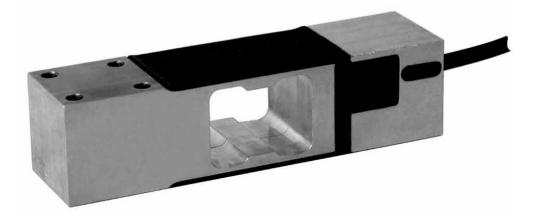


PENKO Engineering BV

The Leading Experts In Weighing & Dosing

^{50kg-250kg} PC46



Product Description

The type PC46 is an aluminium single point load cell with an improved potting.

Application

Bench and floor scales, conveyor scales and medical scales

Key Features

- Capacities from 50 kg to 250 kg
- Aluminium construction
- Environmental Protection IP67
- Maximum platform size up to 400 x 400 mm

Approvals

 OIML approval to C3 (Y = 7 500) and C4 (Y = 12 500, 250 kg only)

APPROVED

- ATEX hazardous area approval for Zone 0, 1, 2, 20, 21 and 22
- FM hazardous area approval

Options

- Y = 15 000 for C3
- Y = 25 000 for C4 (250 kg only)

Packed Weight

0.8 kg

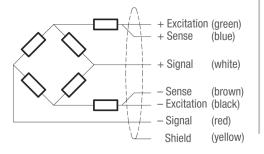
Available Accessories

Compatible range of electronics

Wiring

- The load cell is provided with a shielded, 6 conductor cable (AWG 26). Cable jacket polyurethane
- Cable length: 3 m
- Cable diameter: 5.8 mm
- The shield is connected to the load cell body

A05-Rev7-GB-2(2) Specifications and dimensions are subject to change without notice.



