CODESYS Project examples for CENTRAX devices

This document describes the handling of the CODESYS device description for CENTRAX devices.

Content:

1 Devices

The examples below apply to the following devices:

CENTRAX	CU3000
	CU5000

2 Legal notice

The project examples provided by Camille Bauer Metrawatt AG are for illustrative purposes only. Liability by Camille Bauer Metrawatt AG is basically excluded.

3 Project examples

In the project examples the open source libraries **OSCAT Basic** and **OSCAT Building** (http://www.oscat.de) have been used. These libraries are also included in the package **CENTRAX_CODESYS_Project_Examples.package** and can be installed during the installation of the project examples. Alternatively, the libraries can also be found in the CODESYS Store (https://store.codesys.com) or on the Camille Bauer homepage.

All project examples are available in the IEC 61131-3 languages FUB (FBD) and ST.

Topic		Time and calendar	Modbus RTU Master
3.1	Street lighting	Yes	No
3.2	Monthly meter reading	Yes	Yes

3.1 Street lighting

- StreetLighting_FBD.project
- StreetLighting_ST.project

In this example a time-dependent street lighting control is shown.

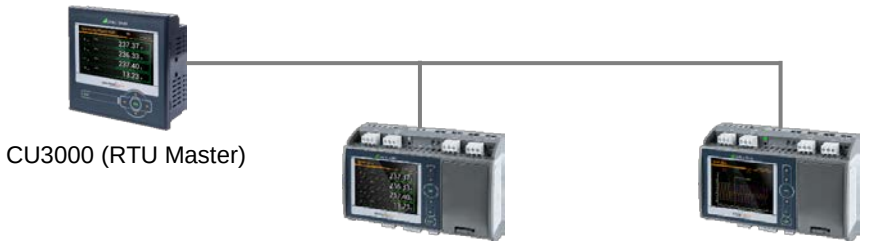
Lighting	Time
ON	05:00 o‘clock
OFF	☼↑ Sunrise
ON	☼↓ Sunset
OFF	23:00 o‘clock

For each switching on and off of the lighting a (volatile) system log is added via CmpLog.LogAdd. This log can be found in the CODESYS development environment and on the device webpage via Service > CODESYS > PLC.

3.2 Monthly meter reading

- MonthlyMeterFreeze_FBD.project
- MonthlyMeterFreeze_ST.project

This example shows how the active and reactive energy meters of two Modbus slaves and the Modbus master itself are read and made available via the free assignable Modbus TCP server image. The reading and storing of the meter contents takes place on the last day of the month at 14:00.



Register		Description	
8700	[REAL64 / LREAL]	Active energy QI+IV, HT [Wh]	CU3000 (Master)
8704	[REAL64 / LREAL]	Active energy QII+III, HT [Wh]	
8708	[REAL64 / LREAL]	Reactive energy QI+II, HT [varh]	
8712	[REAL64 / LREAL]	Reactive energy QIII+IV, HT [varh]	
8716	[REAL64 / LREAL]	Active energy QI+IV, NT [Wh]	
8720	[REAL64 / LREAL]	Active energy QII+III, NT [Wh]	
8724	[REAL64 / LREAL]	Reactive energy QI+II, NT [varh]	
8728	[REAL64 / LREAL]	Reactive energy QIII+IV, NT [varh]	
8732	[UINT32 / DT]	Date of last reading [s] (since 1.1.1970)	
8736	[REAL64 / LREAL]	Active energy QI+IV, HT [Wh]	DM5000 (Slave 1)
8740	[REAL64 / LREAL]	Active energy QII+III, HT [Wh]	
8744	[REAL64 / LREAL]	Reactive energy QI+II, HT [varh]	
8748	[REAL64 / LREAL]	Reactive energy QIII+IV, HT [varh]	
8752	[REAL64 / LREAL]	Active energy QI+IV, NT [Wh]	
8756	[REAL64 / LREAL]	Active energy QII+III, NT [Wh]	
8760	[REAL64 / LREAL]	Reactive energy QI+II, NT [varh]	
8764	[REAL64 / LREAL]	Reactive energy QIII+IV, NT [varh]	
8768	[UINT32 / DT]	Date of last reading [s] (since 1.1.1970)	
8772	[REAL64 / LREAL]	Active energy QI+IV, HT [Wh]	PQ5000 (Slave 2)
8776	[REAL64 / LREAL]	Active energy QII+III, HT [Wh]	
8780	[REAL64 / LREAL]	Reactive energy QI+II, HT [varh]	
8784	[REAL64 / LREAL]	Reactive energy QIII+IV, HT [varh]	
8788	[REAL64 / LREAL]	Active energy QI+IV, NT [Wh]	
8792	[REAL64 / LREAL]	Active energy QII+III, NT [Wh]	
8796	[REAL64 / LREAL]	Reactive energy QI+II, NT [varh]	
8800	[REAL64 / LREAL]	Reactive energy QIII+IV, NT [varh]	
8804	[UINT32 / DT]	Date of last reading [s] (since 1.1.1970)	