## DLWRX: wireless receiver

The DLWRX module allows to interface up to 4 wireless transmitters with ENOCEAN technology (wireless and battery-less) to the DALI bus. Since normally each transmitter has 4 buttons, each DLWRX module can manage up to 16 points.

DLWRX module requires only the connection to the two cables of the DALI bus; the power supply necessary for the operation of the module is obtained from the bus itself.
The pairing of a wireless keypad to a receiver is performed by means of the button and the two LEDs located on the lower side of the module. The DLWRX module occupies, inside the DALI bus, 4 "control device" addresses, one for each wireless keypad.

Connection diagram
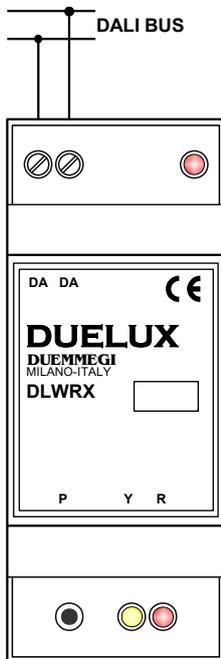
Technical characteristics

Power supply	By DALI bus, 12 ÷ 22.5V ⎓
Current consumption	< 8mA (4 device)
Number of controlled transmitters	4, for a total amount of 16 input points
Number of DALI addresses	2
Housing: DLWRX DLWRX-R	DIN standard 3-unit DIN standard 2-unit, reduced height
Operating temperature	-5 ÷ +50 °C
Storage temperature	-20 ÷ +70 °C
IP rating	IP20
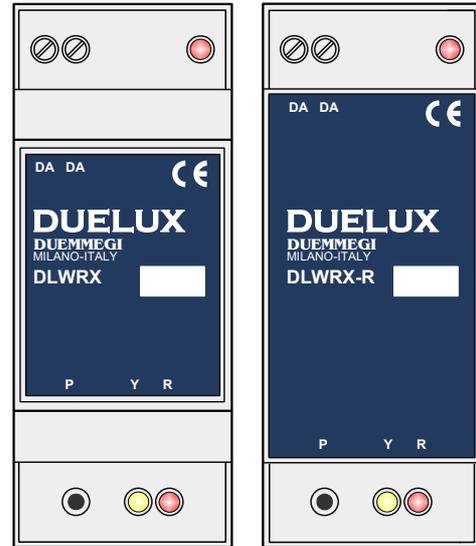
Pairing the transmitters

Each DLWRX module takes in account only the transmitters whose code has been stored during the setting up. Each transmitter, in fact, features a well fixed identification code distinguishing it from all the other ones. Each codes is referred to 4 push-buttons (or inputs).
The memory erasing of DLWRX and the pairing of the transmitters can be performed both by the proper push-button on the module.

Erasing the paired codes
To erase the memory containing the codes of the transmitters that have been previously paired (if any), follow these steps:

1. push and hold down the button of DLWRX; after 5s the yellow LED begins to blink, hold down the button until the yellow LED lights in fixed mode
2. release the button
3. wait until the yellow LED switches off; at this point the memory of the module is erased

Pairing the transmitter codes
To perform the pairing of a keypad, follow the steps below:

1. push and hold down the button of DLWRX until the yellow LED begins to blink (~5s)
2. release the button
3. push and release 3 consecutive times (3 pushing and 3 releasing) any button on the transmitter to be paired; this operation must be executed while the yellow LED on DLWRX is blinking (5 minutes of times are available from any pairing and the next one)

4. if the code of the transmitter has been accepted the yellow LED will be fixed lighted for 2 seconds, then it will blink again; if instead the code of the transmitter is already stored in the memory of DLWRX, then the red LED will light for 1 second about
5. repeat the steps 3 and 4 for the other transmitters
6. when all the transmitters have been paired, quit the pairing procedure pushing briefly the button on DL-WRX; anyway the pairing mode will be automatically terminated after 5 minutes from the last pairing

LEDs information

DLWRX module features two LEDs providing information on the operation of the wireless section as here described.