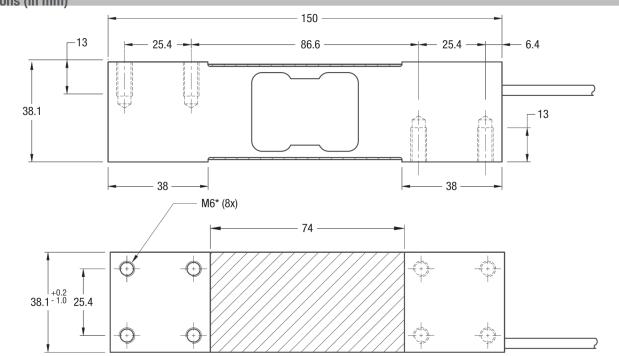
Load cell PC42: 5kg-200kg

Technical Data

$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Specifications					
$\begin{array}{ c c c c c } Maximum number of verification intervals (n_Lc) & n.a. 3000 & 4000 \\ \hline Minimum load cell verification interval (Vmin) & n.a. Emax /7 500 & Emax /12 500 \\ \hline Temperature effect on minimum dead load output (TC_0) & %+R0/10^{\circ}C & \pm 0.0400 & \pm 0.0187 & \pm 0.0112 \\ \hline Temperature effect on sensitivity (TC_RO) & %+R0/10^{\circ}C & \pm 0.0200 & \pm 0.0100 & \pm 0.0080 \\ \hline Combined error & & %+R0 & \pm 0.0500 & \pm 0.0200 & \pm 0.0106 & \pm 0.0180 \\ \hline Non-linearity & & %+R0 & \pm 0.0400 & \pm 0.0166 & \pm 0.0125 \\ \hline Vestrersis & & & & & & & & & & & & & & & & & & $	Maximum capacity (E _{max})	kg	50 / 100 / 150 / 200 / 250		250	
$\begin{array}{ c c c c c } \hline Minimum load cell verification interval (vnin) & n.a. & E_{max} / 7500 & E_{max} / 12500 \\ \hline Temperature effect on minimum dead load output (TC_0) %+R0/10°C \pm 0.0400 \pm 0.0187 \pm 0.0112 \\ \hline Temperature effect on sensitivity (TC_{R0}) %+R0/10°C \pm 0.0200 \pm 0.0100 \pm 0.0080 \\ \hline Combined error & %+R0 \pm 0.0500 \pm 0.0200 \pm 0.0186 \\ \hline Mon-linearity & %+R0 \pm 0.0400 \pm 0.0166 \pm 0.0125 \\ \hline Hysteresis & %+R0 \pm 0.0400 \pm 0.0166 \pm 0.0125 \\ \hline Creep error (30 minutes) / DR & %+R0 \pm 0.0400 \pm 0.0166 \pm 0.0125 \\ \hline Creep error (30 minutes) / DR & %+R0 \pm 0.0400 \pm 0.0166 \pm 0.0125 \\ \hline Min. load cell verification interval (vnin opt) & n.a. & E_{max} / 15000 \\ \hline Min. load cell verification interval (Vnin opt) & n.a. & E_{max} / 15000 \\ \hline Temp. effect on min. dead load output (TC_{0.00}) %+R0/10°C & n.a. \pm 0.0093 \pm 0.0056 \\ \hline Rated Output & (R0) & mVV & 2 \pm 10\% \\ \hline Zero balance & $	Accuracy class according to OIML R60		(GP)	C3	C4	
Temperature effect on minimum dead load output(TCo)%+R0/10°C ± 0.0400 ± 0.0187 ± 0.0112 Temperature effect on sensitivity(TCo)%+R0/10°C ± 0.0200 ± 0.0100 ± 0.0080 Combined error%+R0 ± 0.0500 ± 0.0200 ± 0.0180 Non-linearity%+R0 ± 0.0400 ± 0.0166 ± 0.0125 Non-linearity%+R0 ± 0.0400 ± 0.0166 ± 0.0125 Visteresis%+R0 ± 0.0400 ± 0.0166 ± 0.0125 OptionMin. load cell verification interval Temp. effect on min. dead load output(TCo opt)n.a.Emax/15000Emax/25000At the output(R0)mVV $2\pm 10\%$ ± 5 Excitation voltageV515Input resistance(RLc) Ω 413 ± 20 000 ± 5000 Safe loadSafe load%+Emax150Utimate15000Safe loadUtimate load%+Emax15000Safe load100Maximum platform size; loading acc. to 0IML R76mm400 x 400400 x 400Maximum off centre distance at maximum capacitymm150CCompensated temperature range°C $-10+40$ 0Operating temperature range°C $-20+66$ (ATEX =20+60)Load cell materialSealing00 $-10+40$ 0	Maximum number of verification intervals (n _{LC})		n.a.	3 000	4000	
Temperature effect on sensitivity(TCR0)%+R0/10°C ± 0.0200 ± 0.0100 ± 0.0080 Combined error%+R0 ± 0.0500 ± 0.0200 ± 0.0180 Non-linearity%+R0 ± 0.0400 ± 0.0166 ± 0.0125 Hysteresis%+R0 ± 0.0400 ± 0.0166 ± 0.0125 Creep error (30 minutes) / DR%+R0 ± 0.0600 ± 0.0166 ± 0.0125 OptionMin. load cell verification interval Temp. effect on min. dead load output (TC0 opt)m.a.Emax/15000Emax/25000Temp. effect on sin. dead load output (TC0 opt)(R0)mV/V $2 \pm 10\%$ 2 $2 \pm 10\%$ Zero balance%+R0 ± 5 Excitation voltage V 515 Input resistance (100 V DC)(Ruc) Ω 350 ± 25 100Safe load limit (Elim)%+Emax 300 ± 5000 Safe loadSafe load Maximum platform size; loading acc. to 0IML R76mm 400×400 400×400 Maximum off centre distance at maximum capacitymm150150Compensated temperature range Operating temperature range°C $-10+40$ $-00+65$ (ATEX $-20+66)$ Load cell material°C $-20+65$ (ATEX $-20+66)-20+66-20+65 (ATEX -20+66)$	Minimum load cell verification interval (v _{min})		n.a.	E _{max} /7 500	E _{max} /12 500	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Temperature effect on minimum dead load output (TC ₀)	%*R0/10°C	± 0.0400	± 0.0187	± 0.0112	
