

# CPA Series Low Profile Compression Load Cells



## Standard Features

---

- Capacities from 150 to 10000 kg
- OIML C3 class, from 2000 to 10000 kg
- Low profile
- Great resistance to lateral forces
- Stainless steel construction
- IP68 protection
- Shielded connection cable

---

**CAPACITIES (kg):** 150, 300, 500, 1000, 2000, 3000, 5000, 7000, 10000, 20000, 30000, 50000.

---

**OIML R60, C3** precision class from 2000 a 10000kg.

---

Stainless steel. **IP68** protection.

Stainless steel compression load cells suitable for extremely harsh environments and high temperatures.

## Specifications

---

**Minimum load cell verification interval:**

$V_{min} = E_{Max} / 10000$

**Full Scale Output:**

2mV/V +/- 0,1% (1,3mV/V for CPA150)

**Repeatability:**

0,01% F.S.

**Combined Error:**

0.025%  $E_{max}$  ( $\leq 10t$ ), 0.05%  $E_{max}$  ( $\geq 20t$ )

**Temperature effect on zero:**

0,0014% /°C

**Temperature effect on full scale output:**

0,0013% /°C

**Compensated Temperature Range:**

-10°C/+40°C

**Operating Temperature Range:**

-30°C/+60°C

\* Upon request up to 200°C

**Creep error after 4 hours:**

0,03% F.S.

**Maximum tolerated excitation voltage:**

15 Vdc

**Input Resistance:**

1100 ± 50 Ohm

**Output Resistance:**

1000 ± 10 Ohm

**Zero Balance:**

± 2% F.S.

**Insulation Resistance:**

>5000 MOhm

**Safe Overload:**

150% F.S.

**Shielded cable:**

6-wire shielded cable, 5 mm diameter:

- 5 m long for the versions from

150 up to 10000kg

- 15 m long for the versions from

20000 to 50000kg

**Main Certifications**

OIML R60

Australian legal for trade certificate of approval (NMI S838)

## Wiring Code

---

<u>Wiring Code</u>	
<u>Colour</u>	<u>Function</u>
METAL	SHIELD
GREEN	OUTPUT +
VIOLET	SENSE +
RED	INPUT +
WHITE	OUTPUT -
GREY	SENSE -
BLACK	INPUT -

## ATEX Version

---

The CCATEX certificate makes the load cell suitable for use in hazardous areas with protection methods according to:

ATEX II 1G Ex ia IIC T6 (Ta -20÷+40°C) TX (Ta -20÷+65°C)

ATEX II 1D tD A20 TX°C (Ta -20÷+40°C) TX°C (Ta -20÷+65°C).

The certificate includes the manual and the ATEX CE conformity declaration (available in EN, DE, FR, and IT).

The CCATEX certificate is issued after the checks done by qualified technicians, with the help of specific equipments, for each load cell.

**IMPORTANT:** the certificate refers to the single load cell. For systems with more load cells, it is necessary to order one certificate for each load cell.

## Available versions

---

Code	Max (kg)
<u>CPA150</u>	150
<u>CPA300</u>	300
<u>CPA500</u>	500
<u>CPA1000</u>	1000
<u>CPA2000</u>	2000
<u>CPA3000</u>	3000
<u>CPA5000</u>	5000
<u>CPA7000</u>	7000
<u>CPA10000</u>	10000
<u>CPA20000</u>	20000
<u>CPA30000</u>	30000
<u>CPA50000</u>	50000

**NOTE:** Capacities up to 1000t upon request.

# Parts

---

**Part #**      **Description**

## Available Versions

<b>CPA150</b>	Compression load cell, C3, Max=150kg. Stainless steel, IP68 protection rate.
<b>CPA300</b>	Compression load cell, C3, Max=300kg. Stainless steel, IP68 protection rate.
<b>CPA500</b>	Compression load cell, C3, Max=500kg. Stainless steel, IP68 protection rate.
<b>CPA1000</b>	Compression load cell, C3, Max=1000kg. Stainless steel, IP68 protection rate.
<b>CPA2000</b>	Approved compression load cell, C3, Max=2000kg. Stainless steel, IP68 protection rate.
<b>CPA3000</b>	Approved compression load cell, C3, Max=3000kg. Stainless steel, IP68 protection rate.
<b>CPA5000</b>	Approved compression load cell, C3, Max=5000kg. Stainless steel, IP68 protection rate.
<b>CPA7000</b>	Approved compression load cell, C3, Max=7000kg. Stainless steel, IP68 protection rate.
<b>CPA10000</b>	Approved compression load cell, C3, Max=10000kg. Stainless steel, IP68 protection rate.
<b>CPA20000</b>	Compression load cell, C3, Max=20000kg. Stainless steel, IP68 protection rate.
<b>CPA30000</b>	Compression load cell, C3, Max=30000kg. Stainless steel, IP68 protection rate.
<b>CPA50000</b>	Compression load cell, C3, Max=50000kg. Stainless steel, IP68 protection rate.

