

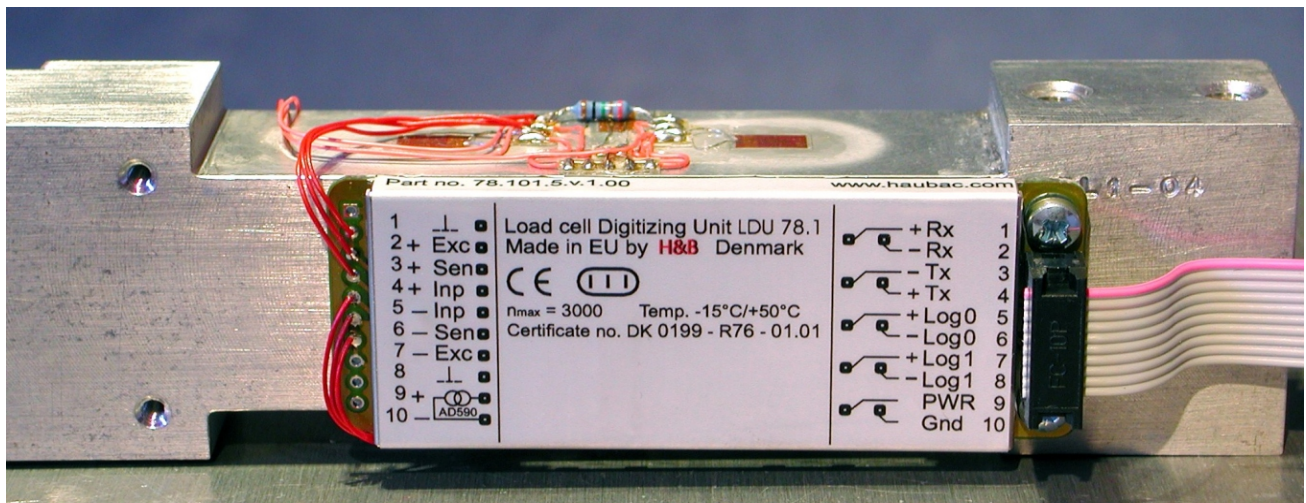
Load cell Digital Unit

Applications. The LDU provides digital load data at a very high rate (2400 conv./sec)from weighing- checkweighing or force measuring operations based on a single or several strain gauge load cells.

The advanced signal filters, the fast data com. and the dual logic input make the LDU ideal for automatic (multi-head) filling machines, check-weighers and various real time applications where both high speed and high precision is of major importance

The LDU provide gross or net units (kg, lbs etc.) as requested. Data com. takes place via the standard RS422/485 full duplex interface port and the device is entirely set up by a PC –even while networking.

The LDU is made for electrically hostile environments where reliability is of major importance.



Input facilities

Convert the output from the load cell with 20 bit resolution at 2400 conversions per second. The input filter offers a selection of functions and low pass frequencies.

Data communication

Point-to-point or as node in a network –up to 32 pc LDU´s provides the load data to PCs or alike at up to 600 updates per sec.

OIML approval

-for non automatic weighing (R76) Approvals for automatic weighing (R51) has been obtained.

Versatile calibration

Digital load cells can be calibrated before installation or substitution. Even calibration while networking is enabled.

Temperature input

A AD590-sensor input can provide temperature data with the load data message.

Dual logic inputs

Enables position sensing or alike to be send with the load data or make input to device firmware.

