



Pioneering Measured Solutions

## *Advantages of* Digital Load Cells

[group-4.com](http://group-4.com)

# Advantages of Group Four Digital Load Cells versus Analog Load Cells with Digitizer

Analog load cells require signal conversion, conditioning, display and integration electronics to be compatible with your PLC for further processing and system integration. Analog system accuracy requires precision matching and calibration of these electronics with the load cell. Any error in this pairing impacts the system accuracy significantly! Group Four provides world-class electronics and methods of integration to your PLC, but there is a MUCH EASIER way:

Group Four's Digital Load Cells eliminate the chance of mis-match error in pairing and integrating electronics, while providing easy plug-and-play setup and enabling a 10x advantage in performance with .017% error margin! Please review the top-level overview and a head to head comparison of the Advantages of Digital Load Cells versus Analog solution.

## DIGITAL LOAD CELL ADVANTAGES

Features	Benefit
1) Output: RS232, 485, CAN open, ASCII or Modbus RTU	Direct connection to PLC, HMI or PC
2) Calibrated Digitaloutput	Eliminates the need for field calibration
3) Factory Calibration performed in Force	Recovery of the original factory calibration if ever the calibration of a system becomes corrupted. It also allows to account for place on earth and its specific gravity
4) Digital output	Impervious to EMI and RFI noise
5) Optional local I/O	Faster filling and processing times
6) Linearity correction	Higher accuracy
7) Temperature effect calibration	Higher accuracy, greater stability
8) 1200 measurements per second	High speed, ideal for filling and check weighing
9) High Resolution	Better overload protection Reduced range of capacities required Broader range of capacities available
10) Complete hermetically sealed package (IP69)	Waterproof
11) Fully integrated	Lower cost
12) PC Based Software (DOP)	Easy and quick start up with features that enable full evaluation and optimization of your application with the Group-4 Digital load cell
13) OIML 7000 D Approval	Unique in the industry, Simplifies the introduction of new products for legal for trade applications.

### Additional Features:

- Customer defined diagnostics
- Simple measurement chain
- Simple cabling
- Lower cost of ownership

Still don't believe it? We made understanding simple by comparing our Digital SP46HD with a 'Well Known' Oil- Damped load cell paired with a high-performance digitizing board. See the results, the Digital Load Cell offered across the board advantage in performance.

Analog Oil-Damped Load Cell versus Group Four Digital Load Cell					
Sr No.	Parameter		Oil-Damped Load Cell	Digital Load Cell	Remarks
1	Internal resolution	Counts	1,30,000	5,12,000	Better accuracy for SP46HD
2	Maximum read out	Counts	±99999	±999999	Higher resolution with SP46HD
3	Digital Filter	Cut-off freq. (Hz)	14 - 1	19.8 - 0.25	Better Low pass filtering with SP46HD
4	Display output	upd/sec	600-50	1200-9	Higher speed with SP46HD
5	Interface		RS485/RS422	RS232 +CAN RS 485+RS422	Better interfacing options with SP46HD
6	Protocol		ASCII	ASCII/CANopen ASCII/MODBUS	Better programming options with SP46HD
7	Environment Protection		IP40	IP68	Better environment protection with SP46HD

