



Pendeo® Truck – Digital Weighbridge Load Cell



25 t and 50 t, Type C3 and C6

- Easy installation
- Insensitive RS485 output signal
- Best application for weighbridges
- Default, maintenance free and compact construction
- Very robust construction into hermetically sealed stainless steel housing
- DMS technology for a high protection against lightning
- High overload capacity (until 150%)
- Additional protection through diagnostic function

Product Profile

The load cells of the Pendeo® Truck range are particularly designed for use on weighbridges. They are based on our well known, unique design principle which has been tested in the harsh surroundings of weighbridges for many years.

Combined with the mounting kits, the sophisticated design of the load cell allows to counterbalance movements caused by mechanical or thermal expansion or contraction of the weighbridge construction. The unique combination of the selected geometry and material | surface hardness parameters guarantees perfect rolling characteristics, high restoring forces and long-term maintenance-free operation.

The pendulum support principle, combined with patented measuring element geometry, ensures that force transmission into the sensor is always at the optimum level and, in this way, any tilting effect on measurement accuracy is minimized. At the same time, the load cell offers a particularly high overload range. The hermetically sealed enclosure and a special TPE cable allow the unit to be used even under extreme operating conditions. The resistant strain gauge technology, in combination with the PR6024/.. cable junction boxes, provides improved lightning protection.

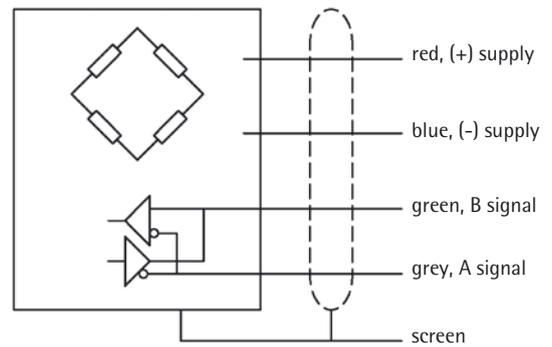
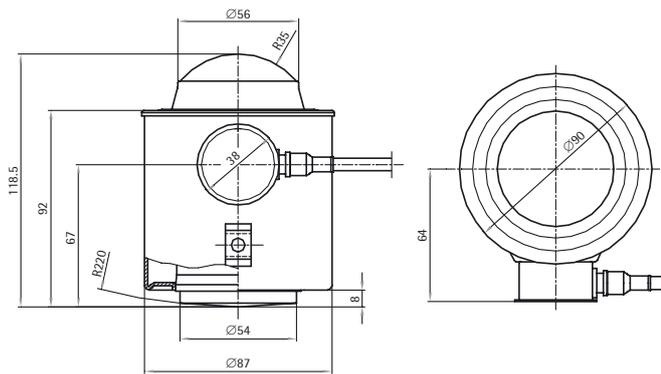
The optimal balance of all components of the complete measuring chain permits an easy and fast commissioning. The built-in microprocessor allows communication with each load cell and in this way actively supports the commissioning. During the process the diagnostic function informs the user about the current status at anytime. The insensitive RS 485 output signal guarantees perfect data communication between load cells and indicator.

