

the iReact solution

# iReact-TAP-2

## Resistance potentiometer converter

The iReact-TAP-2 unit is a smart sensor, providing position information of the substation's transformer On-Load Tap Changer (OLTC). It is suitable for direct interconnection with the iReact-Solution automation controllers. The iReact-TAP-2 provides a Resistor Potentiometer (POT) position transducer that converts input potentiometer position to 4...20mA analog output signals. The sensor is able to digitally configure and independently calibrate the two analog outputs. The iReact-TAP-2 has built-in power supply, supporting 36-115VDC power input..

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### Operations & Features

R Potentiometer input for receiving encoded OLTC position converted to two 4...20mA analog output signals

2 x 4...20mA independent outputs

Logging of OLTC transitions number

Fault detection of OLTC operations

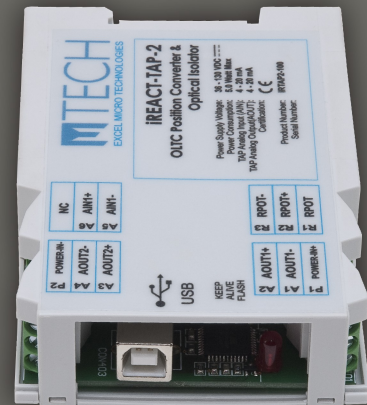
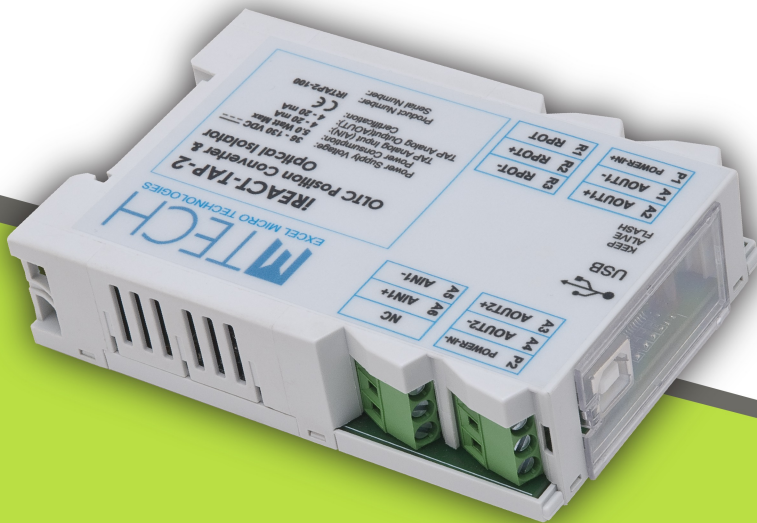
Direct interfacing with the iReact-3 automation controllers

Independent configuration and calibration of the analog outputs using a host computer

Web Server for easy access to parameter setup

Several communication protocols (Modbus, FIWARE, etc.) for transmission of acquired measurements

Supports firmware upgrades



*Improve the quality  
of your power product &  
maintain your transformer's  
OLTC efficiently*

The iReact-3 automation controller uses the OLTC position information to intervene in the control of the OLTC by decreasing the position and reducing transformer's voltage; thus preventing over-voltage occurrences. Knowledge of the OLTC's transitions is an additional benefit, as it is essential for efficient maintenance.



## Specifications\*

### Analog Output

Number	2 (independent)
Current Output Signal Range	4-20mA
Max Current Output	24mA
Non Load Voltage	25V
Output Power	1Watt
DA Conversion Frequency	10 samples/sec
Accuracy	8-bit
Error	0.1 % Full Scale
Linearity	< 0.01 % Full Scale
Ripple	< 20mV (at 250Ω)
Isolation	Optical Isolation
Configurable	Yes

### Analog Input

Input Signal Range	Potentiometer (100Ω...100kΩ)
Sampling Frequency	max 100 sample/sec
Accuracy	10-bit (16-bit software processing)
Error	0.1 % Full Scale
Linearity	< 0.01 % Full Scale
Isolation	Optical Isolation
Configurable	Yes

### Communication Interfaces

USB	Laptop/PC Interface
Ethernet	RJ45
	Web Server for parameters setup
	FIWARE protocol
	Modbus/ModbusTCP

### Power Supply

Input Voltage Range	36VDC – 120VDC or 9VDC-40VDC (optional)
I/O isolation voltage	4000VACrms
Leakage current	2μA (at 240VAC, 60Hz)
Isolation capacity	7pF typ. (at 100kHz, 1V)
Isolation resistance	>1000MΩhm (at 500VDC)
External Fuse	0.3125A Slow Blow Type

### Operating Conditions

Temperature	-20°C to 70°C
Relative Humidity	5 to 90%, non-condensing

### Housing

Mounting	DIN Rail
Material	Polystyrene
Color	Light Grey
Protection	IP 50
Connections	Removable Screw Type
	Terminals
Dimensions	26 x 80 x 110 mm
Weight	<0.5Kgr

### Approvals

Safety	EN 61010-1
EMC	EN 61326
Impulse Voltage	IEC 60255-5 (5kV crest, 1.2/50μs, 0.5J)
High Frequency	IEC 60255-22-1 (2.5kV, 1MHz)
EFT	EN 61000-4-4, IEC 60255- 22-4 (2kV, 5/50ns, 5KHz)
Power Frequency Voltage	2kVrms, 50Hz
ESD	8kV contact discharge, 15kV air Discharge
Mechanical Vibration	IEC 60255-21-1, 60068-2-6

\* Version 1610. Specifications are subject to change without prior notice

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