# Options

---

## Part # Description

### Version for Very High Temperatures

<b>CPAHT</b>	Option for high temperatures with compensation up to constant 170°C (with brief peaks up to 200°C) and specific cable (for single load cell).
<b>CPAHTL</b>	Option for high temperatures with compensation up to 85°C and standard cable (for single load cell).

---

### Mounting kits

<b>KCPN10A</b>	Nickel steel kit for assembling a CPX cell, up to 12,500kg and CPA cell up to 10,000kg (Load cell not included).
<b>KCPN10</b>	Stainless steel kit for assembling a CPX cell, up to 12,500kg and CPA up to 10,000kg (load cell not included).
<b>KCPN10PRO</b>	UNI EN 1090 stainless steel mounting kit for CPX load cells up to 12.500kg and CPA up to 10.000kg (Load cell not included).
<b>KCPN30</b>	Stainless steel kit for assembling a CPX30000 and CPA20000/CPA30000 cells (load cell not included).
<b>KCP50</b>	Kit in zinc-plated steel for assembling a 30.000 kg CPX load cell and CPA load cells from 20.000 to 50.000 kg (Load cell not included).

---

### Stay Rod

<b>LNK2635</b>	Galvanized stay rod with ball-and-socket joints. Max 100 kN. For proper installation, 2xLNKST are needed. Note: They can't be ATEX-certified.
<b>LNKST</b>	Single plate for stay rod. Fitted with fixing screw. (For proper installation, LNK2635 and a second LNKST are needed). Note: They can't be ATEX-certified.

---

### Connection Cables

<b>LCCB</b>	Shielded cable 6x0.25 mm <sup>2</sup> (suitable for Ex zones). PVC inner sheath. Tinned copper braid shielding. PVC outer sheath, diameter 5.8 mm. Temperature range: -40 / +80 °C. Minimum bending radius $\geq 6 \times$ O.D. €/m. Maximum orderable length: 100 m (longer lengths available only upon request).
<b>LCCBA</b>	Armoured cable 6x0.25 mm <sup>2</sup> (suitable for Ex zones). PVC inner sheath, diameter 5mm. Iron-zinc alloy armour. Transparent PVC outer sheath, 8 mm diameter. Temperature range: -15 / +70 °C. Minimum bending radius $\geq 5 \times$ O.D. €/m. Maximum orderable length: 100 m (longer lengths available only upon request).
<b>LCCBM</b>	Shielded 4x0,34 mm <sup>2</sup> cable for moving applications. €/m. Maximum orderable length: 100 m (longer lengths available only upon request).
<b>PRCB</b>	Protection sheathing for shielded cable. €/meter internal Ø 15mm. Maximum orderable length: 100 m (longer lengths available only upon request).

---

### Junction Boxes

<b>JB4</b>	Junction box with up to 4 load cells. ABS box, IP67 protection rating, with 4 + 1 fairleads.
------------	--

---

Part #	Description
<b>JB4Q</b>	Equalisation box for connection with up to 4 load cells. ABS box, IP67 protection rating, with 4 + 1 fairleads.
<b>JB4QI</b>	Stainless steel equalisation box for connection with up to 4 load cells. IP65 protection rating, with 4 + 1 fairleads.
<b>JB4</b>	Junction box with up to 4 load cells. ABS box, IP67 protection rating, with 4 + 1 fairleads.

### Available Weight Indicator / Transmitter

<b>DGT1S</b>	Weight transmitter on DIN bar, with 2 INPUTS and 2 OUTPUTS. Fitted with 5-key keypad and LED display. Multifunction weighing program.
<b>DGT1</b>	Weight transmitter for DIN bar. 5-key keypad, LED display, date/time, alibi memory, and multifunction weighing program.
<b>DGT4</b>	Transmitter for DIN bar with 4 channels, 2 IN and 2 OUT. 5-key keypad, LED display, and standard weighing program.
<b>DGTQ</b>	Transmitter for panel mounting, with 2 IN and 2 OUT. 5-key keypad, LED display, and standard weighing program.