Electrically robust

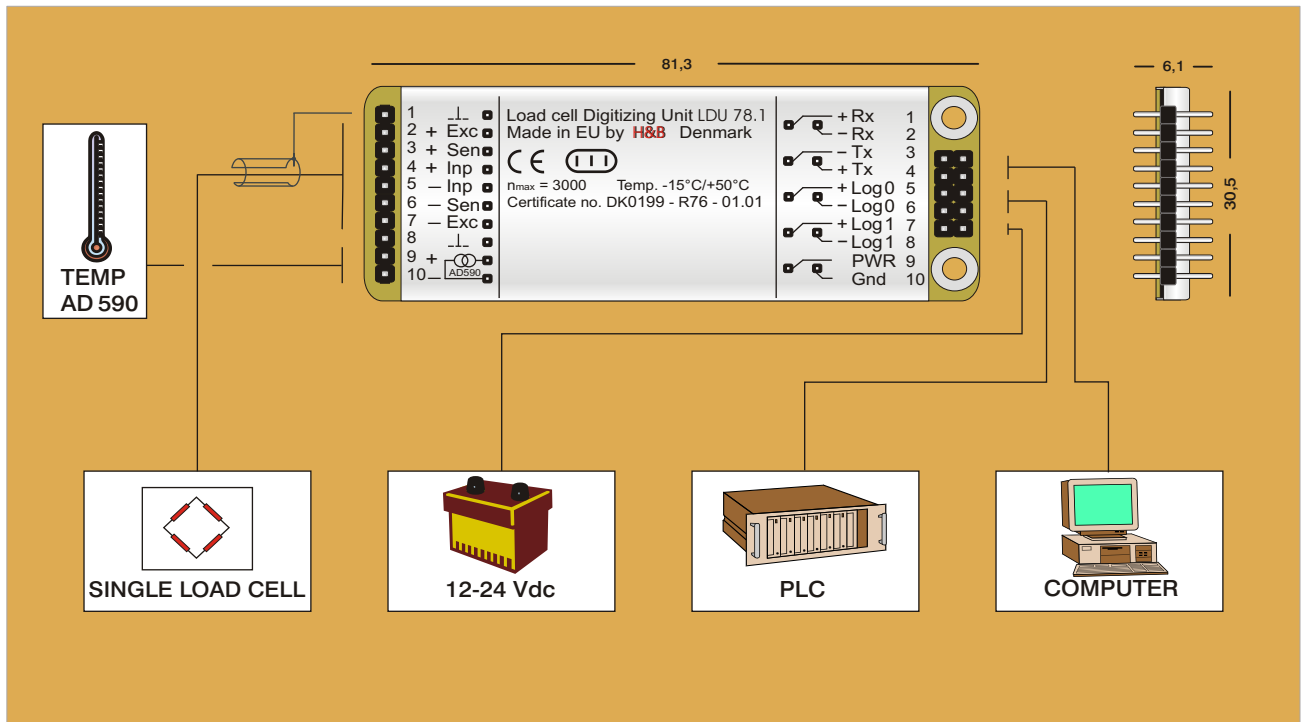
Shielding and T-filters at all pins provides EMC compliance and surge protection. The isolated, logic I/Os and the power supply withstand excessive actions.

Installation

The LDU can be bolted on side of a load cell or designed into customers PCB etc.

Functionality options

The LDU is compatible with a Unit Adaptor providing DIN rail clips, a fuse and regular screw terminals.



Specifications

Load cell input range:	$\pm 2,2$ mV/V equivalent to ± 11 mVdc. Sense wire input available.
Load cell excitation:	Drive capability: One >200 ohm to 4 x 1000 ohm load cells. Excitation voltage: 5Vdc.
A/D-update rate/resolution:	2400 updates/second; Resolution: +/-260000 increments.
Signal LP filters:	Second 2.order filter: 1; 2; 3; 5; 7; 10; 14; and 20 Hz (:160ms - 8ms).
Signal filter functions:	Gaussian (flat); Bessel (medium) or Butterworth (overshoot).
Temperature sensor:	Calibrated -20°C/+50°C, based on the current sensor AD590 –series.
Digital I/O:	Data comm.: RS485 or RS422 full duplex. 9,6 /19,2 /38,4 /57.6 /115.2 kBaud.
Output update rate:	50 to 600 updates/second at any mode, on command.
Protocol:	Auto transmit or get results. Up to 32 nodes may be addressed. Parallel, synchronized reading of several units and group call are enabled.
Logic input:	Two optically isolated. Input 10-30Vdc 3mA. Inputs tatus to be sent with data message as requested or to release defined actions as programmed.
Power supply:	12-24Vdc, <50mA. Reversed and excess voltage protected. (12Vdc at 4 x 1000 ohm)
Linearity:	<0,01% diviation from a straight line between zero and max.
Resolution:	0,1 μ V input change/increment.
Influences:	Auto-adjusted: Zero: <10 ppm/°C; Span: <10 ppm/°C of full scale. Non auto-adjusted: Zero: <50 ppm/°C; Span: <20 ppm/°C of full scale. Temperature range: Compensated: -10°C/+40°C; Storage: -20°C/+60°C.
Conform to Council Directive:	CE in accordance with 73/23/EEC; 93/98/EEC and 89/336/EEC, R76 DK0199-R76-02.02
Basic unit size:	Single PCBoard: L81,3*W30,5*H6,1mm. full metal encapsulated IP40.
Wiring terminals:	10 pc single row and 10 pc. dual row 2,54 mm pitch pins.
Mounting, std.:	In one end: dual $\varnothing 3,5$ mm holes to bolt the device inside a load cell.

Accessories, optional

Enclosures:	A number of metal or plastic enclosures are available, all IP65 proof.
Extensions:	UA73.2 provides 2*10 pos. screw terminals, a 0,5A fuse and dual DIN TS35 clips.

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