Load Management Ripple Control

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Ripple Control Receiver RO

The comprehensive solution for the detection of Ripple Control signals



Solutions for all applications

Suitable for all Ripple Control Systems – Landis+Gyr's many years of worldwide experience ensures compatibility with different systems. Since the code system, the Ripple Control frequency and the sensitivity level can be programmed, the Enermet RO is a perfect solution for customers with different or mixed Ripple Control systems.

One housing, two receiver types

The two types of receivers available are the Enermet RO3 and Enermet RO5. The compact housing is identical for both receivers and the Enermet RO can be mounted on the meter board or on the meter terminal cover (DIN 43857 T5). The Enermet RO3 and Enermet RO5 differ only in the switch rating and the number of switches.

Since all switches are of the plug-in type, the Enermet RO can easily and reliably be equipped. The optical interface (IEC 1107) is used for programming. Therefore re-programming and diagnostics can be conducted in the field without removal of the sealing.

The Enermet RO Receivers are extremely robust and suitable for harsh environments. They comply with the IP51 standards.

The Enermet RO uses only 1.2 Watt power. All types fulfill easily the following IEC standards: IEC 62052-21 Ed. 1.0, IDC 62054-11 Ed. 1.0 and IEC 62054-21 Ed. 1.0.

Multiple functionality

The Enermet RO includes many features beside detecting and decoding Ripple Control signals.

In addition to proven functions such as delay, wiper and cycler, the Enermet RO offers the following timer functions for autonomous operation in case of Ripple Control signal absence:

- The loop function (DIN 43861 T3) is for periodic tariff control. The function can be synchronised with a Ripple Control command. This function operates autonomously in case of Ripple Control signal absence and ensures the correct tariff control.
- The learning function continuously records detected commands. This function repeats the switching actions of the recorded past 24 hours in case of Ripple Control signal absence.
- Emergency time programs can be initiated in case of Ripple Control signal absence.





Enermet RO3: the universal receiver

Up to three plug-in 25A change-over switches or 40A On/Off switches are available for the Enermet RO3. Any combination of the two switch types can be used. Therefore the Enermet RO3 is well suited to tariff switching applications as well as load switching applications.



Enermet RO5: the compact receiver

The Enermet RO5 is the most compact receiver with five plug-in 16A change-over switches. The Enermet RO5 provides an efficient solution for different applications. With one housing base and one plug-in switch type, the user can easily configure and assemble the receiver for the required application. This minimises logistical cost.







Programming



The following programming options are available:

- Enermet ROP, the PC-based programming tool for the programming and configuration of the complete function range.
- Enermet ROH, the Handy for convenient and efficient field applications.
- Enermet ROS, the RO with an advanced plug-in PROM olution for customers, which prefer programming with plug-in devices.

Enermet ROP: a PC-based programming tool

The Enermet ROP program runs under Microsoft Windows and uses its well known operating philosophy to ensure user-friendly interactions.

The Enermet ROP is very easy to learn and to use despite the high level of features of the Enermet RO receiver. Of particular assistance is the main menu which includes the switch programming overview as a quick reference for the user.

Addresses and commands can be stored under names (e.g. peak tariff) which reduces entry time and potential for mistakes.



	3			- 0	12			
R0 DECABIT Function		4 Instruction Set	25Hz (s) 0.50%	Power On	Power Down	Failsale	Time Func.	Time Prgm.
Switch1	+100+4	Water Heater 4h Gr.1	• 🗋 1	1	1	(TP)		
Boiler 4h City	• +99	Load shedding	• 🗋 2	-			_	
Switch 2	+24	Tariff	• 01	1	-		1.01	-
T arilf	•		• [] 2	-	_	4	-	
Switch 3	1		- 01	10 K	- P	1.1	-	- 1
	•		• [] 2	-				
Switch <u>4</u>	+55	Air Conditioner 3 kW	. 01	21		-r		\sim
« »	•		• 🗋 2	4	-			
Switch 5			1	1	-	C Y	-	-
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Password protection prevents unauthorised alteration of complete or partial receiver data. Similarly, password definitions for user groups separate authority for creating and downloading receiver data.

Enermet ROH: the robust handy

The Enermet ROH is the perfect solution for field applications. It is very robust and designed for use in harsh environments.

