



UNECE R10
UNECE R118



TEKNOWARE SIGNAL

Wireless stop button system for public transportation.

Teknoware Signal is a wireless battery-free stop button system for public transportation. The installation and commissioning of the system is effortless. Find a place for the button, link it with the receiver, and you're done! The buttons are easy to install on a pole or a flat surface, vertical or horizontal, and you don't have to take care of the wiring. All buttons can be programmed to illuminate the stop sign in the vehicle, which can be divided into four different sections. This way, the driver will know from where the passenger is getting off: for example, the upper deck of a double-decker, a disabled seat or right next to the driver at the front of the bus. Teknoware Signal is designed for use in the automotive industry and fully meets the requirements of UNECE R10 and UNECE R118.

Our selection includes various body/button colour combinations with multiple text and symbol options to match operators' diverse needs. Can't find a suitable button for your vehicle? No problem! We strive to fulfil all our customers' needs and are happy to customise our products. Do not hesitate to ask your distributor if you don't find what you are looking for.

As a battery-free solution, Signal is genuinely sustainable. Thanks to its durability, the maintenance costs can be kept to a minimum. If necessary, fault finding and button replacement are quick and easy.

Teknoware Signal is available for customers worldwide. Please ask your distributor about the delivery times and prices.

FACTS IN BRIEF



FOR AUTOMOTIVES



WIRELESS



BATTERY-FREE



LIGHTWEIGHT



EASY TO INSTALL

When the product has the Teknoware label on it, it is a guarantee that we have made it. From design to production. It is not just a label. It is a promise.

Push buttons

Product information

Product ID	TSF03XX
Dimensions (H x L x D)	80 x 40 x 27 mm
Weight	37 g flat surface mounting vertical and horizontal 43 g pole mounting
Installation	with screws through holes \varnothing 5 mm, max. torque 3 Nm
Pole diameter <i>Pole mounted buttons</i>	Suitable for a grab pole with a diameter of 32–36 mm
Operating range	up to 30 m
System size	max. 30 buttons per receiver
Output signal	32-bit RF signal
Frequency and modulation	868.3 MHz ASK for EU, Australia, Russia, and other countries outside North America. No known restrictions on putting into service in EU countries. 902.875 MHz for North America.

Material characteristics

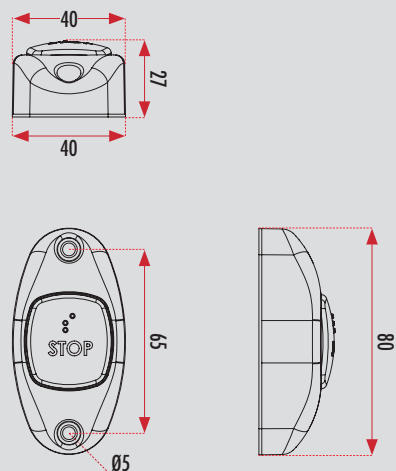
Material	Polycarbonate
Body	Grey RAL 7040 Yellow RAL 1023 Red RAL 3020 Red RAL 3020 White text: STOP or ALARM Grey RAL 7040 Black text: STOP
Button	Blue RAL5005 White text: STOP or HALTE White symbol: disabled, pram, senior citizen <i>All buttons include the letter S in braille.</i>

Environmental conditions

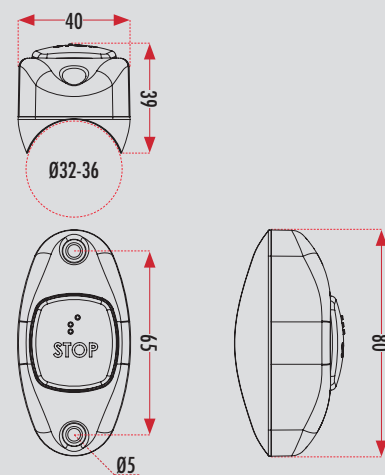
Operating temperature	-25 °C ... +70 °C
Storage	-40 °C ... +70 °C

Dimensions [mm]

Flat mounting



Pole mounting



Pole mounted buttons

Please note! All models are also available with the 902.875 MHz frequency for North America.
To order North American models, add **U** after the product ID (TSF0300 = 868.3 MHz / TSF0300U = 902.875 MHz).

