# Jay Radio Remote Controls
# UD Series

CONDUCTIX wampfler

# Industrial enhanced-safety radio remote controls

# UD Series

CE

**Typical applications:**

- ◆ **Industrial lifting**
  - Travelling cranes, gantry cranes
  - Monorails, Hoists, jib cranes
- ◆ **Industrial equipment**
  - Handling systems
  - Dynamic storage
  - Ovens
  - Transfer cranes
- ◆ **Industrial vehicles**
  - Bulk product transport
  - Animal feed transport
  - Sanitation
  - Aircraft pushers
- ◆ **Construction**
  - Tower cranes
  - Concrete pumps

## 1- Description

**A radio remote control provides numerous advantages:**
- Large freedom of movement
- Easy to use
- Precise, quality manoeuvres
- Visibility
- Productivity

**With the UD radio remote controls, Jay provides solutions to the broad range of enhanced-safety industrial applications implementing button controls. By its modular design, Jay's UD system integrates a number of features in terms of:**
- Number of function buttons
- Type of function buttons
- Position of function buttons
- Number of output relays
- Programming of relay / buttons assignments

**Special attention has been given to ensure operator comfort through the following features:**
- Ergonomic transmitters enabling one-hand control
- Control button accessibility
- Button touch sensitivity
- Identification of controlled functions
- Light-weight compact transmitters
- Transmitter endurance, and fast, easy to replace plug-in battery
- Adaptability to all radio configurations of the environment by possibility for changing frequency by a trained operator
- Mechanical protection of function buttons to avoid any unintentional action
- Transmitter handle for belt fastening clip when unit is idle or removable shoulder strap (optional accessories)

**The receiver is also very easy to install:**
- Compact receiver
- Spring-type connection terminals

**To further enhance safety when using this equipment, technical solutions and innovative options are also proposed:**
- Access is enabled by electronic key to an authorised operator only
- Infrared start-up validation (option) to limit startup in a given area and ensure identification of equipment started up
- Memorisation of use of remote control by recording number of operations and durations for each movement (option)

**Easy maintenance:**
- Customization entirely stored in electronic key
- Parameter definition software (option)
- Diagnostic aid indicator lights

## CONTENTS



- **Compliance with European directives:**
  - Machinery
    Emergency stop Performance
    > EN ISO 13849-1 : 2015 for PL d performance level (categorie 3)
    > EN 61508 Parts 1 to 3 : 2010 for SIL 2
    > EN ISO 13850 (2015) Clause 4.14 Stop Categorie 0
  - Hertzian equipment and telecommunication terminals (low voltage, EM compatibility, radiofrequency spectrum)
  - USA FCC certification (American regulation PFF part 15) only for transmitters UDE and UDR
- **Compliance with applicatives standards:**
  - EN15011 (travelling cranes)
  - EN13557 (lifting machines with suspended load)

# 2- Product features

## 2.1 URE transmitter

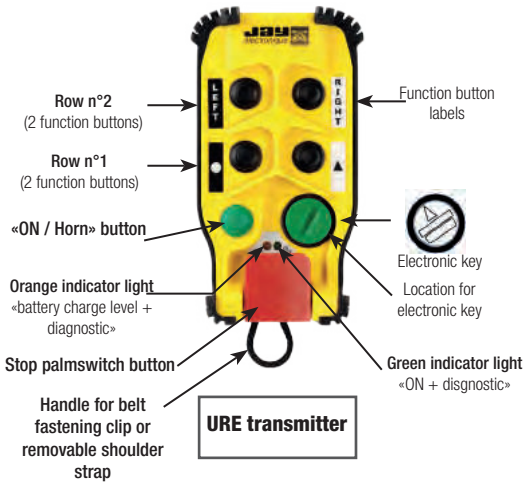
The transmitter is formed by a hand-held unit having 2 or 4 function buttons, a «On/Horn» button and an emergency stop palmswitch. The unit's highly adaptable design allows for installation, in each location, of 5 different types of function buttons as described below:

- One-step pushbutton (single speed)
- Two-step pushbutton (double speed)
- Rotary switch with 2 fixed positions
- Rotary switch with 3 fixed positions
- Rotary switch with 3 positions with auto. return

Two parameters can be easily adapted to the environment by a trained operator:

- Operating radio frequency
- Duration of temporization for «dead man» function (Automatic shutdown of remote control in case of prolonged non use)

These operations are performed by procedures implementing buttons n°1, n°2, the emergency stop palmswitch and the «On/Horn» button, with no need to open the transmitter or receiver. The change of parameter can be however locked.
The electronic key contains all the parameters of the controlled receiver, it is possible to use an auxiliary transmitter only with the electronic key and a validation procedure.




## 2.2 UDE transmitter

The transmitters come in 3 models : 6 function buttons, 8 functions buttons or 10 function buttons.
Each model also contains a «On/Horn» button and an emergency stop palmswitch.
The unit's highly modular design allows for installation, of 6 different types of function buttons as described opposite:

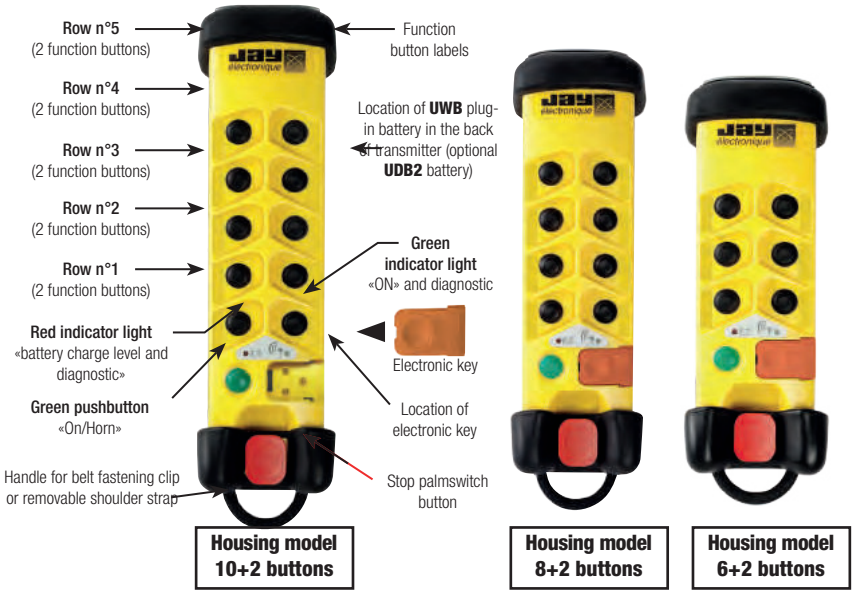
- One-step pushbutton (single speed)
- Two-step pushbutton (double speed)
- Rotary switch with 2 fixed positions
- Rotary switch with 3 fixed positions
- Rotary switch with 3 positions with automatic return
- Electronic switch with 3 fixed positions

Two parameters can be easily adapted to the environment by a trained operator:

- Operating radio frequency
- Duration of temporization for «Standby mode» function (Automatic shutdown of remote control in case of prolonged non use)

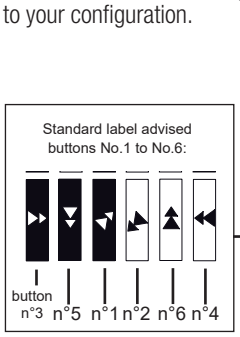
These operations are performed by procedures implementing buttons n°1, n°2, n°3, the emergency stop palmswitch and the «On/Horn» button, with no need to open the transmitter or receiver.
The change of parameter can be however locked.

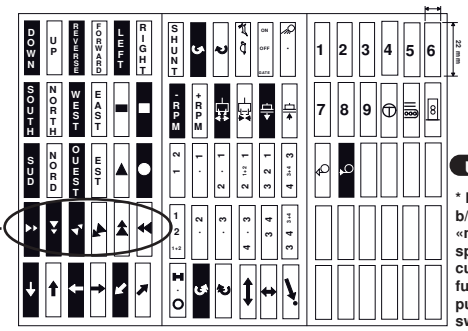
The electronic key contains all the parameters of the remote control, it is possible to use an auxiliary transmitter only with the electronic key and a validation procedure.



## 2.3 Transmitter function button labels

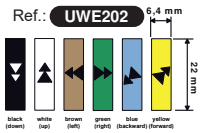
The various button functions are identified by means of adhesive labels placed in he recesses provided in the transmitter unit housing at each button location. The labels are supplied in the form of sheets with the various labels you will need for your application. Simply choose the labels corresponding to your configuration.



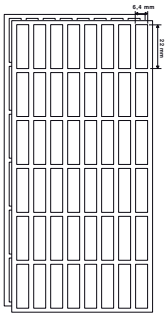

Ref.: **UWE207**

*** Kit of 90 b/w labels «movements, special and customization functions» for pushbuttons and switches**




Ref.: **UWE202**

*** Kit of 6 colored labels, «movements», for double speed pushbuttons (2 steps)**




Ref.: **UWE205**

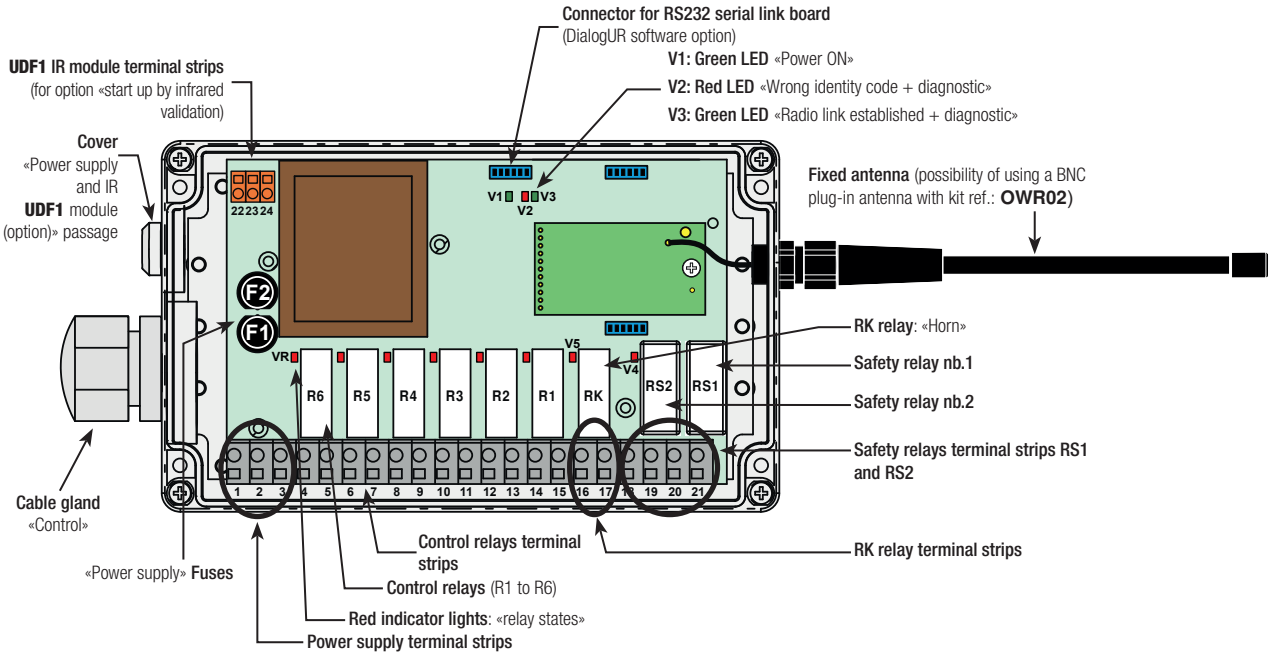
**Kit of 48 white blank labels, «customization» + 48 transparent protecting labels.**

* = Label sheets provided as standard supply with UDE transmitter

## 2.4 URR receiver

The receiver is formed by a basic PCB comprising 6 control relays. The basic board systematically comprises :

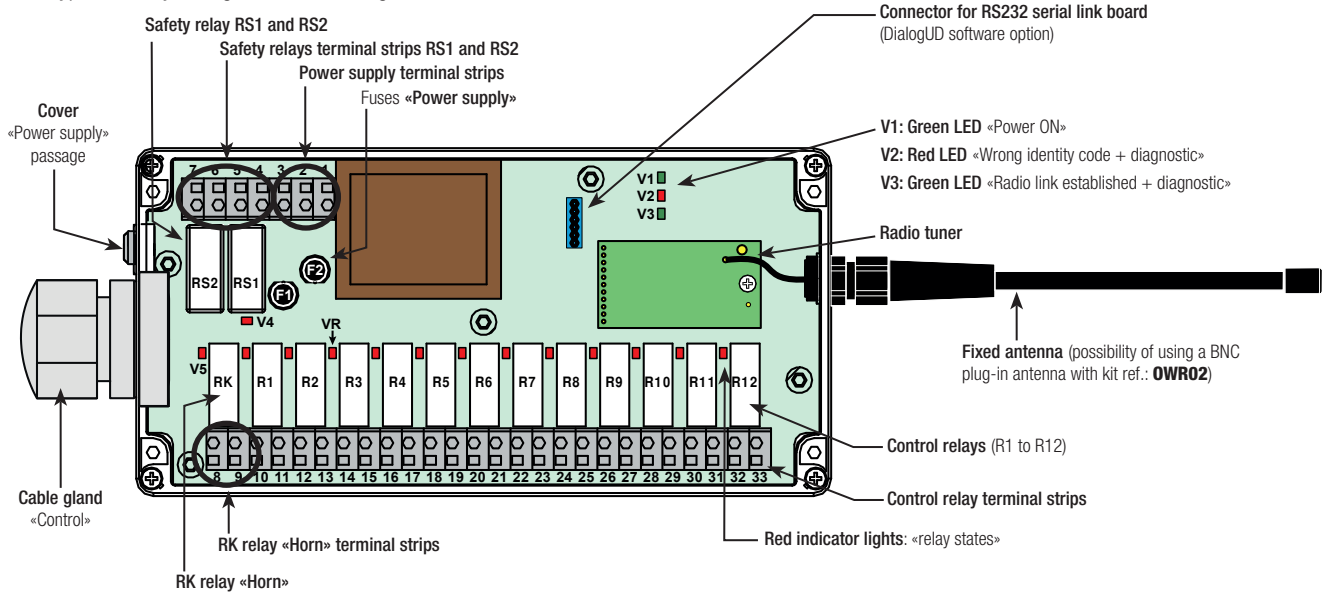
- **1 «Horn» relay** (active when the transmitter «On/Horn» button is pressed, not auto-maintained)
- **2 safety relays** (active when the transmitter «On/Horn» button is pressed, auto-maintained until passive or active stop)




## 2.5 UCR receiver

The receiver comes with:

- A basic board comprising 12 control relays.
  + **1 «Horn» relay** (active when the transmitter «On/Horn» button is pressed, not auto-maintained)
  + **2 safety relays** (active when the transmitter «On/Horn» button is pressed, auto-maintained until passive or active stop)
- Two types of power supply following version: 12-24 VDC or 48-230 VAC
- Four types of relay configuration according to the associated transmitter version.



