WINP (Wireless Input)

1. Appearance

The transmitter WINP (Wireless Input) will interface most of the existing wired timing devices (E.g. photocell, start gate) to an FDS wireless setup (TBox-Radio).

2. Power ON/OFF

The ON/OFF button switch has 2 functions:

1) Battery status

   Press and hold the ON/OFF button (front left)

        LED green: > 60%
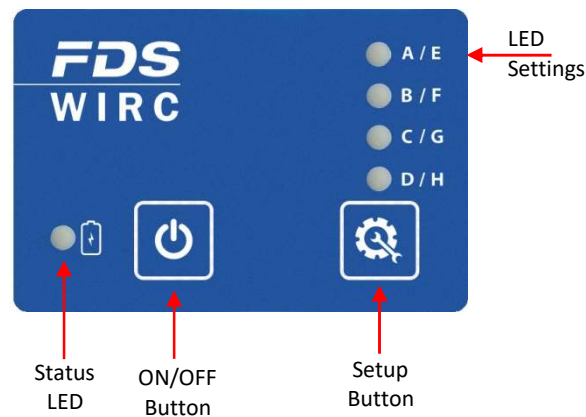
        LED yellow: > 20%

        LED red: < 20%

2) Switch ON – OFF the WINP
   a) Press and hold (1sec. – 2secs.) the ON/OFF button until the battery LED status is Yellow
   b) Immediately release the ON/OFF button and quickly repress it (within 1 second) and hold down until the battery Led status briefly flashes Yellow and then turns to Green.
   c) To switch OFF WINP, simply repeat step a and b (until the LED is OFF)

3. Battery status

1) Battery status whilst charging

LED	WINP On/Off	USB	Battery
Yellow	OFF	connected	Battery Charging
Green	OFF	connected	100% charged
Yellow Flashing	ON	connected	Battery Charging
Green Flashing	ON	connected	100% Charged

2) Battery status with device ON and USB disconnected

LED	WINP On/Off	USB	Battery
Green	ON	disconnected	100% charged
Yellow	ON	disconnected	20% - 60% charged
Red	ON	disconnected	10% - 20% charged

3) Battery status with device OFF and USB disconnected
   Test by briefly pressing ON / OFF button

LED	WINP On/Off	USB	Battery
Green	OFF	disconnected	60% - 100% charged
Yellow	OFF	disconnected	20% - 60% charged
Red	OFF	disconnected	<20% charged

4. Wireless configuration
The transmitter WINP is configured and linked to a TBox-Radio using two Parameters
- **Group** (radio frequency)
- **Input** (TBox-Radio inputs A-D)

NOTE: TBox-Radio and WIRP transmitter must be configured with an identical Group setting

4.1. Groups (radio frequencies) - Europe / India

6 Groups are available.

Group A, B, C, D:

Wireless Transmission Distance: up to 2000m (clear line of sight)

Each group uses ¼ of the full frequency band

Min locking time of 200ms

Group E, F:

Wireless Transmission Distance: up to 5000m (clear line of sight)

Each group uses the full frequency band

⚠ Those groups limit the use of 2 WINP/WIRC only

Min locking time is longer: 500ms

OFF:

The radio transmission function is disabled.

4.2. Groups (radio frequencies) - North America / Japan

8 Groups are available

Group A, B, C, D:

Tested wireless Transmission Distance (clear line of sight)

    US   : up to 4000m

    Japan : up to 1000m

Min locking time of 200ms

Group E, F, G, H:

Tested wireless Transmission Distance (clear line of sight)

    US   : up to 6000m

    Japan : up to 1500m

⚠ Those groups limit the use of 2 WINP/WIRC only,

Min locking time is longer: 500ms

OFF:

The radio transmission function is disabled.

To configure your desired Group, press the Setup button
The current Group selected is indicated by the LED array (A, B, C & D)
Release and press the number of times you want to change the setting.

Group	LED A	LED B	LED C	LED D
A	GREEN			
B	GREEN	GREEN		
C	GREEN	GREEN	GREEN	
D	GREEN	GREEN	GREEN	GREEN
E	YELLOW			
F	YELLOW	YELLOW		
G (*)	YELLOW	YELLOW	YELLOW	
H (*)	YELLOW	YELLOW	YELLOW	YELLOW
OFF	RED	RED	RED	RED

(*) only available for North America and Japan

4.3. TBox-Radio Input (WINP Pairing)

Each WINP/WIRC has a unique ID (serial number) that can be paired with a TBox-Radio input (A-D).

