EMPRESA ISO 9001 GESTÃO DA QUALIDADE CERTIFICADA

Electron

IPTE

TAP Position Indicator

English Version

Application

The IPTE has an input that is intended to receive the signal of a Potentiometric Crown, in this way it is possible to indicate on the instrument display the current tap position in a simple numerical (1...51) or bilateral way. (-24...0 to 0...24), programmable, and it is also possible to provide the indication through an analog universal output that can be from 0 to 1, 0 to 5, 0 to 10, 0 to 20 or 4 to 20mA (or other as requested) and/or digital output (RS485) with Modbus RTU and DNP 3(L1) protocol that allows remote access to all configuration parameters as well as commands to raise and lower TAP, change the Status of Automatic /Manual and Remote/Local. The IPTE is also equipped with a resource to indicate a signal reading failure that occurs if there is a change in tap for more than 10 seconds or there is some type of failure in the reading of the Contact Resistor Series, such as cable breakage, burning of resistor etc.

Main Features

- Remote indication of tap position of the switch.
- Configurable analog output directly on the front
- Potentiometric crown signal input (mA or resistive)
- Rs485 digital output with MODBUS-RTU and DNP3 Level 1 protocols
- Fault indication contact (Watchdog)
- Front USB for configuration via USEEASY software
- Extended operating temperature -40 to +85 °C (-40 to +185 °F)
- Password Protected Setup Menu

Aluminum casing

The aluminum casing has high mechanical strength and creates a Faraday cage that increases the immunity of electronic circuits in cases of noise induction and electrical discharges. The housing also acts as a heat sink, extending the life of the IED.

Display

4-digit display 13.8 mm high with high brightness LED, allowing reading in any light condition.

Simple Settings

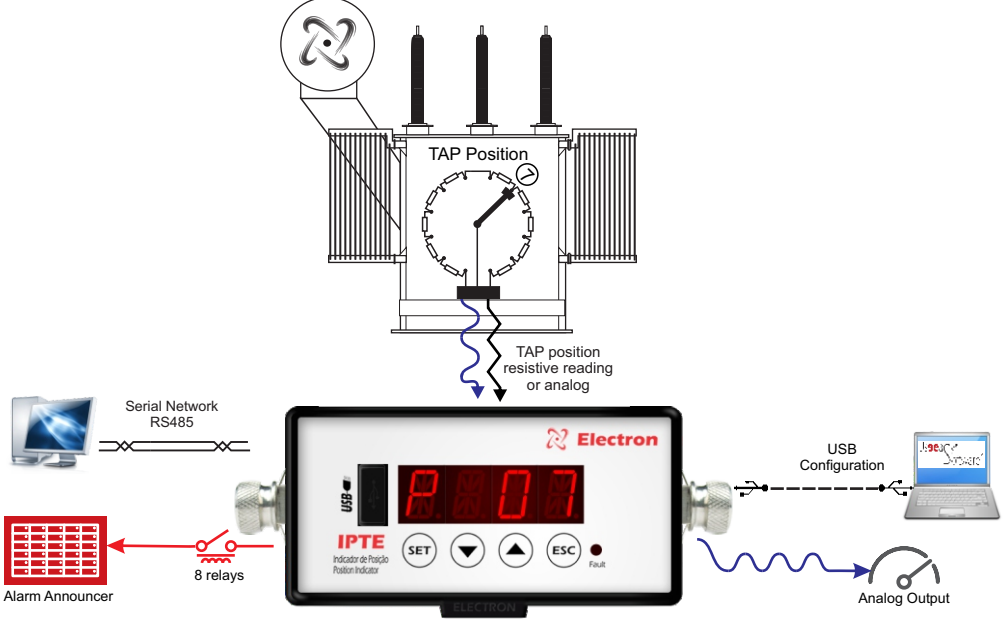
Easy configuration via the keyboard on the equipment or via a laptop using the USEEASY software, which issues graphs and reports.

Input Signal

Receives the resistive or 4 to 20 mA signal from the tap-changer potentiometric crown.

Quality Assurance

The IPTE was built following strict quality standards and designed to withstand severe working conditions. It can be installed in energy substation patios, offshore platforms and chemical industries. Meets the requirements, supportability and reliability levels according to IEC, DIN, IEEE, ABNT standards.



Technical Data

Operating Voltage	48 - 265 Vdc/Vac 50/60 Hz
Consumption	< 15W
Operating Temperature	-40 to +85 °C (-4 to +185 °F)
Storage Temperature	-50 to +60 °C (-58 to +140 °F)
Input for TAP Measurement	Resistive Crown from 0 to 5000 ohms
Measurement Range	0 to 20 mA or 4 to 20 mA transducer
Entry to Dry Contacts	-50 to 50 TAPs - Programmable (50 pos.)
Input for TAP Position Measurement	3 inputs for Dry Contact (Potential Free)
Analog Output [mA] and Maximum Load	1 ~ 51 Positions – Potentiometric Crown
Analog Output Maximum Error	(max 5,000 ohms) or Analog (4 to 20 mA)
Outbound Contacts	0.1 (8000 ohms)
Maximum Switching Power	0.5 (1600 ohms)
Maximum Switching Voltage	0..10 (800 ohms)
Maximum Conduction Current	0..20 (400 ohms)
Serial Network Communication Port	4..20 (400 ohms)
Communication Protocol for Serial Network	0.25% of the end of the scale
Auto Baud Rate	8 – Potential Free
Housing according to DIN IEC 61554	70 W / 250 VA
Fixation	250 Vac / Vdc
Degree of Protection (NBR IEC 60529)	6 A

Attended Type Tests

- Applied voltage (IEC 60255-5): 2kV / 60 Hz / 1 min (against ground);
- Voltage pulse (IEC 60255-5): 1.2/50 ms / 5 kV / 3 neg and 3 pos / 5 s Range;
- Electrostatic discharges (IEC 60255-22-2): Air Mode = 8 kV / Contact Mode = 6 kV;
- Immunity to radiated electromagnetic disturbance (IEC 61000-4-3): 80 to 1000 MHz / 10 V/m;
- Immunity to fast electrical transients (IEC 60255-22-4): Alim. / Inputs / Outputs = 4 kV / Common 2 kV;
- Surge Immunity (IEC 60255-22-5): Phase/Neutral 1 kV, 5 per polar (±) - phase-ground/neutral-ground 2 kV, 5 per polar (±);
- Immunity to conducted electromagnetic disturbances (IEC 61000-4-6): 0.15 to 80 MHz / 10 V/m;
- Climatic test (IEC 60068-21-14): -40 °C ® + 85 °C / 72 hours;
- Vibration resistance (IEC 60255-21-1): 3 axes / 10 - 150 Hz / 2 axisG / 160 min/axis;
- Vibration response (IEC 60255-21-1): 3axis / 0.075mm @ 10 - 58 Hz / 1G @ 58 - 150 Hz / 8 min /

Electron reserves the right to change any information contained herein without prior notice.