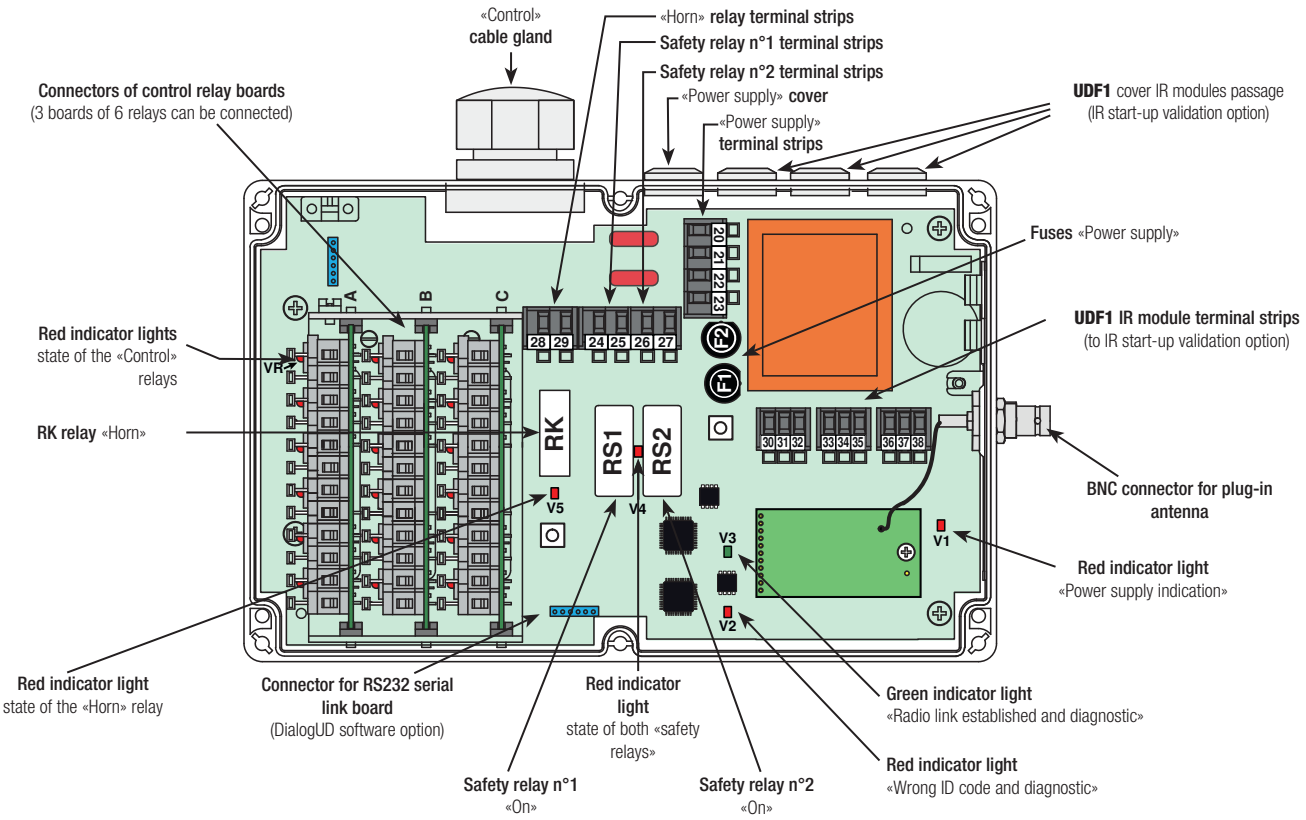
## 2.6 UDR receiver

The receiver is formed by a basic board on which the following components can be connected:

- 2 to 3 boards with 6 control relays
- 1 RS232 serial link board for diagnostic and programming purposes (option and accessory)

The basic board systematically comprises:

- **1 «Horn» relay**
  (active when the transmitter «On/Horn» button is pressed, not auto-maintained)
- **2 safety relays**
  (active when the transmitter «On/Horn» button is pressed, auto-maintained until passive or active stop)
- **3 terminal strips for UDF1 IR modules** (option - see next page)

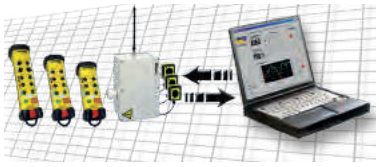


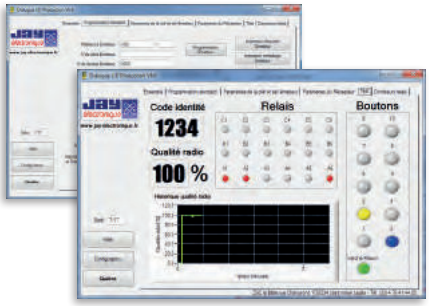

# 3- Additional options

## 3.1 DialogUD and DialogUR softwares

**DialogUD** and **DialogUR** provide help to **UD** system users for configuration, diagnostics and operating status consultation.

**DialogUD** is used to program **UDR** and **UCR** receivers, while **DialogUR** is dedicated to **URR** receiver.






These softwares provide the main remote intervention and remote maintenance functions:

- Programming of radio reception frequency.
- Programming of «transmitter button - receiver relay» assignments.
- Programming of control button electrical interlocking.
- Diagnostic function for management of preventive maintenance on equipment (receiver relay transition counter, combined relay activation time and possibility for saving all **UD** system information).
- Display of **UDE** transmitter operation to validate possible configuration changes.
- Display of receiver radio quality rate to diagnose possible zones of disturbances.

**Product references:**

The «**DialogUD** or **DialogUR**» option requires an RS232 communication card to be connected into the receiver and two connection cables to a computer:
DialogUD or DialogUR software: ..... **available on www.jay-electronique.com website**
Serial link board: ..... **UDWR32**
RS232 / USB Computer Link Cables References: ..... **UDWR37 + UDWR39**

**Software configuration required**: Windows® 10 (registered trademark of Microsoft Corporation - USA).

## 3.2 IR start-up validation

Safety feature requiring IR validation to start up a remote controlled equipment can be used.

- To start the unit, the operator is required to point the transmitter toward the IR module installed on the equipment to be controlled (see positioning below). This ensures an error-free match-up between the transmitter and the equipment to be controlled.
- The IR start-up field of action has a range of 0 to 25 m (see Fig. A).
- 3 IR modules can be connected to the **UDR** receiver.

IMPORTANT **The wiring of the UDF1 IR module(s) must be separate from the power cables and all other sources which may generate interference** (power regulator, for example).

### UDF1 IR modules position

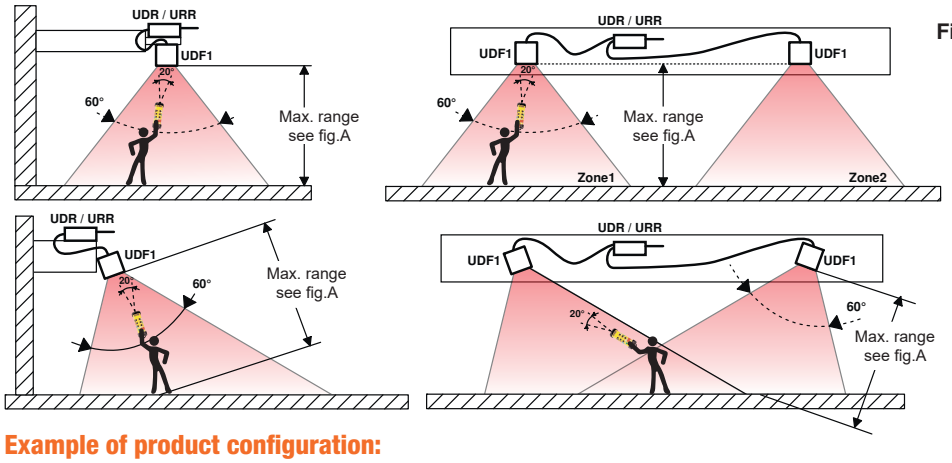
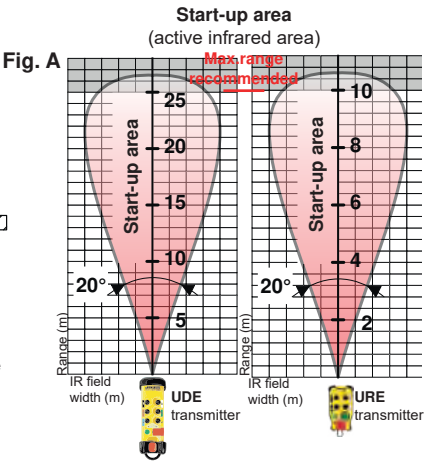



Fig. A




### Example of product configuration:

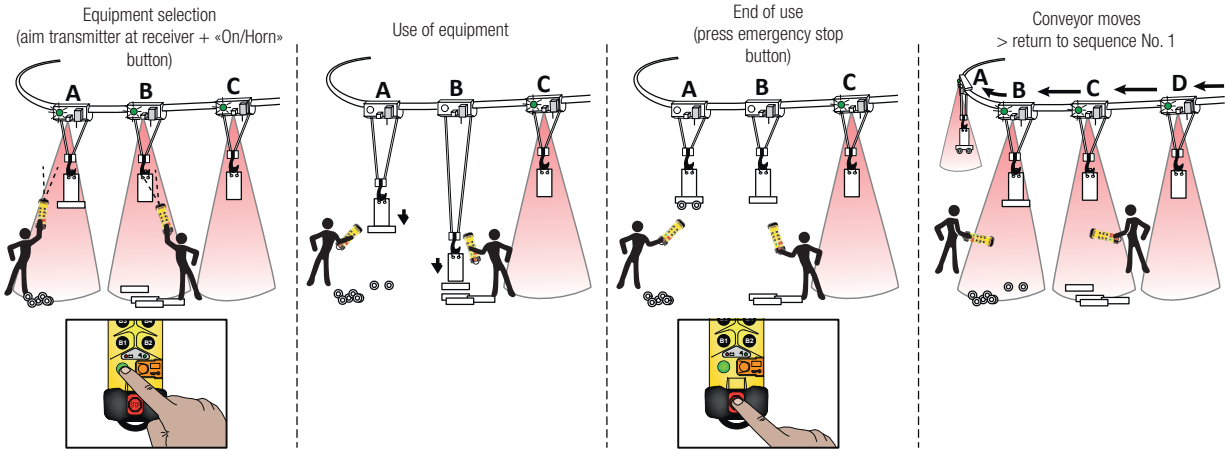
The ***«IR start-up validation»*** option requires a transmitter equipped with this option, a receiver programmed for this option and at least one **UDF1** IR module.
Transmitter reference: ..... **UDE** (**5** or **P** or **T**)•••••
Receiver reference: ..... **UDR**(**1** or **B** or **F**)••**00**
Reference for UDF1 IR modules: ..... **UDF1**

## 3.3 Transmitter-Receiver association on start-up

This function allows the operator to select the receiver(s) to be controlled.

During the start-up phase (transmitter switched on), an encoded infrared message is transmitted to the receiver(s) pointed to by the operator. This option thus enables several transmitters (with difference id code and frequency) to successively take control of the receiver(s). This is particularly useful when several receivers are implemented and you wish to operate any receiver with any transmitter with no mutual interference. This feature also allows you to select two receivers with one transmitter and have them operate simultaneously.
The infrared aiming characteristics are the same as those of the "**start-up by infrared validation**" option.

### Example (overhead conveyor):




### Example of product configuration:

Transmitter reference: ..... **UDE** (**5** or **P** or **T**)•••••
Receiver reference: ..... **UDR**(**1** or **B** or **F**)••**06**
Reference for UDF1 IR modules: ..... **UDF1**
**Please, contact us for further information.**

# 4- Safety aspects

The **UD** remote controls implement numerous safety features, in particular:

### Transmitter/Receiver communication safety features:

- Permanent radio link : by its non-directional design and insensitivity to the presence of obstacles, the operator is protected from exposure to handling risks during precision manoeuvres and movements.
- Each transmitter+receiver pair has its own specific identity code.
- Hamming distance (minimum number of bits that differ between 2 messages that are different) of 4.

