

GSM Transmitter Alu compact with Radar Sensor

Water monitoring solution for reservoir and irrigation containments at the river side



Your benefits

- Highly precise non-contact level measurement of water tanks by Endress+Hauser radar sensor
- Wireless communication and worldwide data management via RCT web app, mobile app or customer specific software solution
- Battery-powered, no wiring required
- Absolutely stable metal housing for use under extreme conditions
- Quality „Made in Germany“



At a glance

Field of application

Non-contact level measurement for water, waste water and liquids in storage tanks and open basins, pump shafts and canal systems

Specific sensor

Radar Sensor Endress+Hauser FMR 10

Data transfer

via 4G, 3G, 2G (upgradable) to webserver

Transmitted information

- liquid level in % (0-99) or AD value (0-999)
- limit values and alarm messages
- battery level

Power supply

long life battery pack, replaceable

Antenna

external antenna with magnetic base

Degree of protection

IP 68 according to DIN EN 60529

Access via App and Web

All levels and system messages are available 24 h/365 days a year from any location via the Internet. The data can be managed via app on smartphones and tablets and via the RCT web application on PC. Especially for the monitoring of several tanks and objects at different locations, the platform offers a variety of options for display, evaluation and alarming for individual objects and groups. Separate access for different persons and locations can also be set up.

Immediate alarm

Data are transferred regularly in individual intervals (incl. last 24 level readings). On an event (e.g. min./max. limit values, filling, empty battery) the device sends alarms, which appear as marking in web app, push or e-mail notification to responsible persons.





Basic unit with electronics and battery pack (plus antenna and specific sensor)

Measuring principle

The radar sensor is a "downward-looking" measuring system, which functions according to the time-of-flight (ToF) method. It measures the distance from the reference point to the product surface. Radar pulses are emitted by an antenna, reflected off the product surface and received again by the radar system.



Radar sensor Endress+Hauser FMR10

GSM transmitter

ARTICLE INFORMATION

RCT Article no.	Name
1000800	GSM transmitter Alu compact (basic unit)
	Customer specific version with Radar sensor FMR 10

ACCESSORIES

1000737	Spare battery for GSM Alu
1000469	Programming cable for GSM tr.
1000492	Software „Config-GSM-3“
1000351	USB-seriell-Adaptor



Produced according to DIN ISO 9001:2015



Technical specifications

GSM TRANSMITTER UNIT

Sensors	<ul style="list-style-type: none"> analogic input (4-20mA) for connection of specific radar sensor Endress+Hauser FMR 10 included temperature sensor
Connection to PC	<ul style="list-style-type: none"> Data port RS232/485 from 1200 to 115200 bps USB, TTL with adapter Bluetooth (only possible with Lora and Sigfox version)
Programming	<ul style="list-style-type: none"> initial configuration on PC using RCT software "Config-GSM-3" reprogramming possible at any time via web app
SIM card	supports Multioperator international SIM card (German Telekom or customer specific)
Modem	<ul style="list-style-type: none"> standard cellular modem: GPRS, 4G, 3G, 2G upgradable modem: LTE/4G, LoRa-WAN, SIGFOX, NB-IoT
Protocols	<ul style="list-style-type: none"> GPRS, GSM, SMS, UMTS transport layer supported by TCP and/or UDP and FTP IPv6 protocol supported
Data reception	RCT or customer specific webserver - processing via web or mobile app „RCT Monitor“ or customer specific solution
Messages	<ul style="list-style-type: none"> cyclic data transmission (frequency freely adjustable, e.g. 4 x a day/every 6 hours > requires 3 MB data volume per month per device) warning at reaching of limit values (2 x min., 1x max.) alarm at an event (e.g. overflowing, leakage) specific status query via the app
Housing	absolutely stable aluminium housing for use under extreme conditions and high duty
Degree of protection	IP 68 according to DIN EN 60529
Electronics	<ul style="list-style-type: none"> microprocessor-controlled (4MB CPU processor) well-protected encapsulated in aluminium case with earthing cable and additional internal protection of any lightning or electrostatic discharge
Antenna connection	SMA socket to add external antennas up to 8dB
Power supply	battery powered or with adapter for external supply available <ul style="list-style-type: none"> external voltage supply: DC 3V-36V independent of electricity network by long life battery pack (replaceable)
Current consumption	max. 400mA per transmission cycle
Operating temp.	-20°C to +80°C or better
Dimensions	160 x 100 x 80 mm (LxWxH of housing)



SPECIFIC RADAR SENSOR ENDRESS+HAUSER FMR10

Measuring range	up to 12 m
Accuracy	1% FS, for ranges up to 1 m; 0.5% FS up to 2 m; and 0.1% in higher ranges
Resolution	1 mm
Beam angle	10° or less (can be guaranteed based on the Performance Test FMR10/20 done by Endress+Hauser on February 16, 2021 - application stilling well, medium water)
Process temperature	-20°C to +60°C
Process pressure	-1 to 3 bar (-14 to 43 psi)
Housing	full PVDF body - for a long sensor lifetime, hermetically sealed wiring and fully potted electronics - eliminates water ingress and allows operation under harsh environmental conditions
Ingress protection	IP66/68/ NEMA 4X/6P
Mounting	rear thread (Ø 1"), front thread (Ø 1 1/2") for flexible installation
Interface	4-20 mA
Maintenance	not required

EXTERNAL MAGNETIC BASE ANTENNA

Cable	length 1.5 m with SMA socket connection
Mounting	flexible with a magnet on metal surfaces (the greater the metal surface, the better the transmission power)

LOGLIFE LITHIUM BATTERY PACK

Construction	fully encapsulated, replaceable
Connection	coded, two pin plug (polarity protected)
Output voltage	9,3 V/ 500 mA (intrinsically safe)
Output current	max. 50 mA
Life time	approx. 3 years with transmission frequency every 6 hours/4 x a day or higher lifetime with lower transmission rate

