Remote Control Technology

RCT

Monitoring systems for tanks and technical installations

CATALOGUE

Measurement

Evaluation

Information

COMPANY PRESENTATION

Foundation of the company

One says a company starts with a name plate at the office door and the entry in the register of companies.

But in case of RCT everything started much earlier – in form of an idea in the creative head of the founder.

Long time ago, in the youthful age of the founder Martin Meyer an idea was born which should develop one of the first support legs of the company. The inspiring discussion with the driver of a tank truck lead to the development of the first remote indication system for LPG tanks – at that time still the vision of a young boy – who came again into oblivion.

Many years passed by until Martin Meyer found himself in a small office to put his ideas into reality – on 01. January 2004 he founded the **Remote Control Technology GmbH**.

First product series

For some time after Martin Meyer was occupied with the problem definition of wireless data transfer, for example the remote monitoring of liquid levels in storage tanks or levels in the water resources management.

Due to the knowledge of the demands of the LPG industry, he started to develop this kind of technology for LPG storage tanks.

It was the objective that the products convince with simplicity regarding costs and handling but having a unique design. Despite initial problems it succeeded to develop the today available system variety by consequent customer-oriented service and constant product improvement.

HISTORY

Quality first

Quality has highest priority. A Quality Management System according to DIN EN ISO 9001:2000 was successfully implemented in September 2004 and since than it is consequently used for all company processes. Our products are extensively audited before leaving the factory.

RCT transmitter for LPG storage tanks have ATEX approval for the use in explosive areas.

All RCT products are having the necessary approvals such as CE, EMV, ATEX and are produced at a high quality standard "Made in Germany".


ZERTIFIKAT

Remote Control Technology GmbH

ISO 9001: 2000

Innovation, creativity and flexibility

Today RCT is continuously designing new products for measuring and transferring data for various industries and areas of application. The most important objective is the customer demand and satisfaction. The basic philosophy of the RCT product range is the modular structure and combinability of the different units to realize cost effective and individual monitoring solutions.

Beside the production of a wide pallet of standard components there's still enough scope to react quickly and flexible to specific customer and market demands.

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RADIO TRANSMITTER

Level monitoring using float technology
Mainly LPG tanks

Level monitoring using ultrasonic technology
Liquids/Oil- and water tanks

Monitoring of meter readings
Pulse counting meters

Monitoring of machines and technical installations
Various sensors applicable

RADIO TRANSMITTER

RADIO RECEIVER

LCD receiver
Direct display in % or Liter

Interface receiver
Conversion in analogue signal 4–20 mA

Relay receiver
2 outputs (max. 5 A)

RS 232 receiver
for communication with PC

LED receiver
Optical/audible alarm

Modem receiver (GSM/analogue)
SMS to PC or mobile phone (worldwide)

RADIO RECEIVER

Sensors for radio and GSM technology

SENSORS

Hall effect sensors for float technology

Ultrasonic sensors
(contactless level measuring)

Light/Temperature/ Pressure sensors

Switch contacts/Interface
(Input 4–20 mA)

SENSORS

Remote Monitoring – Data transfer by GSM (mobile technology)

GSM TRANSMITTER

Level measurement based on float technology
Mainly LPG tanks

Level measurement based on ultrasonic technology
Liquids/Oil- and water tanks

Monitoring of machines and technical installations
Different sensors applicable

IH modem with switch contact
Direct transfer of faults

Monitoring of meter
Transfer of meter reading to a central PC

Remote profi puls
Monitoring of meter and installations, combination of GSM and radio technology

GSM TRANSMITTER

MODEM AND SOFTWARE

GSM PC Modem
Receiver for all GSM messages connected to PC

RCT Basis Software
"Starterkit"

RCT GSM Manager
Single-user version

Software

MODEM AND SOFTWARE

Accessories for GSM and radio technology

ACCESSORIES

Batteries for replacement

Field force measuring unit

Multiplexer
Signal booster for larger radio distance

External antenna
for radio receiver

ACCESSORIES

RF solutions for monitoring of tanks and technical installations up to 1000 m radio-range

The wide product range of RCT, especially with regard to the different radio transmitters and radio receivers, offers to the customer individual monitoring solutions for a different range of application such as level monitoring of oil/gas tanks or fault monitoring of machines.

Different radio receivers are available to provide the information either on a LCD display or data integration into switchgear and data transfer to PC.

Advantage:
- Easy installation, no expensive wiring
- Quick installation in a few minutes
- Battery powered systems, no 230 V power supply needed
- Transmitter and receiver units are matching automatically (coded radio signal)
- Different transmitters and receivers can be combined freely (individual solutions pending on customers demand)

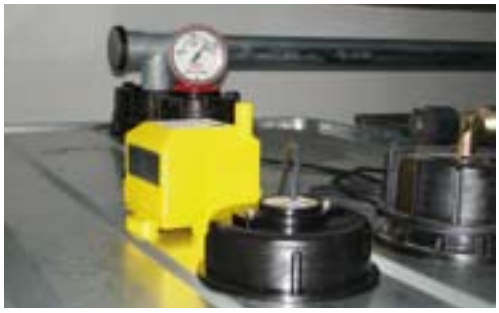
Technical specification of Radio Transmitter:
- Radio range up to 1000 m (pending on environment)
- Battery powered (lifetime of battery 3–5 years depending on transmitter frequency)
- Operational after plugging together with battery unit
- Hall effect sensor is connected to the transmitter unit by cable
- Battery unit with magnetic fastening to easy installation to the tank

Technical specification of Radio Receiver:
- Automatic reception of the coded signal after initial installation
- Works in parallel to other RCT receivers
- Automatic monitoring of battery power
- Automatic monitoring of radio signal
- Warning signal in case of alarms or critical level
- External antenna available:
  - External antenna is connected by cable with the transmitter
  - Operation is advisable if the radio signal is week due to difficult environmental conditions
  - Suitable for outdoor use (IPPG)

Examples

Level monitoring of LPG storage tanks

Level monitoring of Oil tanks



Monitoring of heating systems and technical installations

Level monitoring of LPG storage tanks

Autogas station

Interface receiver with 4–20 mA output (for data integration in existing control units)

Switch control box

LCD receiver for comfortable reading of the level in the shop

Aboveground LPG tank

Data transfer by radio signal

Shop

Underground LPG tank

RS 232 receiver with direct connection to PC (software inclusive)

PC / Laptop

Data transfer by radio signal

Shop

RADIO TRANSMITTER
Level monitoring using float technology

Radio transmitter Ex zone 1 – with external antenna

- Level measurement for **underground** LPG tanks
- Approval for the use in explosive areas – **ATEX zone 1**
- **External antenna** with magnetic foot

Tip: *As a general rule for underground LPG tanks, the transmitter shall be mounted in the dome shaft. Please mount the antenna on the wall or cover of the shaft by using the magnetic foot.*

- Contactless level reading with hall effect sensor
- Easy installation of sensor – just unscrew existing display and mount the hall effect sensor
- Sensors for all common level gauges available: Rochester, SRG, Livello, Cotrako (for more info see page 24 with explanations about sensors)
- Cyclic data transfer every 15 minutes or if liquid level changes

Set contains of:

- 1 electronic hall effect sensor
- 1 radio transmitter
- 1 battery pack
- 1 mounting screw for the hall effect sensor
- 1 user manual/declaration of conformity

1000159	RF transmitter ext. antenna – Ex1 RCT junior (compatible to all level gauges of SRG/Rochester)
1000432	RF transmitter ext. antenna – Ex1 RCT senior (compatible to all level gauges of SRG/Rochester)
1000161	RF transmitter ext. antenna – Ex1 SRG type 705
1000163	RF transmitter ext. antenna – Ex1 Livello
1000155	RF transmitter ext. antenna – Ex1 Rochester Junior (original Rochester hall effect sensor)
1000156	RF transmitter ext. antenna – Ex1 Rochester Senior (original Rochester hall effect sensor)
1000154	RF transmitter ext. antenna – Ex1 Rochester Magnetel 4" (original Rochester hall effect sensor)
1000149	RF transmitter ext. antenna – Ex1 Rochester Magnetel 8" "C" (original Rochester hall effect sensor)
1000151	RF transmitter ext. antenna – Ex1 Rochester Magnetel 8" "X" (original Rochester hall effect sensor)
1000434	RF transmitter ext. antenna – Ex1 linear/Cotrako (compatible to Cotrako level gauges)

For Rochester senior level gauges the "senior" adapter 1000438 is needed.
Exchange battery for Ex1 transmitter is battery type 1000528.

Radio transmitter Ex zone 2 – with internal antenna

- Level measurement for **aboveground** LPG tanks
- Approval for the use in explosive areas – **ATEX zone 2**
- **Integrated antenna**
- Contactless level reading with hall effect sensor
- Easy installation of sensor – just unscrew existing display and mount the hall effect sensor
- Sensors for all common level gauges available: Rochester, SRG, Livello, Cotrako (for more info see page 24 with explanations about sensors)
- Cyclic data transfer every 15 minutes or if liquid level changes

Set contains of:

- 1 electronic hall effect sensor
- 1 radio transmitter
- 1 battery pack
- 1 mounting screws for the hall effect sensor
- 1 user manual/declaration of conformity

1000160	RF transmitter int. antenna – Ex2 RCT junior **(compatible to all level gauges of SRG/Rochester)**
1000433	RF transmitter int. antenna – Ex2 RCT senior **(compatible to all level gauges of SRG/Rochester)**
1000162	RF transmitter int. antenna – Ex2 SRG 705
1000164	RF transmitter int. antenna – Ex2 Livello
1000157	RF transmitter int. antenna – Ex2 Rochester Junior **(original Rochester hall effect sensor)**
1000158	RF transmitter int. antenna – Ex2 Rochester Senior **(original Rochester hall effect sensor)**
1000153	RF transmitter int. antenna – Ex2 Rochester Magnetel 4" **(original Rochester hall effect sensor)**
1000150	RF transmitter int. antenna – Ex2 Rochester Magnetel 8" "C" **(original Rochester hall effect sensor)**
1000152	RF transmitter int. antenna – Ex2 Rochester Magnetel 8" "X" **(original Rochester hall effect sensor)**
1000435	RF transmitter int. antenna – Ex2 linear/Cotrako **(compatible to Cotrako level gauges)**

For Rochester senior level gauges the "senior" adapter 1000438 is needed.
Exchange battery for Ex2 transmitter is battery type 1000531.

