We touch your electricity everyday!

VPIS-V4

Voltage Presence Indicator System

AS PER IEC 62271-206

HIGH TRANSIENT VOLTAGE PROTECTION

SUITABLE FOR VOLTAGE SYSTEM 3.3 TO 36 KV

BUSHING CAPACITANCE RANGE 17 TO 150 PF

CATALOG

C&S electric

PMD Division

CSVP-V4-(1/2)-(01/02/03/04/05)-(C1/C2/C3/C4/C5/Cx)-(0/L)-(-/T1/T2)

CONTENTS

1) Introduction

The VPIS is a capacitive voltage presence indicating system, in compliance with the IEC 62271-206 standard which is used in RMU/MV Network. This is basically a tool which verify the absence or presence of voltage in the network & help to suggest when there is a need for maintenance & repairs. This device is an essential piece of equipment for most of the modern networks. Indication of the voltage is displayed by high bright LEDs. It gets fit with the bushing capacitance as input to measure the incoming voltage.

2) Features

There are two variants of VPIS (Ordering based)

- Basic Model : CSVP-V4-1
- Advance Model (SCADA compatible with contacts) : CSVP-V4-2

CSVP-V4-1

- CSVP-V4-1 continuously blinks optical LEDs for voltage indication
- Suitable for Front panel mounting
- Suitable for Indoor & Outdoor Application
- Suitable for MV range : 3.3 to 36 kV
- Nominal frequency : 50 / 60 Hz
- Bushing capacity range : 17 - 150 pF (model dependent) or as per customer requirement
- SURGE protection with Internal gas tube arresters for safety

NON-SCADA compatible VPIS

◆ Voltage in any of the phase ≥ 45% :	LEDs will BLINK
◆ Voltage in all the phases ≤ 10% :	LEDs will not BLINK

CSVP-V4-2

CSVP-V4-2 type voltage presence indicating system (VPIS) device is used to provide information to operators about the voltage condition of the main circuit of the switchgear in which they are installed. Two groups of relays are used to remotely transmit the real-time information. If all phase L1, L2, L3 “present”, Relay R1 operates. If any of the phase absent, R1 relay gets open.

VPIS is equipped with two contacts for voltage presence. It works with Aux. supply only. Contacts also operate to provide the indication to SCADA.

Function for signal remote transmission

1) When relay R1 operates, all phase of L1, L2, and L3 is present.

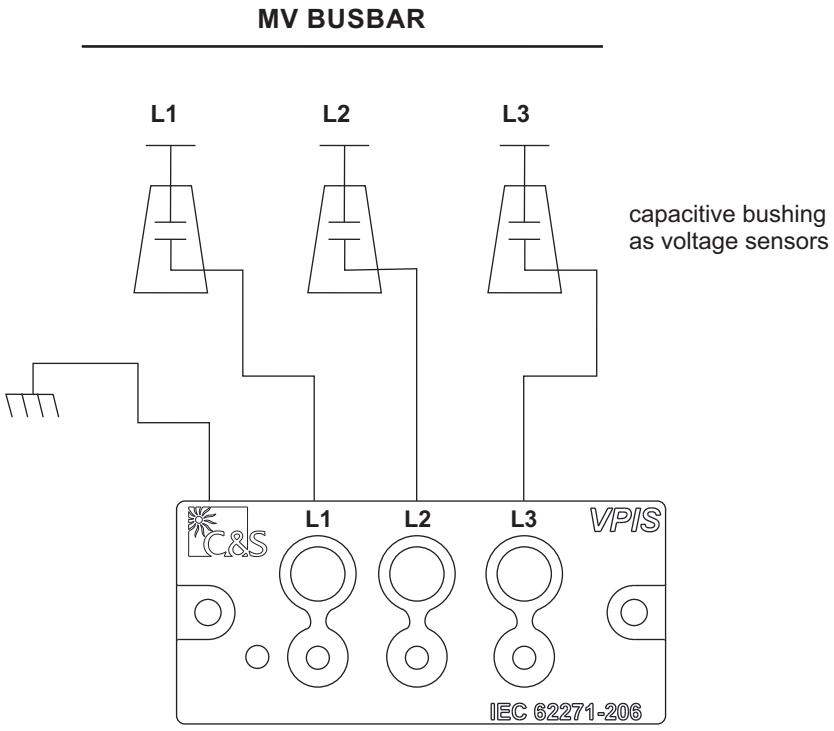
2) When relay R1 OFF, at least one phase of L1, L2, and L3 is absent or Aux not present.

