



GENERAL CHARACTERISTIC

Tap changer position indicator AWZ-1 is dedicated to visual indication of current position of tap changer of HV/MV transformer. The device is equipped with 24V DC inputs for receiving coded position purpose. Following coding standards are available: BCD, "BCD Energopomiar", Binary, Gray or custom defined by the user.

The device is equipped with relay outputs, which allows to transmit tap number coded in different standard. Relays are able to work under different operating voltage ex. 220 V AC/DC. Available output coding standards are as follows: BCD, Binary, Gray or custom defined by the user.

Coding and uncoding of tap changer position number is used in cooperation with voltage regulation system of HV/MV transformer bays.

MAIN FEATURES

The device is equipped with:

- four independent communication ports i.e.:
 - one ST port (820 nm – fiber optic, multimode)
 - two RS485 ports (protocols: ZEG/IEC 870-5-103)
 - one USB port located on the front panel (for device setting purpose)
- in order to transfer data between AWZ indicators, the communication ports allows to connect the devices. It allows to send data at considerable distances and transfer it to SCADA
- possibility to receive code from the transmitter by RS485 port or by fiber optic port using serial communication protocol
- LED RGB segment display allows to choose displaying color with number dependent distinction
- possibility to colour signaling dependent on warning condition (example manner: one before last tap – yellow, last tap – red, normal tap – green, or in any different manner)

TECHNICAL DATA

Rated supply voltage	110-230V DC/AC or other value on request
Input voltage	24V DC/AC or other value on request
Number of binary inputs	8/16
Burden in binary inputs	0,3 W/input
Burden of supply voltage	<10W
Number of relay outputs	7
Continuous contact carry	4A
Breaking capacity	3A(250V AC), 0,2A(220VDC)
Communication ports	RS-485(2x), światłowód ST (1x), USB(1x)
Dimensions	144mm x 96mm x 110mm
Weight	0,5kg
Rated insulation voltage	2,5kV; 50Hz 1min
Overvoltage category	II
Ingress Protection	IP40/IP20
Ambient temperature	-5÷40°C
Mounting	flush

PRINCIPLE OF OPERATION

Coded information about number of tap changer position is fed to binary inputs. Typical input voltage is 24 V DC (different level at special order). LED indicator on front panel, displays tap changer position number. Last positions of tap changer are indicated by additional LED diodes – "LUP/LDW". In case of lack of input signal, the last one position is memorized and lack of signal is indicated by "NO SIGNAL" diode. In order to test LED diodes, the device is equipped with "LED TEST" button. Proper operation of the device is signalled by "P" diode located on the front panel. The device supervises number of tap changes in predefined time period. Two, defined by user, warning stages are built in. Pick-up stage „Up1” and alarm stage „Up2”. Up1 stage is dedicated for signalling and Up2 stage is dedicated to be used as tap changer blocking signal. The device is equipped with single, programmable, relay output, which can be used as signaling or blocking output. The device can be used as last one tap indicator or warning about near to last one as well.