.scp) must be in the range from 65100 to 65199.*

All other Modbus communication configuration and interface set-tings are "as usual".

5.2   Upload the .scp File

Use ToolKit

1. ▶ Open ToolKit

2. ▶ Connect ToolKit to the running control device

3. ▶

> ⚠ **CAUTION!**
> **Device will be reset!**
> Never upload an .scp file to a genset control running a genset application! Uploading an .scp file will cause a reset of the control device. Genset would be OUT OF CON-TROL!

Prepare your genset application to allow "control OFF".

4. ▶ Select the created *.scp file with ToolKit: *[File]*
   [/Load Application] and follow the instructions.

⇨ The Data Protocol will be uploaded to the device and the device will restart (power-cycle) and reconnect to ToolKit.

> ⓘ *Note your customers specific data Protocol number for selection later on*

5.3 Communicate via Modbus Using the Customer Specific Data Protocol

Modbus communication via the selected interface is "as usual" but following the customer specific protocol.

> ⚠️ **CAUTION!**
> **Modbus Control**
>
> Genset control via Modbus is at your own risk. Woodward offers a parameter library and a software to create protocols. The customer specific protocols are checked only to be valid but not for function and/or result of the communicated information.

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