

# Z-GPRS2-SEAL

GSM/GPRS DATALOGGER WITH BUILT-IN I/O'S AND TELECONTROL FUNCTIONS



**THE SIMPLEST REMOTE MANAGEMENT SYSTEM  
FOR UNIVERSAL APPLICATIONS**

 **SENECA**  
www.seneca.it

## OBJECT EDITOR WITH FUNCTION BLOCKS

**SEAL (Seneca Advanced Language)** is an object-oriented programming system supported by all Windows platforms, designed for the management of advanced automation and remote communication projects.

SEAL can intuitively manage variables, controls, automation functions, alarms, thresholds, reporting, network communication settings with the possibility of configuration and remote update by Ethernet or SIM. SEAL key features are control alarms and events associated with the I / O channels, bit operations, comparators, trigger and timing sequence.

SEAL offers the possibility to set function blocks, control blocks on threshold and comprehensively manage the ModBUS variables of the devices to be programmed. With the new release 2 and 1.5 Legacy, SEAL is available as a configuration system for data logging, remote management and remote alarm units as MYALARM2, GPRS2-SEAL-Z and ZLOGGER- SEAL.



### VARIABLES

- Variables
  - SYS
    - V7 SYS POW Variable
    - V8 SYS VBAT Variable
  - AIN1
    - V9 AIN1 VAL Variable
    - V10 AIN1 AVG Variable
    - V11 AIN1 MIN Variable
    - V12 AIN1 MAX Variable
  - AIN2
    - V13 AIN2 VAL Variable
    - V14 AIN2 AVG Variable
    - V15 AIN2 MIN Variable
    - V16 AIN2 MAX Variable
  - DIN1
    - V1 DIN1 STS Variable
    - V17 DIN1 TOT Variable
    - V18 DIN1 CNT Variable
    - V19 DIN1 DELTA Variable
    - V20 DIN1 WRK Variable
  - DIN2
    - V2 DIN2 STS Variable
    - V21 DIN2 TOT Variable
    - V22 DIN2 CNT Variable
    - V23 DIN2 DELTA Variable
    - V24 DIN2 WRK Variable
  - DIN3
  - DIN4
  - DOUT1
  - DOUT2
  - GSM
  - MBUS
    - IN
      - R7 ZBUS 1:Z-8TC 40011:CHAN1\_FLOAT Modbus Input Variable
      - R8 ZBUS 1:Z-8TC 40013:CHAN2\_FLOAT Modbus Input Variable
      - R9 ZBUS 1:Z-8TC 40015:CHAN3\_FLOAT Modbus Input Variable
      - R10 ZBUS 1:Z-8TC 40017:CHAN4\_FLOAT Modbus Input Variable
      - R11 ZBUS 1:Z-8TC 40019:CHAN5\_FLOAT Modbus Input Variable
      - R12 ZBUS 1:Z-8TC 40021:CHAN6\_FLOAT Modbus Input Variable
    - OUT

### FUNCTIONS

### CONTROLS

### EVENTS

- Events
  - SYS
    - EV43 SYS POW\_DOWN Event Condition
    - EV44 SYS LOW\_VBAT Event Condition
  - AIN1
    - EV33 AIN1 MIN Event Condition
    - EV34 AIN1 LOW Event Condition
    - EV35 AIN1 HIGH Event Condition
    - EV36 AIN1 MAX Event Condition
  - AIN2
  - DIN1
    - EV1 DIN1 ON Event Condition
    - EV2 DIN1 ALM Event Condition
    - EV3 DIN1 TOT\_ALM Event Condition
    - EV4 DIN1 CNT\_ALM Event Condition
    - EV5 DIN1 WORK\_ALM Event Condition
    - EV6 DIN1 DELTA\_ALM Event Condition
    - EV7 DIN1 TOT\_RESET Event Condition
    - EV8 DIN1 CNT\_RESET Event Condition
  - DIN2
  - DIN3
  - DIN4
  - DOUT1
  - DOUT2

