## 4-input push-button converter-/ binary sensor

The LCN-BT4H/-BT4R can be used optionally as a 4 input binary sensor or as a push-button converter with a main voltage of (230V AC). It can be used with all LCN-modules with version 140719 (July 2010) or after.

When functioning as a push-button converter (page 4), conventional push-buttons can be evaluated. As binary sensor, timer switches and any other permanent contacts, can be evaluated.

Function

The 4 inputs of the LCN-BT4H evaluate signals from any phase-angle against neutral conductor. The inputs are electrically isolated from I-port connections.

When functioning as **push-button converter** (page 4), the commands **HIT, MAKE & BREAK** are triggered in the A-table and as **binary sensor** the commands **MAKE & BREAK** in the B-table.
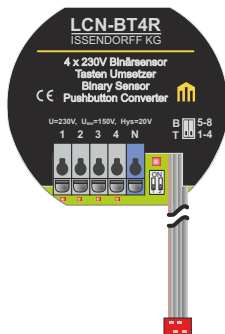
Hardware:

LCN-BT4H & I-connecting cable, the LCN-BT4R has no accessories.
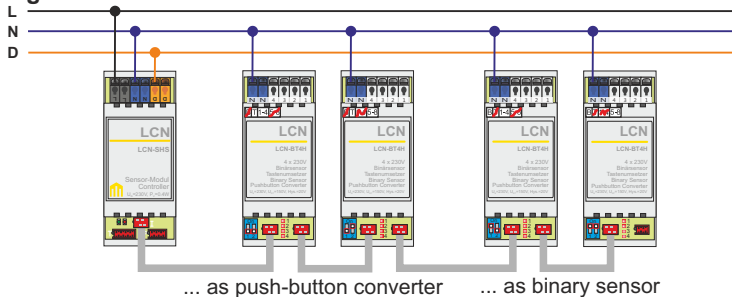
Connection

With long power supplies an AC-voltage signal could be on the inputs through capacitive coupling, which might wrongly be valued as a signal. The LCN-BT4H compensates these currencies internally capacitive; as a result fault currents up to 2 mA are allowed.

Even glow lamps can increase the standby input currency. To make sure that the coupling doesn´t get too large, a standard glow lamp (0,7mA-please check, because there are stronger ones available) should only be switched parallel to the input.
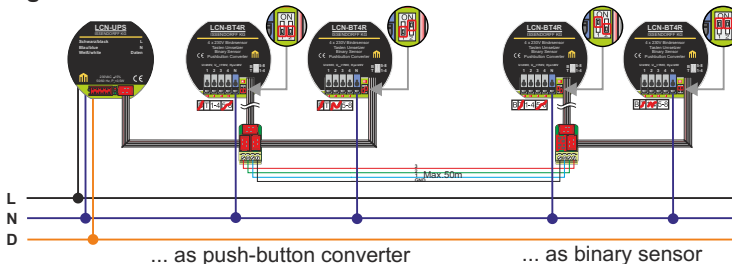
If a falsely coupled currency becomes to high on the input, (=input is triggered), the sensitivity of the input can be reduced, by connecting an LCN-C2GH between input and N. The LCN-C2GH has 2 connections. When a connection is made parallel, the permitted current increases to a total of 8mA, when both strands are switched parallel, then even up to a maximum of 14mA.

Binary sensor   **Push-button-converter**
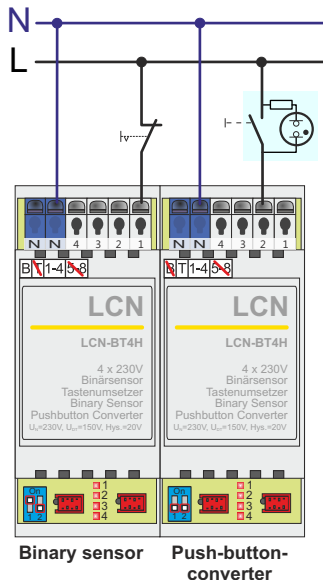
Connecting variations LCN-BT4H and LCN-SHS

... as push-button converter   ... as binary sensor

Connecting variations LCN-BT4R and LCN-UPS


... as push-button converter   ... as binary sensor
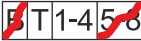
DIP-switch positions

By using the DIP-switch the LCN-BT4H/-BT4R can be toggled, which means they can work as a push-button converter or as a binary sensor. There can be a maximum of 4 LCN-BT4H/-BT4R operated on a module.

