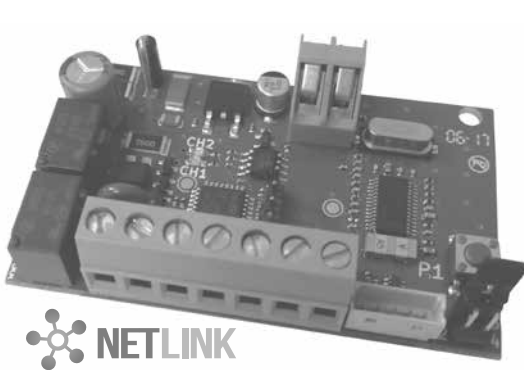# 281/2
Radio receiver
User's instructions

DEA®

NETLINK

1. Product conformity

The 281/2 and 281/2/868 receivers are CE marked products. **DEA** System ensures product conformity with European Directives: 2014/53/UE "RED Directive". **DEA** System also provides quality and compliance with Directive 2011/65/UE (RoHS) of the materials used for the assembly of the product. The declaration of conformity may be consulted on the website "http://www.deasystem.com".

2. Hazards and warnings

Read the instructions provided before performing any operation.

ATTENTION Any installation, maintenance, cleaning or repair operations on the entire system must be performed exclusively by qualified staff. Always operate with the power supply disconnected and scrupulously follow all regulations in force in the country of installation regarding electrical plants.

ATTENTION The device must be powered by a limited power supply source.

3. Product description

Radio receivers art. 281 (two-channel with terminal board) can be used with all **DEA** System radio controls with 433,92 MHz or 868 MHz code. The type of code is selected via a jumper positioned on the board (C-RAD).

4. Technical features

	281/2	281/2/868
Type of connection	Terminal board	
Power supply	24 ±5% V ~/$=$	
Max absorbed current (281 + NET-NODE)	150 mA $=$	
	250 mA ~	
Frequency	433,92 MHz	868 MHz
Type of compatible codes	HCS customised rolling-code, HCS rolling-code HCS "fixed code", Dip switch	
Number of channels	2	
Switch capacity	0,5A / 30V $=$	
Storable radio controls	1000	
Operating temperature	-20°C ÷ 50°C	

Assembly instructions

ATTENTION The 281/2 radio receivers must be inside boxes, (art. Box, to whose user manual reference must be made for all information relative to this application), or in other boxes as long as a suitable protection rating is guaranteed.

6. Operation
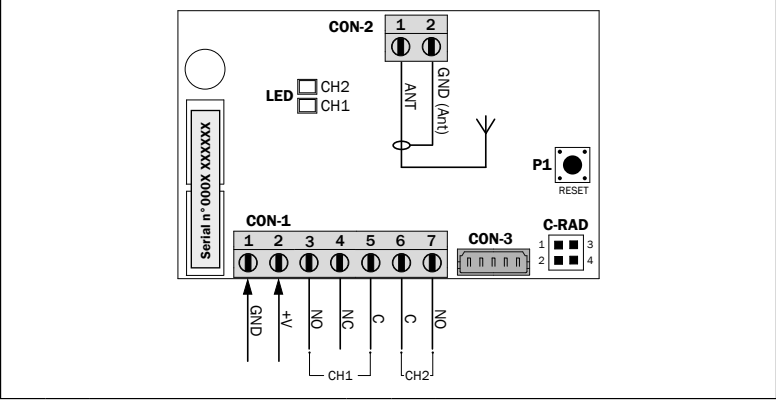
CON-1	**1**	Power supply earth	**CON-2**	**1**	Antenna signal
	2	+ power supply			
	3	Channel 1 normally open switch		**2**	Antenna earth
	4	Channel 1 normally closed switch	**P1**	Pressed for reset; Touch for self-learning
	5	Common channel 1	**C-RAD**	Selection of radio controls code
	6	Common channel 2		
	7	Channel 2 normally open switch	**CON-3**	NETLINK connection

The table lists the various receiver operating modes, with reference to the type of radio control that can be used.

In all cases, it is advised to also consult the user instructions of the radio controls being used. Below find the procedures for self-learning of the radio controls on the receiver. In the case of "standard" systems (dip switch, fixed code or rolling code) and "customised rolling code" systems.