Rest other features of CSVP-V4- 2 are same as CSVP-V4-1

- CSVP-V4-2 continuously blinks optical LEDs for voltage indication
- SCADA Digital Output Contact for voltage presence/absence
- For SCADA contact operations, Aux. supply is mandatory for Digital output contact operation
- Suitable for MV range : 3.3 to 36 kV
- Nominal Frequency : 50 / 60 Hz
- Bushing capacity range : 17 - 150 pF (based on model) or as per customer requirement
- SURGE protection with Internal gas tube arresters for safety
- Indication Appear : When voltage is in range of 45% to 120% of nominal voltage
- Indication doesn’t Appear : When voltage is less than 10% of nominal voltage

3) Setup for VPIS-V4

This product requires the suitable matching bushing capacitance. Bushing capacitance will connect on the terminal given on the backside of the product. Once voltage comes on the bushing, LED will start glowing as per available voltage range. In case of SCADA product, Aux will also be required where the potential free contract also will operate along with LED.



4) Technical Data

- Nominal frequency : 50 / 60 Hz
- U_n < 10 % Un : NO LED
- $U_n \geq$ 45 % Un : Flashing LED
- Degree of protection : IP-54
- Operating temperature : -25 to +70°C
- Dimensions (W x H) : 70 x 35 mm
- Weight (without wires) : 150 gm. (approx) - CSVP-V4-2 model

- VPIS function conform to IEC 62271 - 206 standard
- EMI/EMC Oscillatory Wave Immunity Test as per IEC 61000-4-18 : 2006 +A1 : 2010
- EMI/EMC Electrical Fast Transient /Burst Immunity Test as per IEC 61000-4-4 : 2012
- Clear perceptibility of visual indication as per IEC 62271-206 : 2011, Cl 6.8
- Rapid Temperature variations as per IEC 60068-2-14, Cl 4.2
- Salt Spray Test as per ISO 9227
- Ageing Test as per ISO 9227
- Degree of protection : IP-54

5) Front Fascia

(Front fascia details for both the models (Basic & Advance model) are same.

LED lamps

Holes for panel mounting

Note : Test Plug to connect comparator device

(Basic model)

IP Protection cover

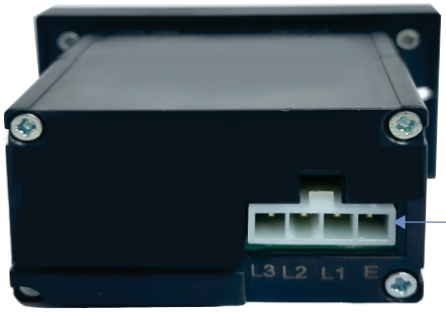
(Advance model)

Usage of these Test plug terminals are:

- For Voltage detection via LRM block
- Connecting Phase comparator

Back Terminal View

CSVP-V4-1 : Basic Model



<u>For Bushing Connection</u>
Molex make Male connector
Part No. : 0039303047
Single Row, 4 Wire

CSVP-V4-2 : SCADA compatible VPIS (model dependent)

VPIS is also available with the ordering option of SCADA compatibility. For SCADA signaling, VPIS is equipped with NO/NC contact terminal, which gives the status to the RTU.

Note :
LED / Contacts can start operating in between 10% & 45% of phase voltages.
For the operation of these output contacts, Aux supply to VPIS is mandatory. The Aux Supply range is 9-36V DC.

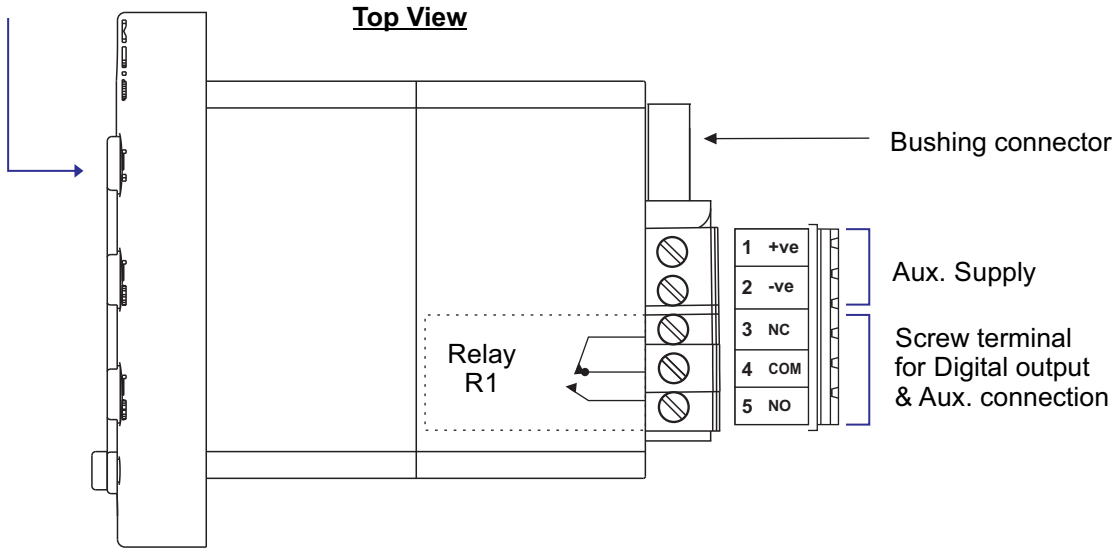
Contact Rating :

