

*S m a r t      S o l u t i o n s*

## BC302 & BC301 - MINIATURE LOAD CELLS



### APPLICATION AND TECHNICAL FEATURES

Miniature button load cells series BC300 find main application where a very low profile and extreme compactness of the transducer are important. They are used in static and dynamic measurements, in compression (BC 302 - BC 303) and in tension and compression (BC 301), for general purpose on machines, for robotics as tactile sensors, for multipoint measurements.

The body of the transducer is in aluminium alloy (= Al) or in high strength stainless steel (= Ss) as listed in the ranges below.

### TECHNICAL SPECIFICATIONS

Measuring ranges:

- BC 302 (compression load) : 0 to 3, 6 , 12, 20, 30 (Al), 60 and 100 (Ss) Kg FS
- BC 303 (compression load): 0 to 150, 350, 500 (Ss) Kg FS
- BC 301 (tension and compression load): 0 to  $\pm 3$ , 6, 12, 20, 30, 60 (Al), 100, 150 (Ss) Kg FS

Sensitivity: 2 mV/V FS, typical

Total error:  $\leq \pm 0,5$  % FS

Repeatability error:  $\leq \pm 0,1$  % FS

Zero unbalance:  $\leq \pm 3$  % FS

Overload: 1,5 times FS max

Thermal shift of zero and of sensitivity:  $\leq \pm 0,08$  % FS/°C

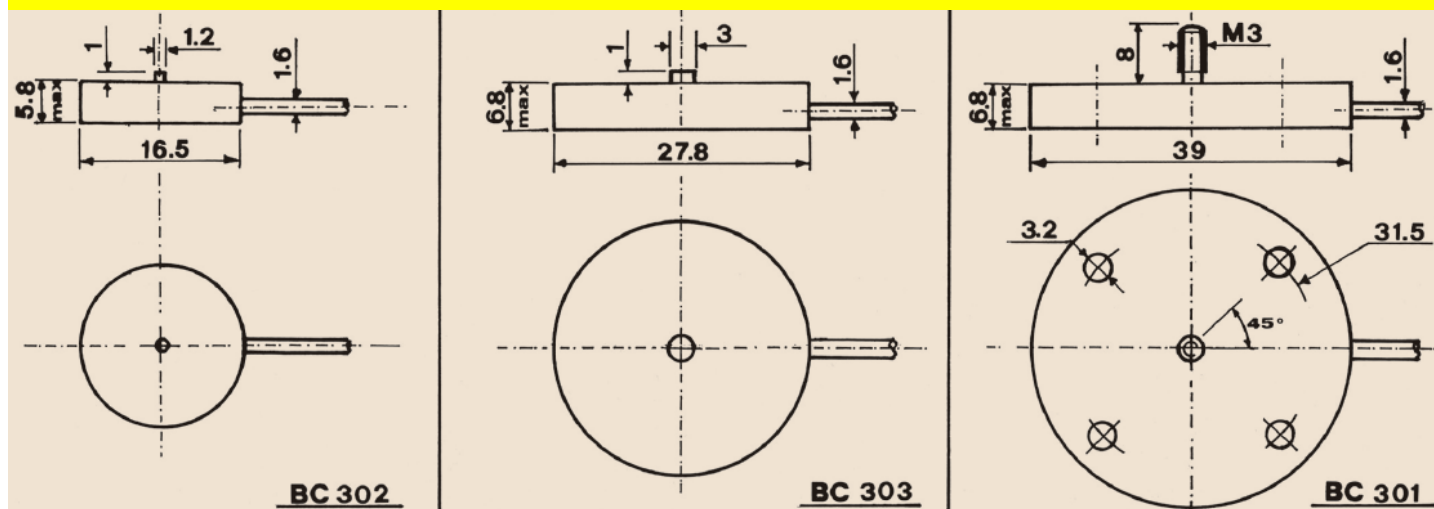
Excitation: 5 V dc/ac; 6 V dc/ac max

Electrical connection: by a cable 1 mt long (models 301/302/303) or 2 mt (BC304 or BC305)

Fixing:

- BC 302 - BC 303: usually by cement or by inserting the transducer into a housing
- BC 301: by M3screws

