

# Easergy VPIS V2

## Easergy Range

Voltage Presence Indicating System  
for Medium Voltage cubicles



### Product at a glance

- Voltage presence indicating system in compliance with the IEC 62271-206 standard (and with the old IEC 61958 standard)
- 9 references available to adapt to all applications
- Voltage output option for source changeover switch application.

### VPIS V2 and VPIS V3

- Use VPIS V2 with Flair 2xD or VD23
- Use VPIS V3 for applications with T300
- Use VPIS V3, if VPIS VO is not used
- Never use VPIS V2 with cubicle embedding Smart Insulator (SMIS24A1 or SMIS24A2)
- Never mix VPIS V2 and VPIS V3 in the same switchboard
- Phase concordance is not possible between VPIS V2 and VPIS V3.

The VPIS V2 is a self-powered voltage presence indicating system, in compliance with the IEC 62271-206 standard.

It includes:

- Voltage presence indication by LEDs: High reliability, very long life time.
- Connectors on the front panel allowing the use of a Phase Concordance Unit.
- On Voltage Output versions, four wires allowing to provide Voltage sensing to VD23 voltage presence relay or Flair 2xD Fault passage indicators.

It consists of two parts:

- **Surge protection part** (always connected). There are 2 models of this part: The standard one and the "VO" (Voltage Output) one, used to feed external devices such as VD23 voltage presence relay, Flair 2xD Fault passage indicators. With T300 SC150 module, use VPIS V3. VPIS V2 is compatible with T300 SC150 module for some functions only: For more details, consult us.
- **Voltage presence indication part** (replaceable for maintenance). There are 9 variants for this part, according to cubicle and Network Voltage.

Retrofit of a VPIS V1 to VPIS V2 is easy: see VPIS Installation and Maintenance manual (reference NT00395-EN) for more details.

# Easergy VPIS V2

## Product Description



Phase Concordance Unit: Reference VPI62421

The 3 plugs on the front panel of VPIS V2 are designed for connection of Phase Concordance unit VPI62421. Never inject any current or voltage signal in these plugs.

VPIS V2 is designed to indicate the voltage presence according to IEC 62271-206. It does not provide any guarantee of voltage absence.

### Phase concordance unit

Phase Concordance Unit VPI62421 allows to carry out Phase Concordance between 2 VPIS V2. It is not possible to carry out Phase Concordance between a VPIS V2 and a VPIS V3. See VPI62421 User Manual (reference NT00214-FR-EN) for more details, including compatibility with VPIS V1 and VPIS V3. VPIS V2 is not designed to be used with other Phase Concordance Unit than VPI62421.

### Threshold

In compliance with the IEC 62271-206 standard, the 3 VPIS indication LEDs are lit or flashing when the network voltage or the relevant phase is > 45% of the rated voltage.

	IEC 62271-206:	Equivalent	Status of VPIS indicator LEDs
	percentage of network voltage U	percentage of rated voltage V	
Voltage value	Phase-to-phase	Phase-to-ground (earth)	Extinguished
	10%	17%	Lit or flashing
	45%	78%	

The flashing frequency increases with the network voltage value. At rated voltage, the indicator LEDs seem to be lit steadily.

### Characteristics

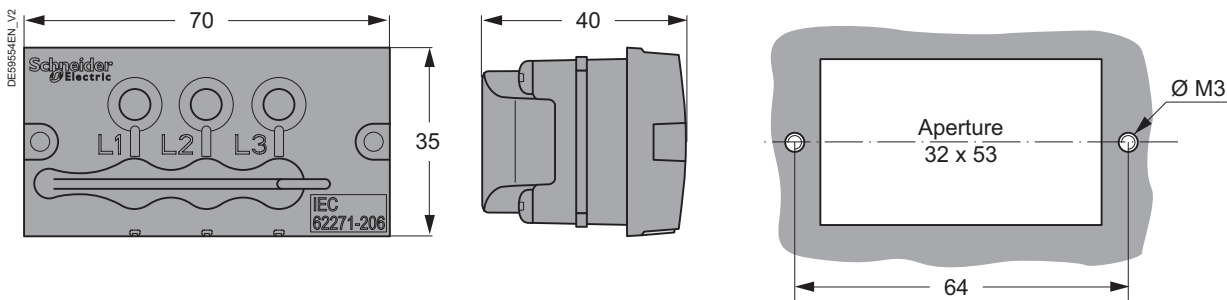
Electromagnetic compatibility		Standards	Criteria	Test levels
Radiated interference	Emitted radiation	IEC 62271-1 § 6.9.1.2		30 MHz-1 GHz
Immunity test	Immunity to electrostatic discharge	IEC 61000-4-2 IEC 62271-1 § 6.9.2.1	B	± 6 kV contact discharge ± 8 kV discharge in air
	Radiated, radio-frequency, electromagnetic field immunity	IEC 61000-4-3 IEC 62271-1 § 6.9.2.1	A	10 V/m 80% AM at 1 kHz 80 MHz to 3 GHz
	Immunity to electrical fast transients	IEC 61000-4-4 IEC 62271-1 § 6.9.2.3	B	± 2 kV: mains power supply
	Slow damped oscillatory wave immunity	IEC 61000-4-18 IEC 62271-1 § 6.9.2.4	B	± 1 kV in differential mode ± 2.5 kV in common mode
	Radiated magnetic field immunity	IEC 61000-4-8 IEC 62271-1 § 6.9.2.1	B	Permanent magnetic field at 100 A/m, 1000 A/m during 1 s
Climatic tests		Standards		Test levels
Operating temperature		IEC 60068-2-14		-25°C to +85°C
Storage temperature				-40°C to +85°C
Ageing test		Not in compliance with a standard		Climatic cycles including damped heat (+85°C with 95%RH) and rapid du coup, aprèstemperature variations from -40°C to +85°C Full test duration: 1000 hours
Mechanical tests		Standards		Test levels
Mechanical	Protection	IEC 60529		IP3X
Impacts	De-energized	IEC 61958-1 IEC 60068-2-75		IK5 - 2 Joules 3 impacts in the weakest places

