CATALOG

POSITION INDICATOR - IPTE

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INTRODUCTION

The IPTE TAP Position Indicator is intended for the Remote TAP Position Indication of Transformers they use OLTCs with transmission module.

The IPTE box is constructed of Aluminum within DIN standards for panel mounting, with dimensions 48x96x142mm.

IPTE was built following strict quality standards and designed to withstand severe working conditions. Can be installed in power substation yards, offshore platforms, and chemical industries. Meets the levels of requirements, supportability, and reliability according to **IEC, DIN, IEEE, ABNT** norms**.**

IPTE has an entry that is intended to receive the signal from a Transmission Module, in this way it is possible to indicate the current TAP position on the instrument display in simple numerical form (1...51) or bilateral (-24...0...24), programmable, and it is also possible to provide the indication through an analog universal output that can be 0 to 1, 0 to 5, 0 to 10, 0 to 20 or 4 to 20mA (or other if requested) and digital output (RS485) with Modbus RTU and DNP 3(L1) Protocols which makes it possible to remotely access all configuration parameters as well as commands to upload and download TAP, change the Status from Automatic / Manual and Remote / Local. IPTE is also equipped with a feature for indicating the failure of reading the signal that occurs if there is a change in TAP that has a time greater than 10 seconds or if there is some type of failure in the reading of the Transmission module, such as cable break, resistor etc.

INTRODUCTION

• 4-digit high-brightness display, height 20 mm and decimal place 13 mm (red);
• Measurement range from 0 to 50 Positions (0 to 5000 Ohms) maximum step of 100 Ohms;
• Signal input from the Potentiometric Crown (milliAmpere or resistive);
• Universal power supply 48 to 265 Vdc / Vac;
• RS-485 Digital Output (ANSI / TIA / EIA-485-A) with Modbus RTU and DNP 3 (Level 1) protocol for remote access to all measured parameters;
• Analog 0 to 1 mA, 0 to 5 mA, 0 to 10 mA, 0 to 20 mA and 4 to 20 mA configurable directly on the front;
• Front USB 2.0 for parameterization through UseEasy ™ software;
• Stores the maximum and minimum TAP achieved in the period in memory;
• Fault Indication Contact (Watchdog);
• Box of high mechanical resistance, built entirely in aluminum;
• Degree of protection IP20 (NBR IEC 60529);
• Auto Baud Rate from 2400 to 57,600 bps (Automatically detects the speed of the Communication network);
• Box of high mechanical resistance, built entirely in aluminum standard DIN IEC 61554;
• Small size 48x96x140mm;
• Easy parameterization and to operate;
• 2 year warranty;