### OVERALL DIMENSIONS

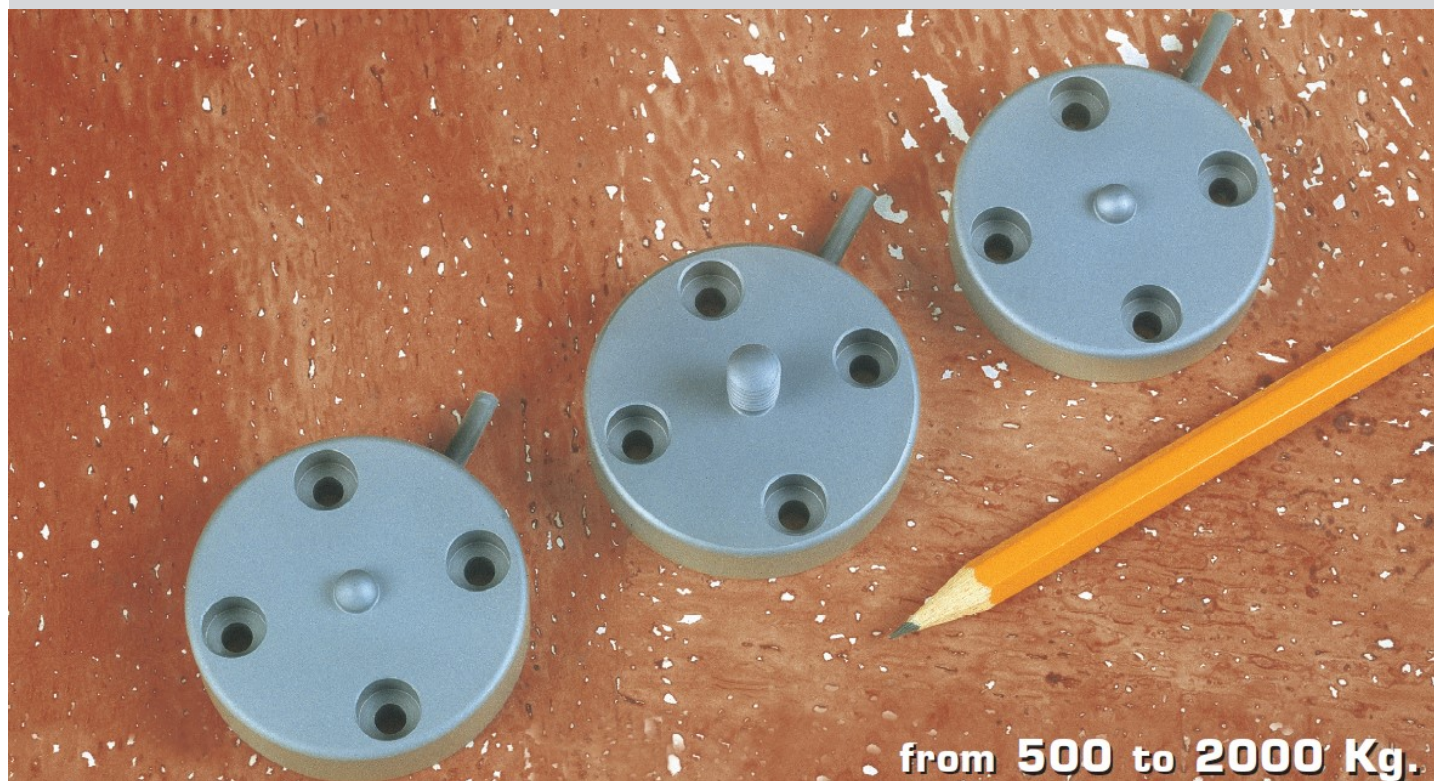


Via Imperia, 28—20142 Milano (ITALY) Phone: +39 02 89 101 42 Fax: + 39 02 89 158 658

<http://www.s2tech.it/> E-mail: [info@s2tech.it](mailto:info@s2tech.it) SKYPE: commerciale.s2tech



## BC304 & BC305 - MINIATURE LOAD CELLS



### APPLICATION AND TECHNICAL FEATURES

BC304 and BC305 transducers cover the measurement needs for the higher measuring ranges: BC304 load cells are to be used for or compression loads, while BC305 are suited for tension and compression loads. These button load cells find applications for general purpose on machines, where the very low profile and the extreme compactness are important; moreover their small dimensions and easy construction bring them competitive compared to other larger cells with the same measuring ranges. The compression model can be supplied also with load adapter.

