

### BEAM LOAD CELL SERIES PT500



#### DESCRIPTION

Series PT500 transducers are shear type load cells made up of high strength aluminium alloy. PT500 load cells have a full Wheatstone bridge with strain gauges that grants high thermal stability and reliability.

It is possible to purchase series PT500 with mV/V non-amplified output and with built-in analog or digital outputs that allow high resolution and high protection against electrical noise (electronics is mechanically and electrically shielded by load cell metal frame).

Built-in digital electronics allow also an easier cabling as well as cost reductions because they avoid expensive analog input circuitry on the external electronics (PLC, computer, DAQ etc.).

Digital electronics have high sampling and baud rate for a fast closed loop control on the machine application.

CANopen data transmission allows to have automatic error messages for an easy service and it has also programmable alarm levels.

Series PT500 is suitable for many industrial and research applications because of its low profile, ruggedness and good price such as: automation, industrial weighing, test machines, textile machines, tanks, cranes, winches, lifts, vehicle test machines, machine tools, marble machines, ceramic machines, vehicles, medical scales, packaging machines, converting machines, presses etc.

## TECHNICAL CHARACTERISTICS

**Measuring ranges (tension and compression):** 0 to 100 – 200 – 500 - 1000 Kg FS.

**Sensitivity:** 2 mV/V typical.

**Total error:**  $\pm \leq 0,05\%$  FS.

**Repeatability error:**  $\pm \leq 0,002\%$  FS.

**Return to zero error:**  $\pm \leq 0,001\%$  FS.

**Zero thermal variation error:**  $\pm \leq 0,003\%$  FS/°C.

**Zero unbalance:** 2% FS max.

**Wheatstone strain gauge bridge impedance:** 350 Ohm.

**Power supply:** 10 Vcc/ca, max 20 Vcc/ca.

**Allowed overload:** 150% FS.

**Operating temperature:** -15°C up to +75°C.

**Environmental protection:** IP65 (for cable connection)

**Electrical connection:** 2 m shielded cable or DB connector

### Digital output:

D21= RS485 Modbus protocol

D41= CAN Open

Resolution: 24bit max. by means of sigma-delta A/D converter

Power supply: 24Vcc filt. stab

Connection: by means of DB connector with 9 or 15 high density pins

Sample rate: up to 1920 Hz max

Baud rate: up to 115000 baud for RS485 and 500 Kbit/sec for CAN

### Analog output:

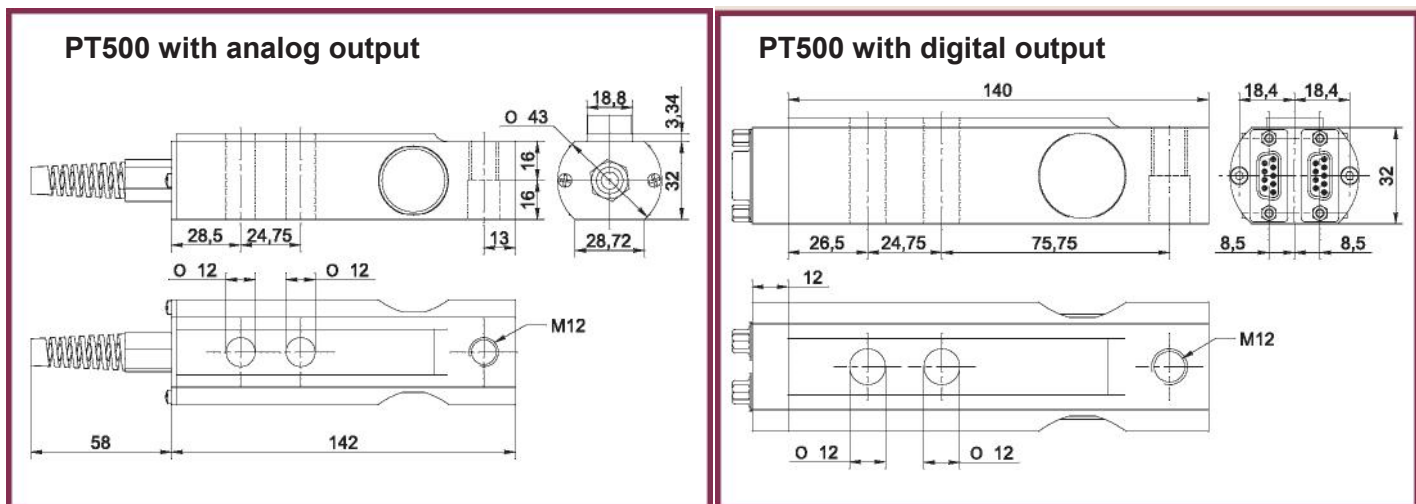
2 mV/V typical, non-amplified

A1 =  $\pm 10$  V Load cell power supply: 18 to 28 Vcc filt. stab

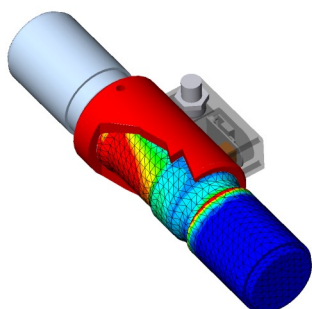
A5 =  $\pm 5$  V Load cell power supply: 10,5 to 28 Vcc filt. stab

Connection: 2 m cable

## OVERALL DIMENSIONS



## DEVELOPMENT AND MANUFACTURING OF CUSTOM PRODUCTS



S2Tech technical department, with 30 years of 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
- Software and embedded firmware development accordingly to most popular industrial bus system (CANopen, Modbus, PROFIBUS)
- Fast prototyping

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