RADIO TRANSMITTER
Radio transmission of meter

Radio transmitter – pulse counting

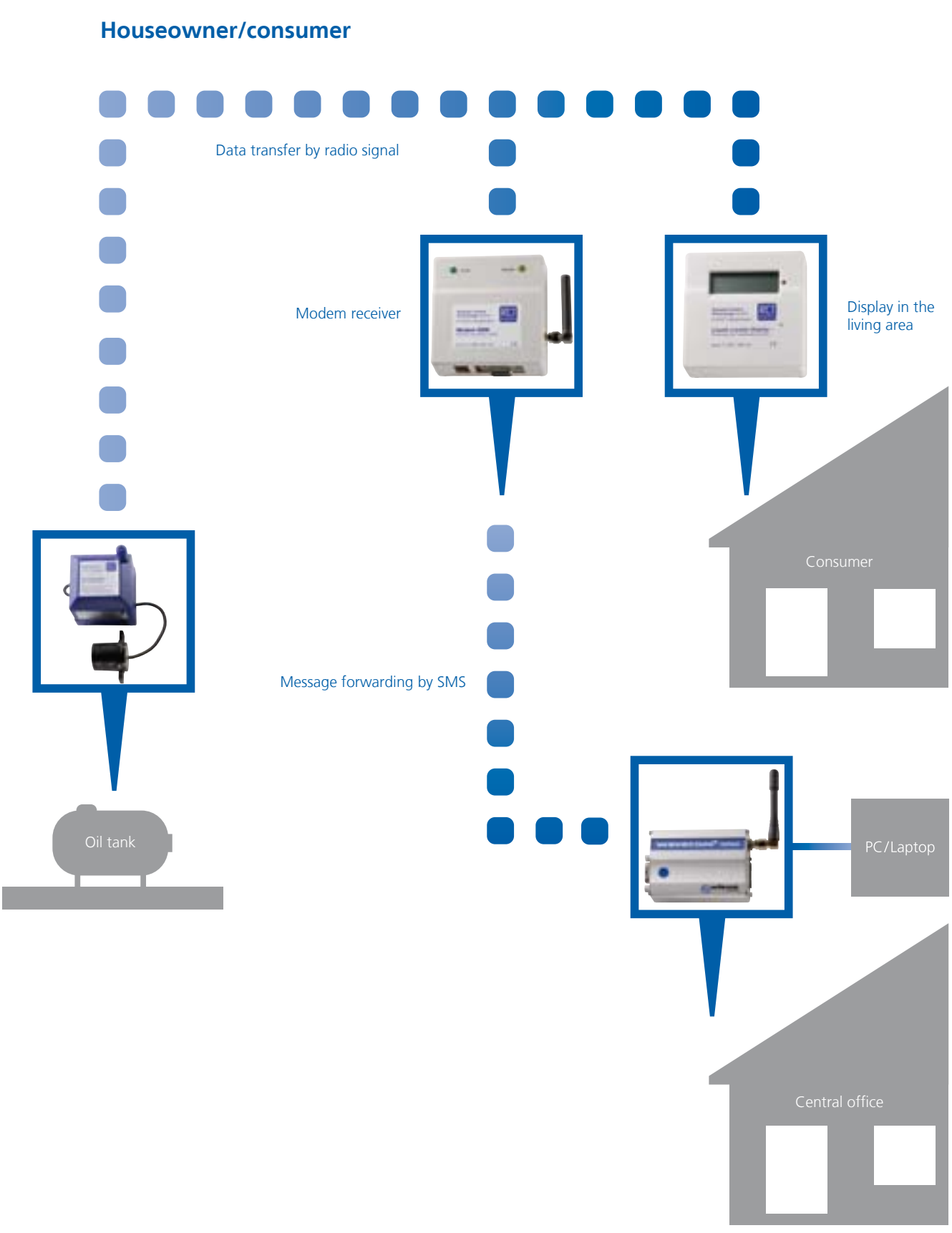
- For the use with pulse counting meter (e.g. gas, water, electricity)
- Steady transfer of meter reading by radio signal – e.g. to LCD receiver or GSM central office (Remote Profi Puls)
- Connection of one pulse counting device for reading the pulses
- Battery powered unit
- Compatible to all common pulse counting devices (e.g. Elster)
- Pending on pulse counting device the unit can monitor the alarm contact

Set contains of:

- 1 electronic cable for pulse counting
- 1 radio transmitter
- 1 battery pack
- 1 user manual/ declaration of conformity

1000494	RF transmitter int. antenna – pulse counting
1000493	RF transmitter ext. antenna – pulse counting

Level monitoring of oil- and watertanks



RADIO TRANSMITTER

Level monitoring using ultrasonic technology

Radio transmitter with ultrasonic sensor

- Contactless level monitoring with ultrasonic technology
- Suitable for all common tank shapes – adjustment to tank shape with dip switches (measuring range, round/square tank)
- With internal antenna for aboveground tanks
- With external antenna for underground tanks, respectively for the use at unfavourable environment conditions

Tip: *As a general rule for underground LPG tanks, the transmitter shall be mounted in the dome shaft. Please mount the antenna on the wall or cover of the shaft by using the magnetic foot.*

Sensor available in different variations:

Double sensor Ø 40 mm
- Plastic housing
- For indoor use
- Measuring range: 4–400 cm

Single sensor Ø 20 mm
- Plastic housing
- For indoor use
- Measuring range: 40–400 cm

Double sensor Ø 1¼" – electronic with cleaning mechanism
- Aluminium housing
- For indoor and outdoor use
- Measuring range: 20–500 cm

Set contains of:

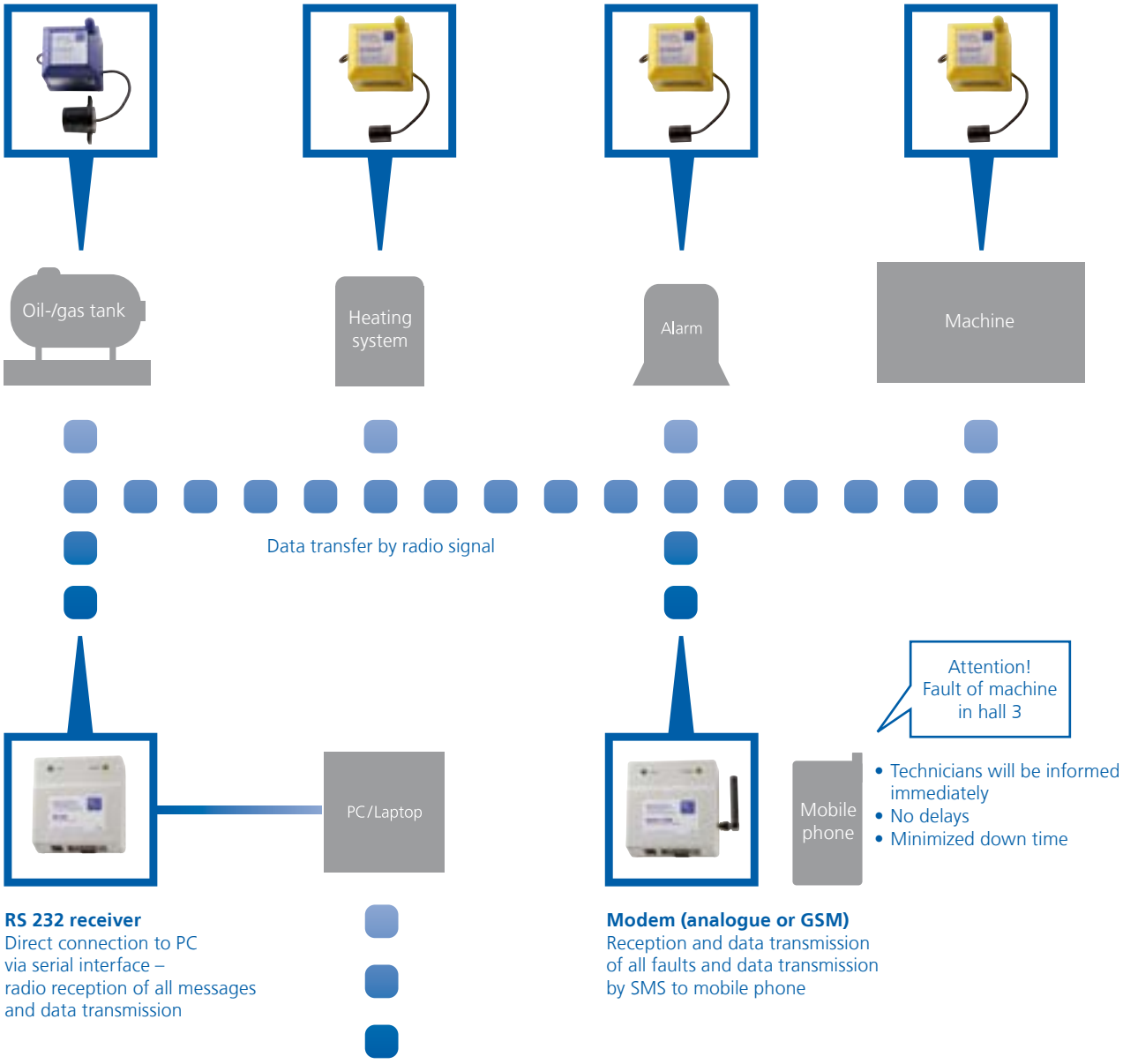
- 1 ultrasonic sensor
- 1 radio transmitter
- 1 battery pack
- 1 mounting screw for the hall effect sensor
- 1 user manual/declaration of conformity

1000167	RF transmitter int. antenna – ultrasonic double (Ø 40 mm) measuring range: 4–400 cm
1000168	RF transmitter ext. antenna – ultrasonic double (Ø 40 mm) measuring range: 4–400 cm
1000166	RF transmitter int. antenna – ultrasonic single (Ø 20 mm) measuring range: 40–400 cm
1000165	RF transmitter ext. antenna – ultrasonic single (Ø 20 mm) measuring range: 40–400 cm
1000536	RF transmitter int. antenna – ultrasonic electronic (Ø 1¼") measuring range: 20–500 cm
1000535	RF transmitter ext. antenna – ultrasonic electronic (Ø 1¼") measuring range: 20–500 cm

RADIO TRANSMITTER

Monitoring of machines and technical installations

Monitoring of various technical installations via PC and mobile phone



RS 232 receiver
Direct connection to PC via serial interface – radio reception of all messages and data transmission

Modem (analogue or GSM)
Reception and data transmission of all faults and data transmission by SMS to mobile phone

RCT software
- Monitoring of 4 different installations
- Presentation of different status and alarm situations
- With acoustic warning signal

Optional: e-mail-forwarding

RADIO TRANSMITTER

Monitoring of machines and technical installations

Radio transmitter “Watchdog”

- Available with various sensors and for almost every field of application
- For example: Message forwarding of faults of burners, machines, air conditioners; temperature monitoring of refrigerators; monitoring of warning lights and much more applications
- Data transmission pending of application range either cyclic, if a set point is reached or in case of an alarm
- With internal antenna – standard model
- With external antenna for the use at unfavourable environment conditions

More detailed info about sensors on page 24.