### Options for ATEX Version

<b>ZBA1S</b>	Intrinsic protection three channel Zener barrier. Specific for connection to load cells, for mounting on DIN rail in a safe area, or in a flame-proof case. Marking: ATEX/IECEX II (1) GD [Ex ia Ga] IIC [Ex ia Da] IIIC. Provided with safety instructions and the ATEX EU declaration of conformity (EN, DE, FR, ES and IT).
<b>KZBA-1</b>	ATEX ABS housing kit with Zener Barrier ZBA1S for load cells. For intrinsically safe weighing systems in a dangerous zone. Dimensions 179x359x166,5mm. Marking of housing + Zener Barrier ZBA1S: ATEX II 3(1)G Ex nA [ia Ga] IIC T4 Gc X for gas, ATEX II 3(1)D Ex tc [ia Da] IIIC T135°C Dc IP66 X for dust. Provided with safety instructions and the ATEX EU declaration of conformity (EN and IT).
<b>JB4QAI</b>	ATEX equalisation box made of stainless steel IP66 for up to 4 cells. 4 + 1 fairleads. Marking: ATEX II 2G Ex ib IIC T6 Gb for gases, ATEX II 2D Ex tb IIIC T115°C Db IP65 for dusts. Provided with safety instructions and the ATEX EU declaration of conformity (EN, DE, FR, ES and IT).
<b>JB4QA</b>	ATEX equalisation box made of ABS IP67, for up to 4 cells. 4 + 1 fairleads. Marking: ATEX II 2G Ex ib IIC T6 Gb for gases, ATEX II 2D Ex tb IIIC T115°C Db IP65 for dust. Provided with safety instructions and the ATEX EU declaration of conformity (EN, DE, FR, ES and IT).
<b>LCCB</b>	Shielded cable 6x0.25 mm <sup>2</sup> (suitable for Ex zones). PVC inner sheath. Tinned copper braid shielding. PVC outer sheath, diameter 5.8 mm. Temperature range: -40 / +80 °C. Minimum bending radius $\geq 6 \times$ O.D. €/m. Maximum orderable length: 100 m (longer lengths available only upon request).
<b>EXCB6</b>	Blue shielded cable 6x0.22 mm <sup>2</sup> , only for EX i (2GD) assemblies. PVC inner sheath. Tinned copper braid shielding. Polyurethane outer sheath, diameter 5.8 mm. Temperature range: -40 / +80 °C. Minimum bending radius $\geq 7 \times$ O.D. €/m. Maximum orderable length: 100 m (longer lengths available only upon request).
<b>KMB4-1</b>	Kit of 3 ATEX Zener barriers for load cells, in an ABS box. For up to 4 load cells of 350 ohm, for intrinsic protection weighing systems in a dangerous area. Marking of the whole box with three Zener barriers: ATEX II 3(1)G Ex nA [ia Ga] IIC T4 Gc (-20°C = Ta = +40°C) for gas, ATEX II 3(1)D Ex tb [ia Da] IIIC T130°C Dc IP65 (-20°C = Ta = +40°C) for dusts. Provided with safety instructions and the ATEX EU declaration of conformity (EN and IT).

<b>Part #</b>	<b>Description</b>
<b>CCATEX-1</b>	Optional ATEX version for single load cell. Marking: ATEX II 1G Ex ia IIC T6 (Ta -20÷+40°C) TX (Ta -20÷+65°C) Ga and ATEX II 1D Ex ta IIIC TX°C (Ta -20÷+40°C) TX°C (Ta -20÷+65°C) Da IP65. Provided with safety instructions and the ATEX EU declaration of conformity (EN, DE, FR, ES and IT).
<b>CCATEX3GD</b>	ATEX certificate for each load cell. Marking: ATEX II 3G Ex nA IIC T6 Gc for gas and ATEX II 3D Ex tc IIIC T115°C Dc IP65 for dusts. Complete with manual and ATEX CE conformity declaration (available in EN, DE, FR and IT).
<b>DCATEXMECH</b>	ATEX version for the PLATFORM / LOAD CELL MOUNTING KIT for zone 1/21 (for the load cells ATEX declaration see CCATEX code). Option to be offered only if the platform is ordered without the indicator, otherwise refer to the available certifications for the chosen weight indicator. Provided with safety instructions and ATEX EU declaration of conformity (EN, DE, FR, ES and IT). Includes IP68 connection between platform and weight indicator.
<b>DCATEXMB4</b>	ATEX declaration for the whole system with Dini Argeo Zener barriers. Ex II 2G IIC T6 Gb X e Ex II 2D IIIC T125°C Db X system, with label of the whole system, for weight indicator connected to Dini Argeo zener barriers, connected to a mechanical structure with ATEX load cells (each cell must be certified with CCATEX option). Provided with descriptive document of the assembly and ATEX EU declaration of conformity of the assembly (EN and IT).

**Dini Argeo S.r.l. | Via della Fisica, 20 - 41042, Spezzano di Fiorano, Modena (MO), Italy | Tel.:  
+39 0536 843418**

[www.diniargeo.com](http://www.diniargeo.com)