### Receiver safety features:

- A passive shutdown device shuts down the system if the radio link is jammed.
- Emergency stop Performance Level PL d per EN ISO 13849-1 (Cat.3 per EN 954-1) is ensured by redundant control of the emergency stop circuit and use of guided contact safety relays.
- Contradictory commands can be interlocked electrically.

### Transmitter safety features:

- An active priority general shutdown command is generated when the «stop palmswitch button» is pressed.
- An electronic key limits access to the system to authorised persons only.
- An indicator light indicates an alarm in the event of an insufficiently charged battery.
- A «Standby mode» function shuts down the transmitter after a pre-programmed time period (1 to 98 mn or 1 to 99s) when no controls have been generated. This function can be disabled at any time to meet specific needs.
- Buttons protected mechanically against unintentional actions.

### Functional safety features:

- Start-up sequences are implemented to ensure safe operation by a trained, experienced operator.
- 55 ms response time compatible with the movement speeds of equipment controlled.

# 5- Technical characteristics

## 5.1 URE transmitter

- Supplied with UWE202 and UWE207 accessories.
- Electronic key and charging system are supplied with kits (see page 12).
- For a transmitter alone, add the required additional accessories.

| Mechanical, functional and environmental characteristics | |
|---|---|
| **Housing** | ABS, yellow, IP65, Mechanical button protection |
| **Weight (with battery)** | 240 g |
| **Dimensions** | 46 x 78 x 143 mm |
| **Operating temp. range** | -20°C to +50°C |
| **Storage temp. range** | -20°C to +50°C |
| **Fast charging temperature** | 0°C to +40°C |
| **Fast charging complete time** | 2 hours 30 min |
| **Electrical and radio characteristics** | |
| **Power supply** | Lithium battery |
| **Endurance (buttons typical average use at +20°C)** | 50 hours / 50 % Transmit time |
| **Frequency** | 4 programmable frequencies in 433-434 MHz (see list below) |
| **Transmit power** | <10 mW (license not required) built-in antenna |
| **Modulation** | FM |
| **Average range (1)** | 230 m in typical industrial environment<br>600m in unobstructed area |

(1)= Range will vary according to environment conditions of transmitter and reception antenna (metal frameworks, walls … ).

| Functionnal characteristics | |
|---|---|
| **Fonctions** | 4 function buttons max.<br>5 different kinds of function buttons:<br>- one-step pushbutton (single speed) «BPSV»<br>- two-step pushbutton (double speed) «BPDV»<br>- rotary switch with 2 fixed positions «COM2»<br>- rotary switch with 3 fixed positions «COM3»<br>- rotary switch with 3 positions with auto. return «COM3R»<br>1 pushbutton «ON / Horn»<br>1 active priority emergency stop palmswitch<br>1 electronic key |
| **«Dead man» (Automatic shutdown of transmitter)** | Time is user-programmable |
| **Indicator lights** | 1 orange «battery level» and «diagnostic» indicator light<br>1 green «on», «battery charge» and «diagnostic» indicator light |

## 5.2 Standard battery

**UDB2**  UWB 

| Mechanical, functional and environmental characteristics | UDB2 | UWB |
|---|---|---|
| **Housing** | ABS Choc, yellow IP40 | ABS Choc, black IP40 |
| **Technology** | NiMH | NiMH |
| **Dimensions** | 40 x 96 x 23 mm | 40 x 96 x 23 mm |
| **Storage temp. range** | -30°C to +35°C | -20°C to +35°C |

| Charging | UDB2 | UWB |
|---|---|---|
| **Charging temperature** | 0°C to +45°C | 0°C to +35°C |
| **Complete charging time** | 14 hours | 7 hours |
| **Indicator lights** | Charging:<br>1 red light indicator on the battery<br>Charge status:<br>1 red light indicator on transmitter (battery low) | Charging:<br>1 2-color indicator light on the battery:<br>Orange = fast charge<br>Green = slow charge and up-keep charge<br>Charge status:<br>1 red light indicator on transmitter (battery low) |
| **Power supply** | by charger UBCU (110-230 Vac / 12 Vdc)<br>by connector UBC1 (10 to 30 Vdc) | by charger UCCU (110-230 Vac / 5 Vdc)<br>By voltage adapter UCC1 (6 V) |

## 5.3 UDE transmitteur

- Supplied with UWE202 and UWE207 accessories.
- Electronic key, battery and charging system are supplied with the sets presented page 12.
- For a transmitter alone, add the additional and complementary accessories.

| Mechanical, functional and environmental characteristics | |
|---|---|
| **Housing** | ABS Choc, yellow, IP65 |
| **Weight (with battery)** | Housing model «6+2 buttons»: 400 g<br>Housing model «8+2 buttons»: 450 g<br>Housing model «10+2 buttons»: 490 g |
| **Dimensions** | Housing model «6+2 buttons»: 232 x 82 x 64 mm<br>Housing model «8+2 buttons»: 251 x 82 x 64 mm<br>Housing model «10+2 buttons»: 288 x 82 x 64 mm |
| **Operating temp. range** | -20°C to +50°C |
| **Storage temp. range (without battery)** | -30°C to +70°C |
| **Storage temp. range (with battery)** | -30°C to +35°C |
| **Attachment when idle** | Wall (by handle) or belt (by clip) |
| **Electrical and radio characteristics** | |
| **Power supply** | Plug-in UDB2 (standard) or UWB (fast charge) |
| **Endurance transmit time/buttons typical average use (at +25°C)** | 433-434 MHz bands: 24 hours / 50% transmit time<br>869 and 911-918 MHz : 20 hours / 50% transmit time |
| **Radio frequencies** | 64 user-programmable in 433-434 MHz bands<br>12 user-programmable in 869 MHz band<br>64 user-programmable in 911-918 MHz bands |
| **Transmit power (built-in antenna)** | <10 mW (license not required) in 433-434 MHz and 869 MHz bands<br><94 dBµV/m in 911-918 MHz bands |
| **Modulation** | FM |
| **Average range with with antenna VUA001A or VUA001B on UDR receiver (1)** | 100 m in typical industrial environment<br>300 m in unobstructed area |
| **Functionnal characteristics** | |
| **Functions** | 6 differents kinds of fonctions buttons:<br>- One-step pushbutton (single speed): BPSV<br>- Two-step pushbuttons (double speed): BPDV<br>- Rotary switch with 2 fixed positions: COM2<br>- Rotary switch with 3 fixed positions: COM3<br>- Rotary switch with 3 positions with auto. return: COM3R<br>- Electronic switch with 3 fixed positions: BPTR<br><br>1 pushbutton «On/Horn»<br>1 active priority emergency stop palmswitch<br>1 electronic key |
| **«Standby mode» function** | User-programmable time delay, in 1 minute increments |
| **Indicator lights** | 1 red indicator light «battery level» and diagnostic<br>1 green indicator light «On» and diagnostic |

(1)= Range will vary according to environment conditions of transmitter and reception antenna (metal frameworks, walls … ).

## 5.4 URR receiver

(2)

| Mechanical and environment withstand characteristics | |
|---|---|
| **Housing** | ABS, grey, IP65 |
| **Weight** | 1,1 Kg approx. |
| **Dimensions** | 200 x 120 x 75 mm (without antenna and cable glands) |
| **Operating temp. range** | -20°C to +50°C |
| **Storage temp. range** | -30°C to +70°C |
| **Cable lead-outs** | Control outputs : 1 M25 plastic cable gland (cable diameter Ø 14 to 20 mm)<br>Power supply or IR module : 1 M16 cover (cable diameter Ø 5 to 7 mm) (3) |
| **Connection** | Spring-type terminal strips for 0.08² to 2.5² section wires |
| **Radio characteristics (complying with EN 300 220)** | |
| **Radio frequencies** | 64 user-programmable frequencies in 433-434MHz |
| **Fixed antenna (4)** | 1/4 wave for 433-434 MHz bands<br>Option: 1/2 wave with antenna extension |
| **Sensitivity** | Better than -100 dBm |

| Electrical characteristics | |
|---|---|
| **Power supply and consumption**<br><br>**With :**<br>**2 safety relays, the «Horn» relay and 6 function relays pulled in** | DC version:<br>12 Vdc, -5% to +30%, 550 mA<br>24 Vdc, -20% to +20%, 430 mA<br><br>AC No 1 version:<br>24 Vac, -15% to +10%, 1 A<br>48 Vac, -15% to +10%, 475 mA<br><br>AC No 2 version:<br>115 Vac, -15% to +10%, 200 mA<br>230 Vac, -15% to +10%, 90 mA |
| **Control** | 1 «Horn» relay + 6 function relays |
| **Safety** | 2 relays with linked and guided contacts |
| **Outputs** | Independent 1 NO contact relays<br>- Category DC13 0,5 A / 24 Vdc , AC15 2 A / 230 Vac<br>- Max. breaking capacity. 2000 VA<br>- Max. current 8 A (control relay, Horn), 6 A (safety relays)<br>- Min. current 10 mA (12 Vmin.)<br>- Max. voltage 250 Vac<br>- Service life with 230 Vac, 70 VA, cosphi=0,75 :<br>Control relay, Horn relay: 3 x $10^6$ cycles<br>Safety relays: 4,5 x $10^6$ cycles |
| **Response time** | - On start-up: 0,5 s max.<br>- On control: 70 ms max. |
| **Active shutdown time** | 160 ms max. |
| **Passive shutdown time** | 1,15 s max. |
| **Indicator lights** | 1 green indicator light : receiver power supply<br>1 red + 1 green diagnostic indicator lights<br>1 red status indicator light per relay |
| **Power supply protection** | Against polarity inversions for DC version<br>Against overcurrent by fuse |

(2)= Optional Infrared Module
(3)= The cover can be replaced by a plastic cable gland (standard PE) type M16 mounted in its place. The UDF1 infrared module is systematically delivered with one plastic M16 cable gland.
(4)= Possibility of using a BNC plug-in antenna and antenna extension with kit ref. : OWR02.

## 5.5 UCR receiver

| Mechanical and environment withstand characteristics | |
|---|---|
| Housing | ABS, grey, IP65 |
| Weight | 1,2 kg approx. |
| Dimensions | 120 x 240 x 100 mm (without antenna and gland) |
| Operating temp. range | -20°C to +50°C |
| Storage temp. range | -30°C to +70°C |
| Cable lead-outs | Control outputs: 1 M32 plastic cable gland (for cable diameter Ø 20 à 26 mm)<br>Power supply: 1 M16 cover (for cable diameter Ø 5 to 7 mm) (1) |
| Connection | Spring-type terminal strips for 0.08² to 2.5² section wires |
| **Radio characteristics (complying with EN 300 220)** | |
| Radio frequencies | 64 user-programmable frequ. in 433-434 MHz bands<br>12 user-programmable frequ. in 869 MHz band |
| Fixed antenna (2) | 1/4 wave for 433-434 MHz and 869 MHz bands<br>Option: 1/2 wave with antenna extension |
| Sensitivity | Better than -100 dBm |

| Electrical characteristics | |
|---|---|
| Power supply and consumption<br><br>With :<br>2 safety relays + «horn» relay and 5 functions relays pulled in | **DC version**:<br>12 Vdc, 0 to +25%, 675 mA and 188 mA idle<br>24 Vdc, -15% to +20%, 675 mA and 188 mA idle<br><br>**AC version**:<br>48 Vac, -15% to +10%, 550 mA<br>230 Vac, -15% to +10%, 70 mA |
| Control | 12 relays + 1 «Horn» relay |
| Safety | 2 relays with linked and guided contacts |
| Number of output relays simultaneously controllable | 8 (including «RS1-RS2» safety relays and the «horn» relay) |
| Outputs | Independent 1 NO relays<br>- Category DC13 0,5 A / 24 Vdc , AC15 2 A / 230 Vac<br>- Max. breaking capacity: 2000 VA<br>- Max. current: 8A (control relays and «Horn» relay), 6 A («Safety» relays)<br>- Min. current: 10 mA (12 Vmin.), 100 mA recommended<br>- Max. voltage: 250 Vac<br>- Service life with 230 Vac, 70 VA, cosphi=0,75 :<br>Control relay, Horn relay : 3 x $10^6$ cycles<br>Safety relays : 4,5 x $10^6$ cycles |
| Response time | - On start-up: 0,5s max.<br>- On control: 70 ms max. |
| Active shutdown time | 160 ms max. |
| Passive shutdown time | 1,15 s max. |
| Indicator lights | - 1 green indicator light: «Power supply ON»<br>- 1 red indicator light: «wrong identity code» and «diagnostic»<br>- 1 green indicator light: «radio link established» and «diagnostic» |
| Power supply protection | - Against overcurrent by fuse |

(1)= The cover can be replaced by a plastic cable gland (standard PE) type M16 mounted in its place.

(2)= Possibility of using a BNC plug-in antenna and antenna extension with kit ref. : OWR02.

