TX4IWL: wireless transmitter module

TX4IWL is a wireless battery-powered transmitter module, compatible both with **Domino** and CONTATTO bus, and it uses the ENOCEAN wireless technology.
This transmitter module can be thus indifferently used with **Domino** DFWRX or CONTATTO ModWRX receivers.

TX4IWL module features 4 digital inputs for external contacts: at every input change, the module performs a transmission; in addition, the module executes a cyclic transmission every 17 minutes about, regardless of changes of inputs, so that to always ensure the alignment between the field and the receiver.

TX4IWL module has been developed for all those applications requiring to transmit in wireless mode the status of some contacts (e.g. end-point switches or similar devices) that are not integrated pushbutton assemblies; this module is therefore suitable in all cases when the conversion of mechanical energy in electrical energy (typical characteristic of the pushbutton assemblies using the ENOCEAN technology) is not possible, thus the transmitter must be externally supplied.
More than one TX4IWL module can be installed in the same system, thus increasing the number of wireless points which can be handled.

TX4IWL is powered by a not rechargeable 3V Lithium battery type 123 (it can be easily found on the market because it is the typical battery used for photo cameras), and therefore no supply cables are required.
The only connections to be made are those related to the 4 inputs and the common terminal.

One LED on the opposite side of removable terminal block and battery holder allows to monitor the transmitter status: the LED flashes when a valid transmission occurs. This LED can be viewed through the semitransparent cover of the module.

TX4IWL module is housed inside a plastic module with semitransparent cover and IP55 protection degree.

Acquiring the transmitters

TX4IWL transmitter does not require any configuration; as any transmitter compatible with DFWRX and ModWRX receivers, TX4IWL must be acquired and so registered in the receivers memory. To perform the acquisition procedure on the receivers, refer to related technical sheet of DFWRX or ModWRX modules.

LEDs information

TX4IWL module features a red LED that is visible through the semitransparent cover; this LED beams a short light signal at each transmission.

Installation hints

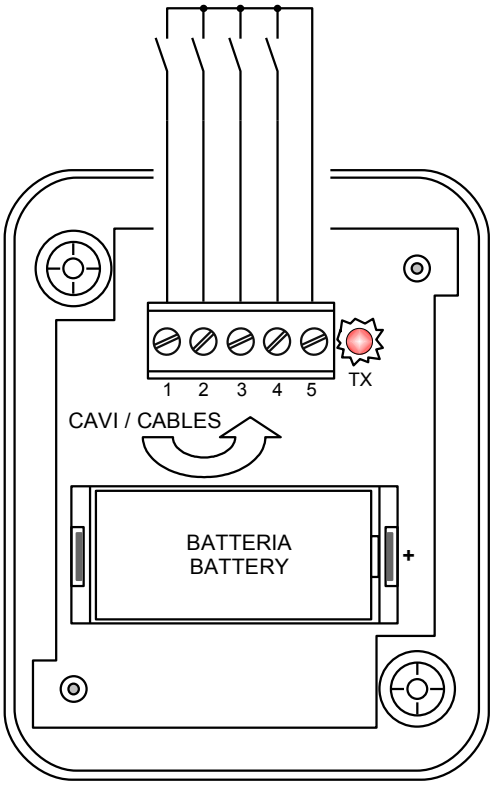
The maximum communication range between the transmitters (with or without battery) and the receivers using ENOCEAN technology is normally specified to be 100 meters upon free propagation; this range is typically reduced to 30 meters inside buildings with walls made by cement, metal or similar materials. Before to install in definitive mode the transmitters and the receivers, execute some test on the installation.

The maximum range also depends on the location where the receiver and transmitter have been installed. The receiver and transmitter modules are housed in a plastic box; the receiving antenna is inside the box, therefore avoid to install the module inside full metallic cabinet that will drastically reduce the operating range.
Avoid to install TX4IWL module near to electronic devices that potentially can generate high frequency signals (e.g. computers, video systems, power supplies, alarm systems, mobile phones, etc.). The minimum distance from TX4IWL module and potential disturbance sources may be 0,5 meters at least.

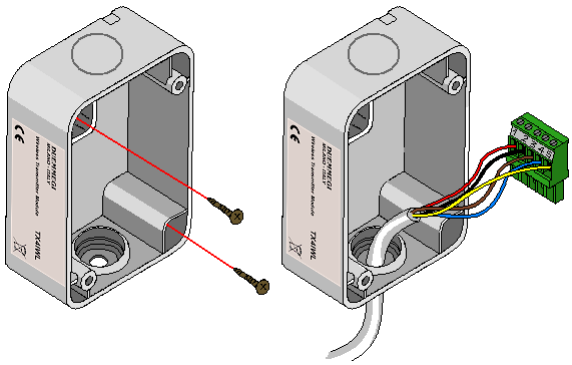
In order to extend as more as possible the duration of the battery, the current flowing in the external contacts is very low, and so the inputs are very sensible to electrical disturbances; for this reason, it is strongly recommended to avoid to connect the inputs through cables with length higher than 2 meters. Is moreover recommended to use a cable 5x1mmq (or 5x1.5mmq), optionally shielded (in this case connect the shield to pin 5 of TX4IWL only).
Use only dry contacts, because the humidity, due to the low current levels, can generate transmission containing wrong information.

Wiring diagram and installation

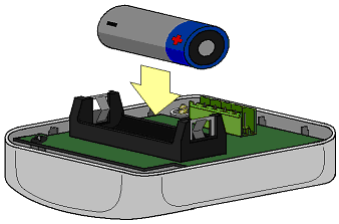
TX4IWL module, for its operation, only requires the battery insertion and the connection of its inputs. The follow wiring diagram shows the proper connections.



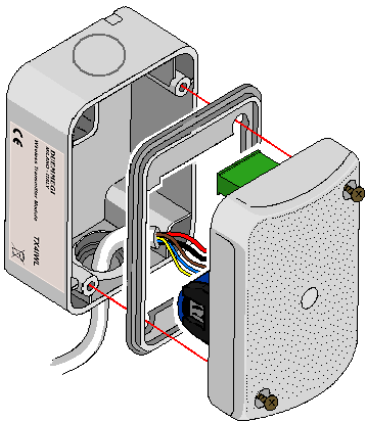
The bottom of the case must be fixed on the wall (vertical or horizontal) by two screws (not provided).
Introduce the multicore cable through the cable bushing: pay attention to the coupling between them in order to assure the water-proof characteristic of the module. After that connect the wires to the 5-way removable terminal block as shown in the wiring diagram.



Insert the removable terminal block into the related male connector. Insert the battery, taking attention to the polarity shown on the battery holder.



Place in the correct way the gasket on the cover and apply it to the the bottom of the module: pay attention that the removable terminal block be on the opposite side of the cable bushing.



Technical characteristics

Supply voltage	By Lithium Battery (Lithium/Manganese Dioxide, Li/MnO), 3V, 1500mAh
Transmission Technology	ENOCEAN STM
Frequency transmission	868.3MHz
Transmitting Range	100m upon free propagation, 30m in buildings
Sending interval	Every change of state (ON-OFF or OFF-ON of contacts) and periodically every 17 minutes
Digital inputs	4 for dry contacts
Average battery life	3 years about, depending on the using and on the self-discharging of the used battery
Operating temperature	-5 ÷ +50 °C
Storage temperature	-20 ÷ +70 °C
Protection degree	IP55

Outline dimensions