### TECHNICAL SPECIFICATIONS

#### Measuring ranges:

**BC 304:** 0 to 500, 1000 and 2000 Kg FS (compression load)

**BC 305:** 0 to  $\pm 100$  (Al),  $\pm 500$  and  $\pm 1000$  Kg FS (tension and compression)

Sensitivity: 2 mV/V FS, typical

Total error:  $\leq \pm 0,5$  % FS

Repeatability error:  $\leq \pm 0,1$  % FS

Zero unbalance:  $\leq \pm 3$  % FS

Overload: 1,5 times FS max

Thermal shift of zero and of sensitivity:  $\pm 0,08$  % FS/ $^{\circ}$ C

Excitation: 5 V dc/ac; 6 V dc/ac max

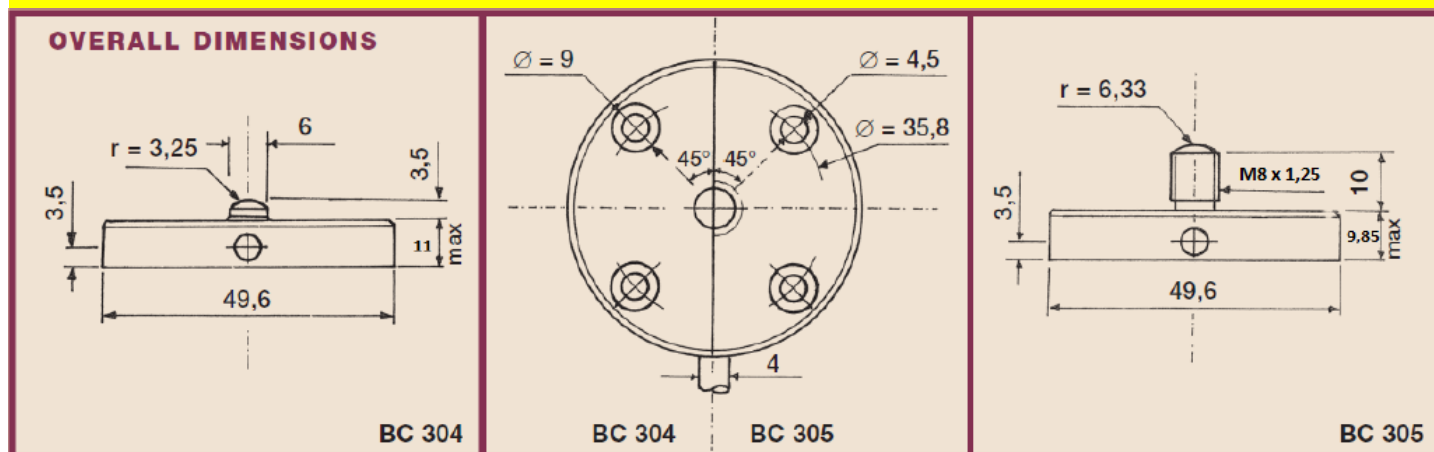
Electric & connection: by a cable 1 meter long

Fixing: BC 302 - BC 303 usually by cement

BC 301: by screws

*Note (1): for dynamic loads and shocks the max allowable load must be reduced and anyhow applied on the measuring axis*

### OVERALL DIMENSIONS

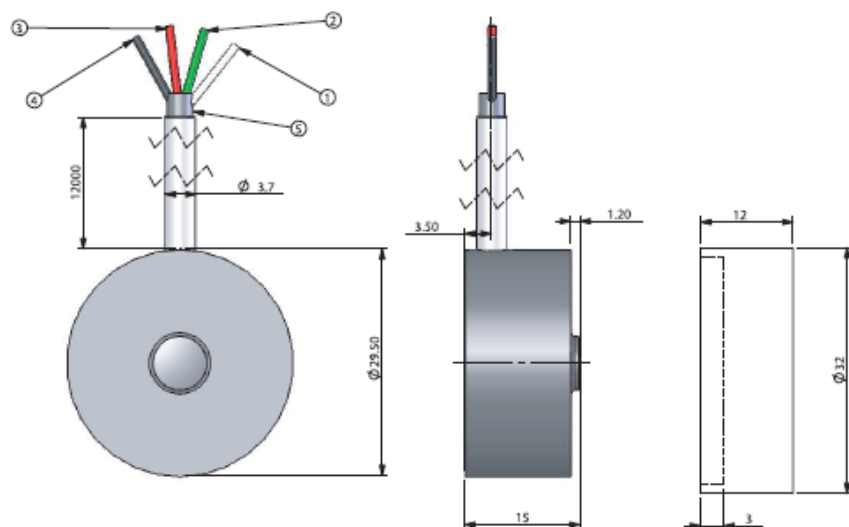


**BC304K1500 - MINIATURE LOAD CELL****Load cell mod. BC304K1500SS****Adapter mod. BC304AdapterSS****APPLICATION AND TECHNICAL FEATURES**

