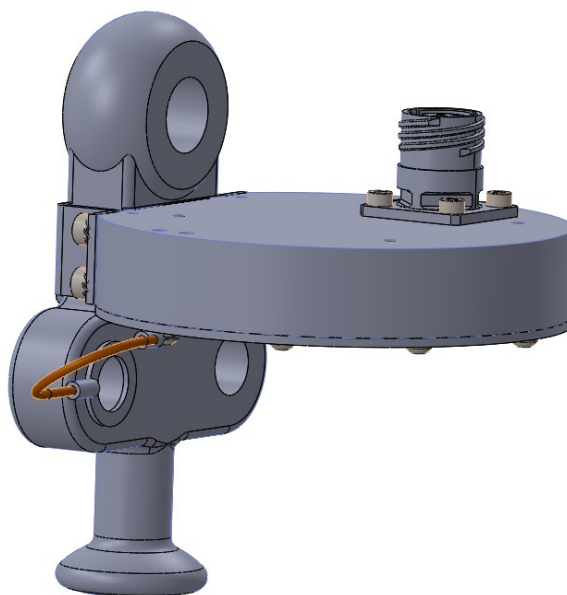


TENSION SENSOR ST413



DESCRIPTION

Tension sensors Series ST461 have been designed to monitor tension on high-voltage lines. They are installed in the double terminal tower clamp configuration, between the end tower and insulators.

They are realized to be used in difficult outdoor applications. There is no need to change the all system, they are a little heavier than the element they substitute.

Sensors are equipped with digital electronics (Modbus RS485) and they can be installed where electromagnetic fields and high electrical noise are present.

Sensors are compliant with following standard:

EN 60529	EN 61000-4-6	EN 60068-2-1
EN 61010-1	EN 61000-4-8	EN 60068-2-2
EN 60255-5	EN 61000-6-2	EN 60068-2-78
EN 61000-4-2	EN 61000-6-4	EN 60068-2-30
EN 61000-4-3	EN 61000-4-16	EN 60255-21-1
EN 61000-4-4	EN 55011	EN 60255-21-2
EN 61000-4-5	CEI EN 62271-1	EN 60255-21-3

TECHNICAL CHARACTERISTICS

Measuring range: 6.000 Kg, tension

Safe load limit: 120% FS (measurements are not guaranteed over FS value)

Ultimate load limit (CR): 120 kN (as guaranteed by the producer of measuring part LM461/1 e LM461/2)

Total error: $\leq \pm 1\%$ CR (typical value 0,16%CR – *endpoints* evaluation criterion)

Temperature effect on measurement: (in compensated temperature range): 0,021%FS

Sample rate of measure signal through AD converter: 10 Hz

ADC Resolution: 20 bit nominal

Measuring resolution: 1 Kg

Power supply: from 12 to 24 Vdc (accepted from 10,8 up to 26,4 Vdc)

Tolerance on power supply: $\pm 10\%$

Power consumption (typical, it depends on data traffic and data line termination)

Power supply 12 Vdc -> 40/50 mA

Power supply 24 Vdc -> 20/25 mA

Max: ≤ 70 mA

Digital connection: RS485, isolated

Communication protocol: Modbus RTU

Accepted communication speed: from 4.800 to 115.200 baud

Electrical connection: through 5 poles (min.) female MIL-DTL-38999 connector

S2Tech supplies connection cables and Junction boxes JBT12, to connect digital sensors to system controller (IED)

Operating temperature: from -25°C to $+70^{\circ}\text{C}$

Compensated temperature range: from -20°C to $+70^{\circ}\text{C}$

Environmental protection: IP68

OVERALL DIMENSIONS