### ACTIONS

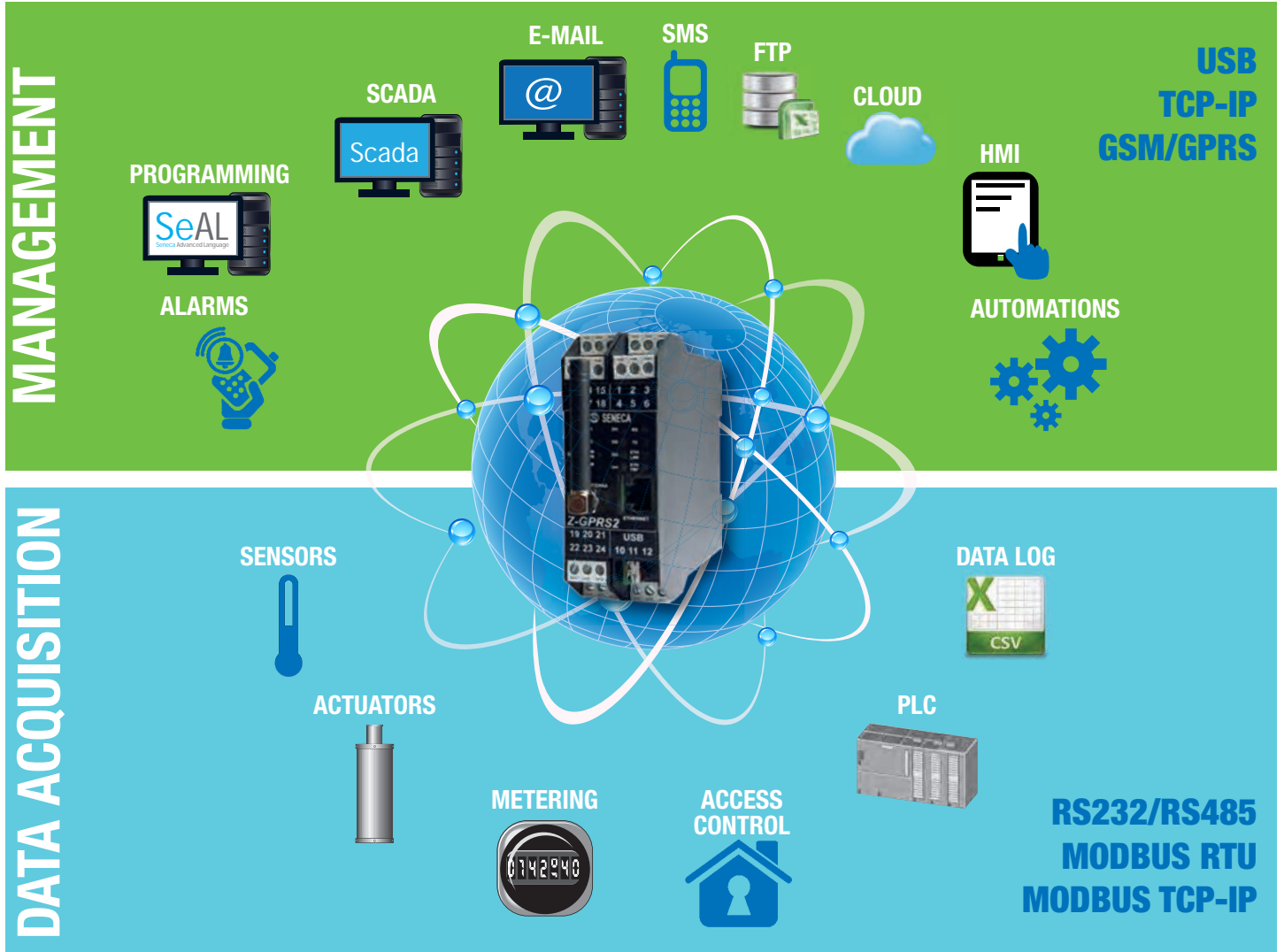


# Z-GPRS2-SEAL

**Z-GPRS2-SEAL** is a GSM / GPRS datalogger with built-in I/Os and remote control functions.

The devices are configured as Master unit for Z-PC Line Distributed I/O System. Both versions offer high performance data acquisition and wireless commands, measures and alarms transmission.

**Z-GPRS2-SEAL** support web server, ftp server, MODBUS TCP-IP server. They also enable full compatibility with iPhone™, iPad™ and Android™ mobile devices.



