Leon-Engineering
INDUSTRIAL WEIGHING & AUTOMATION SYSTEMS

Weight Indicator-LD 5290

Product Description

The LD5290 is the high-end member of the LD5200-series, a robust, universal instrument designed for the handling and control of bulk materials in various automatic discontinuous weighers. It offers the performance of a modern microprocessor, the advantages of a PLC and the weighing accuracy of an advanced A/D converter, combined with powerful data management features. Industrially oriented hardware and proven control software allow extremely fast and reliable operation at the highest accuracy and reliability, ensuring easy adaptation to application requirements and optimization of the weighing process.

Basic Features

- Approved for 10,000 divisions
- Up to 228 measurements per second
- Excitation for up to 10 strain gauge load cells, 350Ω (or more)
- Extremely stable and high resolution A/D converter with integrated analog and digital filtering
- 9-digit, LED display with status annunciators and operator dialogue display VFD (2x40 characters).
- Dynamic simulation of the weighing process on a front panel scale silhouette
- Alphanumeric keyboard of 33 keys for data entry and flexible operator dialogue
- Up to 64 opto-isolated digital I/O
- 4 serial ports and 1 centronics printer output ports
- Analog output (2 channels) (optional)
- Modern compact panel mount enclosure (IP54)

Application

- Net and gross bagging scales
- Drum filling systems
- Bulk hopper scales
- Belt scales

Operating Fuctions

- Operation modes: manual, automatic, remote
- Scale parameter setting and calibration via interactive dialogue menu
- Password protection against unauthorized use and accidental data changes
- Intelligent software functions for the optimal weighing process: programming of dosing times, fine and coarse, tolerance control, in flight compensation etc.
- Continuous control of external conditions, monitoring of data integrity and process variables and comprehensive error detection
- Professional documentation via printouts with data files, totals, batch and process events and statistical reports.
- Special functions for error trouble shooting and service purposes

Specifications

DISPLAY - KEYBOARD

DISPLAYS	Weight display: 9-digit, LED, red, 10 mm. Operator dialogue display: VFD, 2x40 characters, 5mm. Both with brightness control.
STATUS ANNUNCIATORS	Net mode, rate, total, zero, tare, no motion, scale in use
KEYBOARD	Alphanumeric membrane keyboard of 33 keys with acoustic feedback
DECIMAL POINT SETTING	Between any digits of the weight display
WEIGHT DIGITS	4, 5, 6

SCALE CALIBRATION & FUCTIONS

CALIBRATION	Digital calibration, menu driven (from keyboard or higher level control equipment). Two calibration points (Dead load and Span). The weight display can be set to any capacity and resolution with 6 digits (subject to application and regulations). Electronic calibration can also be performed via the m V/V output values of load cells.
WEIGHING FUNCTIONS	Automatic-zero tracking, no motion detection, range (kg/h) monitoring, zero, tare, preset tare, net mode, multiple test functions
MEMORIES	Serial EEPROM for the storage of calibration data (64KB), real-time-clock

A/D CONVERTER

TYPE	Sigma-Delta ratiometric with integrated analogue and digital filtering. Optional connection to remote A/D converter (DJB)
CONVERSION RATE	7 up to 228 measurements per second (set-up selectable)
SENSITIVITY	0.4 μ V/digit for approved scales, 0.1 μ V/digit for approved scales
ANALOGUE SIGNAL RANGE	-0.25 to 2m V/V with GAIN=10 or -0.25 to 4m V/V with GAIN=20
RESOLUTION	Internal : 500.000 counts, Display: selectable up to 99,000dd (in accordance with regulations)

CONTROL I/O

DIGITAL INPUT (x1)	24V DC 20%, positive common, opto-isolated to 2.5 KV
DIGITAL OUTPUTS (x2)	24V DC 10%, transistor (SOURCE) Darlington, max. current 200m A

POWER SUPPLY

180-260 V AC, 50Hz 5%, 5% max distortion. Max. consumption 20 VA

ENVIRONMENTAL CONDITIONS / CONSTRUCTION

EMC	According to OIML R76 and EN 45501 requirements
OPERATING TEMPERATURE	-10oC to +40oC
	-10oC to +70oC
HUMIDITY	40%-90% RH , non condensing
ENCLOSURE	Alum, Panel mount, IP54 for front panel. Dimensions (in mm):305 (L)x132(H)x137(T), panel cut-out: 293x118 Stainless steel, IP65 – ONLY FOR THE BELT SCALE SOFTWARE VERSION

OPTIONAL FEATURES

DIGITAL I/O BOARD (16/16)	24V DC 20%, positive common, opto-isolated to 2.5 KV
DIGITAL I/O BOARD (8/8)	24V DC 20%, positive common, opto-isolated to 2.5 KV and 2 analogue outputs opto-isolated
ANALOGUE OUTPUT	Two independent opto-isolated channels with individual parameters. Current or voltage output (hardware selectable). Standard or user calibration of zero and span. Resolution 12 bit – F.S Voltage: 0.05-10V into 1KΩ load. Current: 0-20 m A or 4-20 m A (max. resistance 500Ω)

LINEARITY & STABILITY

LINEARITY	Within 0.002 % of full scale
LONG TERM STABILITY	0.005 % of full scale per year
TEMPERATURE COEF.	Deadload 2ppm / C, Span 2ppm / C

LOAD CELL CONNECTION

NUMBER OF LOAD CELLS	Up to 10 strain gauge load cells, 350 Ω each (or more, provided min input impedance =35Ω)
EXCITATION	+5V alternating polarity or +5VDC (set-up selectable), with sense
CONNECTION TECHNIQUE	6-wire technique

APPROVALS

ACCURACY CLASS III	EU-Type approval for 10,000 divisions (approval Nr.: DK 0199.27) & OIML R76

INTERFACES

SERIAL COM. PORT #1 :	RS232C, 600-19200 baud, full duplex, RTS/CTS control
SERIAL COM. PORT #2 :	RS485, 600-19200 baud, half duplex, Tx enable control
SERIAL COM. PORT #3 :	RS232C, 600-19200 baud, full duplex, RTS/CTS control
SERIAL COM. PORT #4 :	RS485A, 600-19200 baud, full duplex
PARALLEL PORT	Printer output, centronics type with busy and paper out control

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