Please advice your technical requirement – we support you and offer you the optimal and cost effective solution.

Set contains of:

- 1 sensor/connection cable
- 1 radio transmitter
- 1 battery pack
- 1 user manual/ declaration of conformity

1000176	RF transmitter int. antenna – switch contact opening
1000175	RF transmitter ext. antenna – switch contact opening
1000177	RF transmitter int. antenna – switch contact closing
1000178	RF transmitter ext. antenna – switch contact closing
1000181	RF transmitter int. antenna – Interface 4–20 mA
1000182	RF transmitter ext. antenna – Interface 4–20 mA
1000170	RF transmitter int. antenna – light on
1000169	RF transmitter ext. antenna – light on
1000413	RF transmitter int. antenna – light off
1000414	RF transmitter ext. antenna – light off
1000172	RF transmitter int. antenna – Temperatur „<“
1000171	RF transmitter ext. antenna – temperature “<”
1000174	RF transmitter int. antenna – temperature “>”
1000173	RF transmitter ext. antenna – temperature “>”
1000179	RF transmitter int. antenna – network adapter 230 V
1000180	RF transmitter ext. antenna – network adapter 230 V

Further monitoring solutions on request

LCD receiver

- Display of liquid level in volume percent or liter
- LED – shines if level reaches pre-defined set point < 20 %
- Reception of up to 4 radio transmitters
- Monitoring of battery power, functionality of radio transmitter and regular transmission
- Automatic receipt of radio signal
- Parallel use with other RCT receiver
- Power supply unit 230 V
- Mounting with wall brackets

Display in %:
The liquid level is displayed in volume percent. One receiver displays up to 4 different radio transmitters.

Display in liter:
If only one tank is monitored, the display is optionally available in liter (LCD standard up to 9999l). Conversion of percent to liter with algorithm in dependence of tank volume input.

A 5-digit display is available for tank sizes up to 50,000 l.

Optionally the receiver is available with external antenna:
For the use at unfavourable environment conditions and to achieve a better radio range (see page 42).

Set contains of:

- 1 receiver unit
- 1 power supply unit (110 V ~/ 230 V ~)
- 1 wall bracket
- 1 user manual

1000384	RF receiver int. antenna – LCD standard
1000374	RF receiver ext. antenna – LCD standard
1000552	RF receiver int. antenna – LCD 5-digit
1000551	RF receiver ext. antenna – LCD 5-digit

RADIO RECEIVER

Interface receiver

- Connective link between liquid level of tank and industrial controller
- The liquid level or alarm message is transferred to analogue signal of 4-20 mA and output to control industrial applications
- Reception of 1 radio transmitter
- Monitoring of battery power, functionality of radio transmitter and regular transmission (visual warning signal with LED or relay control)
- Automatic receipt of radio signal
- Parallel use with other RCT receiver
- Power supply unit 230 V
- Mounting with wall brackets

Additional relay output:
- Transition contact 230 V/2 A ~
- Programming with rotary code switch in 10 % steps (for example: open/make contact or for monitoring battery power of radio transmitter)

Optionally the receiver is available with external antenna:
For the use at unfavourable environment conditions and to achieve a better radio range (see page 42).

Set contains of:

- 1 receiver unit
- 1 power supply unit (110 V ~/230 V ~)
- 1 wall bracket
- 1 user manual/ declaration of conformity

Coding table for rotary code switch:
"0" setting of the switch is at 3 o'clock. Clockwise principle.

0	OFF	Relay ON	**8**	≤ 80 % level	Relay ON
1	≤ 10 % level	Relay ON	9	≤ 90 % level	Relay ON
2	≤ 20 % level	Relay ON	A	Battery OK	Relay ON
3	≤ 20 % level	Relay ON	B	Battery LOW	Relay ON
4	≤ 30 % level	Relay ON	C	Battery LOW	Relay ON-impulse (1 ×)
5	≤ 40 % level	Relay ON	D	Signal OK	Relay ON
6	≤ 50 % level	Relay ON	E	Signal missing	Relay ON
7	≤ 60 % level	Relay ON	F	Signal missing	Relay ON-impulse (1 ×)

1000383	RF receiver int. antenna – Interface 4–20 mA
	RF receiver int. antenna – Interface x mA*
1000373	RF receiver ext. antenna – Interface 4–20 mA
	RF receiver ext. antenna – Interface x mA*
	RF receiver ext. antenna – 0–20 mA*

* On request

Relay receiver

- To control different action of a pre-defined event, i.e. in dependence of liquid level or in case of alarm such as switching pumps or electronic valves.
- Reception of up to 2 radio transmitter
- Monitoring of battery power, functionality of radio transmitter and regular transmission (visual warning signal with LED or relay control)
- Automatic receipt of radio signal
- Parallel use with other RCT receiver
- Power supply unit 230 V
- Mounting with wall brackets

2 relays are working independent
(changeover contact – to open or close)

Relay 1 = adjustable with rotary code switch in 10 % steps (~ 230 V/2 A)

Relay 2 = fix switchpoint at 6 % or 15 % (~ 230 V/2 A)

Optionally the receiver is available with external antenna:
For the use at unfavourable environment conditions and to achieve a better radio range (see page 42).

Set contains of:

- 1 receiver unit
- 1 power supply unit (110 V ~/ 230 V ~)
- 1 wall bracket
- 1 user manual/ declaration of conformity

Coding table for rotary code switch:
"0" setting of the switch is at 3 o'clock. Clockwise principle.

0	OFF	Relay ON	**8**	≤ 80 % level	Relay ON
1	≤ 10 % level	Relay ON	9	≤ 90 % level	Relay ON
2	≤ 20 % level	Relay ON	A	Battery OK	Relay ON
3	≤ 20 % level	Relay ON	B	Battery LOW	Relay ON
4	≤ 30 % level	Relay ON	C	Battery LOW	Relay ON-impulse (1 ×)
5	≤ 40 % level	Relay ON	D	Signal OK	Relay ON
6	≤ 50 % level	Relay ON	E	Signal missing	Relay ON
7	≤ 60 % level	Relay ON	F	Signal missing	Relay ON-impulse (1 ×)

1000391	RF receiver int. antenna – relay 15 %
1000390	RF receiver int. antenna – relay 6 %
1000381	RF receiver ext. antenna – relay 15 %
1000380	RF receiver ext. antenna – relay 6 %

RADIO RECEIVER

RS 232 receiver

- Direct transmission of the liquid levels and alarm messages to PC
- Monitoring of up to 4 radio transmitters (optionally unlimited number)
- Connection to PC via RS232 interface (serial interface) (for USB adapter 1000351 please see page 43)
- Monitoring of battery power, functionality of radio transmitter and regular transmission (visual warning signal with LED or relay control)
- Automatic receipt of radio signal
- Parallel use with other RCT receiver
- Power supply unit 230 V
- Mounting with wall brackets

Optionally the receiver is available with external antenna:
For the use at unfavourable environment conditions and to achieve a better radio range (see page 42).

Monitoring at PC (software RS 232)

Set containing of:

- 1 receiver unit
- 1 power supply unit (110 V ~/ 230 V ~)
- 1 wall bracket
- 1 software RS232
- 1 interface cable
- 1 user manual

Functions:
- Measured value/threshold value/alarm
- Battery power
- Date/time of the incoming messages
- Message process
- Acoustic alarm signal

Optional:
E mail forwarding of the incoming messages either cyclic or in case of alarm

1000392	RF receiver int. antenna – RS 232
1000382	RF receiver ext. antenna – RS 232

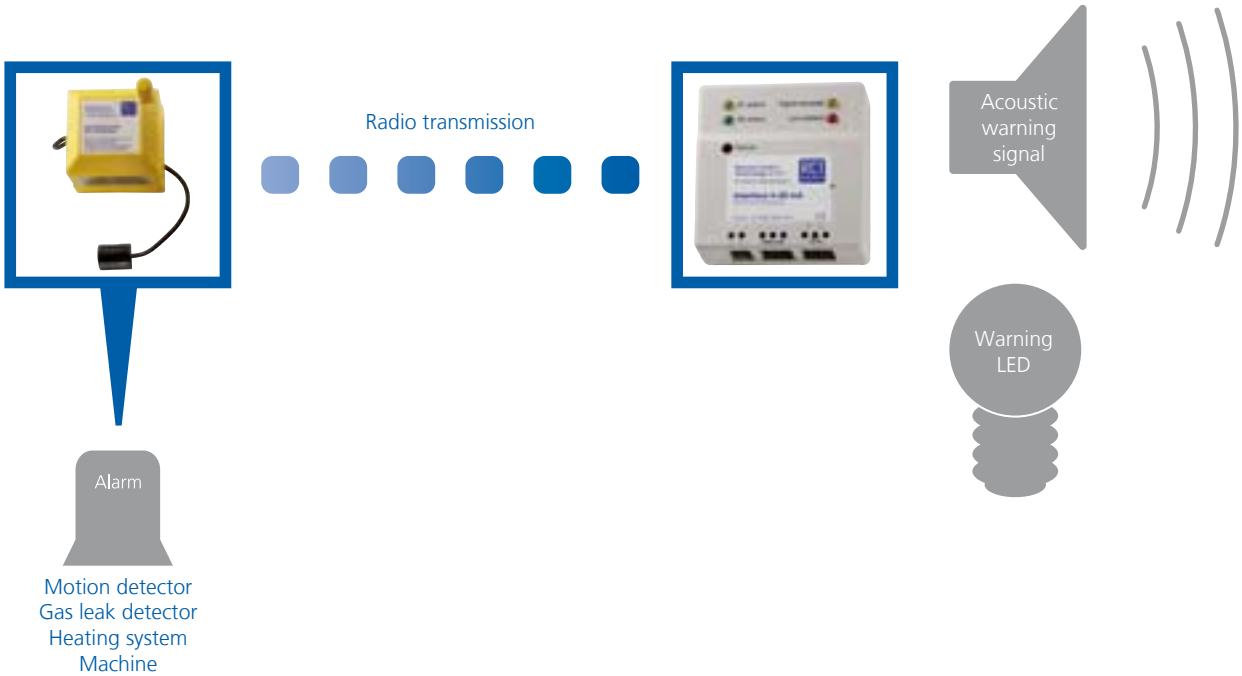
LED receiver

- Optical and acoustical signalling of alarms with LED and buzzer
- Warns if a pre-defined level is reached or in case of fault
- Automatic receipt of radio signal
- Parallel use with other RCT receiver
- Power supply unit 230 V
- Mounting with wall brackets

Optionally the receiver is available with external antenna:
For the use at unfavourable environment conditions and to achieve a better radio range (see page 42).