# Easergy VPIS V2

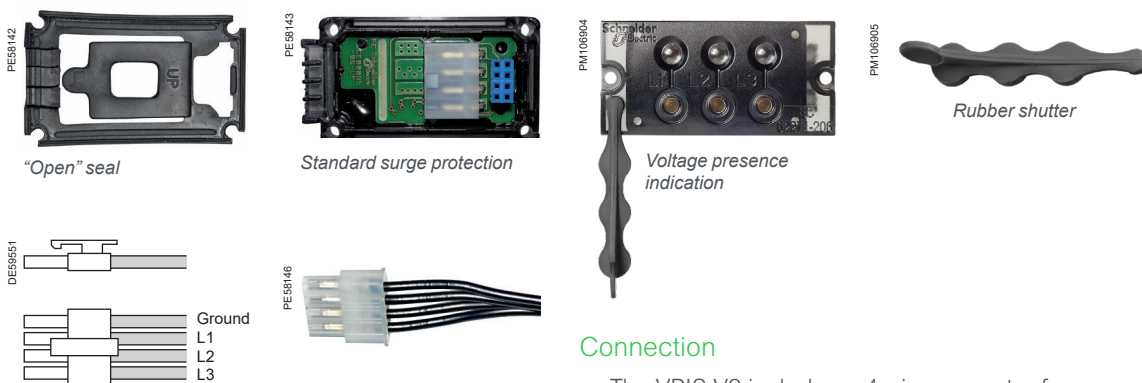
## Mechanical Description



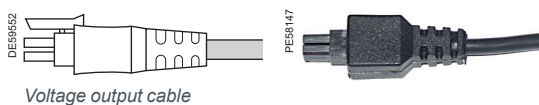
### Dimensions



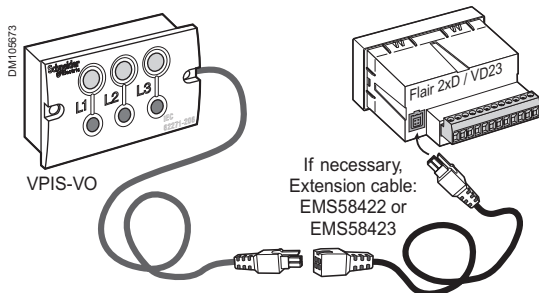
### VPIS V2 Components



Coupling elements cable with 4-pin connector



Voltage output cable



VPIS-VO

If necessary,  
Extension cable:  
EMS58422 or  
EMS58423



Coupling elements cable installation rule

### Connection

- The VPIS V2 includes a 4-pin connector for connection to the cubicle coupling elements: 1 pin for connection to ground (earth) and 1 pin for connection of the coupling elements on each phase:
  - The wires used have a cross-section of 1 mm<sup>2</sup>, with an outside diameter ranging between 2.5 mm (0.098 in) and 2.9 mm (0.114 in)
  - The connector contacts are Minit 5556 type
  - The connector housing is of MOLEX 39-01-4040 or 39-01-4041 type.
- On VPIS-VO versions, the voltage output cable is a 1 m long MOLEX 79516 type cable. Two extensions are available if necessary:
  - EMS58422: length 1 m
  - EMS58423: length 2 m.

### Installation recommendation

It is important to respect certain rules regarding the installation of the cable from cubicle coupling elements. It must be fixed so that in case of condensation, water flowing along the wires is guided to the ground and not to the wiring harness input of the VPIS.

## VPIS V2 references selection table

The range of use for each VPIS-V2 depends on Service voltage, network frequency and the switchgear capacitor. Here are typical range of use for 50Hz/60Hz. In case of use only for 50Hz or only 60Hz, the range of use could be expanded, please consult the switchgear offer manager.