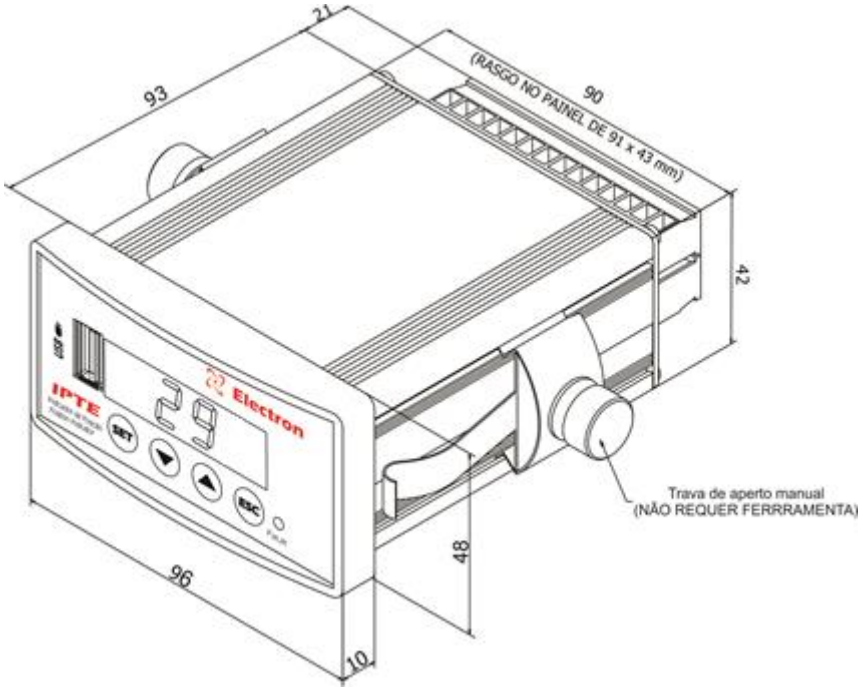
TECHNICAL DATA

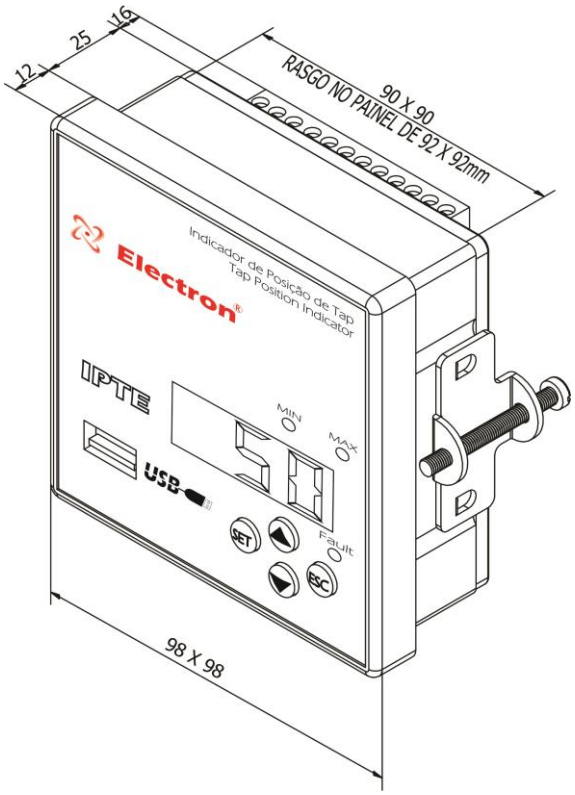
DIGITAL TAP POSITION INDICATOR – IPTE	
Operating Voltage	48 to 265 Vdc/Vac 50/60 Hz
Operating Temperature	-40 to +85°C
Power Consumption	< 15 W
TAP Measurement Input	Resistive Crown from 0 to 5000 Ohms 0 to 20 mA or 4 to 20 mA transducer
Measuring Range	-50 a 50 TAP's – Programável (50 pos.)
Analog Output Options and Maximum Load	0 ... 1 mA – 8000 Ohms
	0 ... 5 mA – 1600 Ohms
	0 ... 10 mA – 800 Ohms
	0 ... 20 mA – 400 Ohms
	4 ... 20 mA – 400 Ohms
Maximum Analog Output Error	0.25% of end of scale
Output Contacts	8 - Potential Free
Maximum Switching Power	70 W / 250 VA
Maximum Switching Voltage	250 Vdc / Vac
Maximum Driving Current	6.0 A
Serial Communication Port	RS-485 **(ANSI/TIA/EIA-485-A)**
Communication protocol	Modbus RTU or DNP 3.0 (Slave)
Auto Baud Rate	2400 to 57600 bps
Box (DIN EIC 61544)	48 x 96 x 140 mm – Alluminum
Fixing the Equipment	Panel Flush Mount
Degree of Protection (NBR IEC 60529)	IP 20

TYPE TESTS PERFORMED

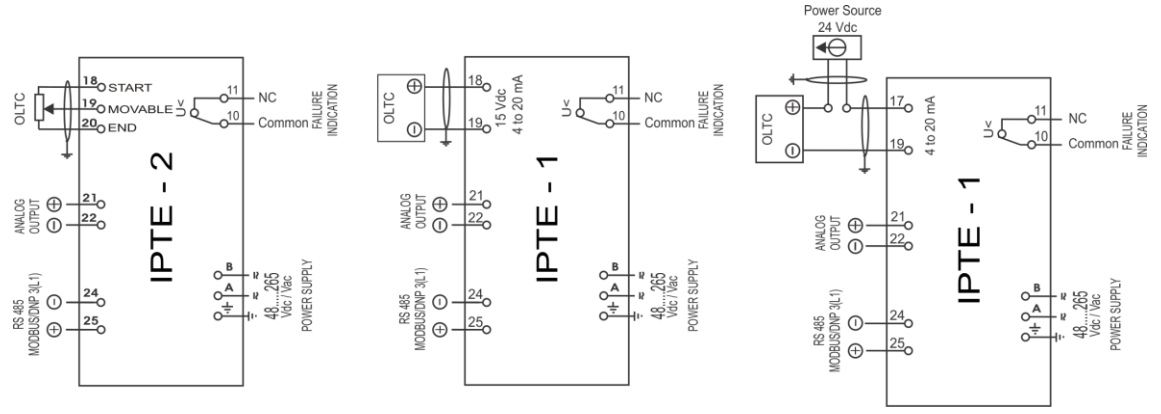
• Applied Voltage (IEC 60255-5): 2kV / 60Hz / 1 min. (against land);
• Immunity and Electrical Transients (IEC 60255-22-1): 2.5kV / 1.1MHz / 2 sec. / 400 outbreaks / sec;
• Electrostatic Discharges (IEC 60255-22-2): Air mode = 8kV / Counted mode = 6 kV;
• Immunity to radiated electromagnetic disturbance (IEC61000-4-3): 80 to 1000 MHz / 10V / m;
• Immunity to Fast Electrical Transients (IEC60255-22-4): Power / Input / Outputs = 4KV / common 2kV;
• Surge Immunity (IEC60255-22-5): phase / neutral 1KV, 5 per polar. (±) - phase-ground / neutral-ground 2KV, 5 per polar (±);
• Immunity to conducted electromagnetic disturbances (IEC 61000-4-6): 0.15 to 80 MHz / 10V / m;
• Climate Test (IEC 60068-21-14): - 40ºC + 80ºC / 72 hours;
• Vibration resistance (IEC 60255-21-1): 3 axes / 10 to 150Hz / 2G / 160min / axis;
• Vibration Response (IEC 60255-21-1): 3 axes / 0.075mm-10 at 58 Hz / 1G from 58 to 150 Hz / 8min / axis;