Set containing of:

- 1 receiver unit
- 1 power supply unit (110 V ~/ 230 V ~)
- 1 wall bracket
- 1 user manual



1000385	RF receiver int. antenna – LED
1000375	RF receiver ext. antenna – LED

Modem receiver GSM

- Worldwide transmission of liquid level or alarm messages via GSM for registration and evaluation on PC or mobile phone
- Parallel use with other RCT receiver/local data collection e.g. LCD display and simultaneously transmission of the data via GSM to a central office
- GSM card at customer's option
- Individual configuration with software, e.g. cyclic messages, transmission frequency, threshold values, alarm situations
- Autonomous monitoring of battery power as well as functionality of radio transmitter and radio signal
- Power supply unit 230 V
- Mounting with wall brackets

Optionally the receiver is available with external antenna:
For the use at unfavourable environment conditions and to achieve a better radio range (see page 42).

Availability of 2 different versions

Modem receiver GSM data:
- Transmission of liquid level or alarm messages as record to PC
- Data reception with PC modem and data evaluation with RCT software (see GSM systems on page 38)
- Optionally message forwarding of alarms to mobile phones (see software "alarm plus")
- Configuration and programming of the units can be proceeded by central office (PC)

Modem receiver GSM cleartext:
- Transmission of liquid level or alarm messages as cleartext to PC
- Initial configuration of the units with PC, possibility of reprogramming with mobile phone

Set containing of:

- 1 receiver unit
- 1 software RCT
- 1 RS 232 interface cable
- 1 power supply unit
- 1 wall bracket
- 1 user manual

1000388	RF receiver int. antenna – modem GSM data
1000378	RF receiver ext. antenna – modem GSM data
1000389	RF receiver int. antenna – modem GSM clear text
1000379	RF receiver ext. antenna – modem GSM clear text

Modem receiver analogue

- Worldwide transmission of liquid level or alarm messages via GSM for registration and evaluation on PC or mobile phone
- Connection to analogue telephone line – SMS transmission via landline network
- Advisable in case of low GSM signal instead of modem receiver – GSM
- Parallel use with other RCT receiver/local data collection e.g. LCD display and simultaneously transmission of the data via GSM to a central office
- Individual configuration with software, e.g. cyclic messages, transmission frequency, threshold values, alarm situations
- Autonomous monitoring of battery power as well as functionality of radio transmitter and radio signal
- Power supply unit 230 V
- Mounting with wall brackets

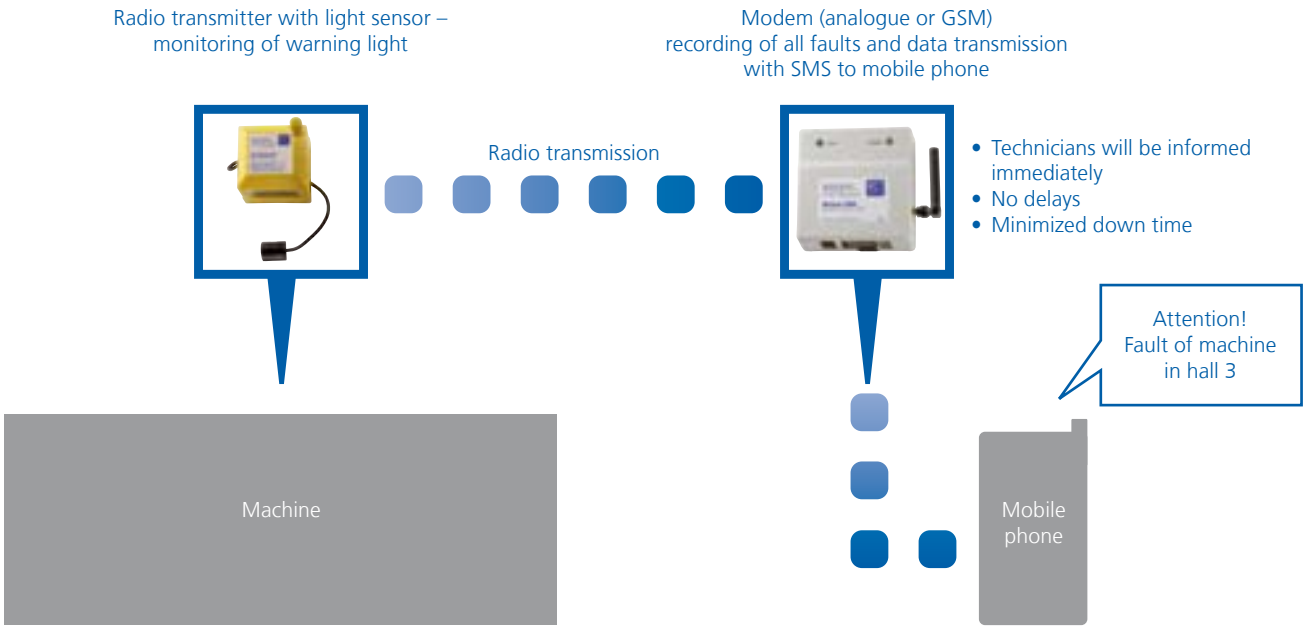
Optionally the receiver is available with external antenna:
For the use at unfavourable environment conditions and to achieve a better radio range (see page 42).

For connection of analogue modem to a ISDN system, the ISDN adapter 1000306 is required.

Set containing of:

- 1 receiver unit
- 1 software RCT
- 1 RS 232 interface cable
- 1 telephone cable (3 m)
- 1 power supply unit
- 1 wall bracket
- 1 user manual

Machine monitoring with Watchdog



1000386	RF receiver int. antenna – modem analogue data
1000376	RF receiver ext. antenna – modem analogue data

Effectiveness of the radio transmission

Radio wave spreading
The standard radio transmitter with internal antenna has a helix antenna which is mounted in the housing of the unit. To reach the best radio reception, take care that the transmitter is placed to radiate the radio signal in direction of the receiver. Please see picture explaining the radio wave spreading of the transmitter.

The radio range of the standard transmitter is up to 1000m (pending on favourable environment conditions). However, to overcome some physical barriers such as ferroconcrete walls or fences additional units are required to ensure a good radio signal. It is the aim of RCT to ensure optimal data transfer at lowest cost. Our technicians support you in all technical questions or taking over difficult installations for you.

Following we present the different auxiliaries for a safe radio transmission.

External antennas – high radio performance no matter of location

Due to the multiplicity applications with not always simple transmission characteristics, RCT designed different external radio antennas.

The correct antenna is very important to overcome physical barriers such as
- extremely thick walls or metal walls at underground tanks
- disturbing signals
- grids made of metal such as fences (faraday cage)
- natural surroundings such as earth walls

External transmitter antennas:

The **antenna with magnetic foot** is designed for the use at underground tanks with metal walls. It is a blade antenna which is connected with the radio transmitter by a 2 m long coax cable. The transmitter unit is mounted in the manhole and the antenna with metal foot is placed outside the cover in order to ensure the optimal spread of the radio signal.

The **dipole antenna** is used mainly at underground tanks, where a mounting of the magnet foot antenna is unfavourable (e.g. tank station that need to be run over).

The antenna can be placed under the earth's surface and can be overrun.

The cable has got a screw connection which allows that the antenna can be separated from the transmitter unit for mounting purposes.

External receiver antenna:

All radio receiver are available with external antenna to increase the radio signal or in case of unfavourable surrounding conditions.

The radio signal is boosted with 18 db to ensure that even the lowest signal can be filtered and evaluated.

The antenna is designed for outdoor use and is mounted with wall brackets. The standard antenna with 2 m cable is also available with longer cable on request.

Multiplexer (repeater)

The multiplexer is used for reception and transmission of RCT radio signals. It is used to bridge a big distance between transmitter and receiver (> 1000 m) or in case of unfavourable surrounding conditions. Up to 5 multiplexer can be connected in series.

Tip: *For unfavourable conditions on the transmitter side (e.g. underground tank) we recommend to use a transmitter with external antenna. In this case, sensor and transmitter are mounted inside the manhole. The antenna cable is laid outside and the antenna can be mounted on top of the cover.*

In the case that the radio signal is negatively influenced by thick or ferroconcrete walls it is recommended to use the radio receiver with external antenna. The external antenna is connected by cable with the radio receiver and can be mounted outdoor.

In rare cases, the direct radio transmission between transmitter and receiver is impossible (e.g. different metal walls are reflecting the radio signal). To solve this or equivalent problems we recommend to install the RCT multiplexer to boost the signal.

Electronic sensors for float technology – mainly LPG tanks

RCT electronic sensors for LPG tanks are compatible with all common mechanical float gauges manufactured by Rochester Gauges, SRG, Livello and Cotrako.

The electronic sensor is connected by cable with the radio transmitter. The electronic sensor has got a display which replaces the existing display of the level gauge.

The sensor is fully welded and waterproof to prevent tarnishing. The electronic inside the sensor provides the reading of the display to the transmitter.

The original RCT electronic sensor works with hall-effect technology to allow the evaluation of the pointer across a radius of 350°.

RCT Standard – junior/senior:
- compatible with all common float gauges manufactured by Rochester Gauges and SRG
- use independent of the pointer position of the display
- for float gauges type Rochester senior please use the adapter 1000438.

RCT Standard – SRG type 705:
- compatible with SRG float gauges manufactured until 1993
- the position of the magnet is deviant from the standard by approx. 14 % bottom wise
- diameter and position of the mounting screws are identical with the standard

RCT Standard – type Livello:
- compatible with float gauges manufactured by Livello
- diameter and position of the mounting screws are identical with the standard

RCT Standard – type linear/Cotrako:
- exclusively designed for tanks with linear withdrawal (square tanks)
- compatible with all common float gauges manufactured by Rochester Gauges, SRG, Cotrako
- for float gauges type Rochester senior please use the adapter 1000438.

Original Rochester junior/senior:
- on customer request we supply our equipment with original senior or junior hall-effect sensors manufactured by Rochester Gauges
- the accuracy of the display can deviate from sensor to sensor
- levels below 5 % cannot displayed

Original Rochester Magnetel:
- on customer request we supply our equipment with original Magnetel hall-effect sensors manufactured by Rochester Gauges
- the accuracy of the display can deviate from sensor to sensor
- each transmitter is programmed individually to the sensor in order to get maximum precision
- due to the variety of sensors it is important that the customer specifies the exact sensor type

Ultrasonic sensors –
Liquids/oil tanks/water tanks

The reading with ultrasonics works contactless by sensing and receiving of sound waves. This technology is suitable for almost every kind of vessel (e.g. cylinder, square). The tank shape as well as the measuring range is set by a predefined keyboard shortcut which is located inside the transmitter. Alternatively it can be set with PC software.