Output contact (Resistive Load)

NO : 5A@250VAC
: 5A@24VDC

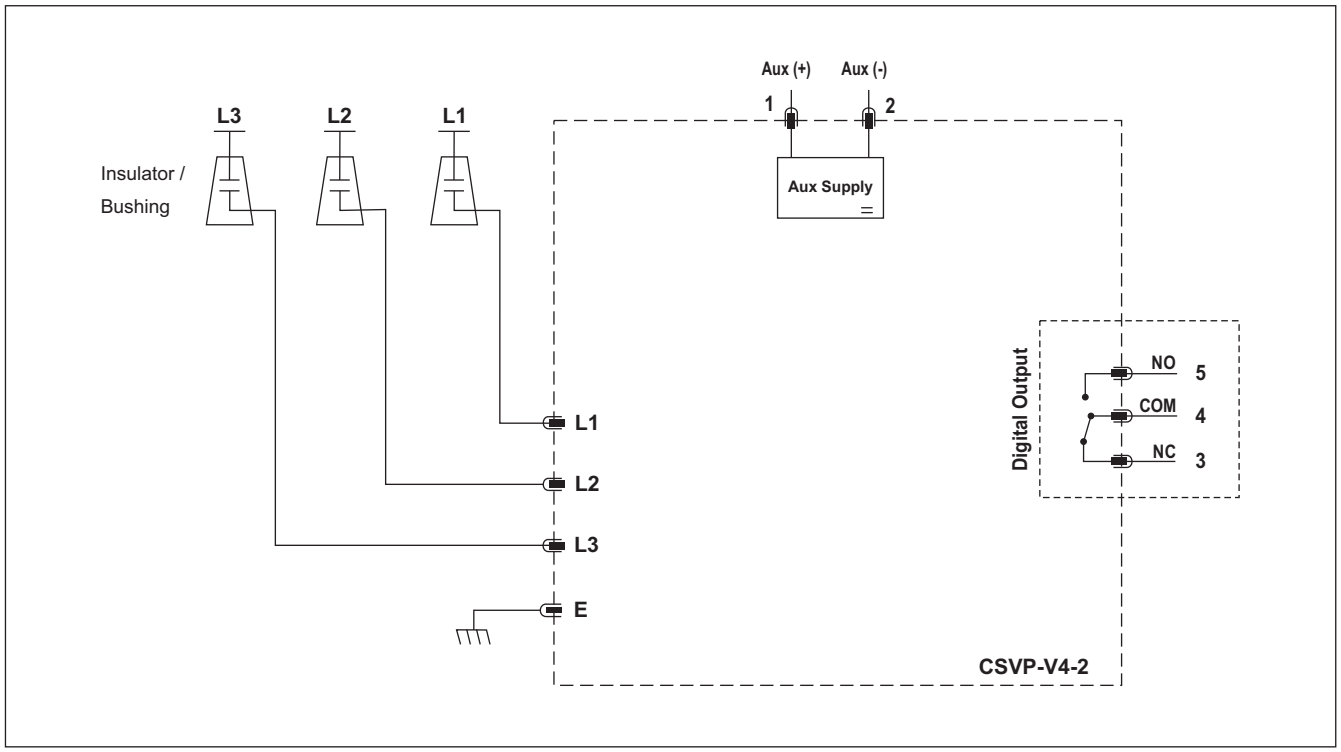
NC : 2A@250VAC
: 3A@125VAC
: 1A@24VDC

LED Indication



7) Back Terminal View : CSVP-V4-2 (SCADA compatible Advance Model)

8) Wiring Diagram : CSVP-V4-2 (SCADA compatible Advance Model)



9) Terminal Details : CSVP-V4-2 (SCADA compatible Advance Model)

Terminal No.	Terminal description
1	Aux Supply (+)
2	Aux Supply (-)
3	NC Contact
4	Common
5	NO Contact