Pairing can be performed on a TBox using the "TBox-Setup" application (no need to power ON WIRC/WINP). Pairing can also be performed manually without any application. In this case, both TBox-Radio and WINP/WIRC have to be powered and the following procedure executed.

1) On the TBox-Radio, enter the pairing mode by pressing the Setup button for 3 sec until a long beep sounds and LED A flash yellow.

2) Select then the desired input (A, B, C or D) by performing short press on the same button.

3) Finally enter the pairing mode on the WINP/WIRC by pressing the Setup button for 3 second.

When pairing is completed, LEDs A to D of the TBox flash yellow and both TBox and WINP/WIRC resume normal operation.
To exit manually the pairing mode on either TBox or WINP/WIRC, just press the Setup button for 3 second until a long beep sound.

NOTE: In case an IOS or PC application is used to configure the radio inputs on a TBox, do not use the same WIRC/WINP serial number for more than one input.

5. Radio communication

Any messages which did not receive an ACK form the TBox-Radio will be resend several times. The WIRC/WINP indicates each time an impulse is transmitted or re-transmitted, by flashing its A/E LED.

Green flash on A/E LED means that pulse transmission is successfully completed.

Yellow flash on A/E LED means the last message did not received any ACK.

Red flash on A/E LED means no that no ACK has been received from the TBox-Radio after all attempts (impulse might be lost).

The ACK feature provides the user with a basic level of testing the positioning and communication between TBox-Radio and WIRC/WINP.

Many attempts (yellow or red flashes) may indicate that the communication is not very stable. A change of position of the WIRC/WINP or the TBox-Radio (maybe just the antennas) may improve the communication.

⚠ Radio transmissions cannot be 100% guaranteed. An unfavourable environment, lack of line of sight, interference or an improper installation might lead to the loss of data.
FDS cannot be held responsible for any of the above.

6. Wired connection

The Jack connector on the rear of the WINP Transmitter works in parallel to the main Input (Banana connector) on the front.

The WINP react to a short-circuited condition between the 2 wires.

The input impedance is 4.7kOhm, and the max voltage allowed on the input pin is 5.5V.
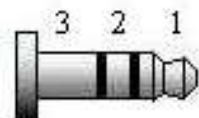
1: Input
2: NC
3: GND

7. USB

The Mini-USB connector has various functions including:

- External power supply and battery charging
- Configure the WINP photocell options /parameters (with the PC app "WIRC-Setup")
- Update the Firmware
- Hardware reset in the unlikely event of a frozen WIRP (using the app "WIRC Reset/Setup")

8. How to update the WINP firmware

Updating the firmware is relatively simple. The software "FdsFirmwareUpdate" is required

a) Install the program "FdsFirmwareUpdate" on your computer
b) Connect the USB cable to your PC and WINP
c) Run the program "FdsFirmwareUpdate"
d) Select the COM Port
e) Select the update file (.bin)
f) Press Start on the program (do not unplug the device during update)
g) The WINP transmitter will be updated
h) Once the update is complete, remove USB cable and switch ON the WINP transmitter

9. Technical specifications

Frequencies & Power :	
Europe	869.4 - 869.65 MHz 100mW
India	865 - 867 MHz 100mW
North America	920 - 924 MHz 100mW
Japan (TBox-41 only)	922 - 927 MHz 20mW
Operating temperature:	-20°C to 60°C Battery charge possible only between 0°C and 45°C
Radio impulse precision	1/10'000 sec
Min locking time (between two detections)	200ms for Groups A-D; 500ms for Groups E-F
External power input:	USB compatible (5V +/- 10%) up to 1A
Battery:	LiPo 1700mAh
Autonomy:	150 hours radio ON
Dimension:	93x58x27mm
Weight	200gr

10. Copyright and Declaration

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FDS-TIMING Sàrl

Rue du Nord 123

2300 La Chaux-De-Fonds

Switzerland

www.fdstiming.com