Revision: 2013-Apr-16 CPW

NAME:        HS-LDN2000 (A20/2-12-BL-PANEL)
VERSION:     P042.004

## OVERVIEW

LDN displays text on a FSTN black-on-white LCD. Optimised for use in normal office environment. High visibilty and reliability in a compact panel mounted package.
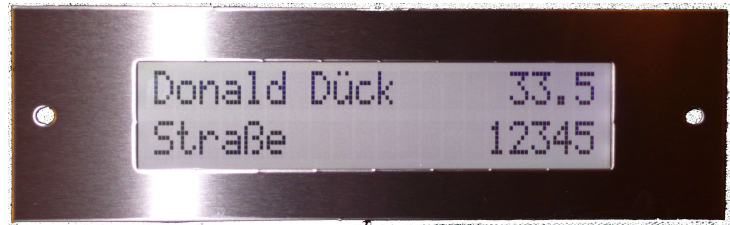
## IN USE

Simple address setup by backside push button. First push displays current address (NN for lower line and NN+1 for upper line). Informative text "Address Setting" is displayed on the right hand side when Address Setup is active.
In this mode, further push button activations will increase the addresses by 2 (001/002, then 003/004, 005/006,...,253/254).
By continuously pressing the push button, address will auto increment faster.
When correct address is set, leave it to automatically save the setting after a 5 second timeout period.

Communication interface:

- RS-485 rx only at 9600, N, 8, 1

Pinout 9 pin D-sub:                    2x5 header:
- Pin 1: 0V GND              Pin
- Pin 3: A+                  Pin
- Pin 6: Power +             Pin
- Pin 8: B-                  Pin

(for simple test using RS-232: connect RxD through 1k resistor to B-, and  RS-232 0Vthrough 1k resistor to A+)

Commands are custom, built on previous HS solutions like HS2006/1 and /2 :

Message format:  <SOH>AA<STX>message<EOT> where AA is 2 byte address '01' .. 'FF'. '00' is broadcast.
<SOH> : ASCII 01d
<STX> : ASCII 02d
<EOT> : ASCII 04d

Commands:

<DLE>    ASCII 16d : text alternation period in milliseconds ASCII coded max 4 digits.
E.g. <DLE>0 means not used, and only first part of message will be displayed.
<DLE>2000 will alternate between first and subsequent texts each 2 second. Factory default is 3000 at power up.

<DC1>    ASCII 17d : Start of TITLE text. Max length is approx 100 characters.
<DC2>    ASCII 18d : Start of SIPHER text. Max length is approx 100 characters.
<RS>     ASCII 30d : Blink current line. Active until <US> or new message is received.
<US>     ASCII 31d : Stop blinking.(not needed for new text).

Text following DC1 and DC2 commands are in limited UTF-8 format. Currently, these characters are mapped in addition to normal character set below ASCII 128, others are replaced by '?' or '_':

**Ä** = (C3+84 / 195d+132d)   **ä** = (C3+A4 / 195d+164d)        **Å** = (C3+85 / 195d+133d)   **å** = (C3+A5 / 195d+165d)
**Ö** = (C3+96 / 195d+150d)   **ö** = (C3+B6 / 195d+182d)        **Ü** = (C3+9C / 195d+156d)   **ü** = (C3+BC / 195d+188d)
**ß** = (C3+9F / 195d+159d)                                      **Æ** = (C3+86 / 195d+134d)   **æ** = (C3+A6 / 195d+166d)
**Ø** = (C3+98 / 195d+152d)   **ø** = (C3+B8 / 195d+184d) ← displayed as Ö and ö.

Technical Data

| | LDN2000 hardware |
|---|---|
| Controller PCB | ND5133-LDN2000/HS modified |
| Power supply | 8-30VDC regulated. (Internal linear regulator to 5V) |
| Current consumption | Max: 0,07A |
| Connection | 9 pin male D-sub and 2x5 straight shrouded header 2,54mm |
| Front panel size | W220 x H70 x D33 mm |