STOP button with braille

Red button RAL 3020	
Product ID	Body colour
TSF0300	Grey RAL 7040
TSF0308	Yellow RAL 1023
TSF0322	Red RAL 3020

STOP button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0316	Grey RAL 7040
TSF0318	Yellow RAL 1023
TSF0337	Red RAL 3020

STOP button with braille

Grey button RAL 7040	
Product ID	Body colour
TSF0338	Grey RAL 7040
TSF0339	Yellow RAL 1023
TSF0320	Red RAL 3020

ALARM button with braille

Red button RAL 3020	
Product ID	Body colour
TSF0346	Grey RAL 7040
TSF0347	Yellow RAL 1023
TSF0348	Red RAL 3020

Pole mounted buttons

Please note! All models are also available with the 902.875 MHz frequency for North America. To order North American models, add **U** after the product ID (TSF0300 = 868.3 MHz / TSF0300**U** = 902.875 MHz).

DISABLED button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0302	Grey RAL 7040
TSF0310	Yellow RAL 1023
TSF0342	Red RAL 3020

SENIOR CITIZENS button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0306	Grey RAL 7040
TSF0314	Yellow RAL 1023
TSF0344	Red RAL 3020

PRAM button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0304	Grey RAL 7040
TSF0312	Yellow RAL 1023
TSF0343	Red RAL 3020

Pole mounted buttons

Please note! All models are also available with the 902.875 MHz frequency for North America.
To order North American models, add **U** after the product ID (TSF0300 = 868.3 MHz / TSF0300**U** = 902.875 MHz).

HALTE button with braille

Red button RAL 3020	
Product ID	Body colour
TSF0346	Grey RAL 7040
TSF0347	Yellow RAL 1023
TSF0348	Red RAL 3020

HALTE button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0330	Grey RAL 7040
TSF0331	Yellow RAL 1023
TSF0345	Red RAL 3020

ALARM button with braille

Red button RAL 3020	
Product ID	Body colour
TSF0346	Grey RAL 7040
TSF0347	Yellow RAL 1023
TSF0348	Red RAL 3020

Vertical flat surface mounted buttons

Please note! All models are also available with the 902.875 MHz frequency for North America.
To order North American models, add **U** after the product ID (TSF0300 = 868.3 MHz / TSF0300U = 902.875 MHz).

STOP button with braille

Red button RAL 3020	
Product ID	Body colour
TSF0301	Grey RAL 7040
TSF0309	Yellow RAL 1023
TSF0323	Red RAL 3020

STOP button with braille

Grey button RAL 7040	
Product ID	Body colour
TSF0349	Grey RAL 7040
TSF0350	Yellow RAL 1023
TSF0321	Red RAL 3020

STOP button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0317	Grey RAL 7040
TSF0319	Yellow RAL 1023
TSF0351	Red RAL 3020

DISABLED button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0303	Grey RAL 7040
TSF0311	Yellow RAL 1023
TSF0352	Red RAL 3020

Vertical flat surface mounted buttons

Please note! All models are also available with the 902.875 MHz frequency for North America.
To order North American models, add **U** after the product ID (TSF0300 = 868.3 MHz / TSF0300U = 902.875 MHz).

PRAM button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0305	Grey RAL 7040
TSF0313	Yellow RAL 1023
TSF0353	Red RAL 3020

SENIOR CITIZENS button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0306	Grey RAL 7040
TSF0314	Yellow RAL 1023
TSF0354	Red RAL 3020

HALTE button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0328	Grey RAL 7040
TSF0329	Yellow RAL 1023
TSF0355	Red RAL 3020

ALARM button with braille

Red button RAL 3020	
Product ID	Body colour
TSF0362	Grey RAL 7040
TSF0363	Yellow RAL 1023
TSF0327	Red RAL 3020

Horizontal flat surface mounted buttons

Please note! All models are also available with the 902.875 MHz frequency for North America.