Red LED

✗ short blink: DLWRX module has received an input change from a valid transmitter

✗ ON for 1s: the code to be paired is already stored in the memory (pairing mode only)

Yellow LED

✗ OFF: normal operation

✗ fixed ON: DLWRX module is erasing the memory of the paired codes

✗ blinking 0.5s ON and 0.5s OFF: DLWRX module is in pairing mode

✗ fixed ON for 2 seconds: the code has been accepted

Installation hints

The maximum communication range between the transmitters and the DLWRX receiver modules mainly depends on the transmitters themselves; for the transmitters using ENOCEAN technology (with or without battery), a range of 100 meters in open space is normally specified; 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.
*WARNING: using metal frame for the wireless push-button assemblies may cause a significant reduction of the range; the use of plastic frame only is strongly recommended.*

The maximum communication range also depends on the location where the receiver has been installed. As said before, the receiver module DLWRX is housed in a plastic box for DIN rail; the receiving antenna is inside the box, therefore avoid to install the module inside full metallic cabinet that will reduce drastically the power of the received signal. DLWRX module, thanks to the housing with reduced height, can also be mounted in the junction boxes, provided that the insulation standards are respected with respect to any dangerous voltages present; also in this case, make sure that the cover of the junction box is not metal.
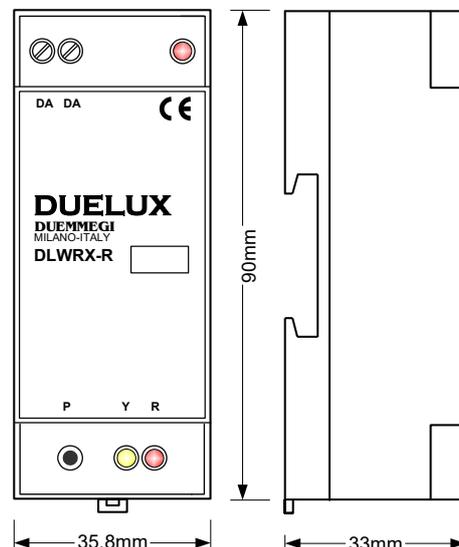
Avoid to install DLWRX module near to electronic devices that potentially can generate high frequency signals (e.g. computers, video systems, power supplies, alarm systems, mobile phones, etc.). The minimum distance from DLWRX module and potential disturbance sources may be 0,5 meters at least.

Dimensions DLWRX
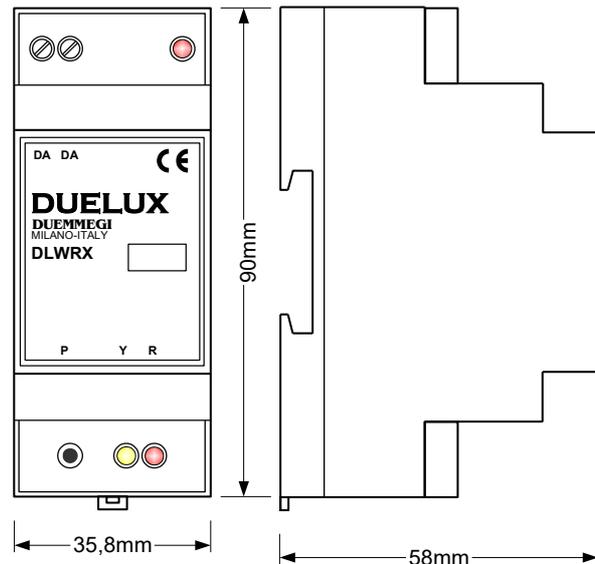
Dimensions DLWRX-R

Correct disposal of this product

(Waste Electrical & Electronic Equipment) (Applicable in the European Union and other European countries with separate collection systems). This marking on the product, accessories or literature indicates that the product should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable re-use of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Installation and use restrictions

Standards and regulations
The design and the setting up of electrical systems must be performed according to the relevant standards, guidelines, specifications and regulations of the relevant country. The installation, configuration and programming of the devices must be carried out by trained personnel.

The installation and the wiring of the bus line and the related devices must be performed according to the recommendations of the manufacturers (reported on the specific data sheet of the product) and according to the applicable standards.

All the relevant safety regulations, e.g. accident prevention regulations, law on technical work equipment, must also be observed.

Safety instructions
Protect the unit against moisture, dirt and any kind of damage during transport, storage and operation. Do not operate the unit outside the specified technical data.

Never open the housing. If not otherwise specified, install in closed housing (e.g. distribution cabinet). Earth the unit at the terminals provided, if existing, for this purpose. Do not obstruct cooling of the units. Keep out of the reach of children.

Setting up
The physical address assignment and the setting of parameters (if any) must be performed by the specific softwares provided together the device or by the specific programmer. For the first installation of the device proceed according to the following guidelines:

- Check that any voltage supplying the plant has been removed
- Assign the address to module (if any)
- Install and wire the device according to the schematic diagrams on the specific data sheet of the product
- Only then switch on the 230Vac supplying the bus power supply and the other related circuits

Applied standards
This device complies with the essential requirements of the following directives:
2014/30/UE (EMC)
2014/35/UE (Low Voltage)
2011/65/UE (RoHS)

Note
Technical characteristics and this data sheet are subject to change without notice.