## 5.6 UDR receiver


| Mechanical and environment withstand characteristics | |
|---|---|
| Housing | ABS, grey, IP65 |
| Weight | 2 kg approx. |
| Dimensions | 160 x 250 x 120 mm (without antenna and gland) |
| Operating temp. range | -20°C to +50°C |
| Storage temp. range | -30°C to +70°C |
| Cable lead-outs | Control: 1 plastic cable gland M32 (Ø 20 to 26 mm cables)<br>IR Modules: 3 cover M16 (Ø 5 to 7 mm cables) (4)<br>Power supply: 1 cover M16 (Ø 5 à 7 mm cables) (4) |
| Connection | Spring-type terminal strips for 0.08² to 2.5² section wires |
| **Radio characteristics (complying with EN 300 220)** | |
| Radio frequencies | 64 user-programmable frequ. in 433-434 MHz bands<br>12 user-programmable frequ. in 869 MHz band<br>64 user-programmable frequ. in 911-918 MHz bands |
| Antennas | 1/4 wave for 433-434, or 869, or 911-918 MHz bands.<br>Option 1/2 wave with antenna extension |
| Sensitivity | Better than -100 dBm |

| Electrical characteristics | |
|---|---|
| Power supply and consumption (5)<br><br>With :<br>2 safety relays,<br>8 function relays pulled in, and<br>3 IR UDF1 modules connected to receiver | DC version:<br>12 Vdc, 0 to +25%, 675 mA and 188 mA idle<br>24 Vdc, -15% to +20%, 675 mA and 188 mA idle<br><br>AC No 1 version:<br>24 Vac, -15% to +10%, 850 mA<br>48 Vac, -15% to +10%, 400 mA<br><br>AC No 2 version:<br>115 Vac, -15% to +10%, 180 mA<br>230 Vac, -15% to +10%, 85 mA |
| Control | 1 «Horn» relay + 12 or 18 function relays |
| Safety | 2 relays with linked and guided contacts |
| Outputs | Independent 1 NO relays<br>- Category DC13 0,5 A / 24 Vdc , AC15 2 A / 230 Vac<br>- Max. breaking capacity: 2000 VA<br>- Max. current: 8A (control relays and «Horn» relay), 6 A («Safety» relays)<br>- Min. current: 10 mA (12 Vmin.), 100 mA recommended<br>- Max. voltage: 250 Vac<br>- Service life with 230 Vac, 70 VA, cosphi=0,75 :<br>Control relay, Horn relay: 3 x $10^6$ cycles<br>Safety relays: 4,5 x $10^6$ cycles |
| Response time | - On start-up: 0,5 s max.<br>- On control: 55 ms max. |
| Active shutdown time | 145 ms max. |
| Passive shutdown time | 1,1 s max. |
| Indicator lights | - 1 red «power on» indicator light<br>- 1 red indicator light + 1 green diagnostic indicator light<br>- 1 red status indicator light per relay |
| Power supply protections | - Against polarity inversions for DC versions<br>- Against overcurrents by fuse |

(3)= Optional Infrared Modules

(4)= The cover can be replaced by a plastic cable gland (standard PE) type M16 mounted in its place. The UDF1 infrared module is systematically delivered with one plastic M16 cable gland.

(5)= The number of function relays controlled simultaneously is limited to 10 relays with 1 UDF1 module connected to UDR receiver, or to 9 relays with 2 UDF1 modules connected, or to 8 relays with 3 UDF1 modules connected.

# 6- Radio frequency tables

**433-434 MHz bands**

| Channel N° | Frequency MHz | Channel N° | Frequency MHz |
|---|---|---|---|
| 01 | 433,100 | 33 | 433,900 |
| 02 | 433,125 | 34 | 433,925 |
| 03 | 433,150 | 35 | 433,950 |
| 04 | 433,175 | 36 | 433,975 |
| 05 | 433,200 | 37 | 434,000 |
| 06 | 433,225 | 38 | 434,025 |
| 07 | 433,250 | 39 | 434,050 |
| 08 | 433,275 | 40 | 434,075 |
| 09 | 433,300 | 41 | 434,100 |
| 10 | 433,325 | 42 | 434,125 |
| 11 | 433,350 | 43 | 434,150 |
| 12 | 433,375 | 44 | 434,175 |
| 13 | 433,400 | 45 | 434,200 |
| 14 | 433,425 | 46 | 434,225 |
| 15 | 433,450 | 47 | 434,250 |
| 16 | 433,475 | 48 | 434,275 |
| 17 | 433,500 | 49 | 434,300 |
| 18 | 433,525 | 50 | 434,325 |
| 19 | 433,550 | 51 | 434,350 |
| 20 | 433,575 | 52 | 434,375 |
| 21 | 433,600 | 53 | 434,400 |
| 22 | 433,625 | 54 | 434,425 |
| 23 | 433,650 | 55 | 434,450 |
| 24 | 433,675 | 56 | 434,475 |
| 25 | 433,700 | 57 | 434,500 |
| 26 | 433,725 | 58 | 434,525 |
| 27 | 433,750 | 59 | 434,550 |
| 28 | 433,775 | 60 | 434,575 |
| 29 | 433,800 | 61 | 434,600 |
| 30 | 433,825 | 62 | 434,625 |
| 31 | 433,850 | 63 | 434,650 |
| 32 | 433,875 | 64 | 434,675 |

**911-918 MHz bands**
only for UD transmitter

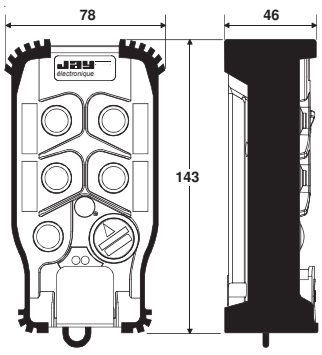
| Channel N° | Frequency MHz | Channel N° | Frequency MHz |
|---|---|---|---|
| 01 | 911,800 | 33 | 915,100 |
| 02 | 911,900 | 34 | 915,200 |
| 03 | 912,000 | 35 | 915,300 |
| 04 | 912,100 | 36 | 915,400 |
| 05 | 912,200 | 37 | 915,500 |
| 06 | 912,300 | 38 | 915,600 |
| 07 | 912,400 | 39 | 915,700 |
| 08 | 912,500 | 40 | 915,800 |
| 09 | 912,600 | 41 | 915,900 |
| 10 | 912,700 | 42 | 916,000 |
| 11 | 912,800 | 43 | 916,100 |
| 12 | 912,900 | 44 | 916,200 |
| 13 | 913,000 | 45 | 916,300 |
| 14 | 913,100 | 46 | 916,400 |
| 15 | 913,200 | 47 | 916,500 |
| 16 | 913,300 | 48 | 916,600 |
| 17 | 913,400 | 49 | 916,700 |
| 18 | 913,500 | 50 | 916,800 |
| 19 | 913,600 | 51 | 916,900 |
| 20 | 913,700 | 52 | 917,000 |
| 21 | 913,800 | 53 | 917,100 |
| 22 | 913,900 | 54 | 917,200 |
| 23 | 914,000 | 55 | 917,300 |
| 24 | 914,100 | 56 | 917,400 |
| 25 | 914,300 | 57 | 917,500 |
| 26 | 914,400 | 58 | 917,600 |
| 27 | 914,500 | 59 | 917,700 |
| 28 | 914,600 | 60 | 917,800 |
| 29 | 914,700 | 61 | 917,900 |
| 30 | 914,800 | 62 | 918,000 |
| 31 | 914,900 | 63 | 918,100 |
| 32 | 915,000 | 64 | 918,200 |

**869 MHz band**
only for UD transmitter

| Channel N° | Frequency MHz |
|---|---|
| 01 | 869,9875 |
| 02 | 869,9625 |
| 03 | 869,9375 |
| 04 | 869,9125 |
| 05 | 869,8875 |
| 06 | 869,8625 |
| 07 | 869,8375 |
| 08 | 869,8125 |
| 09 | 869,7875 |
| 10 | 869,7625 |
| 11 | 869,7375 |
| 12 | 869,7125 |

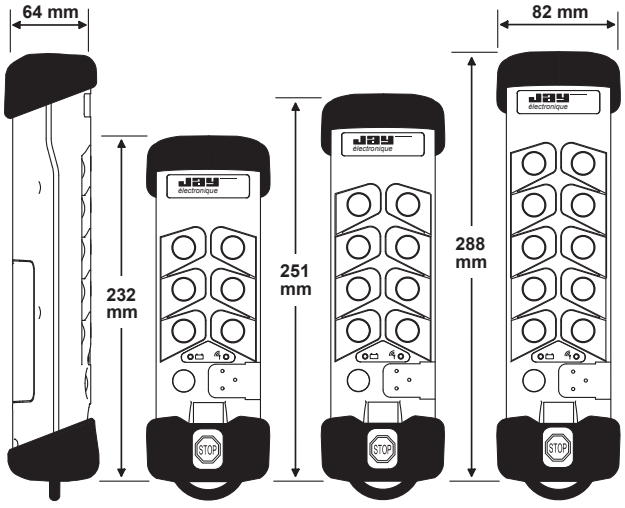
# 7- Dimensions

## 7.1 URE ransmitter

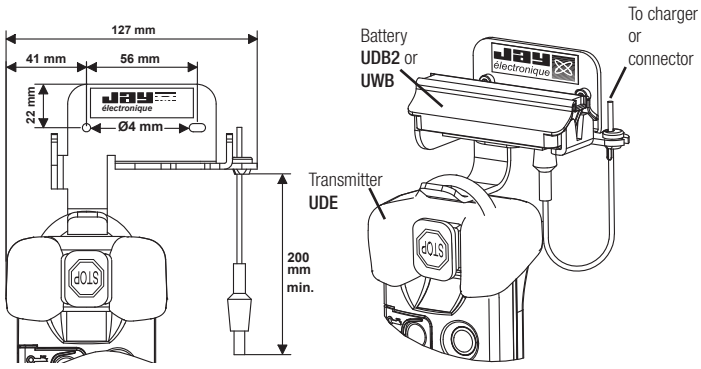



## 7.2 UDE Transmitter

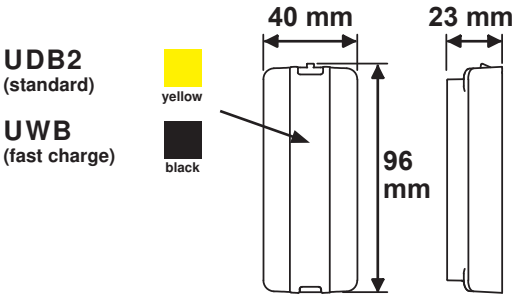
(6+2, 8+2 and 10+2 button versions)



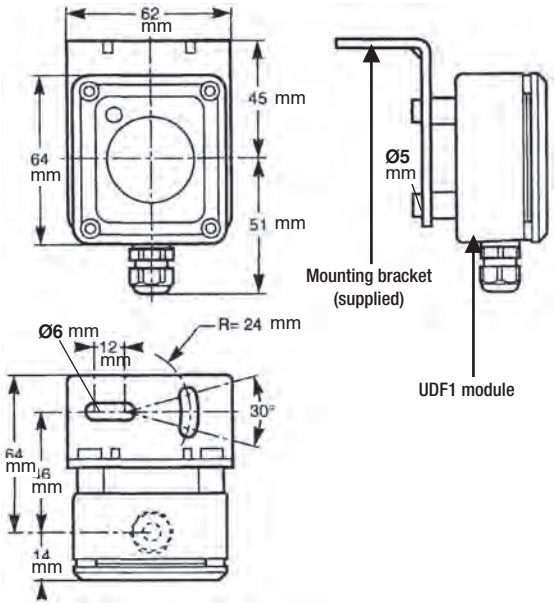
## 7.3 UDC1 wall bracket




## 7.4 UDB2/UWB batteries

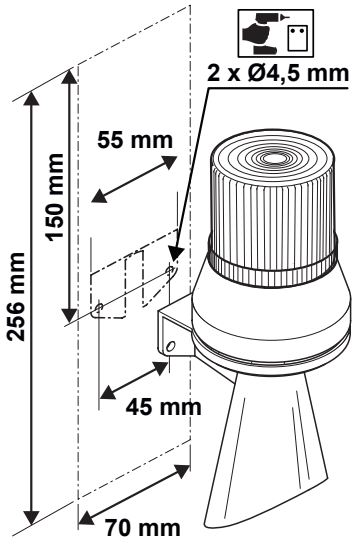



## 7.5 UDF1 infra red module




## 7.6 Lamp-horn

(Accessory included in the receiver option kit)

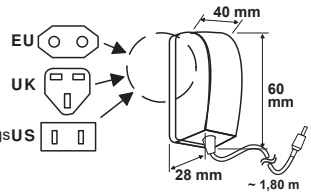



## 7.4 UDB2/UWB charger, adapter and connector

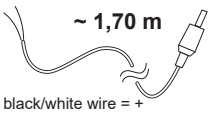
(To charge **UDB2** or **UWB battery**)

**UBCU** To charge **UDB2**
110-230 Vac / 12Vdc, with plugs EU, UK et US

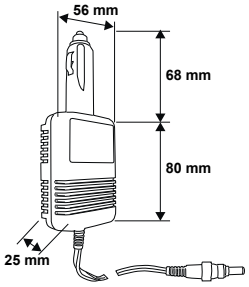
**UCCU** To charge **UWB**
110-230 Vac / 5Vdc, with plugs EU, UK et US