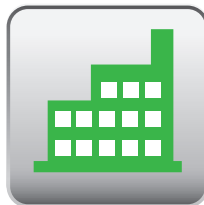
## UNIVERSAL APPLICATION FIELDS



RENEWABLE ENERGIES



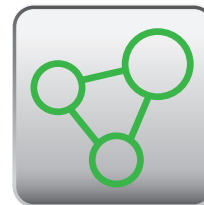
TELECONTROL



BUILDING TECHNOLOGIES



ENVIRONMENT MONITORING



M2M



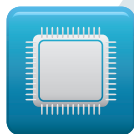
ENERGY MANAGEMENT

## HARDWARE, MAIN FEATURES



### # 4 DIGITAL INPUT

PNP,NPN (counters @32 bit up to 30Hz)



### MEMORY

RAM 125 kB  
512 kB + 2 MB(log)  
Slot for Micro SD up to 32 GB



### RS485/RS232 MODBUS

#2 serial interfaces to extend the line with other input/output signals



### WEB SERVER

- Web server, ftp server, ModBUS TCP IP server
- Compatible with iPhone™, iPad™ and Android™ devices



### #2 RELAY OUTPUT

SPDT, max 2A – 250 Vac



### ALARMS MANAGEMENT

Via SMS, email, ftp, http



### #2 ANALOG INPUT

0..20 mA, 0..30 V



### POWER SUPPLY

11.40 Vdc; 19..28Vac  
Power failure battery backup



### MODEM GSM/GPRS

Quad band  
580/900/1800/1900 MHz  
via SMS/email/ftp



### TCP-IP

Ethernet interface,  
Modbus TCP IP Client,  
10/100 Mbps, RJ45



### Micro USB type B HOST

Local programming



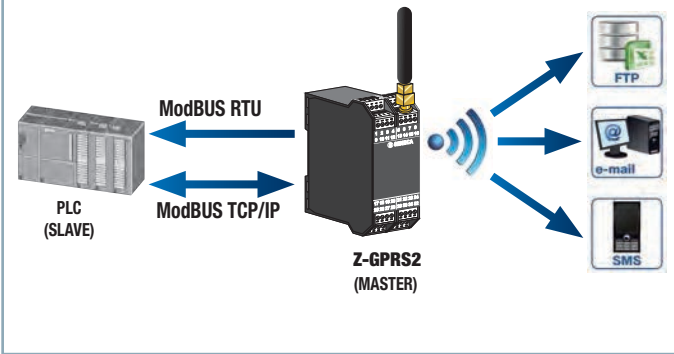
### COMPACT DIMENSION

100 x 112 x 35 mm (h x d x w)

