





This calibration sheet is to ensure standardized calibration process for every snow scale crafted by CEAZA. The commands shown in this document have been improved for Hercules serial terminal software.

The power supply for scale must be set between 5V and 14V with at least 100mA of current capacity.

Wire connection:

Scale wire color code		
	Red	Vin (+)
	Black	GND (-)
	Yellow	RS-485 (A+)
	White	RS-485 (B-)

1. Basic parameters and measurements

Snow Scale Lite	
BRAND:	CEAZA
RS-485 id:	141
Baud	9600
Sensor Name:	PN2321
Firmware:	V20230605.1
MCU:	ATmega328pb

Set Parameters	
RS-485 id:	<<255,set_id,141>
Baud:	<<141,set_baud,9600>
Name:	<<141,set_name,PN2321>

Scale temperature during test (°C)	
Query:	<<141,get_t>
Temp:	23.44

2. Load Cell Calibration

To calibrate the load cells, it is essential to request the instruments to provide their raw measurements for a well-known mass applied to each cell (A1, B1, A2, B2). The command for this inquiry is highlighted in blue below.

Raw data query:	<<141,get_raw>
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The answer must be received after few seconds, with the format "raw_a1,raw_b1,raw_a2,raw_b2" finished by a new line "\n".

I - RAW load cells data Input					
RAW A1	RAW B1	RAW A2	RAW B2	Load increase (Kg)	Total Load (Kg)
45826	144395	-159389	-9450	0	0
-197512	18438	-421441	-138404	4.807	4.807
-266048	-17113	-495069	-174598	1.3791	6.1861

Calibration parameter calculation for each cell				COM Terminal setting command (in Hercules)	
Cell	Proportional	Offset	R2	CMD prop	CMD offset
A1	-0.0000198	0.905383991	0.9999889	<<141,set_prop_a1,-0.0000198>	<<141,set_offset_a1,0.9053840>
B1	-0.0000383	5.523058371	0.9999913	<<141,set_prop_b1,-0.0000383>	<<141,set_offset_b1,5.5230584>
A2	-0.0000184	-2.936677012	0.9999859	<<141,set_prop_a2,-0.0000184>	<<141,set_offset_a2,-2.9366770>
B2	-0.0000374	-0.356611376	0.9999844	<<141,set_prop_b2,-0.0000374>	<<141,set_offset_b2,-0.3566114>

3. Scale Calibration

When every cell is calibrated, the scale surface must be placed and then a calibration of the instrument must be performed.

II - Instrument Calibration Input		
Meas.(Kg)	Added Load(Kg)	Total(Kg)
0.61	0	0
5.33	4.807	4.807
6.94	1.6245	6.432

Prop.	Offset
1.016576685	-0.6183359

<<141,set_prop,1.0165767>
<<141,set_offset,-0.6183359>