Technical Data

Maximum capacity	highest limit of specified measuring range	E_{max}	25	50	t
Rated output	output signal at max. capacity	C_n	Normalized to E_{max}		
Sensitivity at rated capacity	maximum resolution of rated capacity for $E_{max} \geq 25$ t	d	200,000 400,000	200,000 400,000	digit
Max. usable load	upper limit for measurements	E_u	37.5	75	t
Destructive load	danger of mechanical destruction	E_d	>75	>150	t
Nominal deflection		S_{nom}	0.5	0.8	mm
Accuracy class			C3	C6	
Accuracy class			0.015	0.008	
Minimum dead load	lowest limit of specified measuring range	E_{min}	0	0	% E_{max}
Minimum LC verification interval	minimum load cell verification interval ($v_{min} = E_{max}/Y$)	Y	14,000	20,000	
Creep divisions factor	factor for min. dead load output return ($DR = 0.5 E_{max}/Z$)	Z	3,000	8,000	
Tolerance on rated output	permissible deviation from rated output	d_c	< 0.07	< 0.07	% E_{max}
Zero output signal	load cell output signal under unloaded conditions	S_{min}	< 1	< 1	% E_{max}
Repeatability error	max. change in load cell output for repeated loading	ϵ_R	< 0.005	< 0.005	% E_{max}
Creep during 30 min.	max. change in load cell output under nominal load	d_{cr}	< 0.015	< 0.008	% E_{max}
Non-linearity	max. deviation from the best straight line through zero	d_{lin}	< 0.01	< 0.01	% E_{max}
Hysteresis	max. diff. in LC output between loading and unloading	d_{hy}	< 0.0165	< 0.008	% E_{max}
Temperature effect on S_{min}	max. change of $S_{min}/10K \Delta T$ over B_T referred to C_n	TK_{Smin}	< 0.01	< 0.007	% $E_{max}/10K$
Temperature effect on C_n	max. change of $C_n/10K \Delta T$ over B_T referred to C_n	TK_c	< 0.01	< 0.005	% $E_{max}/10K$
Insulation impedance	between circuit and housing at 50 V DC	R_{IS}	> 1,000	> 1,000	M Ω
Nominal supply voltage		U_N	24	24	V DC
Supply voltage range	to hold the specified performance	B_U	20... 28	20... 28	V DC
Nominal ambient temp. range	to hold the specified performance	B_T	-10... +40	-10... +40	°C
Usable ambient temp. range	permissible for continuous operation without damage	B_{Tu}	-30... +70	-30... +70	°C
Storage temp. range	transportation and storage	B_{Tl}	-40... +95	-40... +95	°C
Permissible eccentricity	permissible displacement from nominal load line	S_{ex}	10	10	mm
Vibration resistance	resistance against oscillation (IEC 68-2-6 Fc)		20 g, 100 h, 10 Hz... 150 Hz	20 g, 100 h, 10 Hz... 150 Hz	
Air pressure effect	influence of ambient air pressure on S_{min}	PK_{Smin}	< 420	< 420	g/kPa

Definitions acc. to VDI/VDE 2637.

The technical data given here serve only as a product description and must not be interpreted as guaranteed characteristics in the legal sense.



All Dimensions in mm

Restoring force

For each mm of movement that the top of the load cell shifts from the vertical axis, a horizontal restoring force of 1.55% of the applied vertical load is generated.

Load cell housing construction

Deep draw pulled housing, membrane and measuring element hermetically sealed, welded, filled with inert gas,

Material

1.4301 (DIN 17440), AISI 304

Ingress protection

IP68, IEC 529/N 60529: 1.5 m water column/ 10,000 h
IP69K, DIN 40 050: water under high pressure, steam cleaning
Sealing equivalent to NEMA 6

Cable

robust, flexible, screened,
sheath: TPE,
colour: black,
diameter: 6 mm, 4 × AWG22 (0.35 mm²),
length: 20 m

Bending radius

Fixed installation: ≥ 50 mm
Flexible installation: ≥ 150 mm

Digital interface

Serial 2-Wire RS485 Interface
for up to 8 load cells

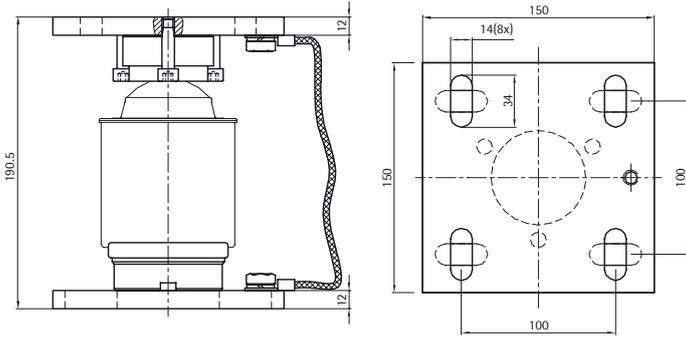
Order information

Type	Nominal load E_{max}	Version	Max. usable load E_{max} (in % of E_{max})	Destructive load (in % of E_{max})
PR 6224/25t	25 t	C3 C6	150	> 300
PR 6224/50t	50 t	C3 C6	150	> 300

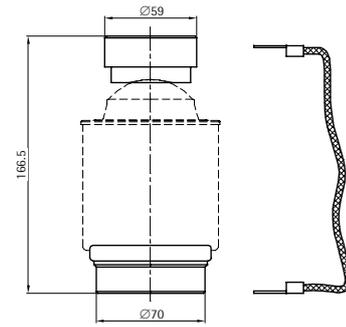
For using the digital load cells all components of the measuring chain are required.
Suitable Terminal: Combics Pro Truck | TSI

