Supplementary Material – Table S1

TAL220-10 kg Single-Point Load Cell (TAL220) – Key Specifications

Parameter	Spec.	Unit	Notes
Rated capacity (R.C.)	10	kg	98.1 N full scale
Rated output (sensitivity)	2.0 ± 0.2	mV V^{-1}	@ 10 V excitation
Zero balance	±0.1	% FS	
Non-linearity	±0.02	% FS	project-measured
Hysteresis	±0.05	% FS	manufacturer
Repeatability	±0.03	% FS	manufacturer
Safe overload	150	% FS	
Ultimate overload	200	% FS	typical
Deflection at R.C.	≤ 0.3	mm	
Input resistance	1000 ± 15	Ω	
Output resistance	1000 ± 10	Ω	
Insulation resistance (@ 50 V DC)	≥ 2000	MΩ	
Excitation voltage (recommended)	5 – 10	V DC	12 V absolute max
Operating temperature	–10 … +55	°C	
Compensated temperature	–10 … +40	°C	
Protection class	IP65	—	sealed gauges
Cable	4-core, 220 mm	—	Ø 0.8 mm PVC

Table S1 consolidates the mechanical, electrical and environmental characteristics of the TAL220-10 kg single-point load cell used in the study. Values are manufacturer data unless otherwise noted.