Code	C-RAD Position
Dip switch	1 ■ □ 3 / 2 ■ □ 4
HCS fixed code	1 □ □ 3 / 2 ■ □ 4
HCS complete and customised rolling code	1 □ □ 3 / 2 ■ ■ 4

6.1 Radio control memory reset

Press and hold down the P1 button until 20s have passed; the LED lights will flash four times to indicate that the remote control memory has been reset.

6.2 Changing the 281/2 radio receiver coding

To change the type of radio control code managed by the 281/2 receiver, correctly place jumpers (C-RAD) and complete the radio controls memory reset described in section 6.1.

WARNING: the position of the jumper is read and the code type is updated only after the radio control memory rest has been completed.

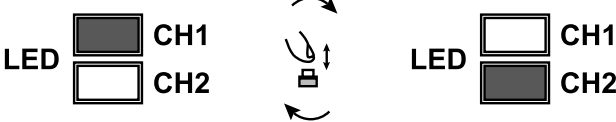### 6.3 Self-learning of the radio controls for standard systems

NOTE 1: Self-learning is only possible if the receiver is not protected or blocked by the activated UART serial communication.
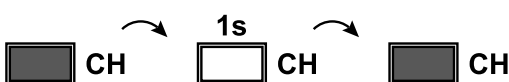**NOTE 2:** The type of radio coding set determines the type of radio control that can be learned.

Press and release the P1 button.
The LED light corresponding to the channel on which the radio control will be learned re-mains lit.

Press and release the P1 button to change the learned channel.

LED CH1 / CH2 ↔ **LED** CH1 / CH2

Press the remote control button to be associated to the selected channel. The LED light will turn off for approximately 1 second to indicate that the button has been learned.

CH → **1s** CH → CH

Within 10s from the previous storage, press the keys of any other radio controls to be learned.
Wait 10s to complete the programming.

### 6.4 Self-learning of the radio controls for customised rolling code systems

NOTE 1: Self-learning is only possible if the receiver is not protected or blocked by the activated UART serial communication.
NOTE 2: The radio controls must all have the same customization keys.
**NOTE 3:** Make sure the radio coding set is of type 3.

Press and release the P1 button. The LED light corresponding to the channel on which the radio control will be learned remains lit.

Press and release the P1 button to change the learned channel.

LED CH1 / CH2 ↔ **LED** CH1 / CH2
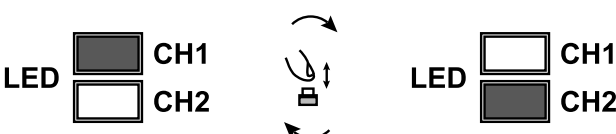
NOTE 4: If this is the first radio control to be stored, press the hidden button for 3s before pressing the button to be stored.

Press the remote control button to be associated to the selected channel. The LED light will turn off for approximately 1 second to indicate that the button has been learned.

CH → **1s** CH → CH
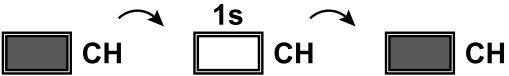
Within 10s from the previous storage, press the keys of any other radio controls to be learned.
Wait 10s to complete the programming.

6.5 Learning of radio controls from hidden button

Using the hidden button of a previously-memorised radio control, it is possible to start the new radio controls learning procedure.
NOTE 1: Manual learning is only possible if the receiver is not protected or blocked due to active UART serial communication (NETLINK connected).
NOTE 2: The radio control used to start learning must not be the "clone" type.

Place a previously-memorised radio control near to the receiver and press the hidden but-ton for 1s.
Press any button of the radio control to be memorised within 10s. During the wait, both the CH1 and CH2 LEDs will be on with a fixed light.
Repeat the previous point if other radio controls are to be memorised or wait 10s and conclude learning.

WARNING: The radio controls learned using this procedure will have the buttons with the same functions envisioned by the radio control on which the hidden button was pressed.

7. Status LEDs description

7.1 Verifying the learned radio control button

During normal operations, when receiving a radio control that has been stored, the LED light of the enabled channel flashes for 1s.

7.2 Verifying the presence of a power supply and enabled manual programming

Both LED lights flash every 10s when the 281/2 receiver is not protected or blocked by the activated UART serial communication (NETLINK connected).

7.3 Verifying receiver blocked by the activated UART serial communication

Both LED lights flash rapidly. In this case it is not possible to access manual programming. Disconnect the UART connector and wait at least 20s.

7.4 Verify receiver with activated security code

Both LED lights flash slowly. In this case it is not possible to access manual programming. Reset the radio control memory to remove the protection from the receiver.