Type	Accessories	Order Number
PR 6021/00N	Load and bottom disc set of top and bottom load disc, tool steel, anti-corrosion coating	9405 360 21001
PR 6021/01N	Mounting Kit including top and bottom load disc, anti-corrosion coating	9405 360 21011
PR 6024/68S	digital stainless steel-cable junction box for up to 8 digital load cells, made of stainless steel	9405 360 24682
PR 6024/62S	24 V DC power supply for up to 8 digital load cells, made of stainless steel	9405 360 24622
PR 6124 P	Power cable screened power cable for a safe power supply	9405 361 24xx4
PR 6124/31P	Power cable 30 m	9405 361 24314
PR 6124/51P	Power cable 50 m	9405 361 24514
PR 6124/12P	Power cable 100 m	9405 361 24124
PR 6124/16P	Power cable 150 m	9405 361 24164
PR 6124 D	Data cable screened data connection cable	9405 361 24xx3
PR 6124/31D	Data cable 30 m	9405 361 24313
PR 6124/51D	Data cable 50 m	9405 361 24513
PR 6124/12D	Data cable 100 m	9405 361 24123
PR 6124/16D	Data cable 150 m	9405 361 24163

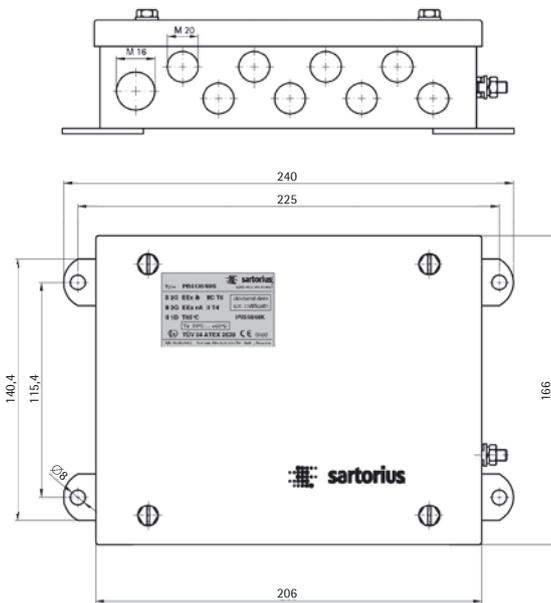
PR 6021/01N, Mounting kit



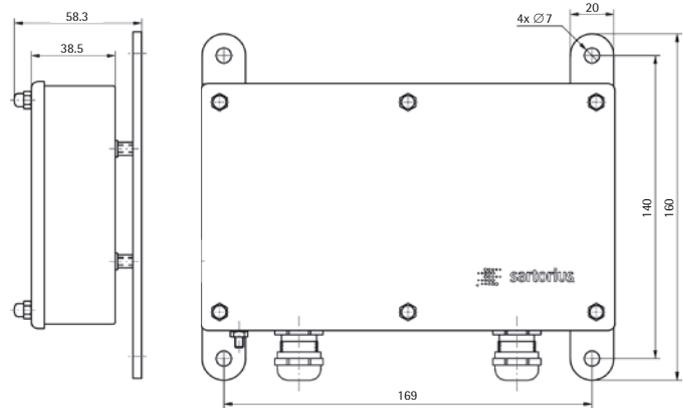
PR 6021/00N, Top and bottom load disc incl. rubber ring and earthing strap



PR 6024/68S, Digital Cable Junction Box



PR 6024/62S Power Supply



All Dimensions in mm

PR 6024/68S – Digital Junction Box

The PR 6024/68S junction box is a connection unit for up to 8 Pendeo® load cells from the Pendeo® range. The color coding of the connection blocks enables intuitive connection of the load cells – there is thus virtually no risk of connection errors.

With protection classes IP68 and IP69k, the 1.4404 stainless steel housing complies with the highest requirements in the industrial sector.

A Gore-Tex membrane ensures continuous pressure compensation and prevents moisture from entering.

- High-quality stainless steel housing (IP68, IP69K)
- Connection of up to 8 Pendeo® load cells
- High EMC compatibility (10 V/m)
- Suitable for use in ATEX zone 2/22

PR 6024/62S Power Supply Unit

The high-quality power supply unit ensures reliable energization for the load cells.

The compact stainless steel housing complies with the requirements of protection classes IP68 and IP69K and is thus designed for long, maintenance-free use.

- High-quality stainless steel housing (IP68, IP69K)
- Reliable power supply for up to 8 Pendeo® load cells
- Broad voltage input 100 V – 240 V
- High EMC compatibility (10 V/m)
- Suitable for use in ATEX zone 2/22