ROD LOAD CELLS

with INTERNAL A/D ELECTRONICS SERIES AP 7000

APPLICATIONS AND CONSTRUCTIVE FEATURES

The *rod load cells Series AP 7000* are settled at the end of a rod, of a chain, of a joint, of an hook for the measurement of an overhung load.

They find *main applications*: on cranes, on traveling-cranes, on lift-trunks, on mobile and fix weighing systems and for general purpose.

The transducer is a rod in high-strength steel threaded at both the ends and with the sensitive elements in the middle connected to an internal electronics.

Several constructive features have been included to increase the tensile strength and the safety limits as: section of the rod double (sensitivity: 1 mV/V FS) compared to that of a normal load cell (2 mV/V FS), changes of sections smoothly radiused to avoid lines of rupture, long threated ends.

The *environmental protection* is assured by filling the central metal protection by water-repellent and high insulating silicon gel and rubber.

ADVANTAGES OF THE INTERNAL A/D ELECTRONICS (options):

- *Analog electronics (-A)*: zero (tare) regulation from outside, insensitivity to the cable length and better insensitivity to the external electrical disturbances.
- *Digital electronics (-D)*: all settings are performed by a remote computer: zero (tare) suppression, conversion to mechanical units (Kg, tons, etc.), calibration and operating controls of all the measuring system, alarm (threshold) levels and their hysteresis (CAN), 8 points of customized linearization, up to 32 feasible transducers connected to an only line strongly free from electrical disturbances (ask for the bulletin: “Transducers with digital electronics”).

All the internal electronics have *CE certification* for emission and immunity to electromagnetic disturbances.

ROD LOAD CELLS: TECHNICAL SPECIFICATIONS:

Measuring ranges: AP 7010: 0 to 10 tons; AP 7025: 0 to 25 tons; AP 7050: 0 to 50 tons; AP 7100: 0 to 100 tons.

Total error (non-linearity + hysteresis + temperature effect on sensitivities): < ±0,2 % FS.

Temperature effect on zero output: within 5° K < ±0,1 % FS.

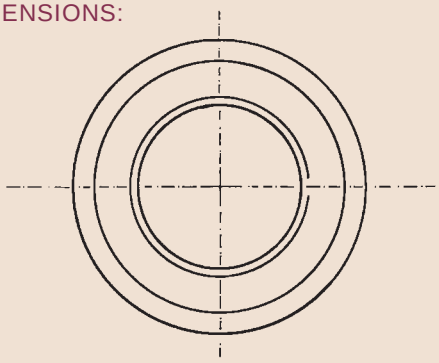
Creep:	< ±0,15 % FS, during 4 hours test at FS.
Zero output return:	< ±0,07 % FS after 30 min. at FS.
Overload:	> 3 times FS (see note).
Safety limit:	> 5 times FS (see note).

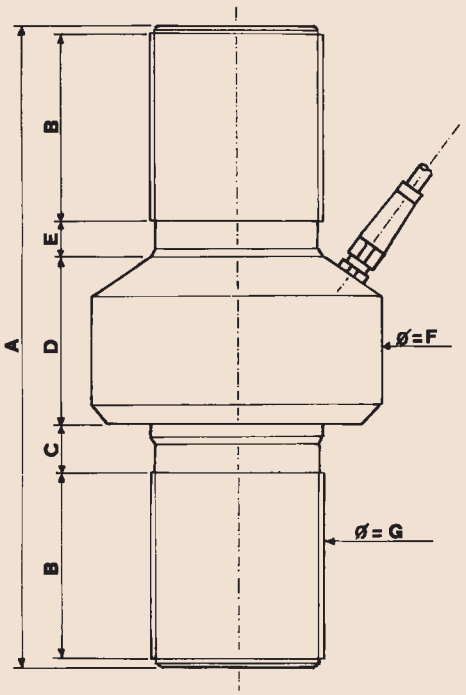
Note: *for dynamic loads; with shocks and vibrations, difficult to estimate, the max load allowed must be reduced to avoid yieldings and ruptures.*

INTERNAL A/D ELECTRONICS (options): TECHNICAL SPECIFICATIONS:

- **Analog electronics** (suffix: -A):
  - *Voltage amplifiers:*
    - **- A5** = supply: 10,5 to 28 Vdc; output: 0 to 5 V.
    - **- A10** = supply: 18 to 28 Vdc; output: 0 to 10 V.
  - *Current amplifier:*
    - **- A4** = supply: 18 to 40 Vdc; output: 4 to 20 mA.
- **Digital electronics:** (suffix: -D).
  - Digital outputs: **- D2x** = RS 422 and RS 485. **-D4x** = CAN
  - Protocol (x): **- D20** = DSEbus, **-D21** = Modbus,
    - D40 = CAN layer 2; **-D41** = CAN open (DSP 406); **- D42** = Devicenet.
  - A/D Converter: 24 bit max (Sigma Delta).
  - Bandwidth: from zero to 1,94 Hz up to 390 Hz (-3 dB), depending on A/D update frequency.
  - Baud rate: from 1200 to 115.200 baud (RS 485/442) or 1 Mbit max for CAN.
  - Analog output (option): from 0 to 5 V (12 bit D/A).
  - Operating temperature range: from -20 to +70°C; **Rh** < 95 %.

OVERALL DIMENSIONS:





MODEL	AP7010	AP7025	AP7050	AP7100	AP7010	AP7025	AP7050	AP7100
SIZES	mm				inches			
A	210	240	270	330	8,27	9,45	10,63	12,99
B	40	55	65	95	1,57	2,16	2,56	3,74
C	27	27	32	32	1,06	1,06	1,26	1,26
D	78	78	78	78	3,07	3,07	3,07	3,07
E	15	15	20	20	0,59	0,59	0,79	0,79
F	100	110	130	150	3,93	4,33	5,12	5,90
G	M36x3	M48x3	M64x4	M90x4	1 3/8 -12 UNF	1 7/8 -12 UN	2 1/2 -12 UN	3 1/2 -12 UN

Technical specifications and prices may change without notice.

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