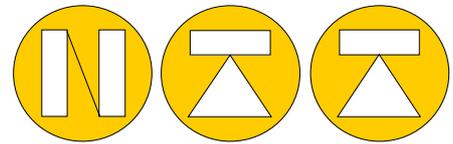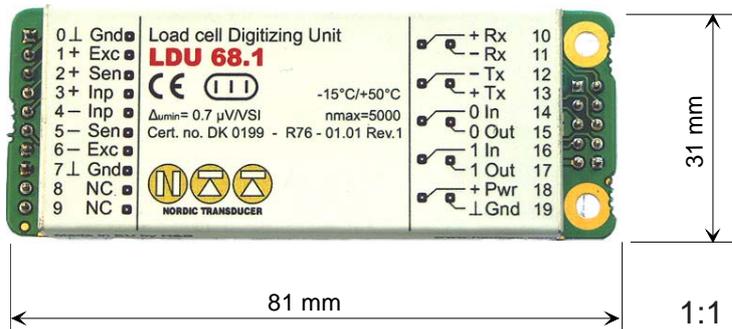# LDU® 68.1
Load Cell Digitizing unit

NORDIC TRANSDUCER

LDU 68.1 is produced for all industrial type of weighing jobs, as hopper / silo weighing as typical ones.

LDU68.1 do have +/- 130.000 internal count and this is done at a rate of 90 conversion per sec.

All setup and data communication is done by means of data communication to PC or operator terminals.

Advanced **TAC** security system for control of calibration data change is also a standard part of the LDU 68.1

	Load cell Digitizing Unit	
0 ⊥ Gnd	**LDU 68.1**	+ Rx 10
1 + Exc	CE (I I)	− Rx 11
2 + Sen	-15°C/+50°C	− Tx 12
3 + Inp	Δumin= 0,7 µV/VSI	+ Tx 13
4 − Inp	nmax=5000	0 In 14
5 − Sen	Cert. no. DK 0199 - R76 - 01.01 Rev.1	0 Out 15
6 − Exc		1 In 16
7 ⊥ Gnd		1 Out 17
8 NC	NORDIC TRANSDUCER	+ Pwr 18
9 NC		⊥ Gnd 19

31 mm

81 mm

1:1

LDU 68.1 shown here in natural size for direct connection by soldering.
Only 6mm thick

Other way of mounting please look below

| Data LDU 68.1	Data	Comments	Commands
Load cell excitation:	5 VDC		
Load cells:	100 - 2000 Ohm	(can be = 4 * 1000 Ohm cells) 4 or 6 wire	
Load cell input range:	±19mV	same as ± 3,8mV/V	
Zero setting range:	+/-2,0mV/V subtractive	TAC**	ASCII
Span max. Digital.	Factor in n increments/mV/V input	TAC	ASCII
Calibration security:		TAC	ASCII
A/D conversion:	±130.000 conv./sec max. at 90 conversions /sec.		
Signal filter adjustable:	LP filter from 0,02Hz -5Hz + additional filter from 0,2 to 3,2 sec in 16 steps of 0,2 sec.		ASCII
Signal filter types:	Gauss; Bessel; Butterworth		ASCII
Display output:	5 updates per sec.		ASCII
Hardware interface:	RS485, RS422-fuld duplex 32 addresses		ASCII
Transmission speed:	9.6, 19.2, 38.4, 57.6, 115.2 kB		ASCII
Transmission type:	Auto transmit or get result on command.		
Linearity:	Typical 1:100.000 in worst case 1:50.000		
Logic inputs	2; Reversed voltage and ESD protected with function as programmed 10-30V; 1-3mA; Ref. to ground		
Logic outputs	2 x OC's over current and ESD protected with function as programmed <30Vdc; 0,2A; Ref. to ground		
Temp. effect on zero:	Typical <5ppm/°K, max. 10ppm/°K		
Temp. effect on span:	Typical <3ppm/°K, max. 5ppm/°K		
Temperature range:	Compensated from -15°C to +50°C		
EMC protections:	All I/O pins protected by T-filters, range 0,1 - 1000 MHz at <3V/m		
Power supply:	12-24 VDC max. 60mA, protected against reversed voltage.		

