

# MS 2800

## Installation manual

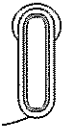
# Sensus PulseRF

### Description

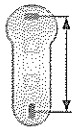
Sensus PulseRF is a radio pulse transponder to be connected to a pulse output of a meter. It can be connected with C&I water meters, as well as any other meters with pulse output such as water, electricity, gas and thermal energy meters.

### Equipment

1. Radio transponder Sensus PulseRF



2. Wall holder



85 mm hole center distance

### Required tools

The module can be configured using SensusRF radio with SIRT and a configuration software such as SensusREAD. It can be activated automatically after 10 pulses or via radio.

### Pulse interface

The Sensus PulseRF has a 4 wire input enabling the following functions

- Pulse input (+) (white)
- Cable cut (green)\*
- Direction (yellow)\*
- Ground (-) (brown)

\* Depending on the connected pulse device

Open inputs or unused wires should be isolated

### Pulse input compatibility

Pulses should be voltage free  
 Min. pulse length 32 ms (closed)  
 Min. pulse pause 60 ms (open)  
 Max. pulse frequency 9 Hz  
 Detection for closed (0 - 0.7) V  
 Detection for open (2.0 - 2.5) V  
 Max. cable capacity 10 nF  
 Max. bouncing time (Reed) 2.5 ms  
 Internal pull up resistance 10 kOhm  
 Internal pull up voltage 2.5 V

For the SensusRF radio module choose a position which affects the radio signal as little as possible. Metal, soil and water (e.g. power supply line or a water pipe) have a negative impact on the radio transmission. The effect of plastic is lower than concrete or wood. Try to avoid a position close to these materials. In pits the transponder must be mounted above the water line and at a minimum distance of 200 mm to metal lid covers. Transponders should not be closer together than 80 cm. Test the best position before the final installation.

### Radio range

The typical distance between transponder and read-out device is 500m@868MHz (350m@433MHz) in line of sight. Poor installation places, obstacles in the radio line-of-sight and other influences like electrical interference or metal devices can reduce the radio range or even make radio reads impossible. From buildings to outside a typical range is 100 to 200 metres, while in an extreme case the reading range in a pit might be less than 20 metres.

### Installation of the wall holder

The wall plate is surface mounted using two screws. Leave sufficient slack cable and space so that the transponder can be replaced in the future. Do not install the transponder upside down!



### Fitting / Removing the transponder

To fit the transponder push the rectangular protrusions on the back into the mating holes in the wall plate and push down. To remove the transponder, do it vice versa.

### Disposal instructions

This product contains lithium batteries. To protect the environment it should not be disposed of in household waste when its serviceable life is over. Don't destroy or drill or demolish the module housing! Disposal can take place through a Sensus Service Centre. If however you want to take care of the disposal yourself, please comply with the local and national regulations for environmental protection.



### Technical data

Technical norms & applied standards	see Declaration of Conformity RoHS, WEEE
Frequency	868 MHz (433 MHz)
Transmitter power	25 mW (10mW)
Power supply	Lithium batteries sealed
Battery life time	Typically 15+ years depending on usage profile
Cable length	2.5 m (max. extension to 15 m)
Protection class	IP 68
Operation temperature	min -20 °C / max +60 °C
Storage temperature	-20 °C to + 60 °C
Dimensions	max.: 47 x 120 x 40 mm
Weight	260 g
Radio protocol	SensusRF radio protocol bi-directional FlexNet protocol (TFX) bi-directional wMBus OMS unidirectional

## EU Declaration of Conformity

No. CE/PulseRF/0017

Hierarchisch

Sensus GmbH Ludwigschafen  
Industriestr.16  
67053 Ludwigschafen  
Germany.

I declare under our sole responsibility, that the Sensus PulseRF/PulseRF-A2/PulseRF-Mei is in conformity with the legal regulation of the Directive 2014/53/EU (RED) of the European Parliament and the Council of 16 April 2014

Applied normative, harmonised standards

- EN 300 220-1 V3 1.1
- EN 300 220-2 V3 1.1
- EN 301 466-1 V2 1.1
- EN 301 466-3 V2 1.1
- ETSI EN 300 220-1:2009 (2nd Ed.) + A1:2009 + A2:2013
- EN 60950-1:2009 + A1:2009 + A1:2010 + A1:2011 + A2:2013
- EN 62479:2013
- EN 60529:1989 + A1:1999 + A2:2013

This declaration is made on behalf of the manufacturer by the Director R&D

Sensus GmbH Ludwigschafen

*Dirk van*  
Peter van  
Managing Director

*Thomas Wöring*  
Thomas Wöring  
Director R&D

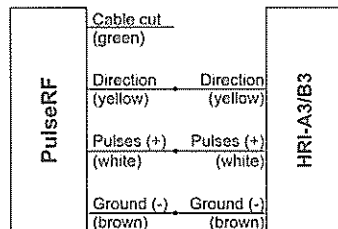
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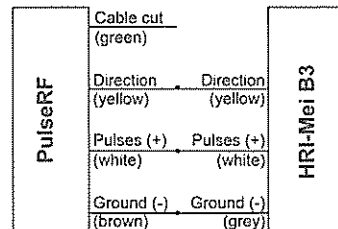
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## Connection diagram & configuration

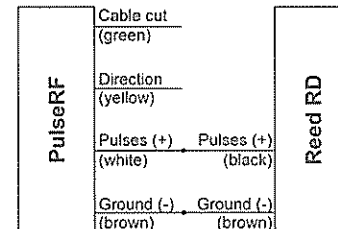
### Sensus PulseRF - HRI-A3/HRI-B3



### Sensus PulseRF - HRI-Mei B3



### Sensus PulseRF - Reed RD



### Sensus PulseRF - open collector