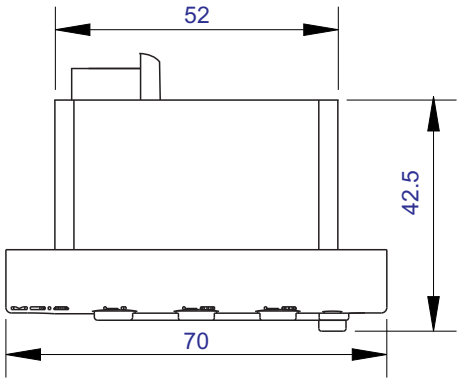
9) Dimension Details

All the dimension are in mm (Gen. tol : ± 1.0 mm)

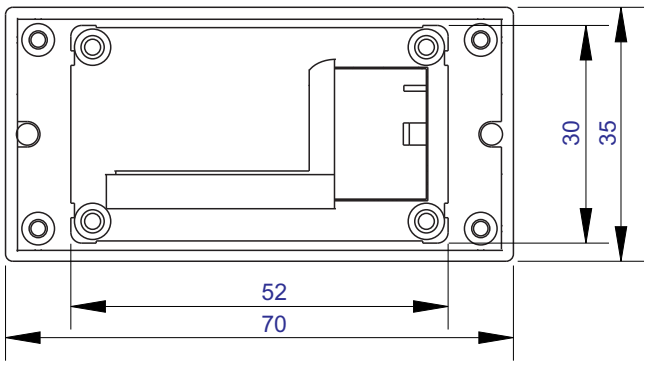
CSVP-V4-1 : (Basic Model)

(Note: Overall dimension of both the models are same except the Depth of SCADA & Non-SCADA compatible model)

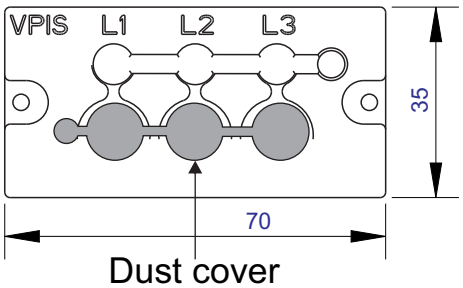
Top View



Back View



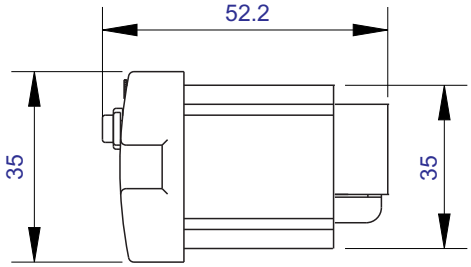
Front View



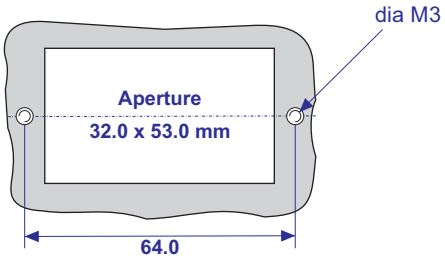
Dust cover

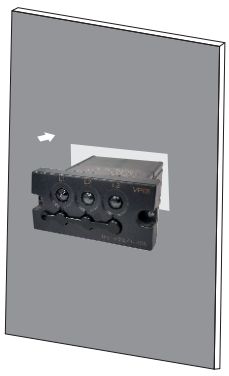
(Remove only when test plug access is required)

Side View



Installation / Panel Cut out Dimensions





Note: VPIS is a push fit product. It doesn't required any screw / clamp for mounting.

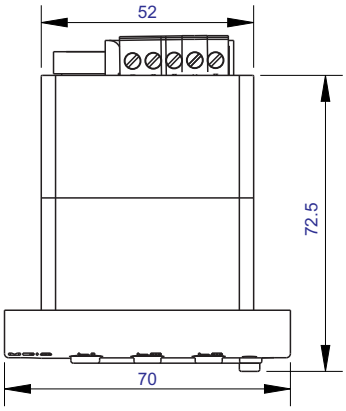
9) Dimension Details

All the dimension are in mm (Gen. tol : ± 1.0 mm)

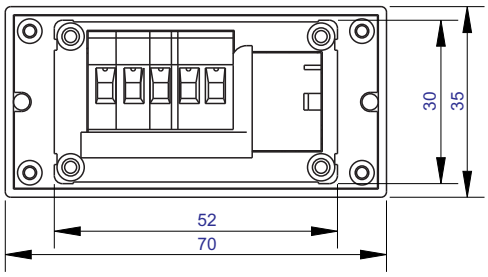
CSVP-V4-2 : (SCADA compatible - Advance Model)