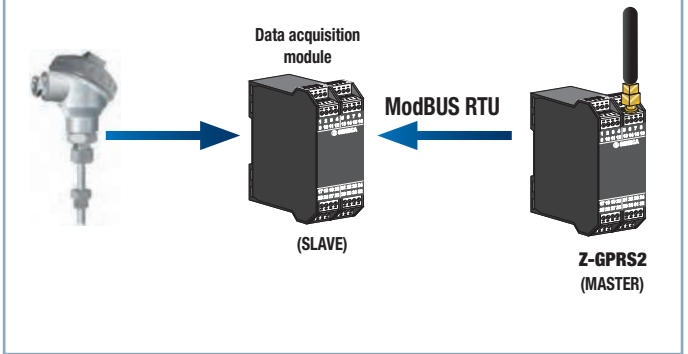


## APPLICATION DIAGRAMS

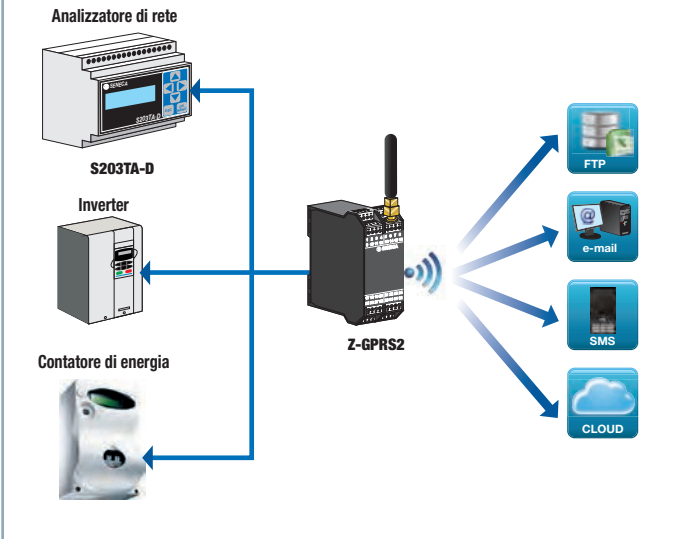
### PLC REMOTE MANAGEMENT



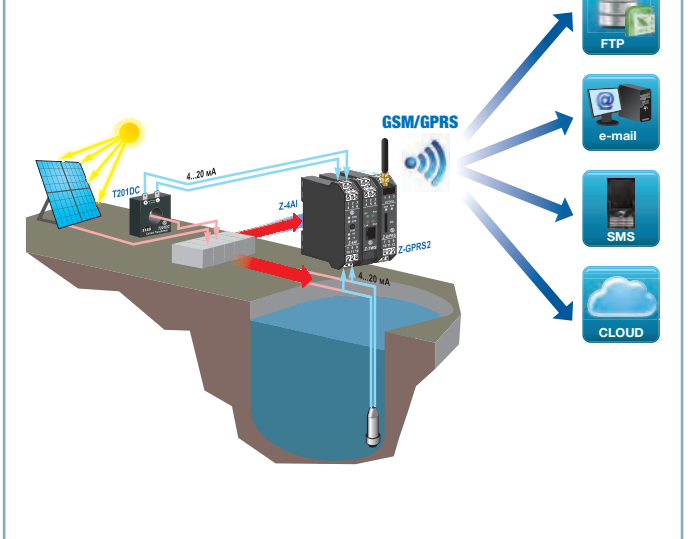
### ACQUISITION AND DATA RETRANSMISSION



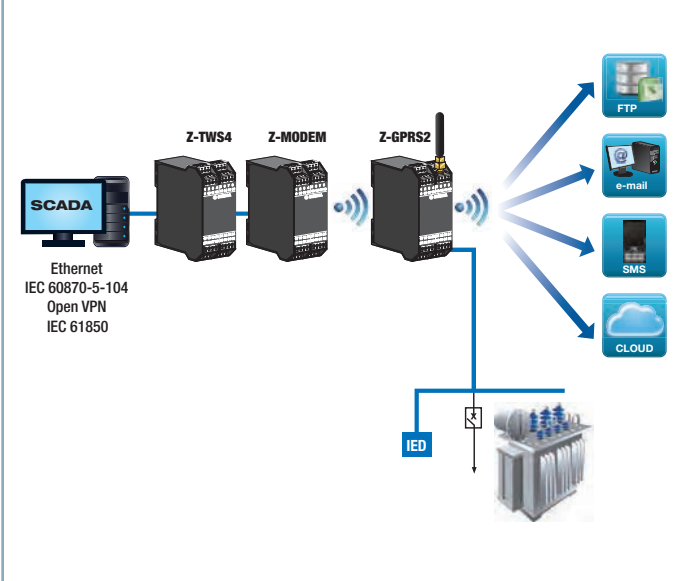
### SUPERVISION AND CONTROL OF MODBUS INVERTERS AND ENERGY METERS



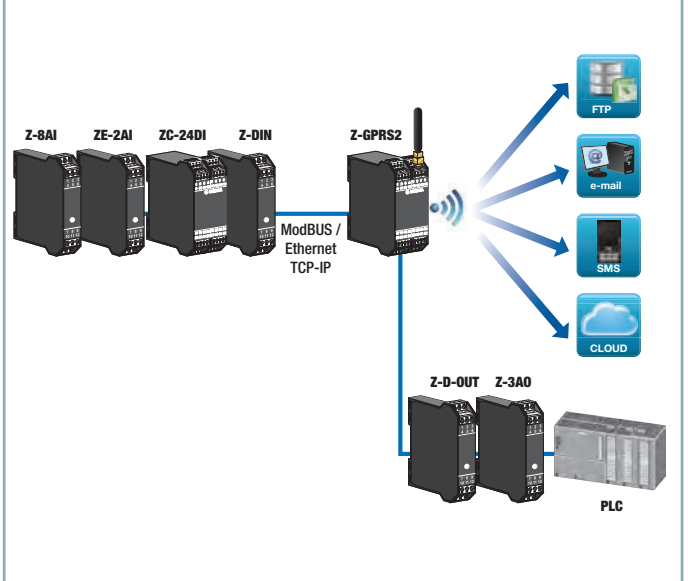
### GSM/GPRS TELECONTROL OF INTEGRATED PLANTS