The Enermet ROH can store up to 99 sets of receiver data, which are created in the Enermet ROP program. Reading from or writing to the receiver is initiated via the keypad. The Enermet ROH can also alter DECABIT commands, set switches and update the receiver clock. The Enermet ROH batteries can be recharged via mains supply or car battery.



Additional features such as printing of channel labels are also available. The Enermet ROP program proposes a label layout depending on the selected receiver data. A compact label printer allows a quick and accurate labelling of the receiver.



RM receiver applications

The Enermet ROP is also used to program RM receivers, the predecessor of the Enermet RO receiver family. This provides convenient transition from the RM family to the Enermet RO family.

Receiver data sets for both receiver families can be managed by the same tools.



Field programming application Enermet ROPmobile

The Enermet ROPmobile is a software application that can be installed on any PDA running Microsoft Windows Mobile 2003, 2003 Second Edition or later version. ROPmobile allows field staff to complete maintenance and programming activities on any RO Enermet Ripple Control receiver. A main advantage of ROPmobile is its flexible installation: the application is installed on a memory card and thereafter it can be easily loaded on any other PDA without a complete reinstallation.

The application allows the user to read and set the time, to set switch positions, and to read and write programs. These programs need first to be created with the Enermet ROP software on a PC and then downloaded to the PDA.

An intelligent comparison function checks the integrity of the program just read with the ones stored in the PDA. The Enermet ROPmobile also supports project organization, i.e. different programs can be classified and arranged under different project names (e. g. different systems, frequencies...).



Enermet ROS: Enermet RO with advanced plug-in PROM

The Enermet ROS is a Enermet RO receiver with an advanced plug-in PROM (ROE). The Enermet ROS is the appropriate solution for customers who prefer to program their receivers with plug-in devices. The complete receiver data can be stored in the ROE. It can be programmed at our factory or by the customer with the use of a programming device, the Enermet ROG.



The Enermet ROS is the world's first receiver with a plug-in PROM that can also be accessed via an optical interface allowing comprehensive re-programming and diagnostics by the user.

A future change from the plug-in device programming to the optical interface programming is easily attainable since both philosophies are incorporated in theEnermet ROS. The introduction of the optical interface programming philosophy can be implemented step by step while the latest receiver technology can be used immediately. The Enermet ROS receiver includes a push-button for testing of the electronics and switches. The advanced plug-in PROM (ROE) is a very robust device and is designed for field installation. It consists of a printed circuit board with a soldered data storage device and a handle for mechanical protection and reliable use.

Field diagnostics via optical interface

The Enermet RO telegram memory records up to 12 telegrams and reception times for field diagnostic purposes. The telegram echo function is useful for

identification of every telegram received. By connecting a computer (e.g. notebook) to the optical interface, every incoming telegram is logged together with time and date.



Optional real-time clock with backup

The Enermet RO uses its internal clock for time programs, learning functions and telegram memory. The internal clock uses the mains frequency as a reference. The time can be synchronised twice a day via Ripple Control commands.



An optional real-time clock is available for backup during power outages. This option includes a super-capacitor with a guaranteed backup-time of 36 hours.

Time switch applications

Eight time programs with two ON and two OFF switching times can be programmed. Ripple Control commands, failsafe function or power on function can activate or de-activate these time programs.

Therefore, the Enermet RO receiver (with optional real-time clock) is an ideal solution for time switch applications without Ripple Control systems in place or for future introduction of Ripple control systems (norm IEC 62054.21).

Low Frequency Load Shedding

When the line frequency drops below a programmed value, the low frequency load shedding switches the loads off selected switches for a given period of time. Response to critical situations is ensured within less than 5 seconds. This feature can also be activated on Enermet RO receivers which are already installed.

Complete solution

The Enermet RO is not just a simple Ripple Control receiver. The Enermet RO receiver family is the complete solution for Ripple Control receiver applications. The Enermet RO family provides a full range of complementary products to meet all aspects of Ripple Control signal management.



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- 25 years of smart metering experience
- 1000 AMM systems delivered
- 300 million energy meters produced
- Largest relevant engineering capacity in the industry
- 60 years of direct load management experience
- 15 million load management receivers produced
- ISO certified for quality and environmental processes
- World leader in integrated energy management solutions
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