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lineScale 3i

Electronic Bluetooth Load Cell
PPE Certified (EU, CE and UIAA)

Quick Start Guide

QSG ver. 2.2

This quick guide will get you started with the basic, most frequent operating functions.
Please refer to the overleaf instructions for MENU operation and available setup options.
You will find downloads, certificates, manuals, and a knowledge-base on www.linegrip.com/LS3

MENU

Long press to switch on / off.

Short press (when powered on) to enter the settings and configuration menu.
• Log settings
• Date & Time settings
• User settings
• Service Menu (Operate carefully in this menu! Wrong settings can render the LS3 inoperative!)

SPEED ▲ LOG

Short press to toggle the scan rate.
• 10Hz (100ms)
• 40Hz (25ms)
• 640Hz (1.5ms)
• 1280Hz (0,75ms)
Note: BT connection to smartphone app is possible with 10Hz and 40Hz setting only.

Long press to toggle onboard logging active/paused with the settings defined in the Log-Menu.

In the „User Settings" you may modify the „Auto Power Off" function, which is set to 10 minutes by default. This will power off the LS3 automatically after the specified time has passed since the last button press or load change was registered. The „Power save & lock" function is set to 5 minutes by default. This will not affect or interrupt onboard logging or active BT connection. When the display is „locked" the LS3 will run about 4 times longer on a single battery charge. When the „lock symbol" or „lock screen" is displayed you can unlock the device by pressing the PWR & ZERO buttons simultaneously(!). With the same button combination you can manually lock the device anytime on the main screen (even while logging is active and running) to save power.
Please refer to the online knowledge base or the downloadable PDF user manual for detailed operating instructions and LOG function explanation.

UNIT ▼ PEAK

Short press to toggle display units.
• kN (kilonewton)
• kgf (kilograms force)
• lbf (pounds force)

Long press to toggle PEAK mode.
The load display will freeze the highest value reached since the PEAK mode was activated.

ZERO ↵ MODE

Short press to set relative zero (in REL mode), reset MAX/MIN (in ABS mode), or reset PEAK value.

Long press to toggle REL(ative) / ABS(olute) mode.
REL mode will show load value relative to the current set relative zero.
ABS mode will always show the true / real load value relative to the calibrated absolute zero.

⚠ 📖ℹ **NOTICE FOR PPE APPLICATION**
Please fully read and understand the included PPE manual before using the LineScale-3 for PPE application! ⚠ 📖ℹ

Technical Specifications
• Working load limit (WLL): 30 kN (6700 lbf)
• Minimum breaking strength (MBS): 90 kN (22000 lbf)
• Recommended PPE max. load: 10 kN (2200 lbf)
• Max. measuring range: -10 % to 110 % of WLL
• Sensor scan rate (cycle rate): 1280Hz, 640Hz, 40 Hz, 10Hz
• Weight (incl. battery): 520 g (18.3 oz)
• Measurements (L x W x T): 190 x 90 x 20 mm
• Material body: High strain aviation aluminum alloy LY12CZ
• Display units: kN / kgf / lbf
• Display division (resolution): 0.01 kN / 1 kg / 2 lbf
• Measure error: less than ±0.5% (@3kN-15kN)
• Operating temperature: -10 to +40 °C
• Storage temperature: -20 to +70 °C
• Relative humidity: 10% to 80% RH
• Power: 3.7V 1600mAh rechargeable Li-Ion battery pack
• Operating endurance: ca. 50 hours continuous (24h w. bluetooth enabled)
• Bluetooth 4/5 interface (w. smartphone app)
• Protection Class: IP67 (splash & rain proof, **do NOT submerge in water!!!**)

Your devices Bluetooth MAC-Address is engraved above the display. This is used for unit identification in the smartphone app when multiple units are in Bluetooth reach, and it is also the serial number of your unit.

lineGrip Corporation Ltd.
Hauptstrasse 41
67714 Waldfischbach
Germany

Contact: Mr. Andy Riedrich
Phone: +49 6333 603 00 22
Mobile: +49 170 996 91 92
info@linegrip.com
www.linegrip.com

Scan QR-code to download users manual, apps, firmware, certificates, and access FAQs.

When in Main-Menu, the row at the very top will display the date, firmware version, and time.

