Battery-free Wireless Pushbuttons

The DUX transmitter modules enable the implementation of battery-free radio transmission of a pushbutton signal, particularly in the building and industrial automation, automotive industry and others. The required energy is provided by an electrodynamic power generator using the energy of the key travel (energy harvesting).

The module complies with the R & TTE-EU Directive on wireless transmission equipment.

The transmitter module is licensed under

Green. Smart. Wireless.
enocean®

General Data

Type Reference:	DMF...
Description:	Transmitter module for wireless pushbutton, battery-free
Approvals:	CE
Protection class:	II (protective insulation)
Operating travel:	6 mm
Max. storage temperature:	-20°C ... 65°C
Max. operating temperature:	+5°C ... 60°C
Mechanical life:	50000

Note

Energy input	E-Pulse > 0.45mWs, $2.5V <= Umax <= 5.5V$ $0.001ms <= TPulse <= 11ms$
Antenna	Lambda/4-whip antenna mounted
Frequency/Transmission power	868.3 MHz / max. 10 mW EIRP
Data rate	120 kbps
Band width	280 kHz
Modulation type	ASK
Telegram type	RPS Typ 2, 32-bit ID, 3 telegrams within 25 ms
Min. time between activations	45 ms
Transmission ranges	300 m in a free field; this range is strongly dependent on surrounding materials and on position relative to other energy generators or metal surfaces
Dimensions	approx. 43 x 45 x 29 mm
Humidity	0-93% r.h. non-condensing
Transmitter module:	PTM230 (enocean)

Advantages:
- no extra power supply necessary in the sender
- no additional wiring and cable routing
- long range of 300 m (in a free field)
- based on EnOcean protocol
- easy programming of receiver
- combinable with pushbuttons and 2-position selector and key actuators
- complies with the directives R&TTE 1999/5EC, 89/336/EC

Functional Principle:
The required energy for radio transmission is generated by an electrodynamic power converter from the pushbutton motion.
With the short energy pulse, a telegram is transmitted to the receiver including a 32 bit module ID of the relative pushbutton and its switching position.
The DMF_A module transmits one signal; suitable for all pushbutton heads and 2-position selector and key actuators.

Contact Blocks

Illustration	Description	Type

Battery-free Transmitter Module for Wireless Pushbutton
Technical data, see previous page.

DMF_A

4-Channel Radio Receiver with 4 inverters

S_789-602

- 4-channel receiver with 4 inverters, max 8 A
- EnOcean protocol, 868.3 MHz
- potential-free relay outputs
- rail-mount housing for support rail TS35
- SMA connector for external antenna
- learning mode for transmitter/receiver assignment
- 4 radio channels, max. 10 transmitters per channel
- switching status indication via LED

Technical Data:
voltage supply:	DC 24 V / -15%...+20% / 90 mA (internal)
max. output current (per channel):	8 A, AC1
max. switching frequency:	< 5 Hz
delay time:	< 100 ms, typ. 40-70 ms telegram/switching command
switching voltage:	AC 230V
allowed ambient temperature:	0°C...+55°C
storage temperature:	-25°C...+85°C
degree of protection:	IP 20
dimensions (WxHxD):	(70 x 55* x 90) mm* from top edge
connection technology:	terminals with CAGE CLAMP® Wago
	series 236 0,08-2,5 mm2 / AWG 28-12

In combination with the transmitter module DMF_A the following operating behaviour must be adjusted:
switching mode: 5
toggle mode: 6

Primary Switched-mode Power Supply Unit DV 24V/1.3A

S_787-602

short-circuit-proof, open-circuit-proof, for mouting on support rail TS 35, SELV-output

output:	AC 90 - 264V (single phase)
	DC 130 - 300V
output:	DC 24V / 1.3A
Dimensions:	40 x 96 x 96mm

External Antenna with magnet base

S_758-910

2.5 m feed line with SMA plug

wireless   no batteries

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DUX
by SCHLEGEL

DMF A
Made in Germany

868.3MHz / max. 10 mW EIRP
time between activations min. 45ms
1 digital input 25T55 50E3

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