These load cells, when used with their load adapter meet very high requirements in term of expected life and performances, with a specially treated stainless steel construction that allows a high measuring Full Scale, into a very compact size, for compression loads. The transducer when loaded with its adapter can avoid the dangerous effects of loads not correctly aligned on transducer's measurement axis, allowing a high long term reliability. As for each unit manufactures by S2Tech srl, each transducer is individually tested and a Final Test Certificate is issued as result of the high quality standards followed during the manufacturing process.

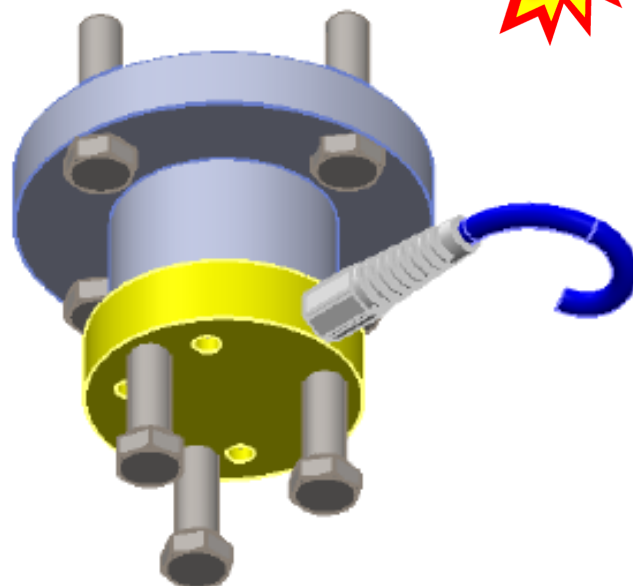
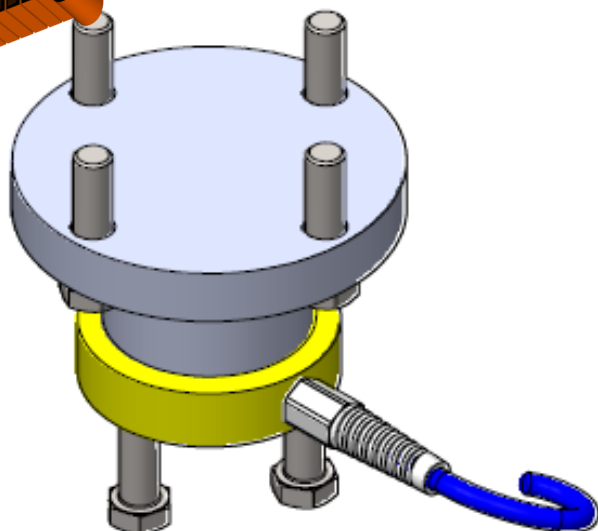
**TECHNICAL SPECIFICATIONS**

Measuring ranges: 0 to 15 kN FS (compression load)  
 Sensitivity: 1 mV/V FS, typical  
 Bridge impedance: 350 Ohm  
 Accuracy:  $\leq \pm 0,5 \%$  FS  
 Repeatability error:  $\leq \pm 0,05\%$  FS  
 Maximum deflection @ FS  $\leq 0,12$  mm  
 Safe load limit: 140% FS  
 Breaking load:  $> 300 \%$  FS (on measurement axis)  
 Environmental protection: IP21  
 Thermal shift of zero and of sensitivity:  $\pm 0,08\%$  FS/°C  
 Excitation: 5 to 12 Vdc  
 Electrical connection: standard shielded PVC cable

**OVERALL DIMENSIONS**

N°	WIRE COLOR	DESCRIPTION
1	WHITE	SIGNAL -
2	GREEN	SIGNAL +
3	RED	POWER +
4	BLACK	POWER -
5		CABLE SHIELD



**Coming Soon****BC2000 - MINIATURE MOUNTING KIT****NEW****APPLICATION AND TECHNICAL FEATURES**

This load cell assembly is studied to be loaded up to 2.000 Kg on its measuring axis, with the possibility to have lateral loads of the same entity. The load adapter and the transducer are designed so that a pull force on the measurement axis direction will not take away the adapter from the transducer, with a good insensitivity to side loads. This assembly is studied to be used under weighing platforms, under feet of tanks, etc.