(Note: Overall dimension of both the models are same except the Depth of SCADA & Non-SCADA compatible model)

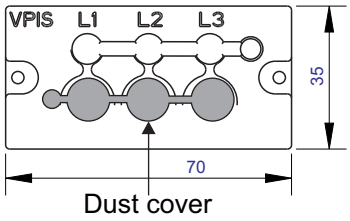
Top View



Back View



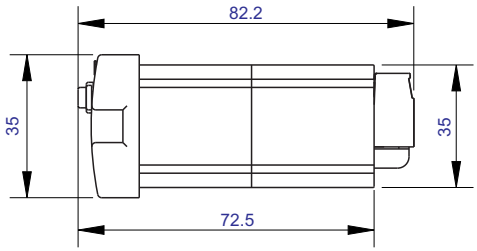
Front View



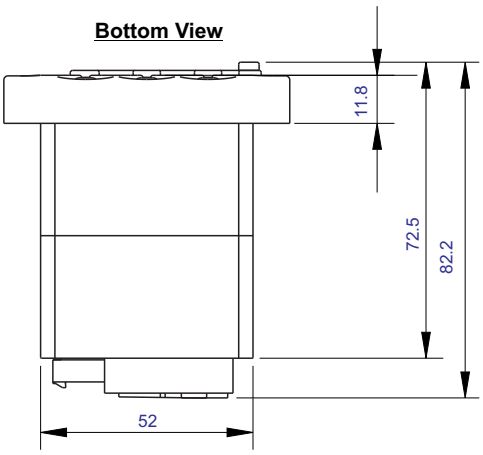
Dust cover

(Remove only when test plug access is required)

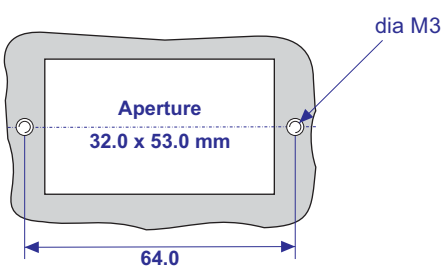
Side View

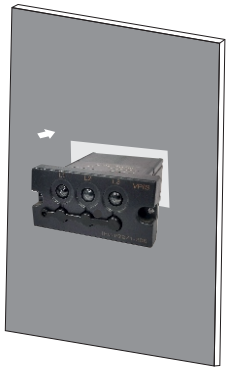


Bottom View



Installation / Panel Cut out Dimensions

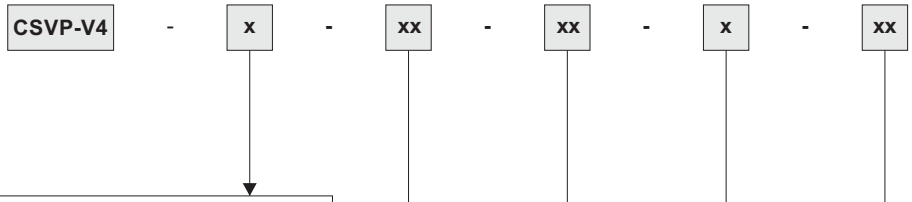




Note: VPIS is a push fit product. It doesn't required any screw / clamp for mounting.

10) Ordering Information

All the dimension are in mm (Gen. tol : ± 1.0 mm)



1	: Indicator
2	: Indicator with SCADA contact

Nominal Voltage	
01	: 3.3 - 7.2 kV
02	: 7.2 - 12 kV
03	: 9 - 15 kV
04	: 12 - 24 kV
05	: 24 - 36 kV

Coupling Capacitance	
C1	: 17 - 19 pF
C2	: 22 - 25 pF
C3	: 55 - 56 pF
C4	: 50 pF
C5	: 150 pF
Cx	: Customised

Auxiliary Voltage *	
0	: No Aux
L	: 9 - 36V DC

***(Only in CSVP-V4-2)**

Cable Harness	
-	: No Harness
T1	: Cable Harness Length Phase (L1, L2, L3) - 2000mm, Earth (E)-200mm
T2	: Cable Harness Length Phase (L1, L2, L3) - 4000mm, Earth (E)-1000mm

Revision History

S.No.	Rev.No.	Details	Date
01	01	Include conn. diagram and terminal details for SCADA compatible VPIS (CSVP-V4-2) on page 6	30.01.23
02	02	Change in ordering information on page 7 & Detail included on Page 5 for Contact Ratings.	19.09.25
03	03	Change in ordering information for nominal voltage, coupling capacitance & cable harness on page 7	10.10.25
04	04	Change in ordering information for Cable Harness Length for Earth (E)-from 200 mm to **1000**mm	27.10.25

NOTE

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