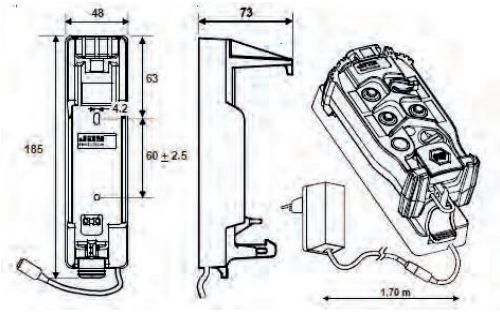

**UBC1** To charge **UDB2**
Connector to be connected to stabilized power supply or battery, 10 to 30 Vdc




**UCC1** To charge **UWB**
Voltage adapter on vehicle socket.

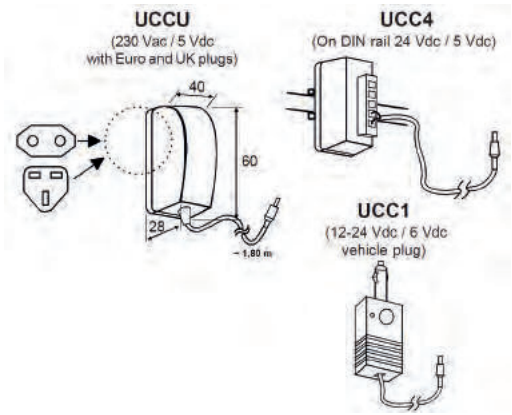



## URCi-B industrial support charger

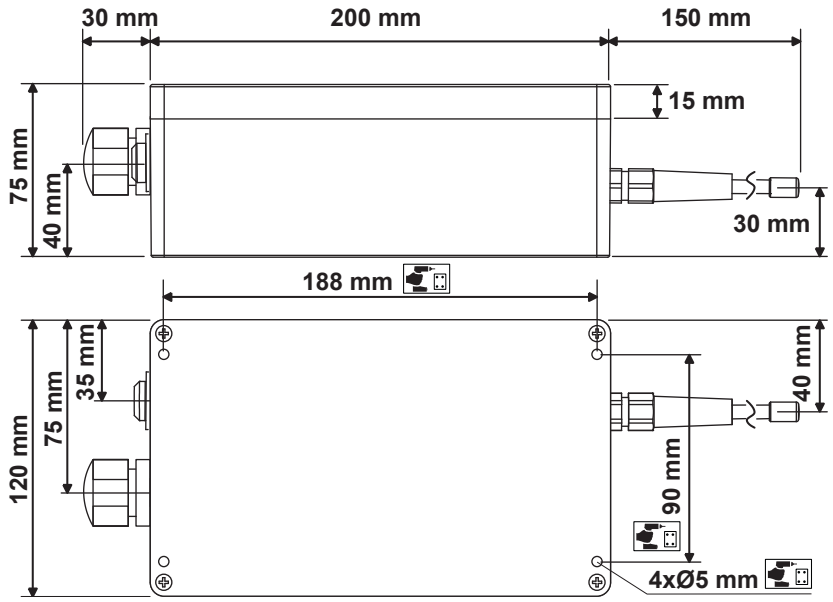



## UCC● power supply adaptater

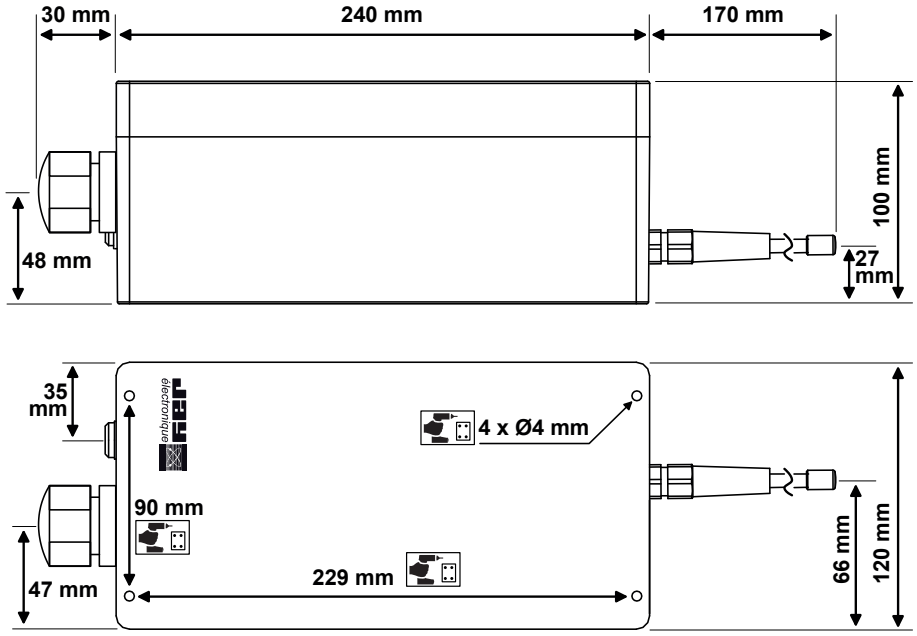
(Charge voltage of the transmitter internal battery: between 5 and 6 Vdc)



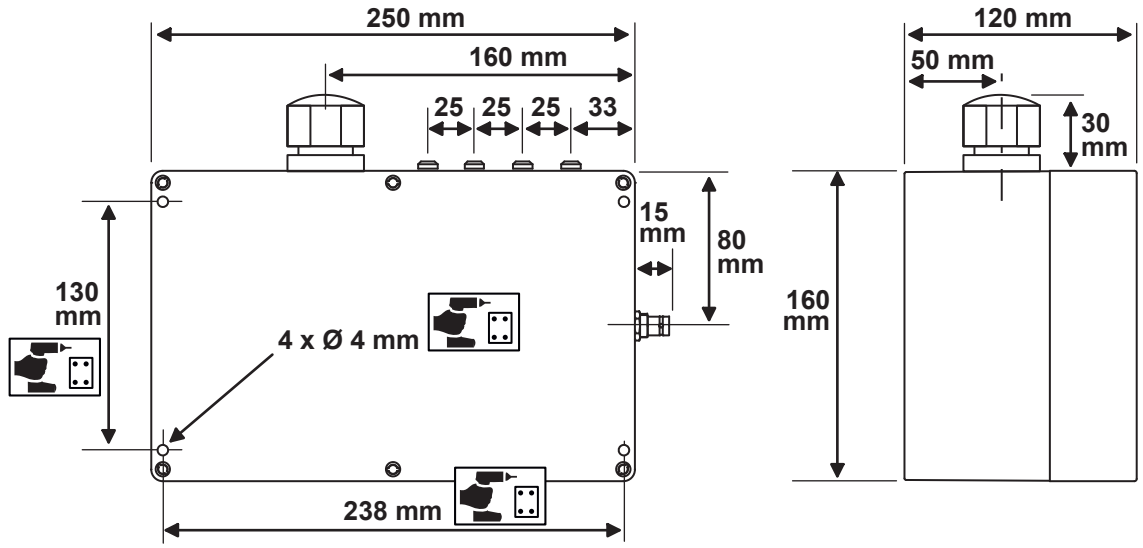
## 7.8 URR receiver




## 7.9 UCR receiver




## 7.10 UDR receiver



# 8- Selection guide, references for ordering

## 8.1 Standard unit selection guide (transmitter + receiver)

**Note**: the letters **W**, **X**, **Y** and **Z** are additional references (please refer to the description on the next page).

| URE or UDE transmitter | | | URR RECEIVER | UCR RECEIVERS | | UDR RECEIVERS | |
|---|---|---|---|---|---|---|---|
| Housing | Transmitter button configurations | | 6 relays | 12 relays With dedicated second speed relay | 12 relais With common second speed relay | 12 relays | 18 relays |
| URE  | 2C | 2 two-step pushbuttons | UR1R14XY1 | | | | |
| | 11 | 4 one-step pushbuttons | UR2R14XY1 | | | | |
| | 22 | 4 two-step pushbuttons | UR3R14XY1 | | | | |
| UDE 6 buttons  |  | 6 one-step pushbuttons | UD1R14XYZ | | | UD1D29XYZ | |
| |  | 6 two-step pushbuttons | | UD2C140CZ | UD2C240YZ | UD2D2WXYZ | |
| UDE 8 buttons  |  | 8 two-step pushbuttons | | | UD3C240YZ | UD3D2WXYZ | |
| |  | 6 two-step pushbuttons + 1 one-step pushbutton + 1 electronic switch with 3 positions | | | UD4C240YZ | UD4D2WXYZ | |
| UDE 10 buttons  |  | 10 one-step pushbuttons | | | UD5C240YZ | | UD5D3WXYZ |
| |  | 10 two-step pushbuttons | | | | | UD6D3WXYZ |
| |  | 6 two-step pushbuttons + 2 one-step pushbuttons + 2 electronic switches with 3 positions | | | | | UD7D3WXYZ |

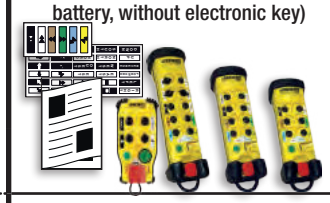
**Reference example:**

**UD3D292D3**

Contents of this set:
- 1 UDE transmitter, 8 two-step pushbuttons, 915 MHz + 2 label sheets (ref: UWE202 and UWE207)
- 2 fast charge batteries ref: UWB (x2)
- 1 voltage adapter 12-24 Vdc (vehicle socket) / 6 Vdc ref: UCC1
- 1 UDR receiver, 12 relays, 915 MHz, with VUA001B antenna + 1 electronic key (to be connected to the transmitter UDE) + 1 wiring accessory for common line ref: DWR12
- Sticky 4 ways color directional arrows ref: UWE002 
- 1 installation guide and Quick Start
- With «start-up by IR validation» function and 2 IR modules ref: UDF1 (x2) supplied

## 8.2 Optional elements for standard unit selection guide

**URE OR UD REPLACEMENT TRANSMITTER**
(optionnal transmitter, supplied without battery, without electronic key)



- URE**V**2C0-B
- URE**V**110-B
- URE**V**220-B
- UDE**V**11100
- UDE**V**22200
- UDE**V**22220
- UDE**V**222D0
- UDE**V**11111
- UDE**V**22222
- UDE**V**22217

**Descriptions for letters V, W, X, Y and Z**

| | URR RECEIVER | UCR RECEIVERS | | UDR RECEIVERS |
|---|---|---|---|---|
| | 6 relays | 12 relays with dedicated second speed relay | 12 relays with common second speed relay | 12 ou 18 relays |
| **W = Radio frequency** | 433 MHz | 433 MHz<br>869 MHz<br>(consult us) | 433 MHz<br>869 MHz<br>(consult us) | **4** = 433 MHz<br>**9** = 915 MHz<br>869 MHz (consult us) |
| **X = «Star-up by infrared validation» function** | **0** = without<br>**1** = with star-up by IR validation function + 1 IR UDF1 supplied | without | without | **0** = without<br>**1** = with start-up by IR validation function + 1 IR UDF1 supplied<br>**2** = with start-up by IR validation function + 2 IR UDF1 supplied<br>**3** = with start-up by IR validation function + 3 IR UDF1 supplied |
| **Y = Receiver power supplier** | **A** = 12-24 Vdc<br>**B** = 24-48 Vac<br>**D** = 115-230 Vac | 48-230 Vac | **A** = 12-24 Vdc<br>**C** = 48-230 Vac | **A** = 12-24 Vdc<br>**B** = 24-48 Vac<br>**D** = 115-230 Vac |

| | TRANSMITTER URE | TRANSMITTER UDE |
|---|---|---|
| **Z = Battery and battery charging accessory** | **1** = UCCU adapter + URCi-B support | **2** = 2 UWB fast charge batteries + UCCU charger + UDC1 support<br>**3** = 2 UWB fast charge batteries + UCC1 voltage adapter<br>**4** = 2 UDB2 standard batteries + UBCU charger + UDC1 support<br>**5** = 2 UDB2 standard batteries + UBC1 connector |
| **V = Frequency band and «Star-up by IR validation» function** | **2** = 433 MHz no IR<br>**3** = 433 MHz with start-up by IR validation | **4** = 433 MHz no IR<br>**5** = 433 MHz with start-up by IR validation<br>**R** = 915 MHz no IR<br>**T** = 915 MHz with start-up by IR validation<br>**M** = 869 MHz no IR<br>**P** = 869 MHz with start-up by IR validation |

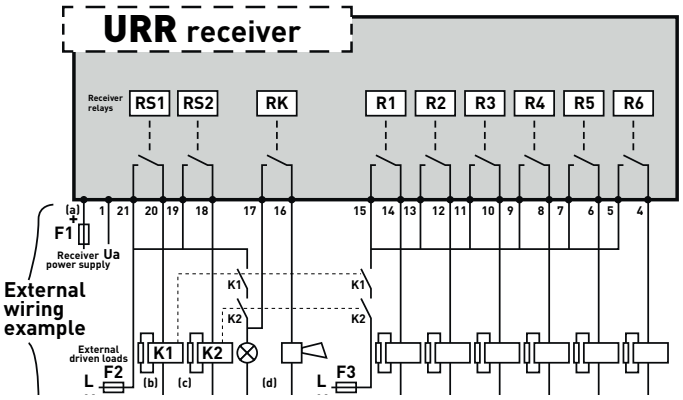
**Referance example:**

**UDET222D0**

UDE transmitter, 6 two-step pushbuttons
+ 1 one-step pushbutton
+ 1 electronic switch with 3 positions
915 MHZ frequency band, with «Start-up by IR validation» function, without battery, without electronic key
+ 2 label sheets (ref: UWE202 and UWE207)
+ 1 installation guide and Quick Start
For the corresponding standard unit: **UD4D29**(**1**,**2** or **3**)(**A**,**B** or **D**)

## 8.3 Wiring diagram for standard units

### 8.3.1 Standard unit using URR receiver




Safety relays RS1 and RS2 are switched on by the green pushbutton «On/Horn» of UDE transmitter, and hold in position until the transmitter emergency stop palmswitch is pressed (active shutdown) or until the loss of the radio transmission (passive shutdown).

(a)= The power supply connection depends on the type of receiver and the power supply required:
terminals 2 - 1 for power supplies 24 Vdc, 24 Vac or 115 Vac
terminals 3 - 1 for power supplies 12 Vdc, 48 Vac or 230 Vac.

(b)= Relay life is increased by the use of surge limiters (ex.RC network for AC, Zener + diodes for DC, etc...)