05.01.24	V3.220	16:45

Main Menu	Sub Menu (w. default setting)	Item (possible settings)	Buttons function for navigation and setting
Log	Clear log memory NO	Sure delete all logs? NO YES	Enter item: NO is highlighted, press ↵ to return without deleting. Select ▼ YES and press ↵ to clear log memory and return to Sub-Menu
	Onboard logging OFF	Onboard logging ON OFF	Enter item: current setting is highlited Select ▲▼ ON or OFF (this is the same as LOG button) press ↵ to set and return to Sub-Menu
	Overwrite oldest log OFF	Overwrite oldest log ON OFF	Enter item: current setting is highlited Select ▲▼ ON or OFF press ↵ to set and return to Sub-Menu
	Capture start trigger 0.10 kN	Set start trigger x.xx 00000 for none	Enter an Item: the current set value is **edited per digit** press ↵ to set value first digit is highlited change digit with ▲▼ and ↵ to set next digit is highlited change digit with ▲▼ and ↵ to set repeat same for all digits on last digit press ↵ to set value and return to Sub-Menu
	Capture end trigger 0.00 kN	Set end trigger x.xx 00000 for none	Enter all zeroes (00000) for no triggers or recording press ↵ to set and return to Sub-Menu press PWR to abort edit and return to Sub-Menu
	Scan rate 40 Hz	Set scan rate 10 Hz, 40 Hz, 640 Hz, 1280 Hz	Enter Scan Rate: current setting is highlited Select ▲▼ 10, 40, 640, 1280Hz (same as SPEED button) press ↵ to set and return to Sub-Menu
	Max log rec time 15 sec.	Set max log rec time xxxxx	
	Min log rec time 5 sec.	Set min log rec time xxxxx	Max Log Rec, Min. Log Rec, Pre-Capture will show the defined time setting for the respective selected Scan Rate
	Pre-capture rec time 3 sec.	Set pre-capture time xxxxx 00000 for none	
	Logging type Single log	Set logging type Continuous logging Single log	Enter item: current setting is highlited Select ▲▼ Continuous or Single press ↵ to set and return to Sub-Menu
	Return		Press ↵ to exit Sub-Menu, and return to Main-Menu
Date/Time	Date format dd.mm.yy	Date format dd.mm.yy, yy/mm/dd, mm-dd-yy	Enter item: current setting is highlited Select ▲▼ to toggle date format press ↵ to set and return to Sub-Menu
	Date 05.01.24	Set date	Same button function as "edited per digit" above
	Time 16:45:00	Set time hh:mm:ss	Same button function as "edited per digit" above Note: time will NOT advance during setting!
	Return		Press ↵ to exit Sub-Menu, and return to Main-Menu
User Settings	Auto power off 10 min.	Set auto power off Off, 1, 3, 5, 10, 20, 30, 60	Enter item: current setting is highlited Select ▲▼ to toggle Minutes for Power Off press ↵ to set and return to Sub-Menu
	Power save & lock 300 sec.	Set power save & lock Off, 10, 30, 60, 100, 200, 300, 600	Enter item: current setting is highlited Select ▲▼ to toggle Seconds for Power Save & Lock press ↵ to set and return to Sub-Menu
	Power save lock level Max power save	Power save lock level Min power save Medium power save Max power save	Enter item: current setting is highlited Select ▲▼ Min, Medium or Max for Power Save Level press ↵ to set and return to Sub-Menu
	Auto zero tracking 1 div.	Set zero tracking Off, 0.5, 1, 2, 3, 5, 10	Same button function as select value
	QR-Code	Display QR-Code on screen to scan with smartphone	Press PWR button to exit
	Tech-Specs	DIsplay most relevant technical specs on screen	Press PWR button to exit
	Rotate display OFF	Rotate display by 180° OFF or ON	Same button function as select value
	Bluetooth module ON	Set the on-board BT module ON or OFF	Same button function as select value
	Bluetooth pass 0000	Set a password for app pairing 0000(off) to 9999	Same button function as "edited per digit" above
	UART Baud rate 230400 bps	Set UART Baud rate 9600, 38400, 230400, 460800 bps	Same button function as select value
	Return		Press ↵ to exit Sub-Menu, and return to Main-Menu
Service	Set absolute zero	Cal. abs. zero now? NO YES	Enter item: NO is highlited, press ↵ to return Select ▼ YES press ↵ to reset abs. 0 and return to Sub-Menu
	Simple calibration	Start simple cal now? NO YES	Enter item: NO is highlited, press ↵ to return Select ▼ YES press ↵ to cal abs. 0 and return to Sub-Menu
	Linear Cal. 30kN	Start linear cal now? NO YES	Enter item: NO is highlited, press ↵ to return Select ▼ YES press ↵ to start simple 2-point calibration
	Linear Cal. 18kN	Start linear cal now? NO YES	Enter item: NO is highlited, press ↵ to return Select ▼ YES press ↵ to start simple 2-point calibration
	Linear Cal. 12kN	Start linear cal now? NO YES	Enter item: NO is highlited, press ↵ to return Select ▼ YES press ↵ to start simple 2-point calibration
	Calibrate acceler. 9.807 N/kg	Set cal. accel. x.xxxx	Same button function as "edited per digit" above
	User acceleration 9.807 N/kg	Set user accel. x.xxx	Same button function as "edited per digit" above
	Battery voltage 3.985 V	No setting, value for information only	
	AD internal code 3513	No setting, value for information only	
	Bluetooth MAC addr. F0:F8:F2:6A:D1:8D	No setting, value for information only	
	Load Factory Defaults	Factory reset will delete ALL memory and reset all log + user values! Sure to continue? NO or YES	Enter item: NO is highlited, press ↵ to return Select ▼ YES press ↵ to reset the LS3 to factory defaults & erase memory. NOTE: this will NOT reset the calibration values!!!
	Set overload message 30.00 kN	Define at which load the OVERLOAD message should be displayed	Same button function as "edited per digit" above
	Max. seen load 0.00	No setting, value for information only	
	Last calibration date	No setting, value for information only	
	Return		Press ↵ to exit Sub-Menu, and return to Main-Menu
Exit			Press ↵ to exit menu, and return to main screen

WARNING
Operate carefully in the Service Menu! Wrong settings can render the LS3 inoperative!

Please note:
There is NO factory reset option for the CALIBRATION!

If the calibration process is conducted with invalid values or without a true calibrated reference, the LS3 wil no longer show accurate loads. A professional calibration with a calibrated tensile machine will be needed to restore LS3 function.

Menu operation tip:
Press the PWR button at any time during item setting to abort the setting operation, and return to the Sub-Menu without saving any changes to the current item ;-)

From Sub-Menu press PWR to return to Main, from Main-Menu press PWR to exit Menu.