Conform to Council Directive: CE in accordance with both 73/23/EEC, 93/98/EEC and 89/336/EEC

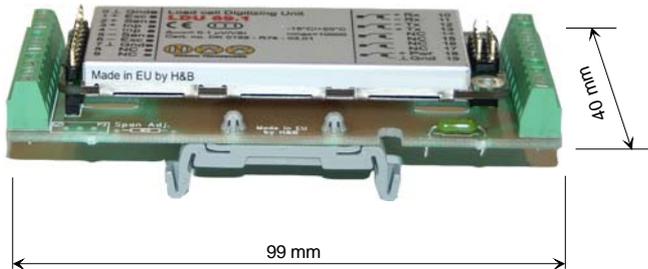| OIML R76:	Approved in accordance with EN45.501; Cert. no. DK 0199-R76-02-02
	Accuray Class III: 10000e; 0,7microV/VSI

*(**TAC stands for Traceable Access Code which do secure that all calibration changes gets recorded)*

LDU® 68.1
Load Cell Digitizing unit with I/O functions.
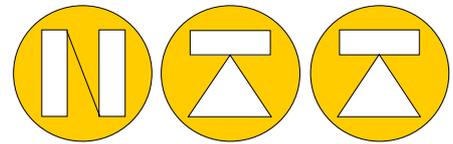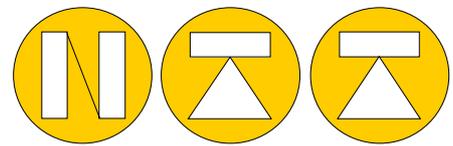
NORDIC TRANSDUCER

*LDU 68.1 here shown with PC board and screw terminals for DIN rail = option **UA73.2** Similar type of PC board but supplied with an RS232/422 converter = option **UA77.1***

LDU68.1 do also have I/O functions

Logic inputs   2; Reversed voltage and ESD protected with function as programmed 10-30V; 1-3mA; Ref. to ground

Logic outputs   2 x OC's over current and ESD protected with function as programmed <30Vdc; 0,2A; Ref. to ground

Overview

The **DOP 4** is a Windows PC tool for calibrating, analyzing and fine tuning measurement parameters for a number of the Hauch & Bach digital amplifier devices for weighing and force measurements, such as the DAS72.1, DAD141.1 and the LDU series LDU68.x, LDU69.1 and LDU78.1.
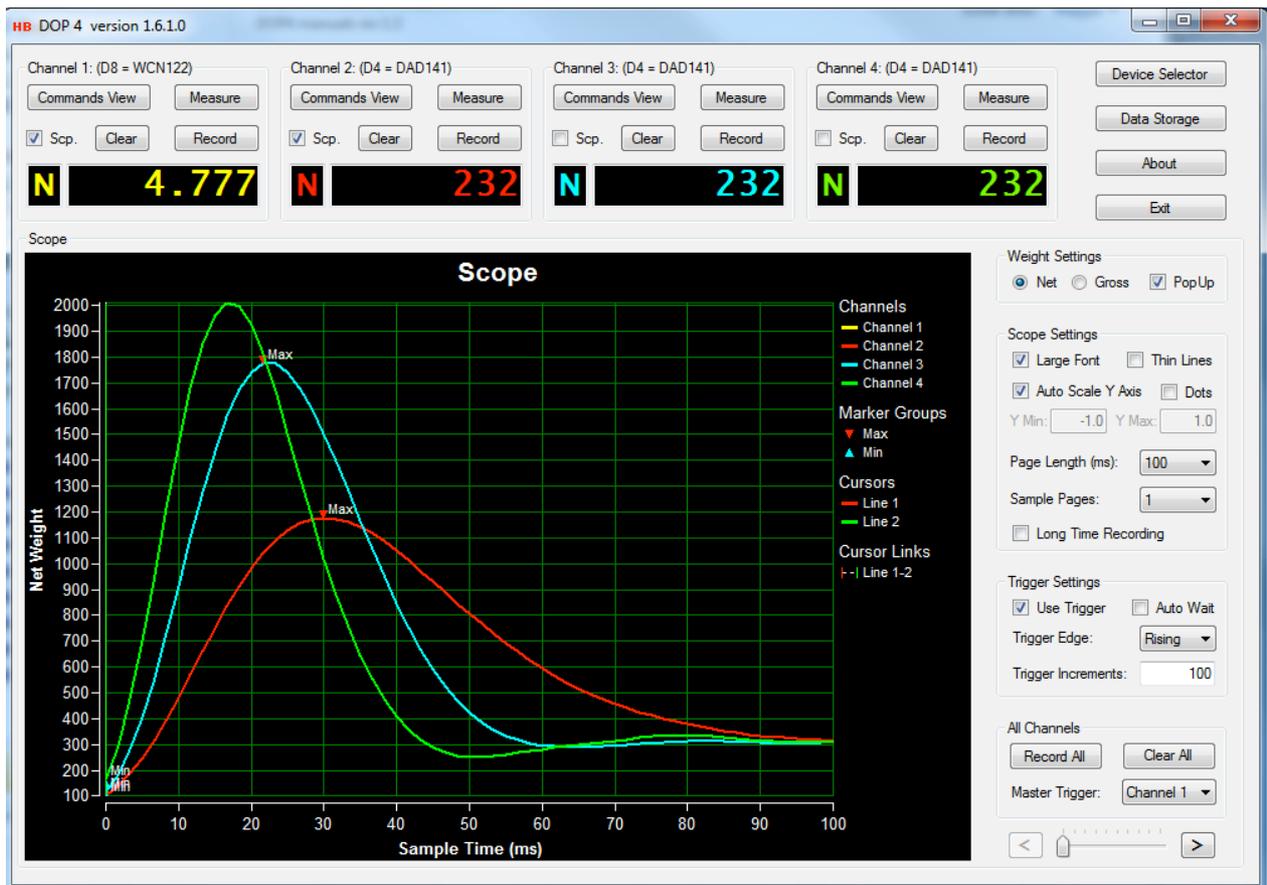
The main page consists of four channel groups from which recording, measurement and H&B device calibration can be controlled after one or more H&B devices are connected to the channels from the "Device Selector" dialog.