The sensor is connected by cable to the transmitter unit which offers enough scope for positioning.

Single sensor – Ø 20 mm:
- for indoor use
- reading is processed by a combined transmitter and receiver capsule
- measuring range 40–400 cm (there's no reading and display of measuring result between 0 and 40 cm)
- sensor diameter: 20 mm

Double sensor – Ø 40 mm:
- for indoor use
- reading is processed by two different capsule for transmitting and receiving of the sound waves
- measuring range: 4–400 cm
- sensor diameter: 40 mm

Tip: *For indoor use it is recommended to use the double sensor.*
The single sensor is used in case that a hole of 40 mm diameter can't be achieved (e.g. no free screwed cover available in the tank). Due to the small diameter, the single sensor can be placed beside the filling or withdrawal pipe.

Double sensor electronic Ø 1¼"
with cleaning mechanism
- for indoor and outdoor use
- measuring range: 15–500 cm (individual adjustment on request)
- sensor diameter: 1¼"
- solid aluminium housing with male thread

Individual adjustment of the measuring range:
The measuring range can be adjusted the tank shape individually.

Adjustment options:
- total height of the tank - distance between sensor and tank base
- offset value – difference between total height of the tank and maximum filling level
- linear withdrawal (square tank) or withdrawal curve (round tank)

Tip: *The area above the maximum fill level or a tank collar can be exclude from the reading by using the offset value. This allows a more precise reading.*

Sensors and respective monitoring solutions

RCT provides different sensors for its technology offering monitoring solutions for machines and technical installations (e.g. building services engineering). Transmitter and sensors can be installed easily. The RCT radio system is especially suitable to retrofit existing monitoring solutions.

The following monitoring solutions are available:

Light sensor:
- monitoring of warning lights on machines and technical installations
- fault signals are transferred by the radio-transmitter to the corresponding receiver units
- e.g. message forwarding of a machine fault with SMS directly to the mobile phone of the technician

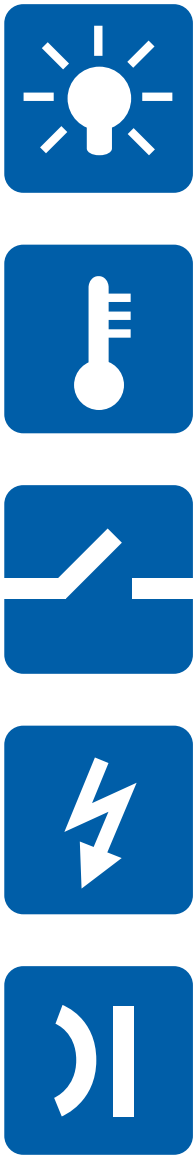
Temperature sensor:
- registration of temperature in the range of –30 °C to +130 °C
- alarm transmission in case that a predefined set point exceeds or fell below; alternatively cyclic transmission of measured temperature
- e.g. monitoring of refrigerators, rooms or pipes (room temperature, temperature sensing device)

Switch contact:
- connection to a dry contact of a technical installation
- optionally available open contact or make contact
- fault transmission directly to the responsible technician – without any delays

Interface 4–20 mA:
- input for analogue signal 4–20 mA (industrial standard)
- connection of almost every common sensor for data evaluation and transmission
- e.g. ultrasonic sensor, sensor for pressure measurement to monitor pipe systems with compressed air of leakage control

Network adapter:
- separate connection unit to monitor a supply voltage of 230 V/DC
- alarm messaging in case of variation of mains voltage

On customer request, RCT provides transmitter units for usual in commerce available standard sensors such as pressure or temperature.



GSM TECHNOLOGY – GENERAL INFORMATION

Telemetry solutions for technical installations with GSM technology

Level monitoring with central office – set up of a effective monitoring network

Did you know that you can monitor your tanks worldwide without any problems by using the GSM technology?

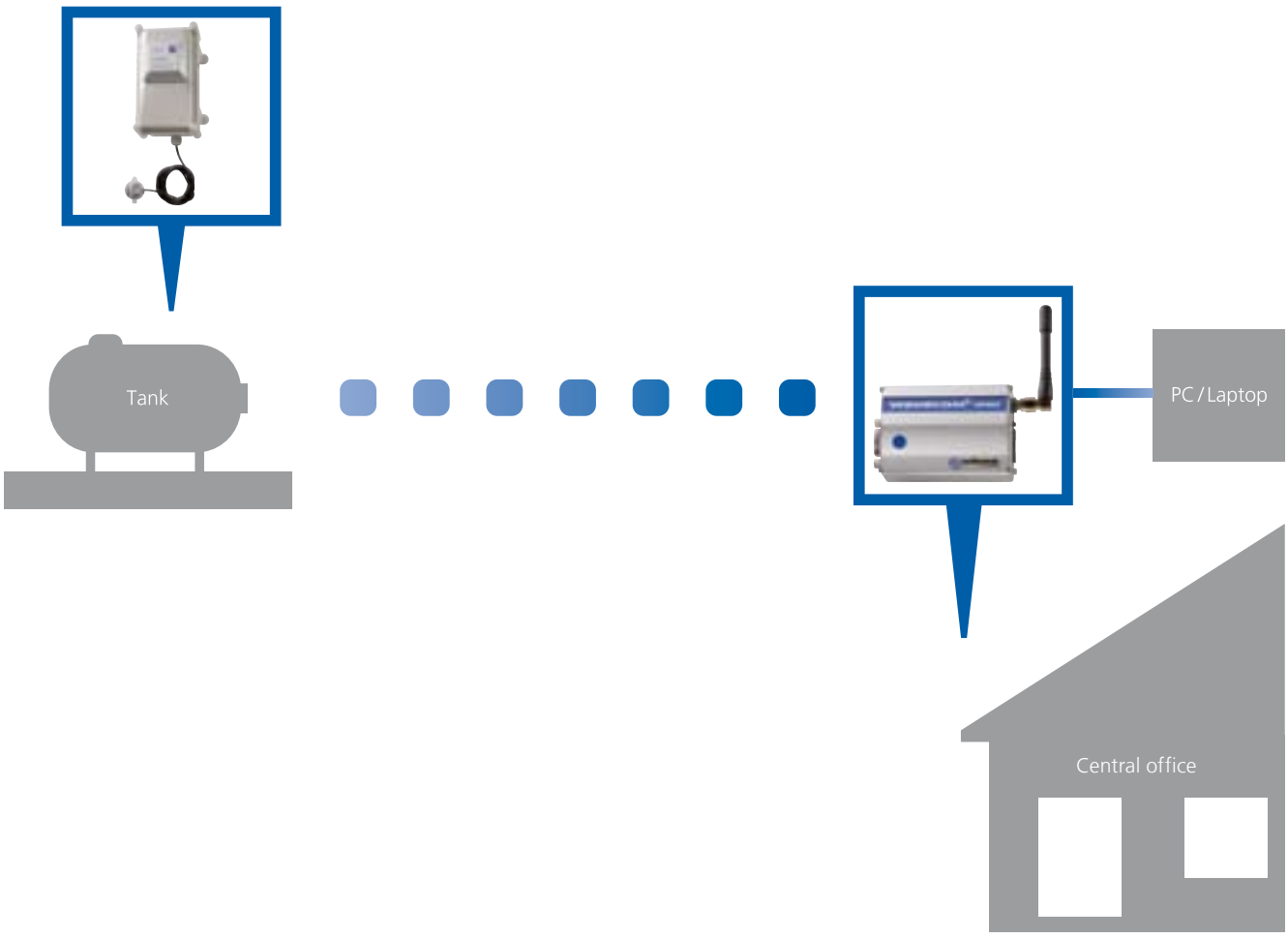
And we do not only talk about level monitoring. However, the level monitoring seems to be of great importance for the energy supplier, independent if they need to monitor service stations or important customers.

Especially facility management companies or emergency services are using more and more the advantage of this kind of systems to offer its customers a better service.

We offer to different technologies for data transmission:

Direct transmission:

The GSM transmitter is installed directly on the tank. The tank level is monitored and transferred by SMS in case of an alarm or pre-defined setting directly to your central office. The incoming data can be evaluated and displayed on PC. The time for the installation of the GSM unit to the tank is less than 20 minutes.