Important: After toggling the DIP-switch, both the LCN-BT4H/-BT4R and the intelligent module must be seperated from the power supply for a short time, to make sure that the new configuration is effective!

The following settings are possible:

position 1 **push-button conv.**	position 2 **push-button conv.**	position 3 **binary sensor**	position 4 **binary sensor**
push-button table A1-A4 **"Hit","Make" & "Break"**	push-button table A5-A8 **"Hit","Make" & "Break"**	push-button table B1-B4 **"Make" & "Break"**	push-button table B5-B8 **"Make" & "Break"**
T 1-4 5-8	T 1-4 5-8	B 1-4 5-8	B 1-4 5-8

Please use the small sticker to indicate the made settings.
Strike away the unused operation mode.

Notes:

- Can be used with all modules after year of manufacture 2010 (Firmware 140714).The LCN-BT4H/-BT4R will be detected automatically.

- **Function as a push-button converter:** The sensors can be used with any I-port periphery at the same time, but no more that 5 I-Periphery devices on one I-port connection at the same time.
 Important: The following old periphery **MAY NOT** be connected **at the same time**: LCN-TU4x, -T8 oder -TEx!

- **Function as a binary sensor:** The sensors can be used with the following I-connection periphery at the same time: LCN-TS, -GRT, GT4D, -GT10D, -GT2, -GT3L, -ULT, -UT & -RR. The same applies here: No more than 5 I-Periphery devices on one I-port connection at the same time.
 Limitation in the "binary sensor mode 5-8" → the groups LCN-B3I (B6-B8) may not be used. Either the LCN-GBL (B4, B5, B6, B7) or the -BMI (B4, B5, B6, B7) may be operated, because the signals will be overwritten.
 Limitation in the "binary sensor mode 1-4" → the groups LCN-B3I (B6-B8) may be used with no limitation. A maximum of three LCN-GBL (B4, B5, B6, B7) or -BMI (B4, B5, B6, B7) should be operated, because the signals will be overwritten.
 Important: The following periphery **MAY NOT** be connected: -B8H & -B8L!

The commands and the status messages will each be sent only once after changing the potential: If the signals on the sensor are static, the module will send no message or command.

If a repetition is desired, for example, for a tableau, the command "repeat binary sensor status message" can be sent, to call up the status of the binary sensor again. This command is useful when for example, when the power supply was cut off for a longer duration.

On the I-connection the following periphery may be used parallel to the LCN-BT4H/-BT4R: LCN-TS, -RR, -GRT, -ULT, -GT2, -GT4D, -GT10D, -GT3L but no more than 5 I-port periphery devices at the same time on one I-connection.

Important: Operating the LCN-IV as an impulse counter / counter input is not possible!

The flat cable is a signal line: it must be layed seperate from the main power supply / wires - do not attach or fasten to cables supplying 230V!

Technical data

Connection

power supply:	not needed
inputs:	230V AC ±15%, 50/60Hz (110V AC version available)
terminals/wire type:	screwless, solid max. 2,5mm^2 or fine wire with wire-end sleeves max 1,5mm^2, loop, amp. max. 16A (LCN-BT4H only)

Function

inputs/push-button function:	4 / Hit, MAKE, BREAK (with 4 control LEDs)
	As push-button converter: table A, key 1-4 or 5-8
	As binary sensor: table B, key 1-4 or 5-8
On-level:	>120V AC
Off-level:	<80V AC
query current:	<7mA
debouncing time:	25ms (push-button converter), 100ms (binary sensor)
LCN connection:	I-port flat cable, length 300mm (pluggable, LCN-BT4H only),over LCN-IVH extension up to max. 50m.
cable length (inputs):	max. 100 metres each input

Technical data
Installation

operating temperature:	-10°C bis +40°C
air humidity:	max. 80% rel., non condensing
environmental conditions:	for stationary installation according to VDE632, VDE637:
protection art:	IP20
dimensions LCN-BT4H (BxLxH):	38mm (2HP) x 92mm x 66,5mm
dimensions LCN-BT4R (BxH):	50mm ø x 22mm
installation LCN-BT4H:	on DIN-rail 35 mm (DIN50022)
installation: LCN-BT4R:	IP20 when installed in flush mounted box

Technical information and images are non binding. Changes are reserved.
Technical hotline: +49 5066 998844 or www.LCN.de

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