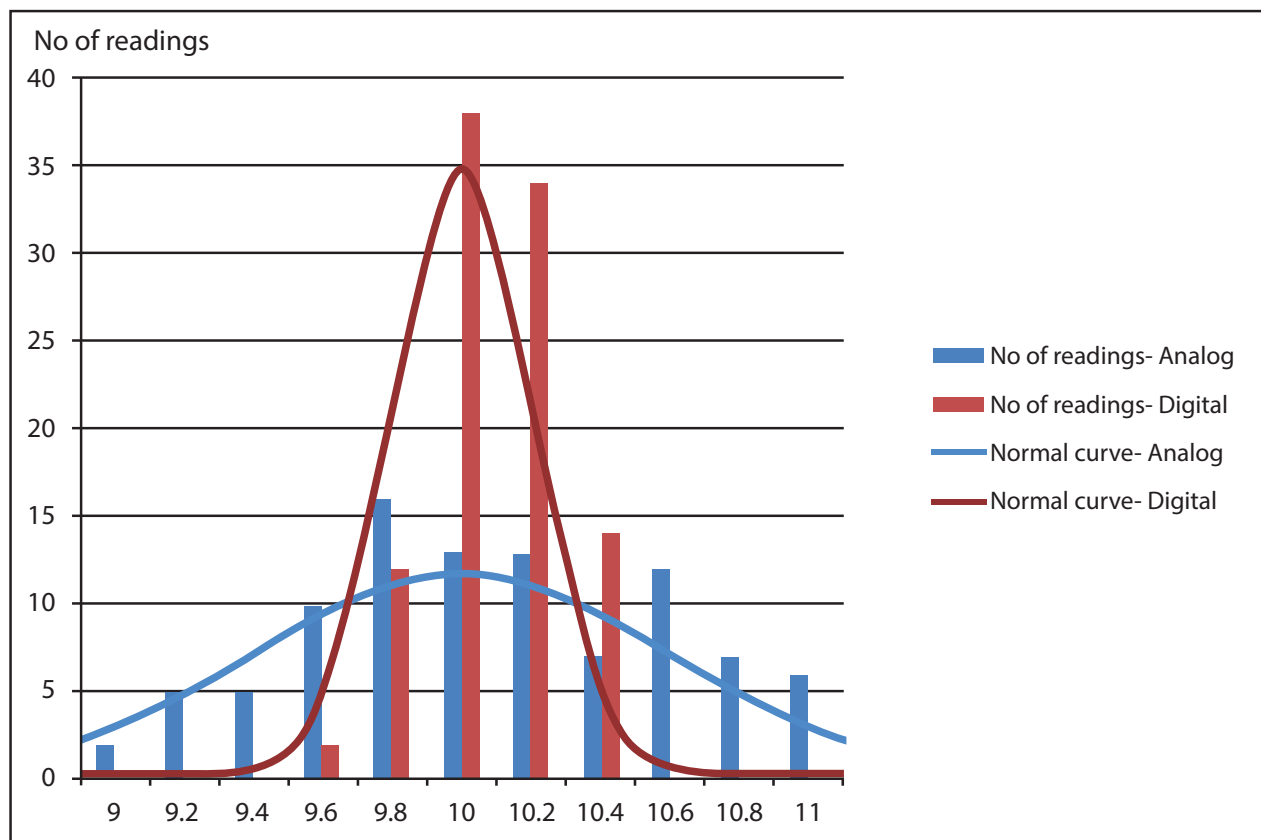
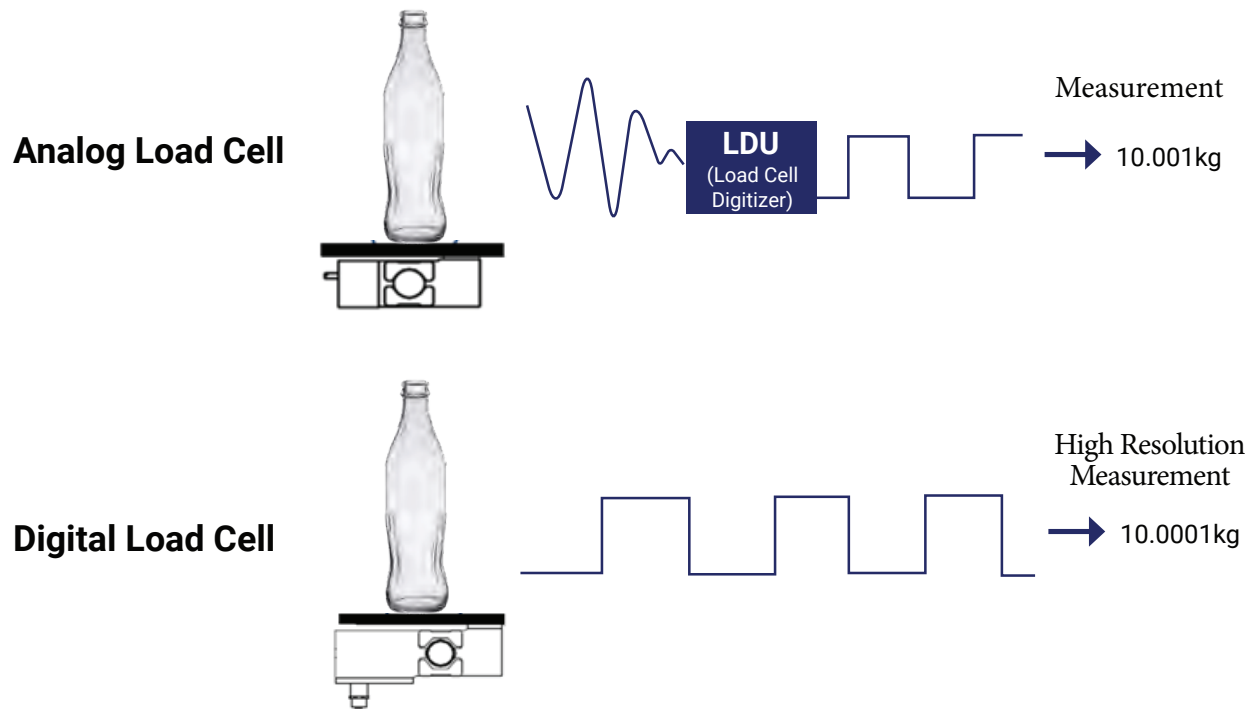
Since introducing the first digital loadcell Model SPF5 in 2018, Group-4 has added many new form factors, which simplifies the mounting and adaption of the Digital load cell into existing systems.

Group Four has taken digital load cells to a new level of accuracy and stability, not only are they ideal for high-speed filling and check weighing applications, but we also see customers utilizing this technology for force measurement and tank bin and hopper weighing', notes Steve Torres, Group Four Founder and CEO.

Need any more proof for shifting to our digital technology?

Transform your measurements to new levels, adapt to new industry standards using our world's best digital load cells.

## Higher Accuracy with a Lower Standard Deviation, Digital vs Analog.





## Locations

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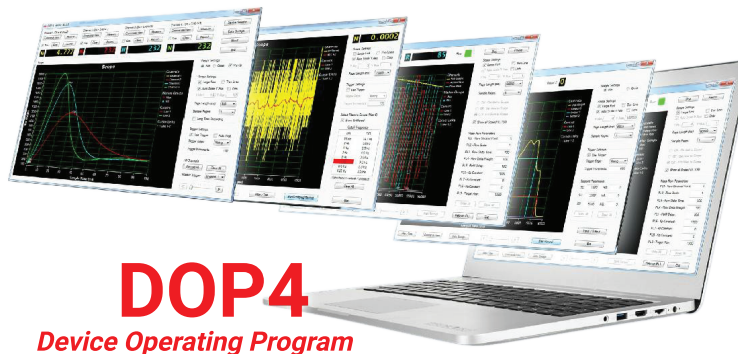
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## See for Yourself!



Want to see the proof quickly from your own own PC? Download our DOP software and easily confirm the level of performance achievable! No programming needed, simply connect the digital load cell to your laptop.

Have a PLC that requires integration? You can send us your PLC and we can set it up with any of our digital load cells. We haven't found a PLC we cannot work with! Challenge us!

**Want to see a Demo? Our Applications Engineers are standing by!**



Pioneering Measured Solutions

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