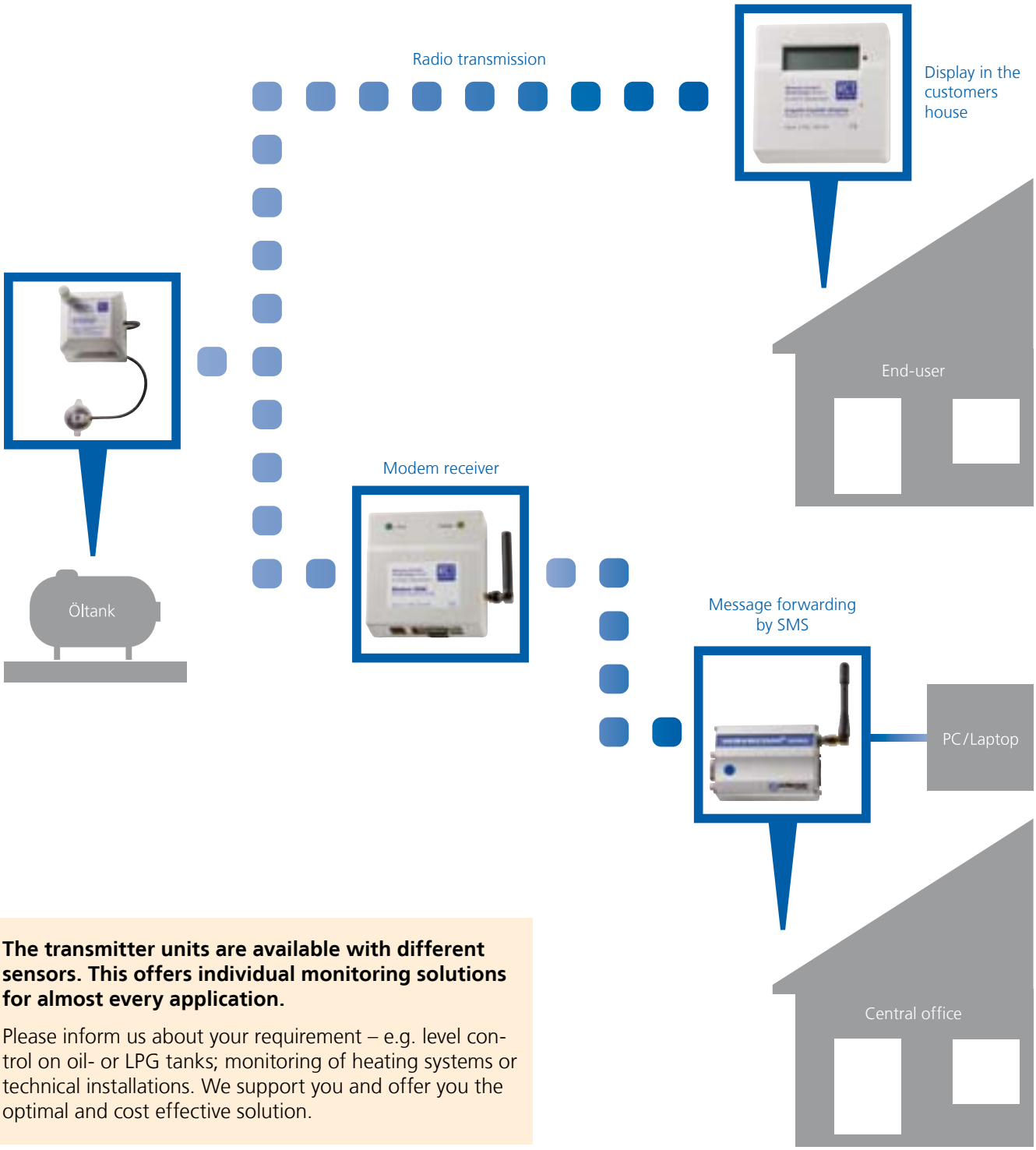


GSM TECHNOLOGY – GENERAL INFORMATION

Telemetry solutions for technical installations with GSM technology

Indirect transmission:

This solution offers to your customer additionally to monitor the level on LCD display. The level is transferred by radio signal from the tank to the house of your customer and finally by GSM technology to your central office.



The transmitter units are available with different sensors. This offers individual monitoring solutions for almost every application.

Please inform us about your requirement – e.g. level control on oil- or LPG tanks; monitoring of heating systems or technical installations. We support you and offer you the optimal and cost effective solution.

The first steps – here we are glad to support you

Installation of PC modem and software:

The PC GSM modem needs to be connected to your PC. This modem receives all incoming SMS. The PC GSM modem is containing in the Starterkit together with basic software package and cables.

After the successful installation you can display, evaluate and archiving all incoming messages.

Initial configuration of the GSM transmitter:

For the initial configuration, the GSM transmitter needs to be connected by cable with either a PC or Notebook. After successful configuration a technician can easily install the units to the tank.

Our technicians are pleased to support you for the case that you may have problems with the installation of the software or configuration of the GSM units.

Optimal control and effective planning:

After the successful installation you are able to proceed the planning of your tanks or technical installations in a relaxed way. It is not even necessary to monitor continuously the display of your PC. In the case that a pre-defined alarm set point is reached, the system can forward a SMS to your Mobile Phone or email to your PC.

Tip: *You can use also Prepaid SIM cards that are available on almost every service stations. No further cost are involved other than the cost for SMS transfer.*

Furthermore you don't need to sign any contracts which could lead to a requested minimum sales with any hidden risks.

For the reception of the messages in your central office you require:

PC GSM modem …

… with basic software …

… and of course a SIM card of any provider.

For the monitoring of your tanks or technical installations you require:

GSM transmitter each with the respective sensor pending on application (see page 30) …

… as well as a SIM card for each GSM unit.

GSM TRANSMITTER

Level monitoring using float technology

GSM transmitter Ex zone 2 with internal antenna

- Level monitoring on **aboveground LPG tank installations**
- Approval for the use in explosive areas – **ATEX zone II**
- **Internal transmitter antenna**
- Direct level transmission from the tank to the PC with SMS (SIM card)

- Contact less reading using hall-effect technology
- Easy installation of the hall-effect sensor to the flange of the existing float gauge
- Available for all common float gauges manufactured by Rochester Gauges, SRG, Livello and Cotrako (see explanation about "sensors" on page 24)
- Battery powered
- Easy configuration with PC or Notebook (re-configuration at any time)
- Data transmission cyclic, at filling, if pre-defined level is reached or on manual request
- Data reception with PC GSM modem (available inclusive basic software for configuration of the units and evaluation and display of the messages on PC)
- Easy installation on the tank with housing integrated magnets

Set containing of:

- 1 electronic sensor
- 1 GSM transmitter
- 1 battery unit
- 1 mounting screw for the sensor
- 1 user manual/ declaration of conformity

1000206	GSM transmitter int. antenna – Ex2 RCT junior (compatible with all common level gauges of SRG/Rochester)
1000211	GSM transmitter int. antenna – Ex2 RCT senior (compatible with all common level gauges of SRG/Rochester)
1000216	GSM transmitter int. antenna – Ex2 SRG 705
1000207	GSM transmitter int. antenna – Ex2 Livello
1000209	GSM transmitter int. antenna – Ex2 Rochester Junior (original Rochester hall-effect sensor)
1000210	GSM transmitter int. antenna – Ex2 Rochester Senior (original Rochester hall-effect sensor)
1000201	GSM transmitter int. antenna – Ex2 Rochester Magnetel 4" (original Rochester hall-effect sensor)
1000203	GSM transmitter int. antenna – Ex2 Rochester Magnetel 8" "C" (original Rochester hall-effect sensor)
1000204	GSM transmitter int. antenna – Ex2 Rochester Magnetel 8" "X" (original Rochester hall-effect sensor)
1000436	GSM transmitter int. antenna – Ex2 linear/Cotrako (compatible with Cotrako level gauges)

For Rochester senior level gauges the "senior" adapter 1000438 is needed.
Exchange battery for Ex2 transmitter is battery type 1000534.

GSM transmitter Ex zone 1 with external antenna

- Level monitoring on **underground LPG tank installations**
- Approval for the use in explosive areas – **ATEX zone I**
- **External transmitter antenna**
- Direct level transmission from the tank to the PC with SMS (SIM card)

- Contactless reading using hall-effect technology
- Easy installation of the hall-effect sensor to the flange of the existing float gauge
- Available for all common float gauges manufactured by Rochester Gauges, SRG, Livello and Cotrako (see explanation about "sensors" on page 24)
- Battery powered
- Easy configuration with PC or Notebook (re-configuration at any time)
- Data transmission cyclic, at filling, if pre-defined level is reached or on manual request
- Data reception with PC GSM modem (available inclusive basic software for configuration of the units and evaluation and display of the messages on PC)
- For easy mounting to the tank we offer additionally mounting magnets (article number 1000239)

Set containing of:

- 1 electronic sensor
- 1 GSM transmitter
- 1 battery unit
- 1 mounting screws for the sensor
- 1 user manual/ declaration of conformity

1000193	GSM transmitter ext. antenna – Ex1 RCT junior (compatible with all common level gauges of SRG/Rochester)
1000188	GSM transmitter ext. antenna – Ex1 RCT senior (compatible with all common level gauges of SRG/Rochester)
1000198	GSM transmitter ext. antenna – Ex1 SRG 705
1000189	GSM transmitter ext. antenna – Ex1 Livello
1000191	GSM transmitter ext. antenna – Ex1 Rochester Junior (original Rochester hall-effect sensor)
1000192	GSM transmitter ext. antenna – Ex1 Rochester Senior (original Rochester hall-effect sensor)
1000183	GSM transmitter ext. antenna – Ex1 Rochester Magnetel 4" (original Rochester hall-effect sensor)
1000185	GSM transmitter ext. antenna – Ex1 Rochester Magnetel 8" "C" (original Rochester hall-effect sensor)
1000186	GSM transmitter ext. antenna – Ex1 Rochester Magnetel 8" "X" (original Rochester hall-effect sensor)
1000437	GSM transmitter ext. antenna – Ex1 linear/Cotrako (compatible with Cotrako level gauges)

For Rochester senior level gauges the "senior" adapter 1000438 is needed.
Exchange battery for Ex1 transmitter is battery type 1000533.

GSM TRANSMITTER

Level monitoring using ultrasonic technology

GSM transmitter – with ultrasonic sensor

- Contactless level monitoring with ultrasonic technology
- Suitable for all common tank sizes and shapes
- Input of tank geometry with PC (configuration of measuring range, round/square tank)

- **With internal antenna for aboveground tank installations**
- **With external antenna for underground tank installations**

- Direct level transmission from the tank to the PC with SMS (SIM card)
- Battery powered
- Easy configuration with PC or Notebook (re-configuration at any time)
- Data transmission cyclic, at filling, if pre-defined level is reached or on manual request
- Data reception with PC GSM modem (available inclusive basic software for configuration of the units and evaluation and display of the messages on PC)
- Easy installation on the tank with housing integrated magnets

Set containing of:

- 1 ultrasonic sensor
- 1 GSM transmitter
- 1 battery unit
- 1 mounting screw for the sensor
- 1 user manual/ declaration of conformity

Optionally available:

Double ultrasonic sensor Ø 40 mm
- plastic housing
- for indoor use
- measuring range: 4–400 cm

Electronic ultrasonic sensor Ø 1¼" – with cleaning mechanism
- aluminium housing with male connection Ø 1¼"
- for indoor and outdoor use
- measuring range: 15–500 cm

1000217	GSM transmitter int. antenna – double ultrasonic sensor Ø 40 mm
1000199	GSM transmitter ext. antenna – double ultrasonic sensor Ø 40 mm
1000537	GSM transmitter int. antenna – electronic ultrasonic sensor Ø 1¼"
1000538	GSM transmitter ext. antenna – electronic ultrasonic sensor Ø 1¼"

Exchange battery is battery type 1000534.

GSM TRANSMITTER

Monitoring of machines and technical installations

GSM transmitter – with different sensors

- Due to different available sensors a wide range of applications can be covered
- E.g. forwarding of fault messages of burners, machines, refrigerators, light signals of warning lights and much more applications
- Direct data transmission to a central PC with SMS (SIM card)

- Easy configuration with PC or Notebook (re-configuration at any time)
- Data transmission cyclic, at filling, if pre-defined level is reached or on manual request
- Data reception with PC GSM modem (available inclusive basic software for configuration of the units and evaluation and display of the messages on PC)
- Battery powered
- Easy installation on the tank with housing integrated magnets

For a detailed description of the sensors please see page 26.

Please advice your technical requirement – we support you and offer you the optimal and cost effective solution.

