

### FEATURES

- Compatible with IEC 61243-5 standard
- Three-level LCD indicator
- LRM interface
- With selectable capacitance , wide operating voltage range (1kV-72kV)
- Test points (3 phase+ground)
- Power alert relay
- IP54 Protection

### APPLICATIONS

- Modular Cubicles
- Medium Voltage Panels



### DESCRIPTION

EVI-3L capacitive voltage indicator is designed to detect the potential on the medium voltage bus-bars together with the capacitive voltage dividers.

## 1. OPERATING PRINCIPLES

EVI-3L capacitive voltage indicator operates together with the capacitive voltage dividers in the modular cubicle panels.

Voltage indication occurs separately for three phase with three-level LCD display and designed compatible with IEC 61243-5 standard.

In order to work the EVI-3L in accordance with the applied standards, the applied voltage level and capacitance value with the used capacitive voltage isolators must be determined and adjusted with the dip switch located on the back of the device.

The LCD display of the indicator can be tested by pressing TEST button.

The LCD indication do not need auxiliary supply to operate, it works directly with the voltage signal from the capacitive isolators.

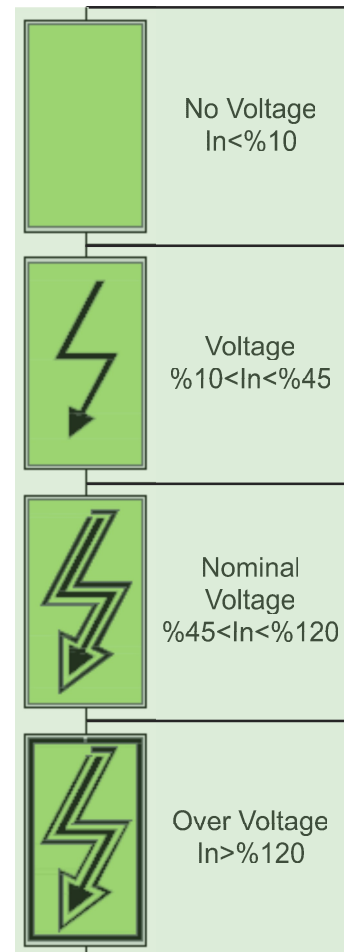
Auxiliary supply is required when using the indicator dry contact alert. When auxiliary supply is connected, the 'POWER' led on the front will turn on.

The dry contacts change position according potential.

The contact positions can be specified in the order. Normally open contact switches to the closed position if there is potential in any of the phases. The opposite case is true for a normally closed contact.

The 'LINE' led turns on the front panel when there is potential in any of the phases.

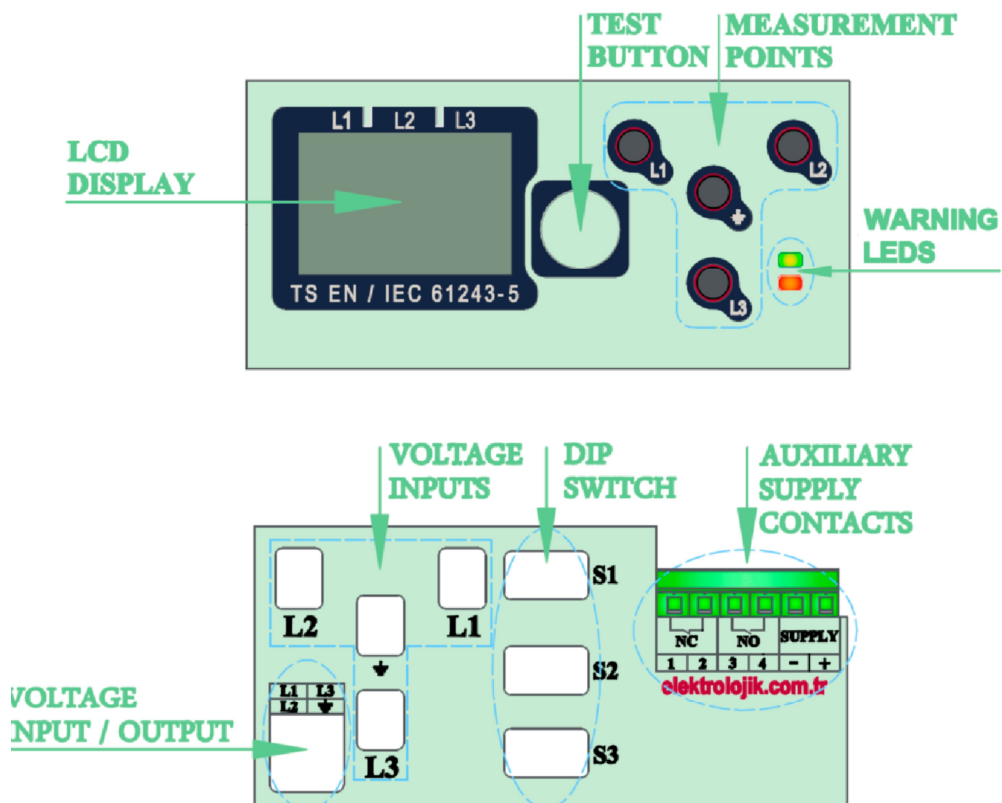
3 phase + ground test points are located on the front panel compatible with LRM interface.



