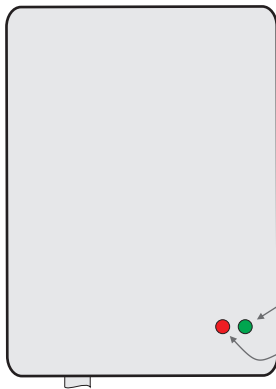


Active Transponder system for wall mountung

The transponder reader LCN-ATW evaluates the active transponder (LCN-AT2). Apart from the essential characteristics of active transponders, it also has a range of up to 4m with a standard antenna and the ability to detect several transponders within range at the same time.

When a person approaches the detection range of the LCN-ATW (range adjustable), the active transponder (LCN-AT2) is activated automatically and transfers its ID number over wireless radio. The LCN-ATW then transfers this transponder ID to the I-port of the connected LCN-SHS Bus module (firmware stand 120C05, Dec. 2008, or after.)

Several transponders within the field are buffered in the storage of the transponder reader (max. 8) and given out to the I-port one after another. Additionally the active transponder LCN-AT2 has two push-buttons for remote control functions over wireless radio. Both of the push-buttons can trigger off different functions (press quickly).



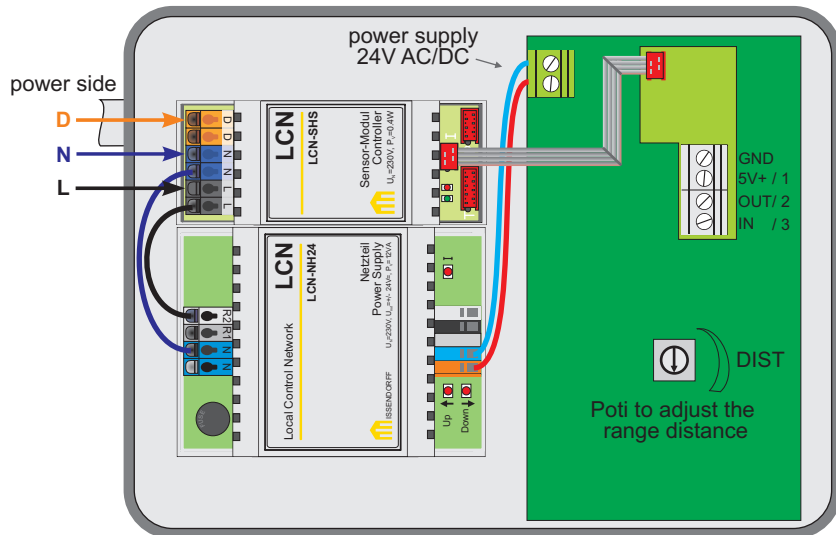
green = ready for operation

red = system error or batt.
warning LCN-AT2

Included in delivery

LCN-ATW (in the housing -NH24
& -SHS) & -AT2 (1 pcs.)

connection plan:



Installation

The LCN-ATW is to be installed, so that the desired detection area is covered by the antenna, see page 5. The range has a maximum of 4m within the surrounding of the reader. When using a larger external antenna, a stronger power supply is required. (12VA)!

Note: Operating further I-port peripherals with bidirectional communication (e.g. LCN-GT4D or IOS-peripherals) is not permitted on the same I-port! **Operatig the LCN-IV as pulse counter / counter input is not possible!**

The system can detect up to 8 transponders (LCN-AT2's) at the same time. If for example, a group of people come into the detection zone, every person will be detected seperately.

Important, when several transponder readers LCN-ATW's are situated close to one another:

Within a range of 50m, the radio answers can even be received and evaluated from other transponders LCN-ATW,s. To be able to keep a definitive mapping, the identification (LF-ID) has to be different on every reader. The number can be changed by using the DIP switch, see pages 6 &7.

LED diplay

Two LED outputs GN (green) and RT (red) are switched with light-emitting diodes for showing the status: **green**= ready for operation / flickers when the range has changed

rot = system error or battery warning LCN-AT2

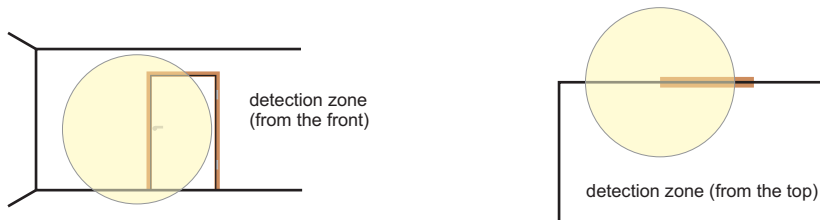
Battery monitoring in the transponder

When the battery voltage in the LCN-AT2 (transmitter) reaches critical values, this is shown over a red LED on the LCN-ATW and the LCN-AT2. This flashes red, as long as the transmitter finds itself within the detection zone. This information is also available in the LCN Bus, that the battery is weak. (This is shown depending on the software.) In this case, we recommend that the battery is replaced as soon as possible.