To order North American models, add **U** after the product ID (TSF0300 = 868.3 MHz / TSF0300U = 902.875 MHz).



STOP button with braille

STOP button with braille

Red button RAL 3020

Blue button RAL 5005

Product ID	Body colour	
TSF0324	Grey RAL 7040	
TSF0326	Yellow RAL 1023	
TSF0356	Red RAL 3020	




Product ID	Body colour	
TSF0357	Grey RAL 7040	
TSF0325	Yellow RAL 1023	
TSF0358	Red RAL 3020	

Horizontal flat surface mounted buttons

Please note! All models are also available with the 902.875 MHz frequency for North America.

To order North American models, add **U** after the product ID (TSF0300 = 868.3 MHz / TSF0300U = 902.875 MHz).




DISABLED button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0365	Grey RAL 7040 
TSF0334	Yellow RAL 1023 
TSF0366	Red RAL 3020 




SENIOR CITIZENS button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0367	Grey RAL 7040 
TSF0336	Yellow RAL 1023 
TSF0368	Red RAL 3020 

HALTE button with braille

Blue button RAL 5005	
Product ID	Body colour
TSF0364	Grey RAL 7040 
TSF0332	Yellow RAL 1023 
TSF0361	Red RAL 3020 

ALARM button with braille

Red button RAL 3020	
Product ID	Body colour
TSF0359	Grey RAL 7040 
TSF0360	Yellow RAL 1023 
TSF0333	Red RAL 3020 

Receivers, 12 V



Product information

Product ID	TSF0275, TSF0276
Operating range	30 m
System size	up to 30 buttons / receiver
Receiver category	2
Frequency and modulation	868.3 MHz ASK for EU, Australia, Russia, and other countries outside North America. No known restrictions on putting into service in EU countries.
Sensitivity (at 25 °C)	-96 dBm
Mechanical characteristics	
Dimensions (W x H x L)	43.5 x 32.2 x 150 mm
Weight	70 g
Material of the PCB	FR-4
Material of the casing	Polycarbonate
IP class	IP20
Connectors	Spring clamp connectors 0.5–1.5 mm ²

Electrical characteristics

Input voltage	12 VDC (9–15 VDC)
Input current	800 mA
Fuse	1 A (integrated)
Max load	200 mA / channel

Environmental conditions

Operating temperature	-25 °C ... +70 °C
Storage	-40 °C ... +70 °C

Electromagnetic compatibility

EN 61000-6-1

EN 55015

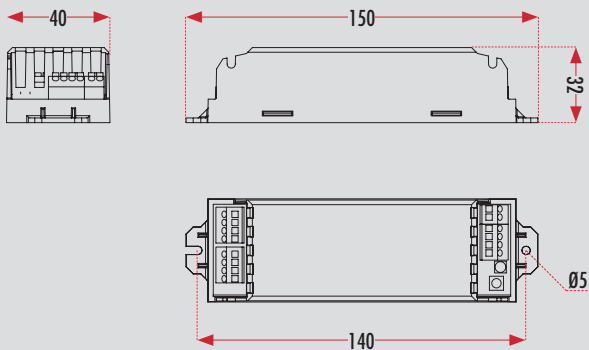
Product features

- Protected against reverse input voltage polarity
- Fuse protected against overload



