We touch your electricity everyday!

VDIS-G

Voltage Detecting & Indicating System

- AS PER IEC 62271-213:2021
- HIGH TRANSIENT VOLTAGE PROTECTION
- SUITABLE FOR VOLTAGE SYSTEM 3.3 TO 24 kV
- BUSHING CAPACITANCE RANGE 15 TO 66 pF

CATALOG

C&S electric

PMD Division

VDIS-G-(I/S)-(01/02/03/04)-(C1/C2/C3/Cx)-(PS1/PS2)-(T0/T1/T2/T3/T4/T5/T6)-(P/R)-(S/C)-M-HF
VDIS-G-WH-(T1/T2/T3/T4/T5/T6)-(P/R)-M-HF

DRAFT

CONTENTS

1) Introduction

The VDIS is a voltage presence indicating system, in compliance with the IEC 62271-213:2021 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 VDIS (ordering based) :

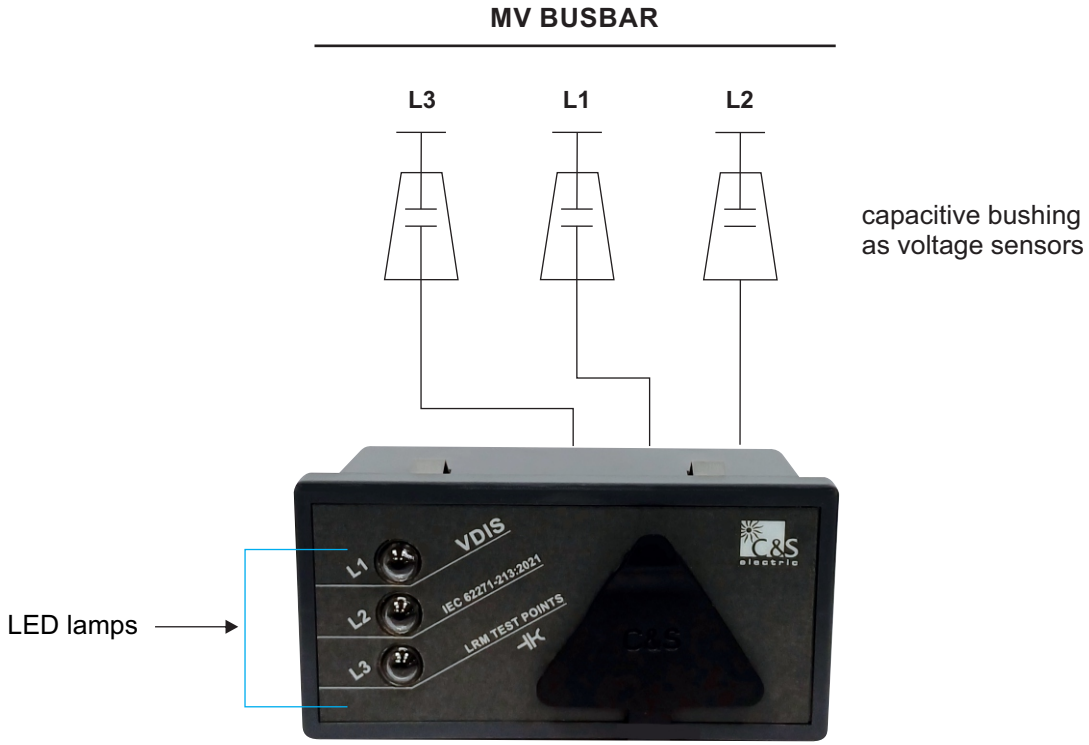
1) Basic Model	:	VDIS-G-I
2) Advance Model, (SCADA compatible with contacts)	:	VDIS-G-S

3) Main Characteristics / Benefit

- VDIS is a voltage presence indicating system conform to IEC62271-213:2021 standard
- Optical blinking led for voltage indication & Output terminals for LRM block
- Nominal frequency : 50 / 60 Hz
- Suitable for front panel mounting
- Suitable for Indoor & Outdoor application
- Suitable for various voltage range : 3.3 - 24 kV
- Bushing capacitance range : 15 - 66 pF based on model / customer requirement
- Internal gas tube arresters as required by standard for SURGE protection
- 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
- SCADA compatibility, for SCADA signalling, NO/NC contact available for RTU.

4) Setup for VDIS

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.