### ENERGY AND LOAD MANAGEMENT

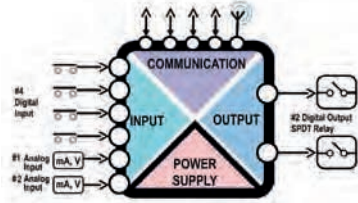


### DATALOGGING AND DATA RETRANSMISSION



# Z-GPRS2-SEAL

## Z-GPRS2-SEAL



Z-GPRS2-SEAL is a GSM / GPRS quad band datalogger, with built-in I/Os and Ethernet interface. The device is configured as master unit of Z-PC Line remote I/O system . ZGPRS2-SEAL offers high performance for data acquisition, data storage, and wireless data transmission, measurements and alarms. Z-GPRS2-SEAL unit operates as a Modbus master unit on the RS485 serial communication port with wireless GSM / GPRS transmission mode. The software package SEAL (Seneca Advanced Language) allows, based on object oriented programming, enables control logic, automation routines, alarms, thresholds, timers, report management with the possibility to fully configure and upgrade the device by SIM card or Ethernet.

### GSM/GPRS datalogger with built-in I/O's, telecontrol functions and advanced programming language

#### TECHNICAL FEATURES

Power Supply	11..40 Vdc; 19..28 Vac
Power Consumption	2 W (standby), 6,5 W (max)
Backup Battery	Yes
Isolation	500 Vac between power supply and other circuits
Protection Degree	IP20
Signaling LDEs	I/O status Communication (RX/TX) GSM Power
Operating Temperature	-10..+50°C
Weight	280 g
Dimension	100 x 112 x 35 mm (hxdxw)
Mounting	DIN rail
Housing	PAG, black

#### I/O CHANNELS

Digital Input	N° 4 digital input PNP, NPN (counters @32bit up to 30 Hz), max input voltage 30 Vdc
Analog Input	N°2 analog input, range 0..20 mA, 0..30 V
Digital Output	N°2 relays SPDT max 2 A 250 Vac

#### COMMUNICATION

MODEM GSM/GPRS	Quad band 580/900/1800/1900 MHz via SMS/email/ftp
Serial Interface	RS485 ModBUS, programmable baud rate (Master) RS485, programmable baud rate on terminal (Master)
USB interface	Micro USB, B HOST type
Ethernet Interface	Ethernet Port 10/100 Mbps (RJ45) 10/100 Mbps (RJ45)
System protocols	Ftp, Smt, http, ModBUS TCP, ModBUS RTU Ftp, Smt, http, ModBUS TCP, ModBUS RTU

#### PROCESSING, MEMORY

CPU	ARM Cortex Processor M4 @ 32 Bit
RAM	128 kB
Flash Memory	Log 2 MB
Upgradeable Memory	Slot for Micro SD up to 32 GB
Datalogging	Measurement , Alarms, Data logging on micro SD card (max 32 GB) or on built-in flash memory

#### PROGRAMMING

Tools	SEAL, SEAL LEGACY, EASY LOG VIEWER, EASY Z-GPRS2, SMS/email, Web server, Mobile App
Functions	<b>MAIN COMMANDS:</b> Commands on ringing, management of phone book enabled for commands and alarms (up to 20 contacts), commands protected by password, ModBUS RTU Master & ModBUS TCP-IP setting; <b>ADVANCED FUNCTIONS:</b> Events/alarms associated to I/O management, RTC, thresholds, filters, hysteresis; LOG variables management and ModBUS real-time management , built-in IO, totalized values; <b>LIBRARIES AND CONTROLS:</b> Bit operations, comparators, trigger and timers, calendars, schedules; threshold blocks, contacts management, pulses, reset, ModBUS variables; firmware update and remote configuration via FTP

#### STANDARDS

Certifications	CE
Norms	EN 301511, EN 301489-1/7, EN 60950

#### ORDER CODES

Code	Description
Z-GPRS2	GSM/GPRS datalogger with built-in I/O's and telecontrol functions
Z-GPRS2-SEAL	GSM/GPRS datalogger with built-in I/O's and telecontrol functions and advanced programming package. MSD included.
A-GSM	External GSM antenna dual band swing, cable 3,2 m
A-GSM-DIR-5M	GSM directive antenna, cable 5 m
FD01	Photodiode for pulses counting, freq. max 10Hz
KIT-USB	Programming kit with software, USB driver, users manuals and USB – miniUSB cable
MSD	Micro SD card with adapter
Z-PC-DINAL1-35	Support for DIN rail guide 35mm width

**SENECA SMS**  
Mobile APP su  
Google Store e  
Android Store



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