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DISTRIBUTION SOLUTIONS

**VisiVolt™**

Passive Voltage Indicator



### Description

VisiVolt™ is a voltage indicator of voltage presence for applications in indoor and outdoor medium voltage systems from 3kV to 36 kV.

The VisiVolt™ indicator can be permanently installed, directly on current bars and conductors, using simple fittings. This compact device indicates the presence of a voltage by displaying a symbol on its liquid crystal display (LCD).

### Key product features

- Applicable on any unscreened medium voltage system; for permanent installation
- For nominal system voltages from 3 kV to 36 kV
- Information on voltage presence status of the system available all the time
- Outdoor and indoor application
- Good visibility in all lighting conditions
- Economical solution
- Maintenance free; passive device – no power supply needed
- Easy to install
- Can be installed on:
  - busbars
  - conductors
    - unshielded, naked or insulated
    - of any typical diameter or cross section

### Functions

- Check of voltage status
  - Without using any additional equipment, the personnel can check the status of voltage presence.
- Easier fault finding
  - By immediate visual information on voltage status at every point of the system, application of VisiVolt™ makes fault finding easier and quicker.
- Additional warning function
  - Contributes to a higher level of safety of operating and servicing the system. Provides additional and independent indication of presence of dangerous voltage and, by active warning the personnel, can prevent accidents and the related costs and other consequences.

### Operation

VisiVolt™ indicates the presence of voltage by displaying a large, well visible lightning arrow sign on its LCD. VisiVolt™ indication is based on its sensitivity to the electric field around the live conductor, on which it is installed.

In 3-phase systems VisiVolt™ indicates the presence of both phase-phase and phase-ground voltages. In 1-phase systems VisiVolt™ indicates the presence of phase-ground voltage.

VisiVolt™ indicates presence of voltage when it is greater or equal to 45 % of nominal voltage value in 3-phase systems or 78 % of nominal voltage value in 1-phase systems (voltage thresholds required by standards IEC-61958 and IEC-61243). Two types, VV-A and VV-B are available for two ranges of nominal voltages.

VisiVolt™ indicator is a completely passive device (powered by the electric field surrounding the energized conductor, on which it is installed) and is entirely maintenance free.

### Allowable clearances

Rating		Power frequency withstand voltage 50 Hz 1 min*		Impulse withstand voltage 1,2/50 µs*		Recommended minimum clearances*	
		IEC	ANSI	IEC	ANSI	T min	S min
IEC	ANSI	[kV] r.m.s. value		[kV] peak value		[mm]	
3.6		10		40		100	
7.2	4.8	20	19	60		120	
12.0	8.3	28		75		140	
17.5		38		95		160	
	15.5	50		95	110	210	
24.0	27.0	50	60	125		230	
			70		150	320	
36.0		70		145		290	
					170		330
40.5	38.0	80		165	150	320	
		80	95	190		360	400

\*Minimum clearances and withstand voltages given are valid to VisiVolt™ indicators only and do not supersede the requirements and specifications for the system the indicators are installed on. Withstand voltages given correspond to the minimum recommended clearances; larger clearances will typically result in larger withstand voltages.

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01 Pilot installation of  
ENION S.A distribution  
station, Krakow, Poland

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02 Status – voltage on

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03 Status – voltage off

## Specification & dimensions

VisiVolt type			VV-A	VV-B
3-phase system	Nominal voltage (Un)	[kV]	3.0 - 6.0 <sup>1)</sup> 6.0 - 15.0	13.8 - 36.0
	Rated voltage, max.	[kV]	3.6 - 17.5 <sup>2)</sup>	17.5 - 40.5 <sup>2)</sup>
	Threshold voltage (p-g and p-p) <sup>3) 4)</sup>		> 0.6 kV < 45% Un	> 1.5 kV < 45% Un
1-phase system	Nominal voltage (Un p-g) <sup>3)</sup>	[kV]	4.8 - 8.0	8.0 - 20.0
	Threshold voltage (p-g) <sup>3)</sup>		> 1.0 kV < 78% Un	> 1.5 kV < 78% Un
Application range		Non insulated (bare) metal bars and conductors; insulated circular-section conductors with maximal insulation thickness 3 mm.		
Nominal frequency		[Hz]	50 – 60	
Response time		[s]	< 1 at temperature –20°C and above < 3 at temperature –30°C < 10 at temperature –40°C	
Short-time (symmetrical) withstand current (1s) <sup>5)</sup>		[kA]	63	
Peak withstand current <sup>5)</sup>		[kA]	164	
Operation temperature range		[°C]	–40 - +85	
Physical dimensions		[mm]	H: 92 × W: 63 × D: 38	
Net weight		[g]	109	

1) On not insulated (bare) circular-section conductors and on bars of width up to 30mm

2) Depending on pole distance (see recommended minimum clearances)

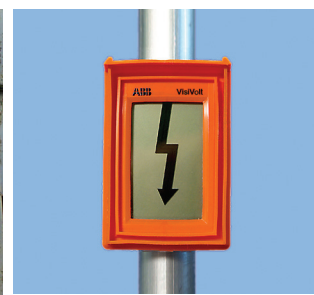
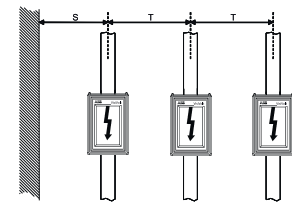
3) p-g voltage = phase-ground voltage; p-p voltage = phase-phase voltage

4) For pole distance ranges within limits given in installation and operation instructions

5) Rated withstand currents given are valid to VisiVolt indicators only and do not supersede the specifications of the system the indicators are installed on.

## Allowable pole distances

Nominal voltage Un (p-p)	Maximum allowed pole distance T max
[kV]	[mm]
3.0 - 3.3	110
4.16 - 4.8	135
6.0 - 6.9	400
≥ 8.3	without limit



01

02

03

**Attention:** Passive Voltage Indicator only shows voltage presence above a defined threshold value and any lack of indication of voltage presence does not prove voltage absence. To ensure that the system is de-energized and safe to touch, approved test means and safety measures required by the relevant standards and safety procedures must be used prior to any access or work on the device. Approval of VisiVolt application in power distribution systems has been certified by internationally recognized certification laboratory.

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