Non-linearity %+R0 ± 0.0400 ± 0.0166 ± 0.0125 Hysteresis %+R0 ± 0.0400 ± 0.0166 ± 0.0125 Creep error (30 minutes) / DR %+R0 ± 0.0600 ± 0.0166 ± 0.0125 Option Min. load cell verification interval (Vmin opt) n.a. Emax /15000 Emax /25000 Rated Output (R0) mV/V 2 ± 10% Zero balance ½ % R0 ± 0.0093 ± 0.0056 Rated Output (R0) mV/V 2 ± 10% Zero balance ± 5 Zero balance ½ % R0 ± 5 Zero balance 150 Upture versistance (RLc) Ω 413 ± 20 Qutput resistance (Rout) Ω 350 ± 25 Insulation resistance (100 V DC) MΩ ≥ 5000 Safe load limit (Elim) % *Emax 150 Utimate load % *Emax 100 Maximum off centre distance at maximum capacity mm 400 × 400 Maximum off centre distance at maximum capacity 150 Compensted temperature range °C -20+65 (ATEX -20+60) Load cell material aluminium Sealing	Temperature effect on sensitivity (TC _{R0})	%*R0/10°C	± 0.0200	± 0.0100	± 0.0080	
Hysteresis %+R0 ± 0.0400 ± 0.0166 ± 0.0125 Cree error (30 minutes) / DR %+R0 ± 0.0600 ± 0.0166 ± 0.0125 Option Min. load cell verification interval (Vmin opt) n.a. Emax/15000 Emax/25000 Temp. effect on min. dead load output (TC ₀ opt) %+R0/10°C n.a. ± 0.0093 ± 0.0056 Rated Output (R0) mV/V 2 ± 10% 2 ± 0.0056 Zero balance %+R0 ± 5 5 5 5 Excitation voltage V 515 1 1 1 20 0 1 2 1 3 20 0 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Combined error	%*R0	± 0.0500	± 0.0200	± 0.0180	
Creep error (30 minutes) / DR %+R0 ± 0.0600 ± 0.0166 ± 0.0125 Option Min. load cell verification interval (vmin opt) n.a. Emax /15 000 Emax /25 000 Temp. effect on min. dead load output (TC0 opt) %+R0/10°C n.a. ± 0.0093 ± 0.0056 Rated Output (R0) mV/V 2 ± 10% Zero balance ± 5 Excitation voltage V 515 Input resistance (RLC) Ω Output resistance (Rout) Ω 350 ± 25 Insulation resistance (100 V DC) MΩ ≥ 5000 Safe load limit (Elim) %+Emax 150 Input resistance 100 Maximum platform size; loading acc. to OIML R76 mm 400 × 400 Maximum off centre distance at maximum capacity mm 150 Compensated temperature range °C -10+40 Operating temperature range 2 -20+65 (ATEX -20+60) Load cell material aluminium	Non-linearity	%*R0	± 0.0400	± 0.0166	± 0.0125	
$ \begin{array}{ c c c c c } \hline Min. load cell verification interval (v_{min opt}) & n.a. & E_{max}/15000 & E_{max}/25000 \\ \hline Temp. effect on min. dead load output (TC_{0 opt}) % *R0/10°C & n.a. & \pm 0.0093 & \pm 0.0056 \\ \hline Temp. effect on min. dead load output (TC_{0 opt}) % *R0/10°C & n.a. & \pm 0.0093 & \pm 0.0056 \\ \hline Temp. effect on min. dead load output (R0) mV/V & 2 \pm 10\% \\ \hline Zero balance & & \% *R0 & \pm 5 \\ \hline Excitation voltage & V & 515 \\ \hline Input resistance & (R_{LC}) \Omega & 413 \pm 20 \\ \hline Output resistance & (R_{0ut}) \Omega & 350 \pm 25 \\ \hline Insulation resistance (100 V DC) & M\Omega & \geq 5000 \\ \hline Safe load limit & (E_{lim}) \% *E_{max} & 150 \\ \hline Ultimate load & \% *E_{max} & 300 \\ \hline Safe side load & \% *E_{max} & 100 \\ \hline Maximum platform size; loading acc. to OIML R76 & mm & 400 x 400 \\ \hline Maximum off centre distance at maximum capacity & mm & 150 \\ \hline Compensated temperature range & °C & -10+40 \\ \hline Operating temperature range & °C & -20+65 (ATEX -20+60) \\ \hline Load cell material & load & potted \\ \hline \end{array}$	Hysteresis	%*R0	± 0.0400	± 0.0166	± 0.0125	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Creep error (30 minutes) / DR	%*R0	± 0.0600	± 0.0166	± 0.0125	
ImplementationImplementationImplementationImplementationImplementationRated Output(RO)mV/V $2 \pm 10\%$ Zero balance%*RO ± 5 Excitation voltageV 515 Input resistance(RLC) Ω 413 ± 20 Output resistance(Rout) Ω 350 ± 25 Insulation resistance (100 V DC)M Ω ≥ 5000 Safe load limit(Elim) $\%*E_{max}$ 300 Safe side load $\%*E_{max}$ 100 Maximum platform size; loading acc. to OIML R76mm 400×400 Maximum off centre distance at maximum capacitymm 150 Compensated temperature range°C $-10+40$ Operating temperature range°C $-20+65$ (ATEX $-20+60$)Load cell material $aluminium$ $aluminium$	Ontion Min. load cell verification interval (Vmin opt)		n.a.	E _{max} /15000	E _{max} /25 000	
Zero balance%+R0 ± 5 Excitation voltageV515Input resistance(RLC) Ω 413 ± 20 Output resistance(Rout) Ω 350 ± 25 Insulation resistance (100 V DC)M Ω ≥ 5000 Safe load limit(Elim)%*Emax150Ultimate load%*Emax300Safe side load%*Emax100Maximum platform size; loading acc. to OIML R76mm400 x 400Maximum off centre distance at maximum capacitymm150Compensated temperature range°C $-10+40$ Operating temperature range°C $-20+65$ (ATEX -20+60)Load cell materialImage: selection of the sele	Temp. effect on min. dead load output (TC _{0 opt})	%*R0/10°C	n.a.	± 0.0093	± 0.0056	