Special dialogs are available for detailed average measurements.

Analyzing sensor data recordings can be done by examination of the scope object containing the graphical representation of the data recorded.

Recorded sensor data can be stored in separate files via the "Data Storage" dialog. The stored data can later on be reloaded into the scope display.

Calibration and tarring of H&B devices can be done from special "Calibration" and "Filter / Tare" dialogs.

For detail information on measuring, calibration and filtering and the description of specific dialog areas of the DOP 4 application, refer to the specific sections in the "DOP 4 Users Manual" covering these issues.

Start by selecting and assigning an H&B device to a scope display channel.

LDU® 68.1
Load Cell Digitizing unit

Nordisk transducer teknik

NORDIC TRANSDUCER
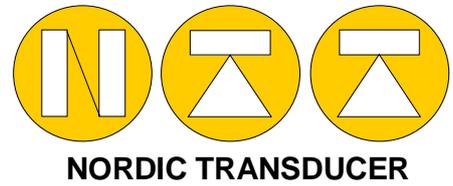
Typical Load cells used in combination with LDU68.1-EN

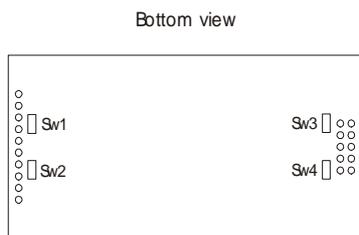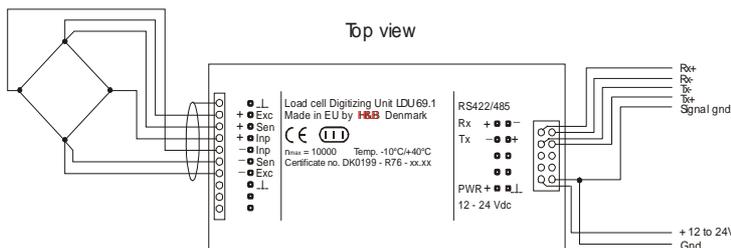*C8S supplied from 500kg to 100ton 700 ohm or 5kN to 1mill N*

ACB IP66/68 supplied from 250kg til 5t, 1000 ohm R60 C3 - C6

UPC2S silo mounts systems from 250kg to 30 ton all in stainless teel

BSP OIML R60 approved capacity 50kg to 5t

Top view

Load cell Digitizing Unit LDU69.1
Made in EU by H&B Denmark

⊥
+ Exc
+ Sen
+ Inp
− Inp
− Sen
− Exc
⊥

n_max = 10000   Temp. -10°C/+40°C
Certificate no. DK0199 - R76 - xx.xx

RS422/485
Rx + − ⊥
Tx − +

PWR + − ⊥
12 - 24 Vdc

Rx+
Rx-
Tx-
Tx+
Signal gnd

+ 12 to 24V
Gnd

Bottom view

Sw1   Sw3
Sw2   Sw4

Sw1 & Sw2 : Close for 4-wire loadcell
Sw3 : Close to enter configuration mode
Sw4 : Do NOTclose - used for program download

TCETM EN ISO 376 load cells Capacity 5kN - 100kN