PPS SENSOR

Flood gate opening degree measurement sensor

PRODUCT DESCRIPTION

It is a high resolution incremental optical encoder rotary sensor. The sensitive element is an AISI 316 stainless steel microcable coiled around a precision pulley which transmits motion to an optoelectronic encoder integral with its axis.

OPERATION

The PPS rotary sensor is used to build systems to monitor the opening degree of swing flood gates. In these systems, the opening degree of a flood gate is calculated by measuring the linear movement of an object (in this case a flood gate) using a highly flexible steel wire that coils around a reel connected to a potentiometer. When the flood gate opens and closes, thus uncoiling or coiling this steel wire, fitted with a nylon cover, it supplies an analogue signal through the potentiometer that is proportionate to the linear movement of the wire (and hence to the opening degree of the flood gate).

Sensor operation will be remote controlled. The following types of remote controls can be managed:

- **Direct control for flood gate opening or closing; or lift installation on/off; the command can be locked for a set time duration, set duration pule, fixed;**
- **Set Point on the flood gate opening degree or flood gate opening degree to reach;**
- **Set Point on a hydrometric level: with the specific local hydrometric adjustment algorithm, the peripheral station will move a flood gate to keep the canal level at the required height.**

MAIN FEATURES

High Resistance:

the transducer, and in particular the internal microcable, are made with materials very resistant to mechanical friction and to wear and tear. Compared to its competitors on the market, this characteristic gives the sensor a much higher continuous operation lifetime.

Low cost:

compared to their cousins with the laser measuring device principle, they guarantee lower costs.

INSTALLATION

The PPS flood gate opening degree sensor is installed in the immediate vicinity of the flood gate to read, and is directly connected to it by a specific AISI 316 stainless steel hook. The sensor, incremental optical encoder, is housed inside an IP65 watertight container in aluminium alloy integral with the support structure of the flood gate, which contains a pulley with spring return. The device is connected to the control unit using reinforced sheaths and/or underground corrugated conduits with prefabricated inspection wells with open bottom properly distributed along underground PVC pipe sections.

Like all mechanical devices, it is subject to mechanical friction and to wear and tear. As such, although made with very highly resistant materials, the instrument requires periodic visual inspection of the state of the extensometre microcable. Should the cable show evident signs of wear, it should be replaced.

COMPONENTS THAT CAN BE ADDED OR BE BUILT INTO THE PRODUCT

none

TECHNICAL SPECIFICATIONS

SPECIFICATIONS	
Versions available	With FS of 6.4 metres and 10.2 metres
Type of measuring device	Resistive divider (potentiometric)
Accuracy	0,35% FS
Operating temperature	-40°C a 85°C
Minimum recommended input voltage	30 V (AC/DC)
Maximum cable acceleration	5 g