Detection area

The following pictures show the detection zone, that normally spreads out in a spherical shape around the transmitting antenna of the LCN-ATW. The form of the field can change for example, through metal parts that can cause deviations from the ideal spherical shape. With a rotary potentiometer (DIST) on the readers circuit board, the detection zone can be set from 0,5m to 4m.

If a larger range is desired, the antenna can be self wrapped locally. If this is needed, then please contact the LCN-hotline.



How it functionspassive transfer (LF-field)

The reader LCN-ATW sends query pulses with 125kHz constantly. As soon as a transponder (LCN-AT2) comes into range, it sends out its identity number on 868MHz .

Is this identity number registered in the LCN module (under Transponder-codes), the module will then directly carry out the LONG command. When the LCN-AT2 leaves the detection zone, the module will carry out the RELEASE command with a 10 sec. delay. At the same time, the information is also sent to the LCN Bus, so that access control systems (e.g. LCN-WA, LCN-GVS) can react to it.

active transfer (HF-field)

The transponders LCN-AT2's can send radio commands over two push-buttons to the reader, without having to be in the set detection area of the antenna. If a push-button is pressed, the LCN-AT2 will send an information over the wireless receiver in the reader to the Bus module, that triggers the HIT key after a successful reception. The range with HF-transfer (with pressed push-button) has a maximum of 50m in an open environment. You should be aware, that the commands from both push-buttons on all of the LCN-ATW,s within the wireless reception area, are detected and sent on to the Bus module.

HF = High Frequency, radio

LF = Low Frequency, radio

Background knowledge: LF-ID

Not only the transponders, but also the readers LCN-ATW's, have an identification number: LF-ID. This number is transferred from all readers at the same time with its query pulse, several times a second. A transponder LCN-AT2 also knows the number of the transponder reader, that has woken it up. It sends this number together with its own recognition as an answer.

Mostly the LF-ID is of no interest : When the distance between the readers is much more than 50m, only the reader close by, can receive the answer. When the readers are installed very close together, the wireless signal (868MHz) of the transponders, can be received from several readers. Then it is necessary to give every reader a definite LF-ID number.

Apart from that, a personal location finder can be built with the LCN transponder system, by distributing several LCN-ATW's in the room. In this way, you can detect in which part of a room a person is situated.

On the next page, the settings for the LF-ID are described.













Setting the LCN-ATW identification numbers (LF-ID):

Meaning of the DIP-switches:

The factory settings for the DIP-switch 1 (OFF) and switch 2 (ON) must not be changed!

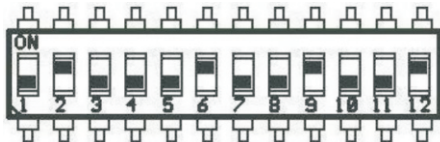
The DIP switches on the left of the table are set to the example value 2002.

Factory settings are set to 2000.

	1	reserved	always OFF
	2	RS232	always ON
	3	base value:	OFF=1000, ON=2000
	4	Bit 8	AN: +256
	5	Bit 7	AN: +128
	6	Bit 6	AN: +64
	7	Bit 5	AN: +32
	8	Bit 4	AN: +16
	9	Bit 3	AN: +8
	10	Bit 2	AN: +4
	11	Bit 1	AN: +2
	12	Bit 0	AN: +1

Example for a switch setting:

switch 3 = OFF	address 1000	
switch 6 = ON		+ 64
switch 9 = ON		+ 8
switch 12 = ON		+ 1
→	total:	LF-ID <u>1073</u>



Technical data LCN-ATW

Connection

power supply:	230V AC $\pm 15\%$, 50/60Hz
power consumption:	6VA
terminals/wire type:	screwless, solid max. 2,5mm ² or fine wire with wire end-sleeves max 1,5mm ²

LF-/HF-technic

LF (low frequency-magnet field):	125kHz (sphere shaped emission)
range (LF, query signal):	settings over Poti "DIST" 0,5 to 4m when using an ext. antenna with larger range, a stronger power supply is needed (12VA)!
HF (high frequency-magnet field):	868MHz (free of charge ISM Band)
range (HF, active transfer):	up to 50m in an open environment

Installation

protection art:	IP65
operating temperature:	-20°C to +70°C
dimensions (W x H x D):	160mm x 250mm x 90mm
colour/material:	light grey RAL 7035/polycarbonate
weight:	1450g
installation:	screw fixing, outdoor or indoor installation

Technical information and images are non binding. Changes are reserved.

Technical hotline: +49 5066 998844 or www.LCN.de