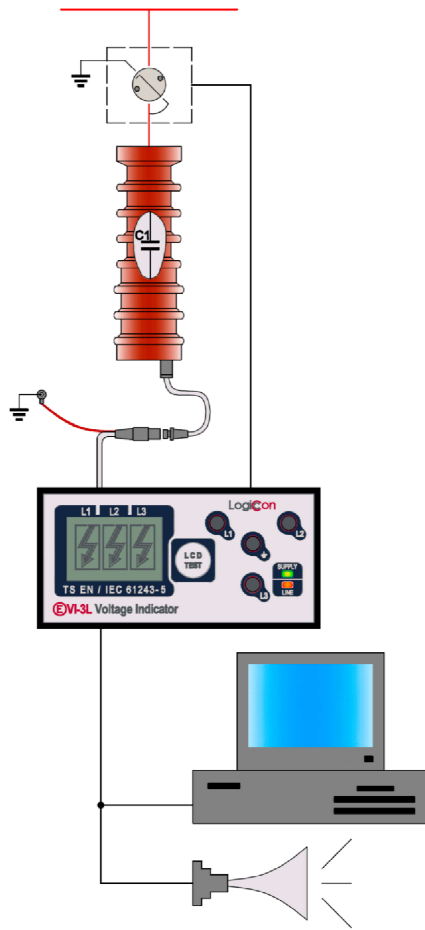
## 2. TECHNICAL FEATURES

Electrical Features	
Operating Voltage Range	1kV-72kV
Auxiliary Supply	24VDC/110VDC
Protection	90V Surge Arrester
Display	Three-level LCD Display, Auxiliary Supply Led, Power Alert Led
Test Points	3 Phase + Ground
Dry Contact Output Current	max. 2A (2 NA, 2NC or 1 NA and 1 NC )
Power Consumption	max. 1W
Mechanical Features	
Operating Temperature	-10°C + 70°C
Storage Temperature	-30°C+ 85°C
Weight (kg)	0.05
Dimensions gxyxd (mm)	62x37x61
Panel Cutting Dimensions(mm) / Mounting	94x46 / Front Mounting
Degree of Protection	High temperature - resistant ABS
Box	IP54
Relative Humidity	95% (without condensation)

## 3. STRUCTURE AND TERMINALS



## 4. INSTALLATION AND COMMISSIONING



### SAFETY INSTRUCTIONS



- 1.The installation and commissioning must be done by qualified electrical staff.
- 2.Do not work with live conductors.
- 3.It is recommended to use coaxial cable with the device.
- 4.The device must be protected against moisture.

- 1.Before mounting the device, adjust the switch positions. (see Adjusting Switch Positions)
- 2.Open a cross section with size shown in the figure for assembling the device. (see Dimensions)
- 3.The device is inserted to the panel from front side and tightened via the fixing apparatus.
- 4.The device connections are done to the terminals located at rear according to given sequence.(see Terminals)
- 5.When the bus bar is powered the leds on the front side will turn on

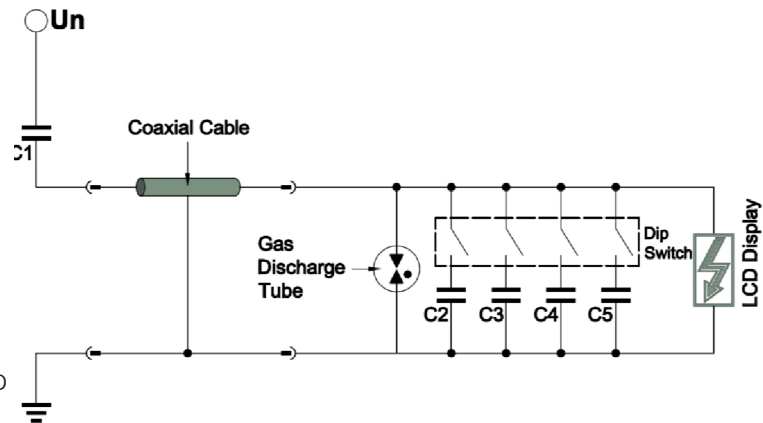
### ADJUSTING SWITCH POSITIONS

EVI-3L can use together with alternative busbar voltages and alternative capacitive voltage isolators. In order to this usage, it must be selected compatible capacitor divider configuration from the back of the device.