**TECHNICAL SPECIFICATIONS**

Measuring range, at compression : 2.000 Kg FS

Sensitivity: 2 mV/V FS, typical

Total error: t.b.d.

Repeatability error: t.b.d.

Deflection @ Full Scale load: t.b.d.

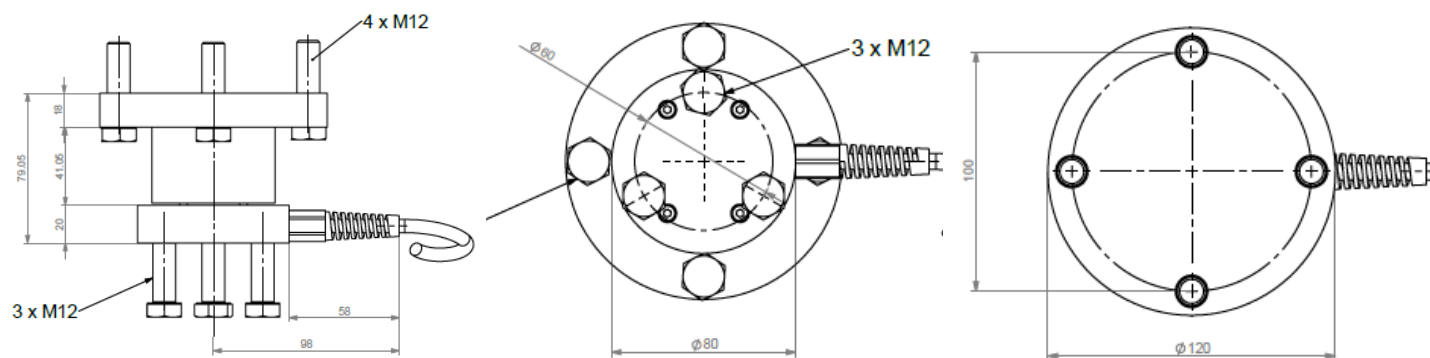
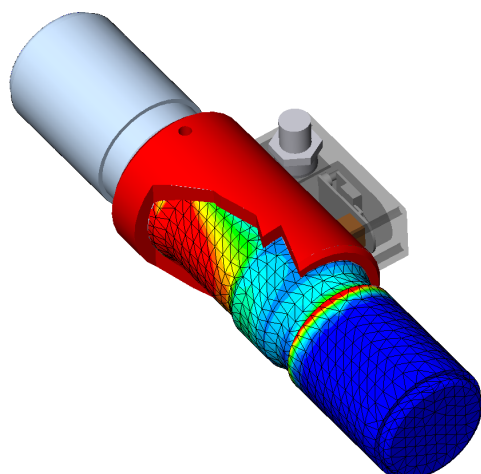
Zero unbalance:  $\leq \pm 3 \% \text{ FS}$

Overload: 1,5 times FS max

Thermal shift of zero and of sensitivity:  $\pm 0,08\% \text{ FS}/^{\circ}\text{C}$

Excitation: 5 V to 12V dc max

Electrical connection: shielded cable, 2 mt length

**OVERALL DIMENSIONS****DEVELOPMENT AND MANUFACTURING OF CUSTOM PRODUCTS**

**S2Tech technical department**, with 30 years experience acquired with DS Europe, can develop products accordingly to customers' technical specifications with the following tools:

- **3D** mechanical design CAD software stations.
- Finite Element Analysis **FEA** software stations.
- *Digital and analog electronic* development accordingly to EMC (= CE) stricter industrial marking regulations (with tests in anechoic room at Competent Body third party laboratory).
- *Software and embedded firmware* development accordingly to most popular industrial bus systems (CANopen, Modbus, PROFIBUS etc.)
- Fast prototyping.

S2Tech develops new products or modifies existing ones, in order to realize the fittest and more convenient product.



ISO9001:2015  
Cert. n.6687