DIMENSIONS


21
93
90
(RASGO NO PAINEL DE 91 x 43 mm)
42
Trava de aperto manual
(NÃO REQUER FERRRAMENTA)
48
96
10

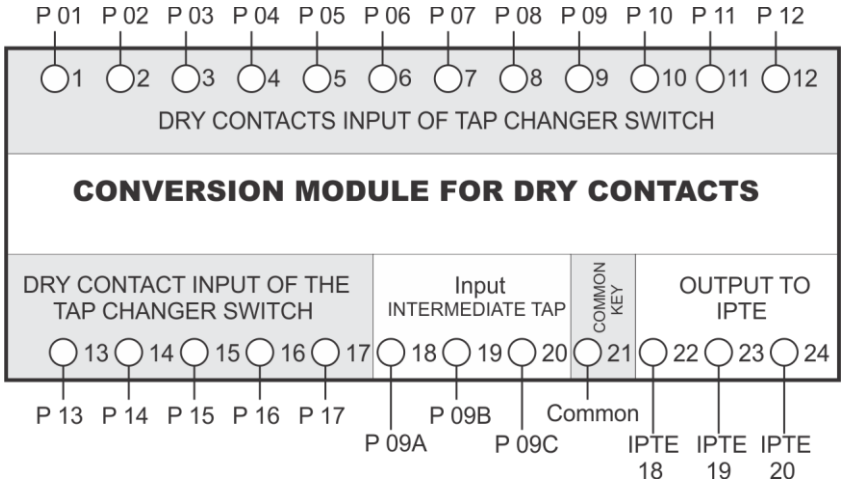

16
25
12
90 X 90
RASGO NO PAINEL DE 92 X 92mm
Electron
Indicador de Posição de Tap
Tap Position Indicator
IPTE
MIN
MAX
USB
Fault
SET
ESC
98 X 98

CONNECTION DIAGRAM



Resistive Input up to 5000 Ω ***Active Input 4 to 20 mA*** ***Passive Input 4 to 20 mA***

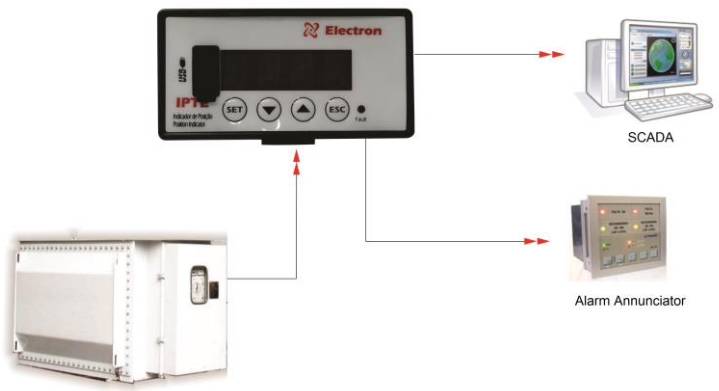
TRANSMITTER MODULE CONNECTION DIAGRAM FOR 17 POSITIONS

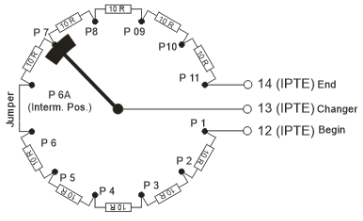


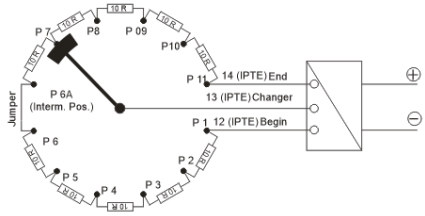
**** This module must be used when the switch crown is made of dry contacts, without resistors.***

***** Jump the contacts of the intermediate TAP´s with the same voltage position.***

APPLICATION EXAMPES







ORDER SPECIFICATION

IPTE - [ ]

Set of Resistors Signal (IPTE input)	
1	4 ... 20mA
2	Resistive

MTCS - [ ]

Quantity of Positions