Firstly, the voltage divider capacitance value must be found to find compatible switch position. This value can be obtained by practical formula:

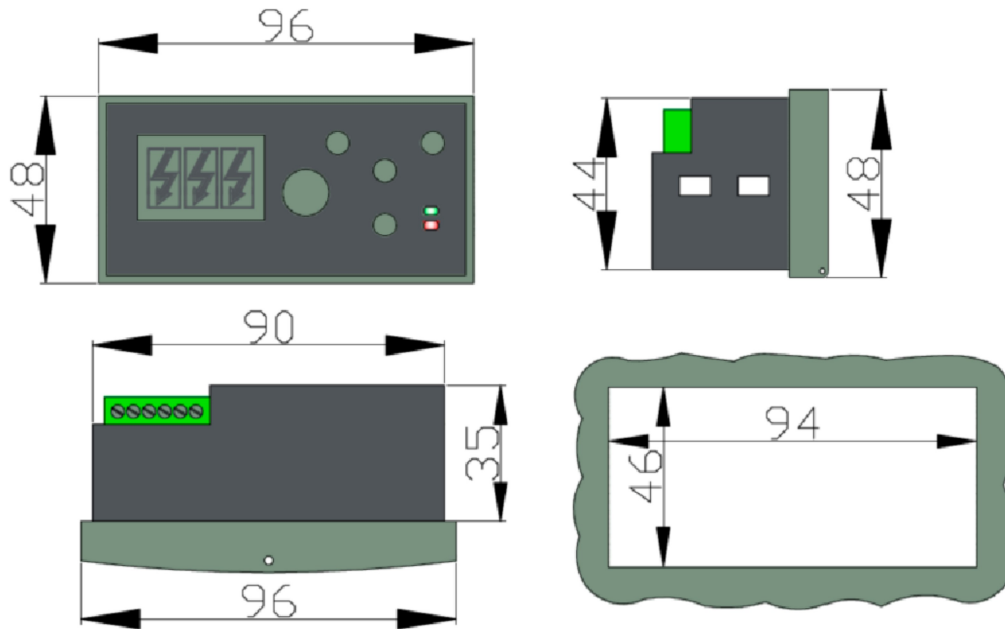
$$C_t \text{ (nF)} = C_1 \text{ (pF)} \times V_{nom} \text{ (kV)} / 19.245$$

For example if 20pF capacitive voltage divider isolator is used,  $C_t$ , the needed capacitance value is calculated as 36nF. In this case to get closest value, switch positions 1,2,3 must be set to ON position.



Switch Positions	Ct Capacitor Value	Switch Positions	Ct Capacitor Value
1 ON 2,3,4 OFF	10nF	2,3 ON 1,4 OFF	55nF
2 ON 1,3,4 OFF	22nF	2,4 ON 1,3 OFF	69nF
3 ON 1,2,4 OFF	33nF	3,4 ON 1,2 OFF	80nF
4 ON 3,2,4 OFF	47nF	1,2,3 ON 4 OFF	65nF
1,2 ON 3,4 OFF	32nF	1,2,4 ON 3 OFF	79nF
1,3 ON 2,4 OFF	43nF	2,3,4 ON 1 OFF	102nF
1,4 ON 2,3 OFF	57nF	1,2,3,4 ON	112nF

## 5.DIMENSIONS



## 6.ORDERING INFORMATION

EVI - 3 L - R N - P N - 2 A									
MODEL					OUTPUT CONTACTS				
					2A	2 NO CONTACT			
					2B	2 NC CONTACT			
					2C	1 NO, 1NC CONTACT			
CONTACTS									
				P	WITH CONTACT				
				N	WITHOUT CONTACT				
PIEZO TEST									
				R	WITH PIEZO				
				N	WITHOUT PIEZO				

## 7.WARRANTY TERMS AND CONDITIONS

Elektrolojik Energy Tech. Ltd. Co. warrants a trouble free operation of the EVI-3L device within 24 months from the date of sale, on condition that following terms are provided:

- the proper connection and operation

- the safety of the quality control seal

- the integrity of case, no trace of opening, cracks, spalls etc.

The warranty shall not apply to malfunctions or damages resulting from accidents or user supplied faults.

**Elektrolojik Energy Technologies Engineering, Industry and Trading Ltd. Co.**

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