MAGNAPOSI

CATENARY MEASUREMENT SYSTEM

TECHNICAL INFORMATION

C&S
CONTROLES Y SISTEMAS

MD3-02

1.0 GENERAL DESCRIPTION:

The MAGNAPOSI system allows the distance measurement between a steel strip that is being pickled in a tank within an acid solution and the tank floor. The functional principle is magnetic, contactless with neither the acid or the strip.

It consists of 1 (one) magnetic sensor and an enclosure with electronics. The electronics gives the necessary signals, processes the information that comes from the sensor, and provides the distance measure through an analogic output (0 to 10Vcc or 4 - 20mA).

Power requirements are 110V (220V) Vac, 50Hz (60Hz), 750VA.

2.0 SM-500T SENSOR:

It's a cylindrical body 97 mm diameter, 960mm length, completely casted in a corrosion resistant compound.

The sensor has a shell made from the same material used in modern pickling tanks

For the interconnection with the electronics this have 1 (cable) 5 (five) meters long

3.0 MEASUREMENT AND CONTROL UNIT

Located in a metallic enclosure IP65 with an antirust protection and a final termination in a RAL7035 colour.

External dimensions

Wide: 600mm

Height: 800mm

Deep: 300mm

At the back plate of the basic system we find:

- 2 (two) Transformers denominated T1 and T2.
- 1 (one) Aluminium rack with electronics modules.
- 1 (one) Circuit breaker, called T1, for master powering.
- 1 (one) DC/DC isolator, called IS1
- 1 (one) 24V power supply, called PS1
- 1 (one) Interconnection terminal blocks B01
- 1 (one) Interconnection terminal blocks B02
- 1 (one) Interconnection terminal blocks B03

The Aluminum rack is aimed to host the following electronic modules.

- SRPS-50-L power supply for SM-500T sensor.
- RPS-50 power supply for temperature control
- MAP-3HL alarms module.
- MGP-10V-P measurement and control module.
- TC-2W Temperature control module.

3.1 POWER SUPPLY MODULE SRPS -50-L

Provides one SM-500T sensor polarization.

3.2 RPS-50 TEMPERATURE POWER MODULE

This module is intended to provide the energy required to achieve the operating temperature of the sensor.

3.3 CONTROL AND MEASUREMENT MODULE MGP-10V-P:

Micro processor unit where the sensor signals are conditioned and the measurement is done. Provides analogue output in a range 0 to 10Vcc.

3.4 ALARMS MODULE MAP-3HL:

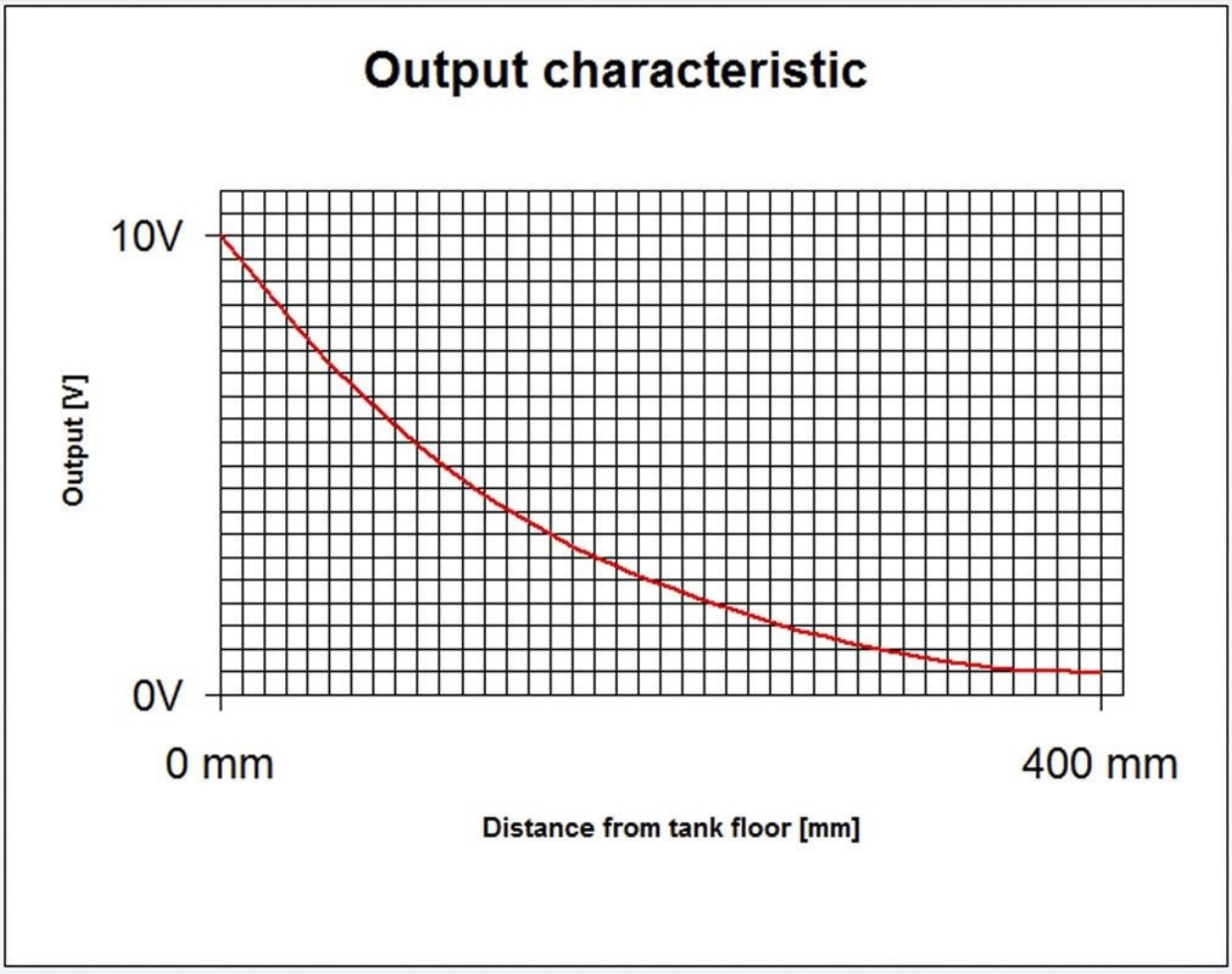
Micro processor unit that develops the below functions:

- Supervision: All system supplies, sensor SM-500T settings, current loop 4-20mA integrity.
- Low & high level deep strip, digital programmable alarm.
- Conversion from 0-10VCC analogue voltage output to 4-20ma analogue current loop.
- Display access to all system variables.
- Three relay outputs normal open, two related with Low & high level deep strip set, and one related to system status.

3.5 TC-2W MODULE:

This module sets and controls the SM500T temperature

4.0 RANGE:



The Picture above depicts the analogue output volts related with the distance between the strip and the tank floor, considering 0 mm the tank floor (generally granite or marble domes).
From this position (0 mm) and the centre of the sensor there are usually about 100 mm.

5.0 OPTIONS:

The system must be adapted to the line which will be used and user requirements. So many options are available.

An alternative is to use two active sensors with two independient electronics. This configuration has the advantage that enable the measurement of lateral strip position respect centre line too.

Please contact us to set the best configuration for your needs.

Controles Y Sistemas S.R.L.
Garibaldi 611 (B2900DOM) San Nicolás Bs.As. Argentina
Tel.: +54-336-4426734 Mail: info@controlesysistemas.com.ar