		3 kV	6 kV	10 kV	15 kV	20 kV	30 kV	40 kV
<b>Premset</b>	First choice	VPI624x3 (2.5 kV-5.5 kV)	VPI624x4 (4 kV-7 kV)	VPI624x6 (8 kV-15 kV)	VPI624x6 (8 kV-15 kV)			
	Second choice							
<b>SM6-24</b>	First choice	VPI624x3 (2kV-4kV)	VPI624x4 (3.4 kV-6.3 kV)	VPI624x7 (9 kV-17 kV)	VPI624x7 (9 kV-17 kV)	VPI624x8 (13 kV-25 kV)		
	Second choice		VPI624x5 (4 kV-8 kV)	VPI624x6 (7 kV-13 kV)	VPI624x8 (13 kV-25 kV)			
<b>RM6</b>	First choice	VPI624x3 (2.5 kV-5 kV)	VPI624x4 (4 kV-7 kV)	VPI624x6 (8 kV-15 kV)	VPI624x7 (10.1 kV-24 kV)	VPI624x8 (17 kV-24 kV)		
	Second choice			VPI624x5 (5 kV-11 kV)		VPI624x7 (10.1 kV-24 kV)		
<b>Flusarc 50 Hz and 60 Hz</b>	First choice	VPI626x3 (2.3 kV-4.75 kV)	VPI626x3 (3 kV-7 kV)	VPI626x5 (6.8 kV-14.7 kV)	VPI626x6 (9.8 kV-21 kV)	VPI626x6 (9.8 kV-21 kV)	VPI626x7 (14 kV-30.5 kV)	VPI626x8 (20.5 kV-44.5 kV)
	Second choice	VPI626x3 (3 kV-7 kV)	VPI626x4 (4.7 kV-10 kV)	VPI626x6 (9.8 kV-21 kV)	VPI626x7 (14 kV-30.5 kV)	VPI626x7 (14 kV-30.5 kV)	VPI626x8 (20.5 kV-44.5 kV)	
<b>Ringmaster RN2C</b>	First choice	VPI624x1 (3.4 kV-7.5 kV)	VPI624x1 (3.4 kV-7.5 kV)	VPI624x3 (7.1 kV-16 kV)				
	Second choice		VPI624x2 (5.8 kV-10 kV)					
<b>Genie</b>	First choice		VPI624x1 (4.5 kV-11 kV)	VPI624x2 (7 kV-15 kV)				
	Second choice			VPI624x1 (4.5 kV-11 kV)				
<b>SM6-36</b>	First choice				VPI624x4 (13 kV-24 kV)	VPI624x4 (13 kV-24 kV)	VPI624x6 (26 kV-50 kV)	VPI624x6 (26 kV-50 kV)
	Second choice			VPI624x3 (9 kV-17 kV)	VPI624x3 (9 kV-17 kV)		VPI624x5 (21 kV-35 kV)	
<b>CAS 36</b>	First choice			VPI624x6 (8.5 kV-14 kV)	VPI624x7 (12 kV-20 kV)	VPI624x8 (17 kV-30 kV)	VPI624x9 (21 kV-42 kV)	VPI624x9 (21 kV-42 kV)
	Second choice					VPI624x7 (12 kV-20.2 kV)	VPI624x8 (17 kV-30 kV)	
<b>MCS1, 2, 3 Nex 17 Nex 24 Evotech</b>	First choice	VPI624x3 (2 kV-4 kV)	VPI624x4 (3 kV-6.3 kV)	VPI624x7 (9 kV-17 kV)	VPI624x7 (9 kV-17 kV)	VPI624x8 (13 kV-25 kV)		
	Second choice		VPI624x5 (4 kV-8 kV)	VPI624x6 (7 kV-13 kV)	VPI624x8 (13 kV-25 kV)			
<b>F400</b>			F400-24 / F400-Xe (*)				F400-36 kV	
	First choice		VPI624x2 (4 kV-6.2 kV)	VPI624x4 (9 kV-13 kV)	VPI624x5 (13 kV-19 kV)	VPI624x6 (16 kV-27 kV)	VPI624x7 (26 kV-60 kV)	VPI624x7 (26 kV-60 kV)
<b>PIX STD PIX MCC</b>	First choice	VPI624x3 (2.1 kV-4 kV)	VPI624x5 (4.6 kV-8.4 kV)	VPI624x7 (9.3kV-17.6kV)	VPI624x7 (9.3kV-17.6kV)	VPI624x8 (13.8kV-25.5kV)		
	Second choice			VPI624x6 (6.6kV-12.1kV)				
<b>FBX C, RE, R, T1</b>	First choice	VPI624x3 (3 kV-7 kV)	VPI624x3 (3 kV-7 kV)	VPI624x5 (6 kV-13 kV)	VPI624x6 (10 kV-24 kV)	VPI624x6 (10 kV-24 kV)		
	Second choice							
<b>FBX T2, CB</b>	First choice	VPI624x6 (3 kV-7 kV)	VPI624x6 (3 kV-7 kV)	VPI624x8 (6 kV-13 kV)	VPI624x9 (12 kV-24 kV)	VPI624x9 (12 kV-24 kV)		
	Second choice							

For VPI624x.. references, x = 0 for the non VO VPIS variant, x = 1 for the VPIS VO variant.

(\*) These references are no longer manufactured.

