



Product Description

The Load Cell Digitizing Units LDU 68.1 / 68.2 / 69.1 / 78.1 are accurate, veritable A/D convertors for static and / or dynamic weighing applications.

LDU 68.1 / 69.1 / 79.1 are approved by Weights & Measures Authorities for use in Accuracy Class III applications with up to 10 000 increments (e) according to OIML R76; details see specs.

Communication via serial interface RS422/RS485, making it easy to connect to PC, PLC and other devices.

Standard weighing functions are available. Special commands e.g. in LDU 78.1 are implemented for applications like filling / dosing / check weighing etc.

Software calibration and set up.

The LDU 69.1 covers features like mV/V calibration, high resolution, 7 point linearization, synchronization with other LDU 69.1. Therefore it is the ideal instrument for high precision high resolution measurements in multi channel applications.

The LDU family will be supported by the DOP software (easy set up, recording dynamic graphs, etc.) and the AppMon software for long time multi channel data records. Both software packages require Windows 2000/XP.

Key Features

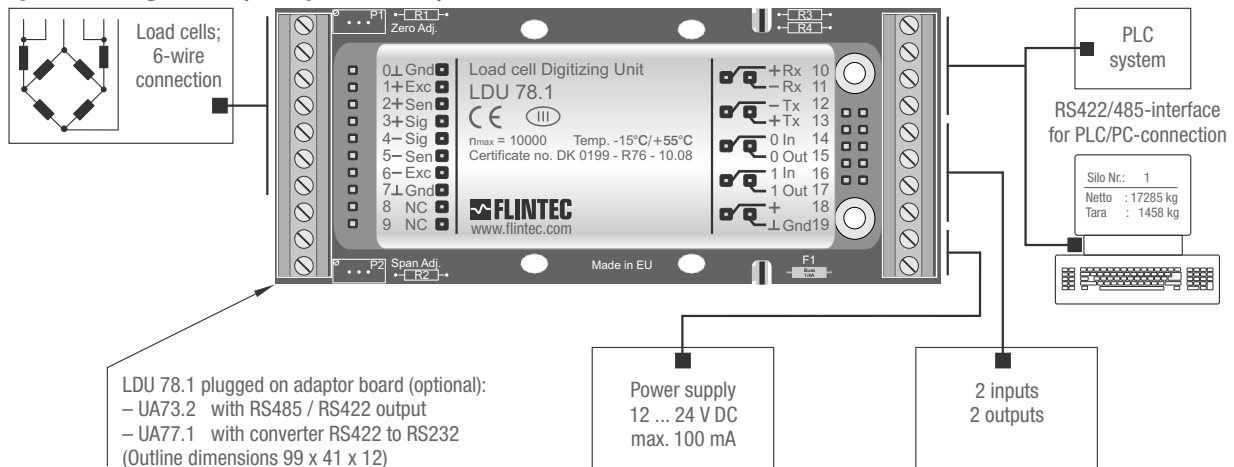
- Easy converting analogue load cells to digital
- Internal resolution up to 2 million counts
- Test certificate according OIML R76
- Single range, multi-range or multi-interval (for LDU 69.1 and LDU 78.1 only)
- Digital filter, programmable
- Special commands for diff. applications
- Linearity better than 0.001 %
- Sensor curve linearisation with up to 7 nodes (only for LDU 69.1)
- 6 wire load cell connection

Available Accessories

- Adaptor board(s) with screw terminals for mounting on rail
- 8 channel adaptor board with screw terminals for mounting on rail
- Setup software running under MS Windows

Specifications	LDU 68.2	LDU 68.1	LDU 78.1	LDU 69.1
Type				
Accuracy Class	-		III	
Test certificate acc. OIML R76 (verification scale intervals)	-	10 000	10 000 / n x 10 000 (n = 2, 3 ...)	
Linearity (percentage of full scale)	< 0.005 %		< 0.002 %	< 0.001 %
Load cell excitation (6 wire technique)	5 V DC			5 V AC, 86 Hz
Minimum load cell impedance	350 Ω (87.5 Ω at power supply 12...14 V DC)			
Maximum analogue input range	±11 mV (bipolar, for weighing applications, force and torque measurements)			
Minimum input sensitivity (µV/count)	0.1		0.05	0.02
Certified accuracy according OIML R76 (µV/vsi)	-	1.0	0.3	0.1
Resolution internal / external (counts)	±130 000 / ±100 000		±260 000 / ±100 000	±1 000 000 / ±1 000 000
Conversion rate in meas. per second internal / external	90 / up to 90		2400 / up to 600	172 / up to 172
Digital filter (Hz)	0.02 - 5 / 8 steps		0.25 - 18 / 2,5 - 19,7	0.2 - 3 / 6 steps
Filter Mode	Bessel		FIR / IIR 8 steps each	Bessel/Gauss/Butterworth
Calibration	software calibration and set up			
Sensor curve linearisation	-			7 nodes
Computer interface	RS485 or RS422, full duplex, 9600 ... 115200 Baud; bus capability up to 32 devices (RS485)			
Weighing functions	zero, gross, tare, net, filter etc.			
Digital inputs, opto-isolated, 10 ... 30 V DC, max. 3 mA			2	-
Digital outputs, open collector, < 30 V DC, max. 200 mA			2	-
Temperature effects on zero, typical / max. (°C)	25 ppm / < 50 ppm	7 ppm / < 10 ppm	5 ppm / < 7 ppm	1 ppm / < 2 ppm
Temperature effects on span, typical / max. (°C)	15 ppm / < 30 ppm	2 ppm / < 5 ppm	4 ppm / < 6 ppm	1 ppm / < 2 ppm
Operating temperature range (compensated)	-15 °C to +50 °C		-15 °C to +55 °C	
Storage temperature range	-30 °C to +70 °C			
Enclosure	tinned steel enclosure, protection IP20, special housing IP65 on request			
Dimensions and Weight	82 x 31 x 6 mm, weighs approx. 30 g / with adaptor board: 99 x 41 x 12 mm, approx. 50 g			
Power supply	12 ... 24 V DC ±10 %, < 100 mA, not galvanically isolated			
Options	adaptor board UA 73.2 (RS485 / RS422) or UA 77.1 (RS422 to RS232)			
EMC	OIML R-76-1:2006 and DIN EN 45 501:1992/AC1993			

System Configuration (example LDU 78.1)



Dimensions (in mm; example LDU 78.1)