(c)= K1 and K2 contactors must have guided contacts

(d)= Elements which indicate start of remote controlled machines (ex.: horn, rotaring/flashing light, etc...)

**Unit réf:**
**UR1R14••1**

Transmitter with 2 two-step pushbuttons

**Unit réf:**
**UR2R14••1**

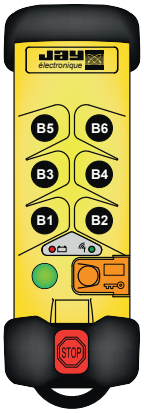
Transmitter with 4 one-step pushbuttons

**Unit réf:**
**UR3R14••1**

Transmitter with 4 two-step pushbuttons

| | | ACTIVATED relay of the URR receiver | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | RK | R1 | R2 | R3 | R4 | R5 | R6 |
| OPERATED button of the URE transmitter | Green button «On/Horn» | X | | | | | | |
| | B1 1st step | | X | | | | | |
| | B1 2nd step | | X | | X | | | |
| | B2 1st step | | | X | | | | |
| | B2 2nd step | | | X | X | | | |
| | B3 1st step | | | | | X | | |
| | B3 2nd step | | | | | X | | X |
| | B4 1st step | | | | | | X | |
| | B4 2nd step | | | | | | X | X |

**Unit ref.: UD1R14•••**

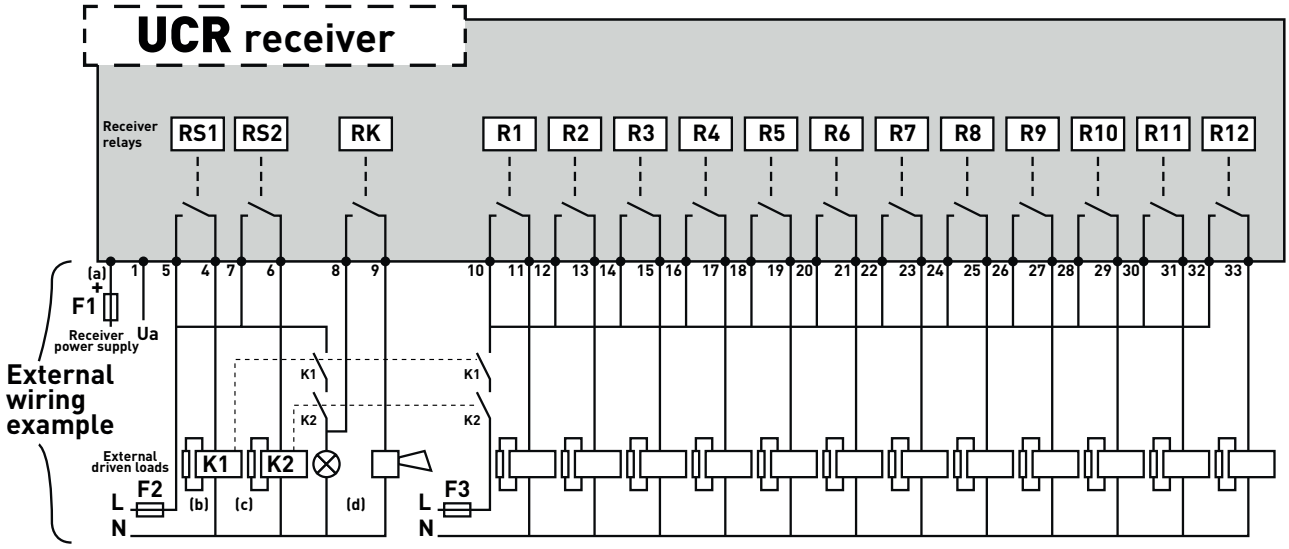



Transmitter with 6 one-step pushbuttons

| | | ACTIVATED relay of the URR receiver | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | RK | R1 | R2 | R3 | R4 | R5 | R6 |
| OPERATED button of the UDE transmitter | Green button «On/Horn» | X | | | | | | |
| | B1 | | X | | | | | |
| | B2 | | | X | | | | |
| | B3 | | | | X | | | |
| | B4 | | | | | X | | |
| | B5 | | | | | | X | |
| | B6 | | | | | | | X |

## 8.3.2 Standard units using UCR receiver

**RS1** and **RS2** safety relays are switched on by the green pushbutton «On/Horn» of UDE transmitter, and hold in position until the transmitter emergency stop palmswitch is pressed (active shutdown) or until the loss of the radio transmission (passive shutdown).



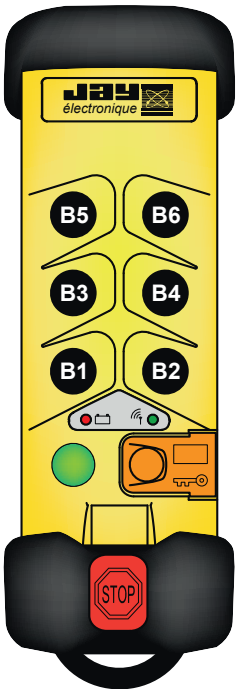

(a)= The power supply connection depends on the type of receiver and the power supply required:
terminals 2 - 1 for power supplies 48 Vac or 12 Vdc
terminals 3 - 1 for power supplies 230 Vac or 24 Vdc

(b)= Relay life is increased by the use of surge limiters (ex.RC network for AC, Zener + diodes for DC, etc...)

(c)= K1 and K2 contactors must have guided contacts

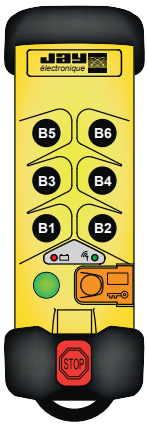
(d)= Elements which indicate start of remote controlled machines (ex.: horn, rotaring/flashing light, etc...)

### Unit ref.: UD2C140C•

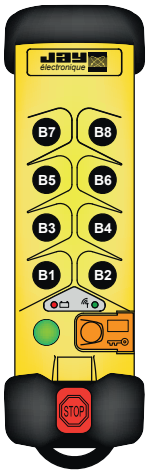



Transmitter with 6 two-step pushbuttons

| OPERATED button of the UDE transmitter | | ACTIVATED relay of the UCR receiver (with dedicated second speed relay) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RK | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 |
| Green button «On/Horn» | | X | | | | | | | | | | | | |
| B1 | 1st step | | X | | | | | | | | | | | |
| | 2nd step | | X | X | | | | | | | | | | |
| B2 | 1st step | | | | X | | | | | | | | | |
| | 2nd step | | | | X | X | | | | | | | | |
| B3 | 1st step | | | | | | X | | | | | | | |
| | 2nd step | | | | | | X | X | | | | | | |
| B4 | 1st step | | | | | | | | X | | | | | |
| | 2nd step | | | | | | | | X | X | | | | |
| B5 | 1st step | | | | | | | | | | X | | | |
| | 2nd step | | | | | | | | | | X | X | | |
| B6 | 1st step | | | | | | | | | | | | X | |
| | 2nd step | | | | | | | | | | | | X | X |



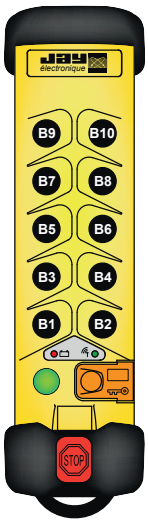

**UD2C240••**
Transmitter with 6 two-step pushbuttons




**UD3C240••**
Transmitter with 8 two-step pushbuttons

## Units ref.: UD2C240•• and UD3C240••

| OPERATED button of the UDE transmitter | | ACTIVATED relay of the UCR receiver (with common second speed relay) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RK | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 |
| Green button «On/Horn» | | X | | | | | | | | | | | | |
| B1 | 1st step | | X | | | | | | | | | | | |
| | 2nd step | | X | | X | | | | | | | | | |
| B2 | 1st step | | | X | | | | | | | | | | |
| | 2nd step | | | X | X | | | | | | | | | |
| B3 | 1st step | | | | | X | | | | | | | | |
| | 2nd step | | | | | X | | X | | | | | | |
| B4 | 1st step | | | | | | X | | | | | | | |
| | 2nd step | | | | | | X | X | | | | | | |
| B5 | 1st step | | | | | | | | X | | | | | |
| | 2nd step | | | | | | | | X | | X | | | |
| B6 | 1st step | | | | | | | | | X | | | | |
| | 2nd step | | | | | | | | | X | X | | | |
| B7 | 1st step | | | | | | | | | | | X | | |
| | 2nd step | | | | | | | | | | | X | | X |
| B8 | 1st step | | | | | | | | | | | | X | |
| | 2nd step | | | | | | | | | | | | X | X |

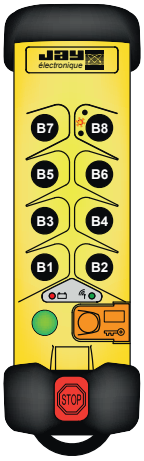



Transmitter with 10 one-step pushbuttons

## Unit ref.: UD5C240••

| OPERATED button of the transmitter UDE | ACTIVATED relay of the receiver UCR | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | RK | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 |
| Green button «On/Horn» | X | | | | | | | | | | | | |
| B1 | | X | | | | | | | | | | | |
| B2 | | | X | | | | | | | | | | |
| B3 | | | | X | | | | | | | | | |
| B4 | | | | | X | | | | | | | | |
| B5 | | | | | | X | | | | | | | |
| B6 | | | | | | | X | | | | | | |
| B7 | | | | | | | | X | | | | | |
| B8 | | | | | | | | | X | | | | |
| B9 | | | | | | | | | | X | | | |
| B10 | | | | | | | | | | | X | | |

## Unit ref.: UD4C240••



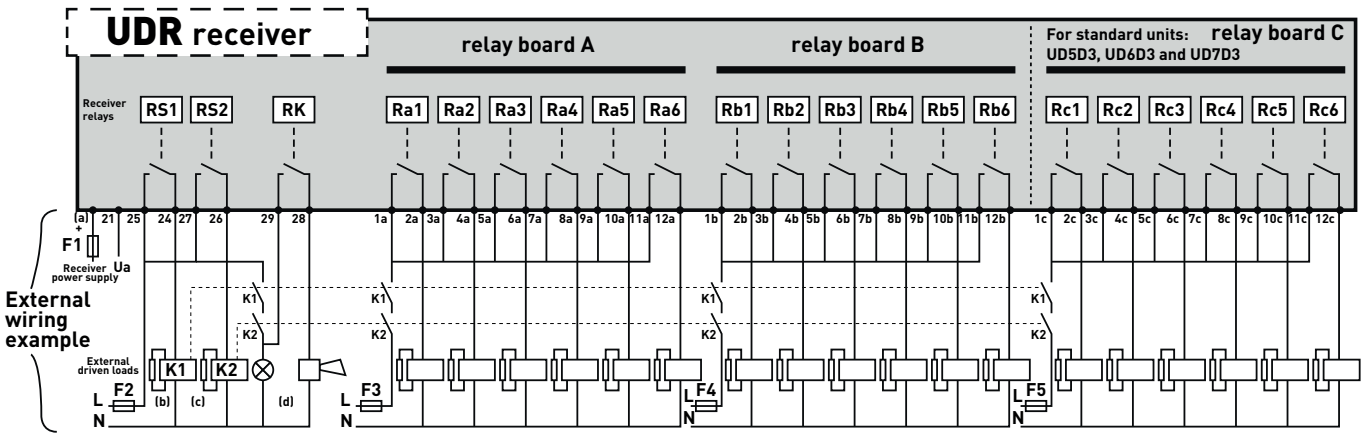

Transmitter with 6 two-step pushbuttons
+ 1 one-step pushbutton
+ 1 electronic switch with 3 positions

| OPERATED button of the UDE transmitter | | ACTIVATED relay of the UCR receiver | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RK | R1 | R2 | R3 | R4 | R5 | R6 | R7 | R8 | R9 | R10 | R11 | R12 |
| Green button «On/Horn» | | X | | | | | | | | | | | | |
| B1 | 1st step | | X | | | | | | | | | | | |
| | 2nd step | | X | | X | | | | | | | | | |
| B2 | 1st step | | | X | | | | | | | | | | |
| | 2nd step | | | X | X | | | | | | | | | |
| B3 | 1st step | | | | | X | | | | | | | | |
| | 2nd step | | | | | X | | X | | | | | | |
| B4 | 1st step | | | | | | X | | | | | | | |
| | 2nd step | | | | | | X | X | | | | | | |
| B5 | 1st step | | | | | | | | X | | | | | |
| | 2nd step | | | | | | | | X | | X | | | |
| B6 | 1st step | | | | | | | | | X | | | | |
| | 2nd step | | | | | | | | | X | X | | | |
| B7 | | | | | | | | | | | | X | | |
| B8 |  | | | | | | | | | | | | X | |
| |  | | | | | | | | | | | | | X |
| |  | | | | | | | | | | | | X | X |



## 8.3.3 Standard units using receiver UDR

Safety relays RS1 and RS2 are switched on by the green pushbutton «On/Horn» of UDE transmitter, and hold in position until the transmitter emergency stop palmswitch is pressed (active shutdown) or until the loss of the radio transmission (passive shutdown).



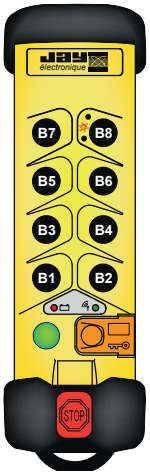

(a)= The power supply connection depends on the type of receiver and the power supply required:
terminals 23 - 21 for power supplies 12 Vdc, 24 Vac or 115 Vac
terminals 22 - 21 for power supplies 24 Vdc, 48 Vac or 230 Vac

(b)= Relay life is increased by the use of surge limiters (ex.RC network for AC, Zener + diodes for DC, etc...)