Set containing of:

- 1 sensor/connecting cable
- 1 GSM transmitter
- 1 battery unit
- 1 user manual/ declaration of conformity

1000212	GSM transmitter int. antenna – switch contact opening
1000213	GSM transmitter int. antenna – switch contact closing
1000205	GSM transmitter int. antenna – Interface 4–20 mA
1000417	GSM transmitter int. antenna – light on
1000418	GSM transmitter int. antenna – light off
1000215	GSM transmitter int. antenna – temperature “<”
1000214	GSM transmitter int. antenna – temperature “>”
1000208	GSM transmitter int. antenna – network adapter 230 V/50 Hz ~

Further monitoring solutions on request

GSM TRANSMITTER

Monitoring of machines and technical installations

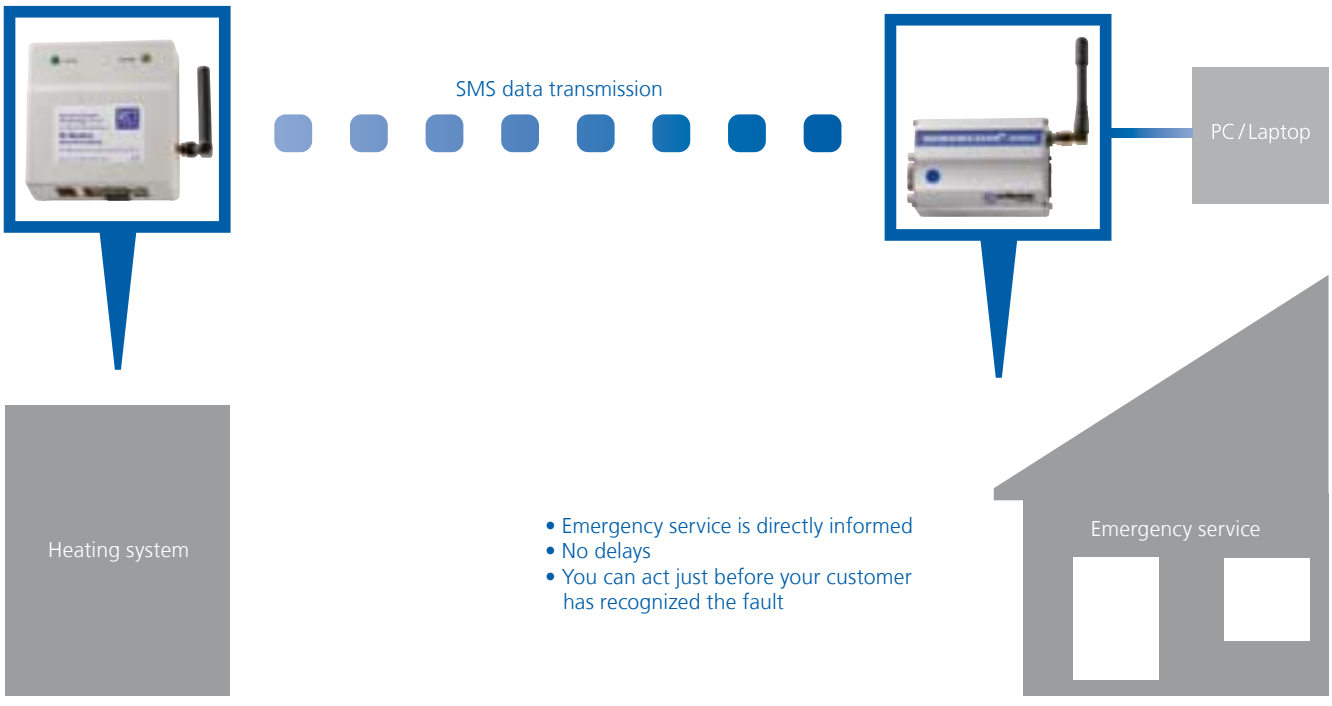
IH modem – with switch contact

- Connection to a technical installation to monitor and transfer faults
- GSM modem – direct data transmission of alarms to a central PC – transmission of all messages by SMS with SIM card
- Faults are transferred directly to a central office
- Data reception with PC GSM modem (available inclusive basic software for configuration of the units and evaluation and display of the messages on PC)
- Voltage supply 230 V
- 4-way connector:
  - two strands each are used for switch contact
  - monitoring of two different objects

Set containing of:

- 1 connecting cable
- 1 GSM modem
- 1 software
- 1 programming cable
- 1 voltage supply 110 V ~/230 V ~
- 1 wall bracket
- 1 user manual/ declaration of conformity

Fault heating system



- Emergency service is directly informed
- No delays
- You can act just before your customer has recognized the fault

1000507	IH modem switch contact – GSM data file

GSM transmitter – Monitoring of gas meter

- Connection to a gas meter with pulse counting device (pending on application for gas, water, electricity)
- Regular transmission of the gas meter reading by SMS
- Data reception with PC GSM modem (available inclusive basic software for configuration of the units and evaluation and display of the messages on PC)
- Pulse counting device for evaluation of the gas meter reading
- Easy configuration with PC or Notebook (re-configuration at any time)
- Data transmission cyclic or on request by central PC or Mobile phone (no manual reading on-site)
- Voltage supply 230 V

Available options:

Gas meter monitoring
- Connection of 1 gas meter
- Data transmission by GSM (gas meter reading)

Monitoring of gas meter and tank
- Connection of 1 gas meter
- Simultaneously monitoring of 1 tank (with radio transmitter)
- Data transmission by GSM (gas meter reading + liquid level + alarm at critical level)

Set containing of:

- 1 GSM unit
- 1 connecting cable for pulse counting device
- 1 user manual/declaration of conformity

1000220	GSM transmitter – gas meter reading 230 V
1000222	GSM transmitter – gas meter reading + level reading 230 V

GSM TRANSMITTER

Monitoring of gas meter and technical installation

GSM transmitter – Remote Profi Puls

- Central monitoring unit – particularly suitable for monitoring bigger objects such as apartment buildings with different tanks, gas meter or technical installations
- Monitoring of gas meter, tank and technical installation – combination of radio and GSM technology
- Cyclic data transmission/alarm messages/request by PC
- Data reception with PC GSM modem (available inclusive basic software for configuration of the units and evaluation and display of the messages on PC)
- Easy configuration with PC or Notebook (re-configuration at any time)

Connection of 4 gas meter (water, electricity)
- Evaluation of signal with pulse counting cable
- Transmission of meter reading by SMS (no manual reading on-site)

Reception of up to 12 RCT transmitters
- Monitoring of liquid levels, technical installations, meter reading, alarm message forwarding (for more info please see page 6)
- Transmission of data by SMS to a central PC

The Remote Profi Puls is optionally available with external receiver antenna. It is recommended for the use at unfavourable environment conditions and to achieve a better radio range (see page 42).

Control of 4 relays – remote access by SMS
- E.g. deactivation of solenoid valves – stop of gas supply with coded SMS directly from central office

Set containing of:

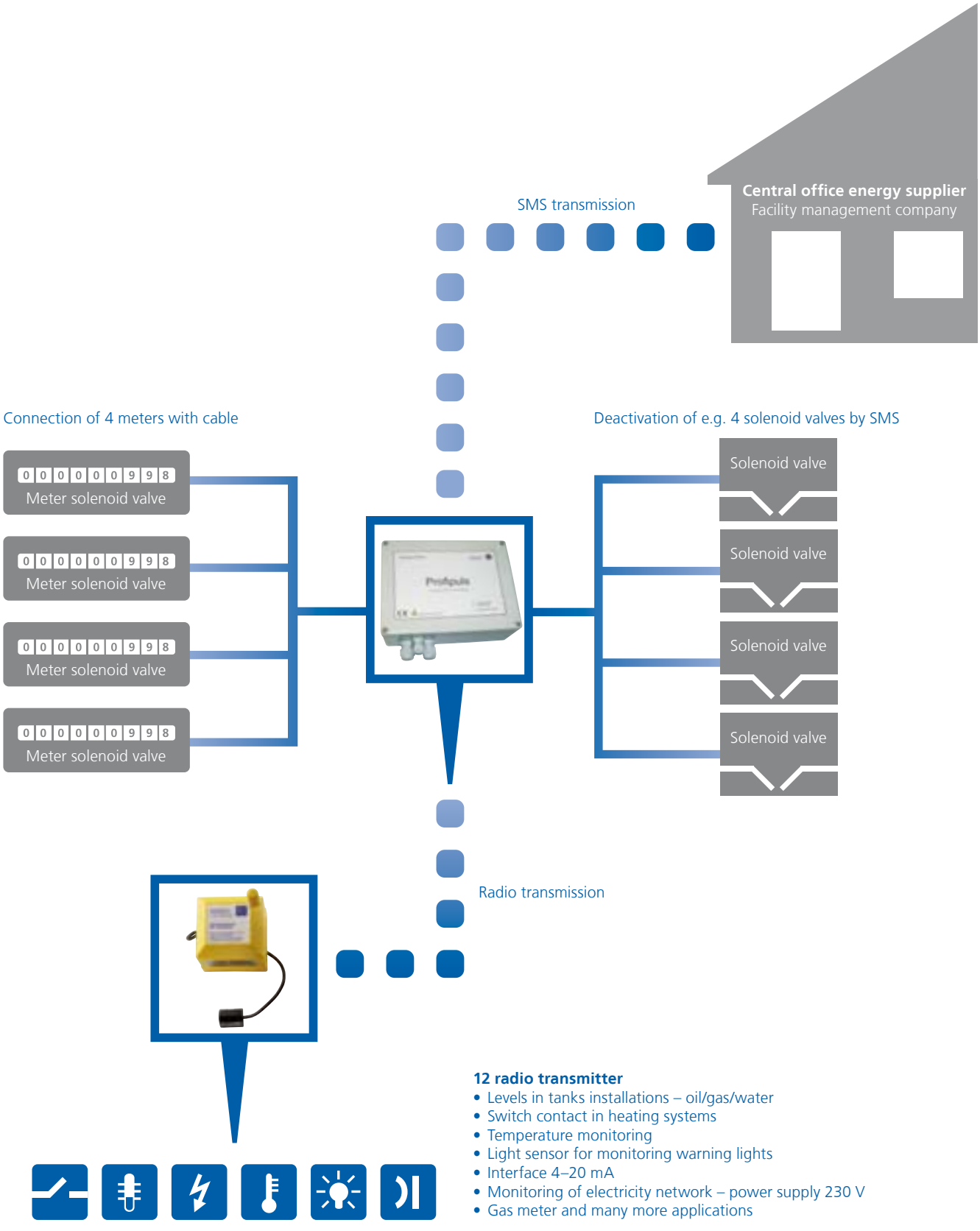
- 1 GSM unit
- 1 connecting cable for pulse counting device
- 1 user manual/ declaration of conformity

