



# PUSH CALL

## LoRa® Message System

### Transmitter, Receiver, Gateway with Web Server/App

#### GENERAL

The **PUSH CALL transmitter** and the **PUSH CALL receiver** are part of a wireless network developed for industrial and logistics applications.

The recipient is informed of the current system state by pressing push-buttons of a sender. In the current configuration, three message types (3 buttons) are supported. The number of keys is expandable (maximum 32). Message types are, for example, pick up goods or carry out repairs. The visualization and the coordination of the processes take place at a central location.

The key operation can also be done automatically. In this case, the PUSH CALL transmitter offers an interface, which is controlled by relay signals (battery operation) and Modbus/CAN bus (PUSH CALL transmitter must be driven by an external power supply).

The user is informed of an event via a web app and via e-mail (also to groups). In addition, the PUSH CALL receiver offers 2 switching outputs.

#### Application

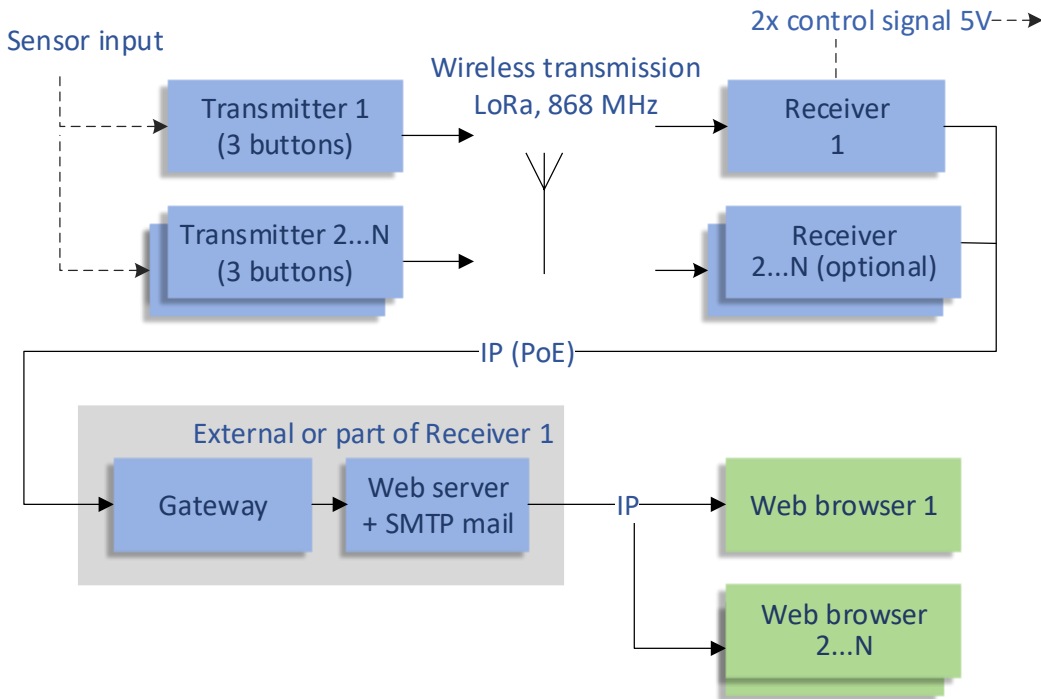
The PUSH CALL notification system enables secure and fast messaging without investing further in the IT

infrastructure, e.g. to reduce unnecessary travel time around production or logistics.

#### PRODUCT CHARACTERISTICS

- Works in the license-free 868 MHz frequency band
- Long range, around 100 meters in industrial buildings, in free field up to 10 km
- 1-year battery life, no battery changes under normal operation
- Automatic battery warning by LED and radio
- Applicable in electromagnetic interference environments: Resistant to interference and multipath propagation
- Simple installation and configuration (on request by the manufacturer)
- Intuitive operation
- Individually applicable / configurable
- Transmission confirmation and further signalling via LEDs
- Only one receiver required, up to 255 transmitters can be connected
- Integrated user management
- REST API for GUI extension

**PUSH CALL SYSTEM SETUP**



**PUSH CALL STARTER PACKAGE**

The starter package comprises a PUSH CALL transmitter, a PUSH CALL receiver, and a gateway / web server (software) which is part of the of receiver.

The software runs on Linux or Microsoft Windows.

The web app can be extended by the customer: A REST API is provided.

For configuration and visualisation, a Web browser (test reference Mozilla Firefox) is used.

**PUSH CALL Transmitter**



**PUSH CALL Receiver**



## TRANSMITTER CHARACTERISTICS

Data Input	3 buttons, each button corresponds to a message type. Optionally, additional interfaces (Relay, Modbus/CAN bus) are offered for sensor connection
Frequency	868.3 MHz (ISM band)
Output power	14 dBm ERP max. HPA mode optional (27 dBm)
Antenna	Internal dipole antenna
Protocol	Physical layer: LoRa
LEDs	Transmission acknowledgement (1), message repetition (2), low battery indication (3)
Storage temperature	-10 to 60°C
Operation temperature	0 to 40°C
Protection class	IP 52 accord. DIN EN 60529
Product approval	2014/53/EU (RED)
ETSI certification	EN300-220-1, EN300-220-2
Electromagnetic compatibility	EN 301 489-1/-3
Power supply	3V (2× AA battery)
Power consumption	Transmission: 35 mA max for 578 msec. Receiving: 16 mA max for 320 msec (acknowledge reception), otherwise standby mode: 1.2 µA
Housing dimensions	150 mm × 80 mm × 60 mm
Mounting	Wall mounting possible, 4× Ø 4.25 mm
Housing material	ABS
Miscellaneous	Can be used in electromagnetically disturbed environments

## RECEIVER CHARACTERISTICS

Data output	Two control outputs (5V), Web App and SMTP mail over PoE ethernet
Frequency	868.3 MHz (ISM band)
Output power	14 dBm ERP max. (required for acknowledge package transmission) HPA mode optional (27 dBm)
Antenna	External dipole antenna, connector: SMA
Protocol	Physical layer: LoRa
LEDs	Receiver connected/active (1), acknowledgment transmission (2), customer defined LED (3)
Storage temperature	-10 bis 60°C
Operation temperature	0 bis 40°C
Protection class	IP 40 accord. DIN EN 60529
Product approval	2014/53/EU (RED)
ETSI certification	EN300-220-1, EN300-220-2
Electromagnetic compatibility	EN 301 489-1/-3
Power supply	5V via USB cable (external web server) or PoE (internal web server)
Power consumption	Transmission mode 35 mA max, receiving mode: 16 mA max
Housing dimensions	150 mm × 80 mm × 60 mm
Mounting	Wall mounting possible, 4× Ø 4.25 mm
Housing material	ABS
Miscellaneous	Can be used in electromagnetically impacted environments

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## **CONTACT INFORMATION**

Anylink Electronic GmbH

Max-Planck-Str. 2  
85098 Grossmehring  
Germany

Phone (+49) 841-881-1200

Fax: (+49) 841-881-1201