(c)= K1 and K2 contactors must have guided contacts

(d)= Elements which indicate start of remote controlled machines (ex.: horn, rotaring/flashing light, etc...)

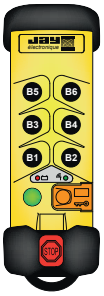
## Unit ref.: UD4D2••••



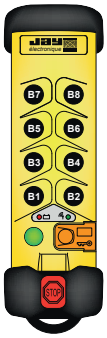

Transmitter with 6
two-step pushbuttons
+ 1 one-step pushbutton
+ 1 electronic switch with
3 positions

| OPERATED button of the UDE transmitter | | ACTIVATED relay of the UDR receiver | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RK | Ra1 | Ra2 | Ra3 | Ra4 | Ra5 | Ra6 | Rb1 | Rb2 | Rb3 | Rb4 | Rb5 | Rb6 |
| Green button «On/Horn» | | X | | | | | | | | | | | | |
| B1 | 1st step | | X | | | | | | | | | | | |
| | 2nd step | | X | | X | | | | | | | | | |
| B2 | 1st step | | | X | | | | | | | | | | |
| | 2nd step | | | X | X | | | | | | | | | |
| B3 | 1st step | | | | | X | | | | | | | | |
| | 2nd step | | | | | X | | X | | | | | | |
| B4 | 1st step | | | | | | X | | | | | | | |
| | 2nd step | | | | | | X | X | | | | | | |
| B5 | 1st step | | | | | | | | X | | | | | |
| | 2nd step | | | | | | | | X | | X | | | |
| B6 | 1st step | | | | | | | | | X | | | | |
| | 2nd step | | | | | | | | | X | X | | | |
| B7 | | | | | | | | | | | | X | | |
| B8 | B8 | | | | | | | | | | | | X | |
| | B8 | | | | | | | | | | | | | X |
| | B8 | | | | | | | | | | | | X | X |

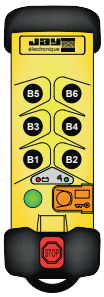
## Units ref.: UD2D2••••, UD3D2•••• and UD1D2••••




**UD2D2••••**
Transmitter with
6 two-step pushbuttons
Receiver with 12 relays



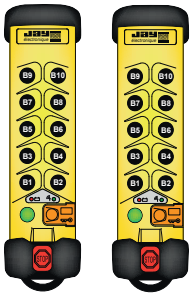

**UD3D2••••**
Transmitter with
8 two-step pushbuttons
Receiver with 12 relays




**UD1D29••••**
Transmitter with
6 one-step pushbuttons
Receiver with 12 relays

| OPERATED button of the UDE transmitter | | ACTIVATED relay of the UDR receiver (with common second speed relay) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RK | Ra1 | Ra2 | Ra3 | Ra4 | Ra5 | Ra6 | Rb1 | Rb2 | Rb3 | Rb4 | Rb5 | Rb6 |
| Green button «On/Horn» | | X | | | | | | | | | | | | |
| B1 | 1st step | | X | | | | | | | | | | | |
| | 2nd step | | X | | X | | | | | | | | | |
| B2 | 1st step | | | X | | | | | | | | | | |
| | 2nd step | | | X | X | | | | | | | | | |
| B3 | 1st step | | | | | X | | | | | | | | |
| | 2nd step | | | | | X | | X | | | | | | |
| B4 | 1st step | | | | | | X | | | | | | | |
| | 2nd step | | | | | | X | X | | | | | | |
| B5 | 1st step | | | | | | | | X | | | | | |
| | 2nd step | | | | | | | | X | | X | | | |
| B6 | 1st step | | | | | | | | | X | | | | |
| | 2nd step | | | | | | | | | X | X | | | |
| B7 | 1st step | | | | | | | | | | | X | | |
| | 2nd step | | | | | | | | | | | X | | X |
| B8 | 1st step | | | | | | | | | | | | X | |
| | 2nd step | | | | | | | | | | | | X | X |

## Units ref.: UD6D3••• and UD5D3••••



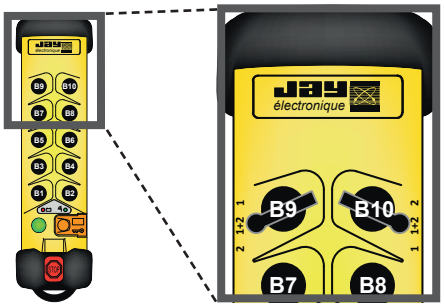
**UD6D3•••** Transmitter with 10 two-step pushbuttons — Receiver with 18 relays

**UD5D3••••** Transmitter with 10 one-step pushbuttons — Receiver with 18 relays

| OPERATED button of the UDE transmitter | | ACTIVATED relay of the UDR receiver (with common second speed relay) | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RK | Ra1 | Ra2 | Ra3 | Ra4 | Ra5 | Ra6 | Rb1 | Rb2 | Rb3 | Rb4 | Rb5 | Rb6 | Rc1 | Rc2 | Rc3 |
| Green button «On/Horn» | | X | | | | | | | | | | | | | | | |
| B1 | 1st step | | X | | | | | | | | | | | | | | |
| | 2nd step | | X | | X | | | | | | | | | | | | |
| B2 | 1st step | | | X | | | | | | | | | | | | | |
| | 2nd step | | | X | X | | | | | | | | | | | | |
| B3 | 1st step | | | | | X | | | | | | | | | | | |
| | 2nd step | | | | | X | | X | | | | | | | | | |
| B4 | 1st step | | | | | | X | | | | | | | | | | |
| | 2nd step | | | | | | X | X | | | | | | | | | |
| B5 | 1st step | | | | | | | | X | | | | | | | | |
| | 2nd step | | | | | | | | X | | X | | | | | | |
| B6 | 1st step | | | | | | | | | X | | | | | | | |
| | 2nd step | | | | | | | | | X | X | | | | | | |
| B7 | 1st step | | | | | | | | | | | X | | | | | |
| | 2nd step | | | | | | | | | | | X | | X | | | |
| B8 | 1st step | | | | | | | | | | | | X | | | | |
| | 2nd step | | | | | | | | | | | | X | X | | | |
| B9 | 1st step | | | | | | | | | | | | | | X | | |
| | 2nd step | | | | | | | | | | | | | | X | | X |
| B10 | 1st step | | | | | | | | | | | | | | | X | |
| | 2nd step | | | | | | | | | | | | | | | X | X |

## Unit ref.: UD7D3••••

| OPERATED button of the UDE transmitter | | ACTIVATED relay of the UDR receiver (with common second speed relay) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | RK | Ra1 | Ra2 | Ra3 | Ra4 | Ra5 | Ra6 | Rb1 | Rb2 | Rb3 | Rb4 | Rb5 | Rb6 | Rc1 | Rc2 | Rc3 | Rc4 | Rc5 | Rc6 |
| Green button «On/Horn» | | X | | | | | | | | | | | | | | | | | | |
| B1 | 1st step | | X | | | | | | | | | | | | | | | | | |
| | 2nd step | | X | | X | | | | | | | | | | | | | | | |
| B2 | 1st step | | | X | | | | | | | | | | | | | | | | |
| | 2nd step | | | X | X | | | | | | | | | | | | | | | |
| B3 | 1st step | | | | | X | | | | | | | | | | | | | | |
| | 2nd step | | | | | X | | X | | | | | | | | | | | | |
| B4 | 1st step | | | | | | X | | | | | | | | | | | | | |
| | 2nd step | | | | | | X | X | | | | | | | | | | | | |
| B5 | 1st step | | | | | | | | X | | | | | | | | | | | |
| | 2nd step | | | | | | | | X | | X | | | | | | | | | |
| B6 | 1st step | | | | | | | | | X | | | | | | | | | | |
| | 2nd step | | | | | | | | | X | X | | | | | | | | | |
| B7 | | | | | | | | | | | | X | | | | | | | | |
| B8 | | | | | | | | | | | | | X | | | | | | | |
| B9 | | | | | | | | | | | | | | | X | | | | | |
| | | | | | | | | | | | | | | | | X | | | | |
| | | | | | | | | | | | | | | | X | X | | | | |
| B10 | | | | | | | | | | | | | | | | | X | | | |
| | | | | | | | | | | | | | | | | | | X | | |
| | | | | | | | | | | | | | | | | | X | X | | |




Transmitter with
6 two-step pushbuttons
+ 2 one-step pushbuttons
+ 2 rotary switches with
3 fixed positions

## 8.4 Selection guide for separate elements

### 8.4.1 URE Transmitter

Reference:

| U | R | E | | | | 0 | - | B |
|---|---|---|---|---|---|---|---|---|

**Type of communication and version:**

2 = radio, 433-434 MHz bands
3 = radio, 433-434 MHz bands+ «start-up by IR validation» function

**Type of function buttons on first row (starting from bottom of transmitter):**

See «Table of possible button types by row», below
Choice 1 ou 2 is necessary for the first row.

**Type of function buttons on second row:**

See «Table of possible button types by row», below

2nd row

1st row

Table of possible button types by row

| | Left button | Right button |
|---|---|---|
| 1 = | BPSV | BPSV |
| 2 = | BPDV | BPDV |
| 3 = | BPSV | COM2 |
| 4 = | BPSV | COM3 |
| 5 = | COM2 | COM2 |
| 6 = | COM2 | COM3 |
| 7 = | COM3 | COM3 |
| 8 = | BPSV | COM3R |
| 9 = | COM2 | COM3R |
| A = | COM3 | COM3R |
| B = | COM3R | COM3R |

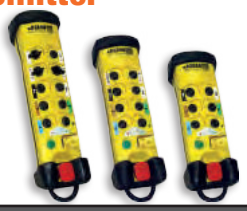
| Description of button types | |
|---|---|
| **BPSV** = Single speed pushbutton (one-step) | ① |
| **BPDV** = Double speed pushbutton (two-step) | 1>2 |
| **COM2** = Rotary switch with 2 fixed positions | 2 1 R |
| **COM3** = Rotary switch with 3 fixed positions | 2 1 R |
| **COM3R** = Rotary switch with 3 positions with automatic return to center | 2 1 R |

**Reference example:**

**URE2150-B**

Transmitter URE, 433-434 MHz bands, without «star-up by IR validation» function, button configuration : 1st row BPSV-BPSV, 2nd row COM2-COM2.
Supplied with sheets UWE202 and UWE207.

### 8.4.2 UDE transmitter



Reference:

| U | D | E | | | | | | |
|---|---|---|---|---|---|---|---|---|

**Type of communication and version:**

4 = radio, 433-434 MHz bands
5 = radio, 433-434 MHz bands + «start-up by IR validation» function
M = radio, 869 MHz band
P = radio, 869 MHz band + «start-up by IR validation» function
R = radio, 911-918 Mhz bands
T = radio, 911-918 Mhz bands + «start-up by IR validation» function

**Type of function buttons on first row (starting from bottom of transmitter):**

See «Table of possible button types by row», below

**Type de boutons de fonction sur la seconde rangée:**

See «Table of possible button types by row», below

**Type of function buttons on second row:**

See «Table of possible button types by row», below

**Type of function buttons on fourth row:**

If 6+2 button version = 0
If 8+2 button version or 10+2 button version = see «Table of possible button types by row», below

**Type of function buttons on fifth row:**

If 6+2 button version or 8+2 button version = 0
If 10+2 button version = see «Table of possible button types by row», below

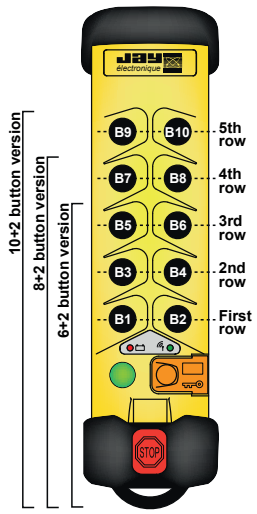



Table of possible button types by row

| | Left button | Right button |
|---|---|---|
| 1 = | BPSV | BPSV |
| 2 = | BPDV | BPDV |
| 3 = | BPSV | COM2 |
| 4 = | BPSV | COM3 |
| 5 = | COM2 | COM2 |
| 6 = | COM2 | COM3 |
| 7 = | COM3 | COM3 |
| 8 = | BPSV | COM3R |
| 9 = | COM2 | COM3R |
| A = | COM3 | COM3R |
| B = | COM3R | COM3R |

| Description of button types | |
|---|---|
| **BPSV** = Single speed pushbutton (one-step) | ① |
| **BPDV** = Double speed pushbutton (two-step) | 1>2 |
| **COM2** = Rotary switch with 2 fixed positions | 1 R |
| **COM3** = Rotary switch with 3 fixed positions | 2 1 R |
| **COM3R** = Rotary switch with 3 positions with automatic return to center | 2 1 R |

(a) = Only in B8 for UDE 8 function buttons

**Reference Example:**

**UDE013600-011**

UDE transmitter, 433-434 MHz bands, 6+2 button version, without «Start-up by IR validation» option, button configuration : first row BPSV-BPSV, 2nd row BPSV-COM2, 3rd row COM2-COM3, the pre-programmed radio channel is 01 (433,1 MHz).

Delivered with:
- 1 electronic key
- 1 standard plug-in battery ref.: UDB2
- 1 kit of 6 colored labels «movements» ref.: UWE202
- 1 kit of 90 b/w labels «movements, special and customization functions» ref.: UWE207

## 8.4.3 Electronic keys

Electronic key URWE21-B or UDWE23 is supplied with each URR, UCR or UDR receiver.