1000508	GSM transmitter ext. antenna – Remote Profi Puls
1000556	GSM transmitter int. antenna – Remote Profi Puls

GSM TRANSMITTER

Monitoring of gas meter and technical installation

Remote Profi Puls



12 radio transmitter

- Levels in tanks installations – oil/gas/water
- Switch contact in heating systems
- Temperature monitoring
- Light sensor for monitoring warning lights
- Interface 4–20 mA
- Monitoring of electricity network – power supply 230 V
- Gas meter and many more applications

GSM TECHNOLOGY – DATA RECEPTION
Display on PC

GSM PC modem
"Starterkit"

- Reception of the incoming messages of all installed GSM units and evaluation on PC
- Worldwide transmission of level- and alarm messages of different applications
- Data supply for data processing with RCT software (basic software is included in the starterkit free of charge)
- Data reception using SIM card of any provider. No telephone line needed.
- Normally only one PC GSM modem per central office needed
- Easy configuration of all GSM units with PC or Notebook
- Re-configuration of GSM units directly from PC software

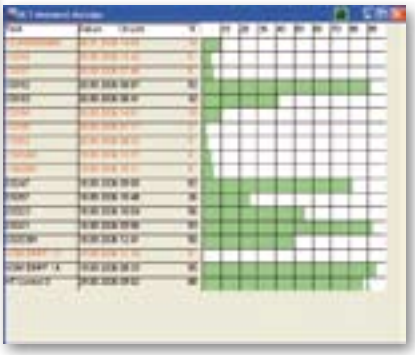
For the case that your PC cannot provide a free serial interface, the USB adapter 1000351 can be used for connection to USB interface.

"Starterkit" contains of:

- 1 PC GSM modem
- 1 power supply 230 V ~
- 1 interface cable
- 1 programming cable
- 1 RCT basic software (RCT config, RCT service GUI, data display)
- 1 user manual

RCT Config

RCT Service GUI



Data Display

Optionally: Message forwarding to mobile mhone (software alarm forwarding)

1000292	GSM PC modem 230 V RS 232
1000295	GSM PC modem 230 V RS 232 – "Starterkit" (incl. RCT basic software and accessories)
1000496	Software "alarm forwarding" to mobile phone (on request)

GSM TECHNOLOGY – DATA RECEPTION

RCT basic software

GSM specification

Transmission options:

- Cyclic transmission of the measured and saved data
- Cyclic transmission at reaching pre-defined set point
- Only transmission of alarm messages

8 different alarm situations:

- ***Warning message:*** level below free adjustable set point
- ***Alarm message:*** free defined minimum level is reached
- ***Overfill alarm:*** free defined maximum level is reached
- ***Filling alarm:*** monitoring of filling process
- ***Battery alarm:*** monitoring of battery performance
- ***Error:*** functionality test of electronic and sensor
- ***Leakage alarm:*** alarm message in case of leakage (level drops in very short time)
- ***Alarm "A"/"B":*** monitoring of 2 additional switch connections

Programming options:

- Cycle time for evaluation and saving of the actual tank and system data
- Data transmission cycle
- Online cycle time – for reception new parameter
- Phone number of transmitter and receiver
- Cost effective transmitting time for cyclic messages
- 15-digit customer code (text/number)
- Selection of network provider
- Warning level A and critical set point B
- Maximum level
- Set point for leakage indication and many more

Further features:

- Automatic monitoring of GSM signal (in case of low signal it is recommended to use external antenna)
- Data logger: 24 memory cells for data backup (transmission of 24 measured values in one SMS)
- Safety check of all incoming and outgoing messages
- Logic test of the electronic (always active)
- Mobile data request with Mobile Phone
- Configuration with PC, Mobile Phone or SMS

RCT basic software (included in "starterkit" free of charge)

The RCT software offers data management of all incoming messages. The different GSM units in the field can be configured individually to offer tailored customer solutions.

Modem software:

This software is working in the background and monitors the GSM PC modem. Incoming SMS are converted into either ASCII or XML format.

RCT config:

Software for initial configuration of the GSM units and the GSM PC modem. The system offers customized solutions due to individual configuration option of all units. Different options for alarm situations, critical set points, transmission cycles and phone numbers are adjustable.

RCT Service GUI:

This software tool offers the data management of all incoming levels or alarm messages. Furthermore all messages are to be archived. The GSM units can be reconfigured bi-directional with this software tool.

Data display:

This tool offers the liquid level display of all GSM units. A clear presentation with bar charts shows at first look the need for action. By means of a link on the desktop you will be informed immediately about the newest event.

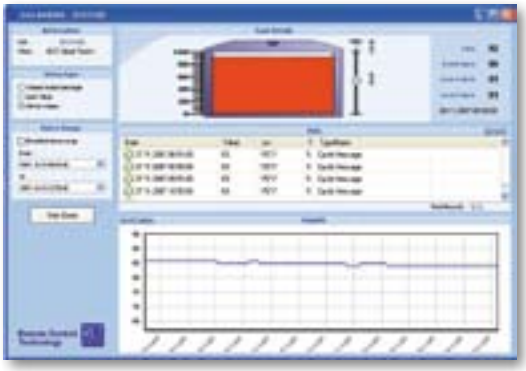
RCT GSM Manager – Single-user version

This software can manage the complete handling of all GSM units and replaces “RCT Service GUI” and “Data display”

- User friendly design with clearly presentation of all messages
- More options for managing and grouping the tanks and alarm situations
- New tools for data evaluation, graphic presentation and message forwarding
- Better customer tracking system due to database integration

- All messages at a glance
- Clearly presentation of levels, meter readings and alarm situations
- Marker for critical set point values and alarms
- Control of battery performance and GSM signal
- Creating and managing of categories

- Easy configuration of all GSM units
- Re-configuration of all units with PC software
- Definition of set points, transmission time, registration of customer data



- Documentation of all incoming messages
- Archiving of history data
- Evaluation and graphical presentation of consumption

- Compatible with all RCT transmitters
- Reporting options (e.g. listing)
- Acoustic warning in case of alarm messages – arbitrary adjustable
- Network capability
- Mail forwarding of cyclic- and alarm messages

1000525	RCT GSM Manager – Single-user version
1000525	RCT GSM Manager – Enterprise version

GSM TECHNOLOGY – DATA RECEPTION

RCT – GSM Manager

RCT GSM Manager –
Enterprise version (database technology)

- Server-based – database integration of customer information and further processing
- Basic logic functionality identical to single-user version
- Projection of total demand with liter/volume information
- Projection of filling date
- Deactivation of gas supply or heating systems at the touch of a button (in combination with Remote Profi Puls – see page 34)
- Collecting data request with Mobile Phone within a few seconds

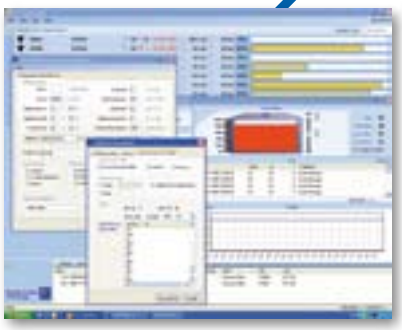
SERVER

Management of groups and clients

Data base
Oracle / MySQL

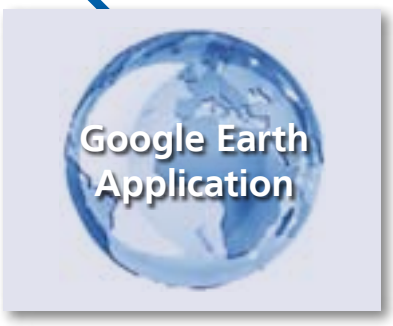
Interfaces application

Report generator



Clients Manager
Branch Office can monitor the liquid levels and are able to export the data

Web Server Application
Customer can see levels and messages via Internet (login needed)



Google Earth Application
Geographic presentation of all tanks and service stations

Please visit our international download web site www.rctsys.com!
You will find actual information to the different software tools as well as news and updates. Some of the software tools are available for free of charge download.

ACCESSORIES

Replacement batteries

For the order of batteries for LPG tank installations please note the different explosion area zones Ex 1 and Ex 2.

The batteries are having different colours. Normally transmitter units and the respective battery are having the same colour.

Batteries for radio transmitters

1000528	Battery for transmitter beige Ex 1
1000531	Battery for transmitter white Ex 2
1000530	Battery for transmitter yellow
1000529	Battery for transmitter blue

Batteries for GSM transmitters

1000533	Battery for GSM transmitter Ex 1
1000534	Battery for GSM transmitter Ex 2/ultrasonic

External receiver antenna

All radio receivers are available with external antenna to increase the radio signal or in case of unfavourable surrounding conditions. The radio signal is boosted with 18 db to ensure that even the lowest signal can be filtered and evaluated.

The antenna is designed for outdoor use and is mounted with wall brackets. The standard antenna with 2 m cable is also available with longer cable on request.

1000447	External receiver antenna

Multiplexer (repeater)

The multiplexer is used for reception and transmission of RCT radio signals. It is used to bridge a big distance between transmitter and receiver (> 1000 m) or in case of unfavourable surrounding conditions. Up to 5 Multiplexer can be connected in series.

1000511	Multiplexer

Field force measuring unit

The field force measuring unit shall support you to find the best mounting position of the radio receiver. The unit measures the strength of the radio signal. It supports you to detect the optimal location for the radio receiver.

Tip: *The radio range of the standard transmitter is up to 1000 m (pending on favourable environment conditions). However, due to some physical barriers such as ferrocon-crete walls or fences the radio signal can be influenced negatively.*

With the support of the field force measuring unit you can test easily a stabile radio connection.

1000394	Field force measuring unit

Adapter for electronic sensor for Rochester Senior gauges

For the use at LPG tanks and float gauges of Rochester type Senior.

1000438	Adapter Rochester senior standard
1000541	Adapter Rochester senior – Taylor 4"
1000542	Adapter Rochester senior – Taylor 8"
1000545	Adapter Rochester Magnetel – 8" C
1000546	Adapter Rochester Magnetel – 8" S
1000547	Adapter Rochester Magnetel – 4"

Standard

Taylor 4“

Taylor 8“

Miscellaneous

1000351	USB adapter (serial RS 232 interface > USB)
1000350	Configuration cable for GSM unit oil (RS 232 cable)
1000469	Configuration cable for GSM unit gas/meter monitoring
1000239	Fastening set with magnets for GSM unit Ex 1

Remote Control
Technology

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