Only TSF0276

- Output: 1 second pulse with every push of a button

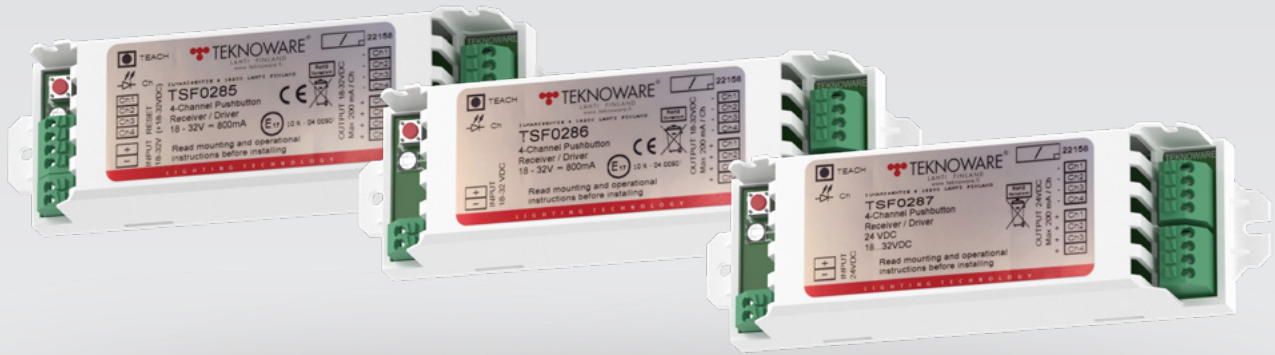
Dimensions [mm] all models



Products

Product ID	Description	
TSF0275	4 channels, 868.3 MHz, constant output	
TSF0276	4 channels, 868.3 MHz, signal output, duration 1 s	

Receivers, 24 V



Product information

Product ID	TSF0285, TSF0286, TSF0287
Operating range	30 m
System size	up to 30 buttons / receiver
Receiver category	2

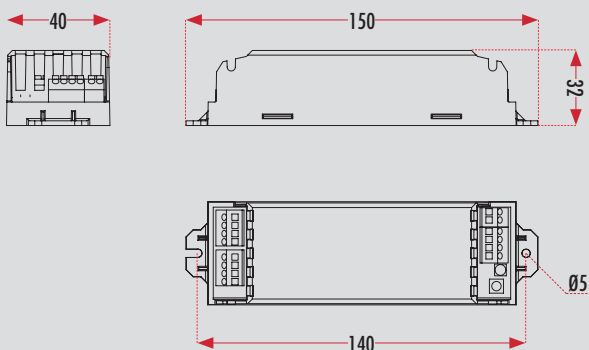
Frequency and modulation	868.3 MHz ASK for EU, Australia, Russia, and other countries outside North America. No known restrictions on putting into service in EU countries. 902.875 MHz for North America.
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Sensitivity (at 25 °C)	-96 dBm
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Mechanical characteristics

Dimensions (W x H x L)	43.5 x 32.2 x 150 mm
Weight	70 g
Material of the PCB	FR-4
Material of the casing	Polycarbonate
IP class	IP20
Connectors	Spring clamp connectors 1.5 mm ²

Dimensions [mm] all models



Electrical characteristics

Input voltage	24 VDC (18–32 VDC)
Input current	800 mA
Fuse	1 A (integrated)
Max load	200 mA / channel

Environmental conditions

Operating temperature	-25 °C ... +70 °C
Storage	-40 °C ... +70 °C

Electromagnetic compatibility

EN 61000-6-1
EN 55015

Product features

- Protected against reverse input voltage polarity
- Fuse protected against overload

Only TSF0286

- Output: 1 second pulse with every push of a button

Only TSF0287

- Output: 1 second pulse with every push of a button
- FCC approved
- Frequency 902.875 MHz

Products

Product ID	Description	
TSF0285	4 channels, 868.3 MHz, constant output	
TSF0286	4 channels, 868.3 MHz, signal output, duration 1 s	
TSF0287	for North America 4 channels, 902.875 MHz, signal output, duration 1 s, FCC approved	

LET THERE BE CONFIDENCE.

People tend to take the presence of light for granted. We take it seriously. Our passion for finding the best interior solution or lighting for our customers' needs is the foundation which unites our three businesses. The Bus & Coach and Rail Divisions aim to increase our customer vehicles' comfort, safety and functionality. The Emergency Lighting Division is innovating new means and measures to improve the safety and usability of buildings and cruise ships.

Teknoware is your local partner. We employ over 500 experts in 8 countries, and our sales network serves customers in over 50 countries. Our head office and largest production facilities are located in Finland, and our other world-class production units are located in the UK, Malaysia, Poland and the US.

Teknoware is part of the Teknopower Group.

Teknoware – Designed in Finland.