An additional key can be necessary for each additional transmitter (replacement transmitter, transmitter for a second operator…)
The additional key must be compatible with the transmitter and the receiver (id).
To this end, please provide us:
- the number engraved onto the key (see picture 1 or 2)
- the receiver id (see picture 3)

Important note : the key will be on the factory radio channel, by default the pre-programmed channel is 01.
If the key is lost, please contact our technical support.

## Electronic key for URE transmitter

(1)

Reference:

| U | R | W | E | 2 | 1 | - | B | + | 1xxxxx | Key number picture (1) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | xxxx | Receiver id picture (3) |

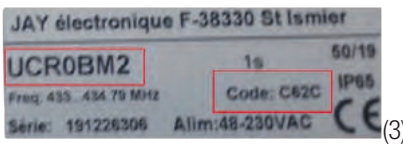
## Electronic key for UDE transmitter

(2)

Reference:

| U | D | W | E | 2 | 3 | + | 4xxxxx | Key number picture (2) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | xxxx | Receiver id picture (3) |

## Receiver label



(3)

## 8.4.4 URR receiver

**Reference:**

| U | R | R | | C | | 0 | - | B | - | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

**Type of communication and version:**

0 = radio, 433-434 MHz bands
1 = radio, 433-434 MHz bands+ «start-up by IR validation» function (1)

**Number of outputs:**

Always 6 relays

**Power supply:**

4 = 12 - 24 Vdc
A = 24 - 48 Vac
B = 115 - 230 Vac

**Programming of interlocking between pushbutton (BPSV or BPDV type) No1 and No2, No3-No4, and No5-No6:**

0 = no interlocking or COM (rotary switch) on each row
1 = interlocking with output relays set to OFF
2 = interlocking with priority on left button (No1, No3 and No5 buttons)
3 = interlocking with priority on right button (No2, No4 and No6 buttons)

**Programming of button - relay correspondence Transmitter UDE button - Receiver UDR relay : Number of transmitter relays controlled by BPDV (double speed pushbutton)**

1 = 3 controlled relays or no BPDV on transmitter
2 = 4 controlled relays

**Programming of button - relay correspondence Transmitter UDE button - Receiver UDR relay : Type of control for COM3 and COM3R (switches with 3 positions)**

1 = Type: 1/1+2/2 or no COM3/COM3R on transmitter
2 = Type: 1/OFF/2

(1) = Only for replacement transmitter

**Reference example:**

**URR0C40-B-012**

URR receiver, 433-434 MHz bands, without «start-up by IR validation» function, 6+3 output relays (6 function relays + 1 "On/Horn" relay + 2 safety relays), power supply 12 - 24 Vdc, without interlocking, if BPDV on the transmitter they order 3 relays, if COM3 and COM3R on the transmitter they are 1/OFF/2.

Supplied with:
- 1 electronic key including receiver id and configuration of the connected transmitter.
- 1 common wiring accessory ref.: UDWR12

# 8.4.5 UDR receiver

Reference:

| U | D | R | | | | 0 | | - | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|

**Type of communication and version:**

0 = radio, 433-434 MHz bands
1 = radio, 433-434 MHz bands + «start-up by IR validation» function (1)
A = radio, 869 MHz band
B = radio, 869 MHz band + «start-up by IR validation» function (1)
E = radio, 911-918 MHz bands
F = radio, 911-918 MHz bands + «start-up by IR validation» function (1)

**Number of outputs:**

B = 3 (2) + 12 relays
C = 3 (2) + 18 relays

**Power supply:**

4 = 12 - 24 Vdc
A = 24 - 48 Vac
B = 115 - 230 Vac

**Additional option:**

0 = standard (without additional option)

**Programming of interlocking between pushbutton (BPSV or BPDV type) No1 and No2, No3-No4, and No5-No6:**

0 = no interlocking or COM (rotary switch) on each row
1 = interlocking with output relays set to OFF
2 = interlocking with priority on left button (No1, No3 and No5 buttons)
3 = interlocking with priority on right button (No2, No4 and No6 buttons)

**Programming of button - relay correspondence Transmitter UDE button - Receiver UDR relay : Number of transmitter relays controlled by BPDV (double speed pushbutton)**

1 = 3 controlled relays or no BPDV on transmitter
2 = 4 controlled relays
X = special (equipment definition covered by a customization data sheet)

**Programming of button - relay correspondence Transmitter UDE button - Receiver UDR relay : Type of control for COM3 and COM3R (switches with 3 positions)**

1 = Type: 1/1+2/2 or no COM3/COM3R on transmitter
2 = Type: 1/OFF/2
3 = Type: 1/2/1+2
X = spécial (equipment definition covered by a customization data sheet)

(1) = This only includes the required programming for the receiver. The UDF1 IR modules must be ordered separately.

(2) = 2 safety relays + 1 «On/Horn» relay

**Reference example:**

**UDR0BB00-112**

Receiver UDR, 433-434 MHz bands, without «Start-up by IR validation» option, 3+12 relays, power supply : 115-230 Vac, without programmed interlocking, without BPDV on transmitter, COM3/COM3R on the transmitter are: 1/OFF/2.

Supplied with:
- 1 common wiring accessory ref.: UDWR12
- 1 sticky 4 ways color directional arrows ref.: UWE002

## 8.5 Selection guide for accessories

### 8.5.1 Selection guide for transmitter UDE accessories

| Reference | Description | Picture |
|---|---|---|
| **UDB2** | Standard plug-in battery (yellow) for UDE transmitter |  |
| **UWB** | Fast charge plug-in battery (black) for UDE transmitter |  |
| **UBCU** | Charger for standard plug-in battery UDB2, 110-230 Vac / 12 Vdc with plugs EU, UK and US |  |
| **UCCU** | Charger for fast charge plug-in **UWB** battery or **URCi-B** charger, 110-230 Vac / 5 Vdc with plugs EU, UK and US |  |
| **UBC1** | Power supply / battery connector (10 to 30 Vdc max.) (for standard plug-in battery UDB2) |  |
| **UCC1** | Voltage adapter 12-24 Vdc (vehicle socket) / 6 Vdc (for fast charge plug-in battery UWB) or **URCi-B** charger |  |
| **UCC4** | Voltage adaptater on DIN rail 24 Vdc / 5 Vdc for URCi-B charger | |
| **UDC1** | Wall bracket for stowing and battery charging when idle |  |
| **URWE21-B** | Programmed electronic key for URE transmitter (please let us know key number) |  |
| **UDWE23** | Programmed electronic key for UDE transmitter (please let us know key number) |  |
| **OWE20** | Neck strap |  |
| **UWE103** | Carry strap for URE transmitter |  |
| **UWE104** | 3 points removable shoulder strap for UWE103 carry strap |  |
| **UDP1** | Belt fastening clip |  |
| **UWE102** | Removable shoulder strap equipped with two metal hooks.<br>Max length: 1,5 m |  |
| **UWE30•** | Protective case for transmitter:<br>UWE301: for transmitter 6+2 button version<br>UWE302: for transmitter 8+2 button version<br>UWE303: for transmitter 10+2 button version |  |
| **UWE202** | Kit of 6 colored labels «movements» for two-step pushbuttons (double speed) (6,4 x 22 mm) |  |
| **UWE205** | Kit of 48 white blank labels for cutomized marking (6,4 x 22 mm) |  |
| **UWE207** | Kit of 90 b/w labels «movements, special and customization functions» for pushbuttons and switches (6,4 x 22 mm) |  |

## 8.5.2 Selection guide for receiver accessories

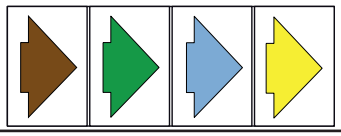
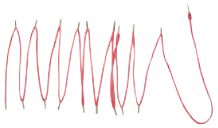
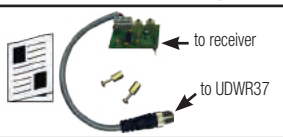
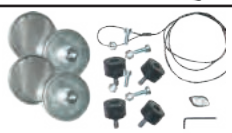
### 8.5.2.1 Antennas

**Note for URR and UCR receivers** : kit ref.: OWR02 (next page) is required to connect a removable antenna or antenna extension to a BNC connector.

| Description | Reference for use in 433-434 MHz frequency bands (A) | Reference for use in 869 and 911-918 MHz frequency bands (B) | Picture |
|---|---|---|---|
| Straight antenna, 1/4 wave, BNC (1) | **VUA001A** | **VUA001B** |  approximate length : (A) = 190 mm ; (B) = 90 mm |
| Straight antenna, 1/2 wave, BNC | **VUA002A** | **VUA002B** |  approximate length : (A) = 335 mm ; (B) = 250 mm |
| Through insulated remote antenna, 1/2 wave, with 0,5 m BNC cable | **VUA100AH** | **VUA100BH** |  approximate length : (A) = 320 mm ; (B) = 190 mm Required drill hole Ø15 mm |
| Through insulated remote antenna, 1/2 wave, with 2 m BNC cable | **VUA102AH** | **VUA102BH** | |
| Through insulated remote antenna, 1/2 wave, with 5 m BNC cable | **VUA105AH** | **VUA105BH** | |
| Through insulated remote antenna, 1/2 wave, with 10 m BNC cable | **VUA110AH** | **VUA110BH** | |
| Insulated and magnetic remote antenna, 1/2 wave, with 3 m BNC cable | **VUA103AM** | **VUA103BM** |  approximate length : (A) = 440 mm ; (B) = 320 mm |
| Insulated and magnetic remote antenna, 1/2 wave, with 5 m BNC cable | **VUA105AM** | **VUA105BM** | |
| Through uninsulated remote antenna, 1/4 wave, with 3 m BNC cable | **VUA103AV** | **VUA103BV** |  (antenna to be mounted on a not grounded metal surface) approximate length : (A) = 180 mm ; (B) = 100 mm Required drill hole Ø12 mm or Ø19 mm (according to the type of mounting) |
| Through uninsulated remote antenna, 1/4 wave, with 5 m BNC cable | **VUA105AV** | **VUA105BV** | |

(1) : antenna supplied as standard with the receiver UDR

## 8.5.2.2 Various accessories

| Reference | Description | Picture |
|---|---|---|
| **UCWR38** | Lamp-Horn with cable and magnetic fastener (48 Vac - 200 mA) |  |
| **OWR02** | BNC connector kit and antenna extension with tuner prowave new 2020 |  |
| **UWE002** | 4 self-adhesive directional colored arrows on travelling cranes (4 x 122 x 180 mm) |  |
| **UDF1** | 1 infrared module (included: 10 m cable, a plastic M16 cable gland and a mounting bracket) for «start-up with infrared validation» option |  |
| **UDWR10** | 10 m cable extension + connector, for infrared module |  |
| **UDWR12** | Common wiring accessory |  |
| **UDWR32** | Serial link board + cord to be connected to intermediate cables **UDWR37** + **UDWR39** (to be ordered separately).<br>**DialogUD** and **DialogUR** softwares are available on www.jay-electronique.com website |  |
| **UDWR37** | Cable connecting the **UDWR32** serial link board cable and the **UDWR39** Serial / USB interface cable |  |
| **UDWR39** | Serial / USB interface cable between **UDWR37** cable and PC computer |  |
| **UDWR38** | Fastening Kit for receivers by 4 magnetic contacts |  |
| **UDWR13** | 2 m cable + 24-pin male connector |  |
| **UDWR14** | 2 m cable + 16-pin male connector |  |

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**The solutions we deliver for your applications are based on your specific requirements. In many cases, a combination of several different Conductix-Wampfler systems can prove advantageous. You can count on Conductix-Wampfler for hands-on engineering support together with the optimum solution to safely meet your needs.**

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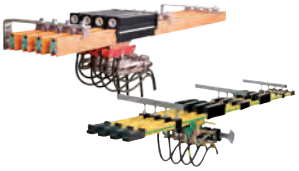
Motor driven and spring driven reels by Conductix-Wampfler provide energy, data and media over a variety of distances, in all directions, fast and safe.

### Festoon Systems

Conductix-Wampfler cable trolleys can be used in virtually every industrial application. They are reliable, robust and available in an enormous variety of dimensions and designs.



### Conductor rails

Available as enclosed or multiple unipole systems, Conductix-Wampfler conductor rails reliably move people and material.

### Inductive Power Transfer IPT®

The no-contact system for transferring energy and data. For all tasks that depend on high speeds and absolute resistance to wear. Flexible installation when used with Automated Guided Vehicles.

### Energy guiding chains

Covering a wide range, energy guiding chains are the ideal solution for transferring energy, data, air and fluids for many industrial applications.

### Radio Remote Controls

Safety remote control solutions customized to meet our customer needs with modern ergonomic design.

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Available for hoses and cables, as classical reels or high-precision positioning aids for tools, we offer a complete range of reels and spring balancers.

### Jib booms

Complete with tool transporters, reels or an entire media supply system – safety and flexibility are key to the completion of difficult tasks.

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Robust, non-insulated aluminum conductor rails with stainless steel cap provide the ideal basis for power supply of people movers and transit networks.

### Slip ring assemblies

Whenever things are really “moving in circles”, the proven slip ring assemblies by Conductix-Wampfler ensure the flawless transfer of energy and data. Here, everything revolves around flexibility and reliability!

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Mobile control solutions for your plant – wether straightforward or intricate. Control and communication systems from LJU have been tried and tested in the automotive industry for decades.

### ProfiDAT

This data transfer system is a compact slotted waveguide and furthermore can be used as Grounding rail (PE) as well as positioning rail at the same time.

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