Excitation voltageV515Input resistance(RLC) Ω 413 ± 20Output resistance(Rout) Ω 350 ± 25Insulation resistance (100 V DC)M Ω \geq 5000Safe load limit(Elim)%*Emax150Ultimate load%*Emax300Safe side load%*Emax100Maximum platform size; loading acc. to OIML R76mm400 x 400Maximum off centre distance at maximum capacitymm150Compensated temperature range°C-10+40Operating temperature range°C-20+65 (ATEX -20+60)Load cell materialaluminiumSealingpotted	Rated Output (RO)	mV/V	2 ± 10%			
Input resistance(RLC) Ω 413 ± 20Output resistance(Rout) Ω 350 ± 25Insulation resistance (100 V DC)M Ω \geq 5000Safe load limit(Elim)%*Emax150Ultimate load%*Emax300Safe side load%*Emax100Maximum platform size; loading acc. to OIML R76mm400 x 400Maximum off centre distance at maximum capacitymm150Compensated temperature range°C-10+40Operating temperature range°C-20+65 (ATEX -20+60)Load cell materialaluminiumSealingpotted	Zero balance	%*R0	± 5			
Output resistance(Rout)Ω350 ± 25Insulation resistance (100 V DC)MΩ≥ 5000Safe load limit(Elim)%*Emax150Ultimate load%*Emax300Safe side load%*Emax100Maximum platform size; loading acc. to OIML R76mm400 x 400Maximum off centre distance at maximum capacitymm150Compensated temperature range°C−10+40Operating temperature range°C−20+65 (ATEX −20+60)Load cell materialaluminiumSealingpotted	Excitation voltage	V	515			
Insulation resistance (100 V DC)MΩ≥ 5000Safe load limit(Elim)%*Emax150Ultimate load%*Emax300Safe side load%*Emax100Maximum platform size; loading acc. to OIML R76mm400 x 400Maximum off centre distance at maximum capacitymm150Compensated temperature range°C−10+40Operating temperature range°C−20+65 (ATEX −20+60)Load cell materialImaterialaluminiumSealingpotted	Input resistance (R _{LC})	Ω	413 ± 20			
Safe load limit(Elim)%*Emax150Ultimate load%*Emax300Safe side load%*Emax100Maximum platform size; loading acc. to OIML R76mm400 x 400Maximum off centre distance at maximum capacitymm150Compensated temperature range°C-10+40Operating temperature range°C-20+65 (ATEX -20+60)Load cell materialImage: Compensate of the stand o	Output resistance (Rout)	Ω				
Ultimate load% * Emax300Safe side load% * Emax100Maximum platform size; loading acc. to OIML R76mm400 x 400Maximum off centre distance at maximum capacitymm150Compensated temperature range°C-10+40Operating temperature range°C-20+65 (ATEX -20+60)Load cell materialaluminiumSealingpotted	Insulation resistance (100 V DC)	MΩ	≥ 5 000			
Safe side load%*Emax100Maximum platform size; loading acc. to OIML R76mm400 x 400Maximum off centre distance at maximum capacitymm150Compensated temperature range°C-10+40Operating temperature range°C-20+65 (ATEX -20+60)Load cell materialaluminiumSealingpotted	Safe load limit (Elim)					
Maximum platform size; loading acc. to OIML R76mm400 x 400Maximum off centre distance at maximum capacitymm150Compensated temperature range°C-10+40Operating temperature range°C-20+65 (ATEX -20+60)Load cell materialaluminiumSealingpotted	Ultimate load	%*Emax	300			
Maximum off centre distance at maximum capacitymm150Compensated temperature range°C-10+40Operating temperature range°C-20+65 (ATEX -20+60)Load cell materialaluminiumSealingpotted	Safe side load	%*Emax	100			
Compensated temperature range°C-10+40Operating temperature range°C-20+65 (ATEX -20+60)Load cell materialaluminiumSealingpotted	Maximum platform size; loading acc. to OIML R76	mm	400 x 400			
Operating temperature range °C -20+65 (ATEX -20+60) Load cell material aluminium Sealing potted	Maximum off centre distance at maximum capacity		150			
Load cell material aluminium Sealing potted		°C	-10+40			
Sealing potted	Operating temperature range	0°	-20+65 (ATEX -20+60)			
J I I I I I I I I I I I I I I I I I I I	Load cell material		aluminium			
	Sealing		potted			
Protection according EN 60 529 IP67	Protection according EN 60 529		IP67			

The limits for Non-Linearity, Hysteresis, and TC_{R0} are typical values. The sum of Non-linearity, Hysteresis and TC_{R0} meets the requirements according to OIML R60 with p_{LC} =0.7.

Dimensions (in mm)



Mounting bolts M6 8.8; torque 10 Nm. Torque value assumes oiled threads. * Unified thread 1/4-20 UNC is available.



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