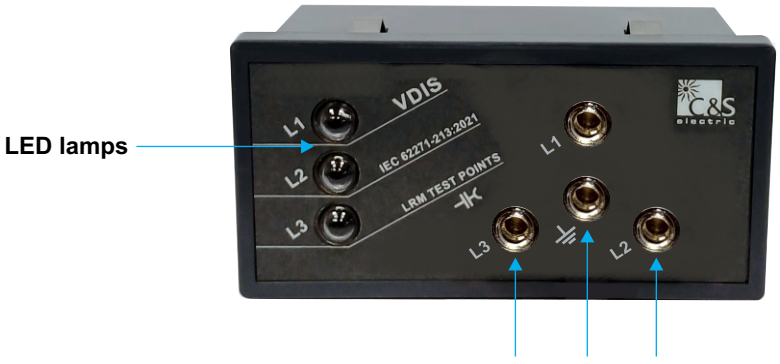
5) Technical Data

■ Nominal frequency	:	50 / 60 Hz
■ U_n < 10 % Un	:	NO LED
■ $U_n \geq$ 45 % Un	:	Flashing / Glowing LED
■ Degree of protection	:	IP-54
■ Output contact rating	:	5A, 250V AC / 24V DC (only for SCADA model)
■ Aux supply rating	:	18-60V DC (only for SCADA model)
		(Power supply range & selection as per ordering information)
■ Operating temperature	:	-25 to +70°C
■ Storage temperature	:	-25 to +80°C / Dust free environment
■ Dimensions (W x H x D)	:	96.5 x 48.5 x 67.5 mm
■ Weight (VDIS-G-S)	:	325 gm. (approx)

6) Front Fascia

Usage of these Test plug terminals are:

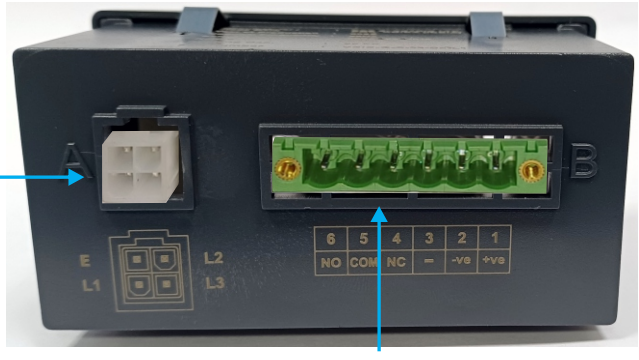
- For Voltage detection via LRM block
- Connecting Phase comparator



Note : Test Plug to connect comparator device

Back Terminal view

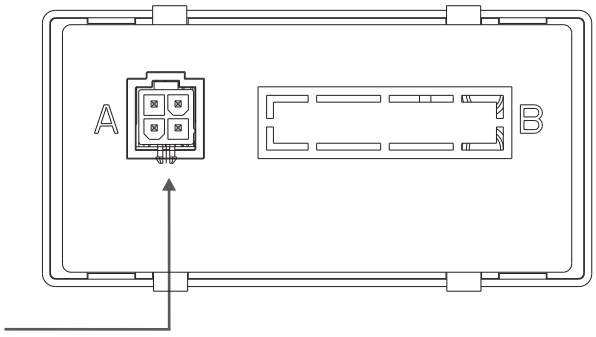
For Bushing Connection
MINI-FITJR W-T-B HDR 4CKT
Molex make Male connector
Part No. : 0874270402
Double Row, 4 Wire



Aux / Output contact connector

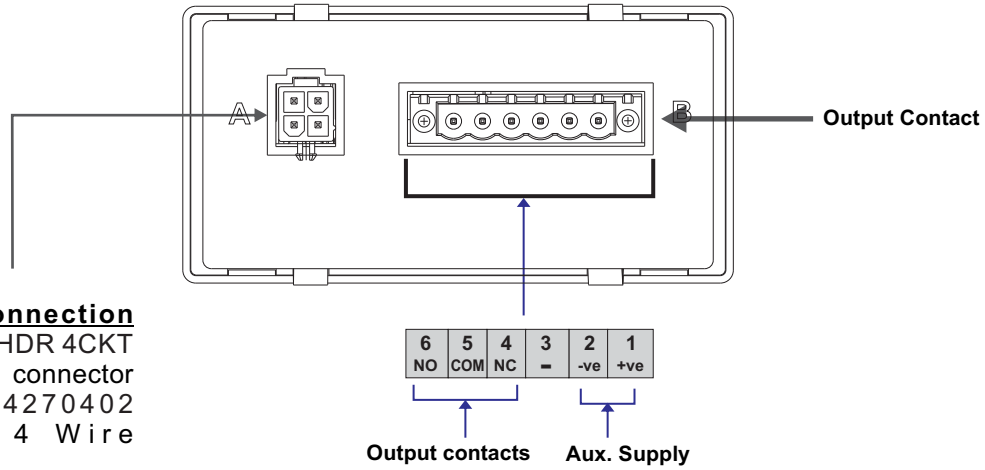
7) Back Terminal View

a) VDIS-G-I Basic Model



For Bushing Connection
MINI-FITJR W-T-B HDR 4CKT
Molex make Male connector
Part No. : 0874270402
Double Row, 4 Wire

b) VDIS-G-S Advance Model (SCADA Compatible)



For Bushing Connection
MINI-FITJR W-T-B HDR 4CKT
Molex make Male connector
Part No. : 0874270402
Double Row, 4 Wire

Indications of the Integrated Voltage Detecting and Indicating system of VDIS

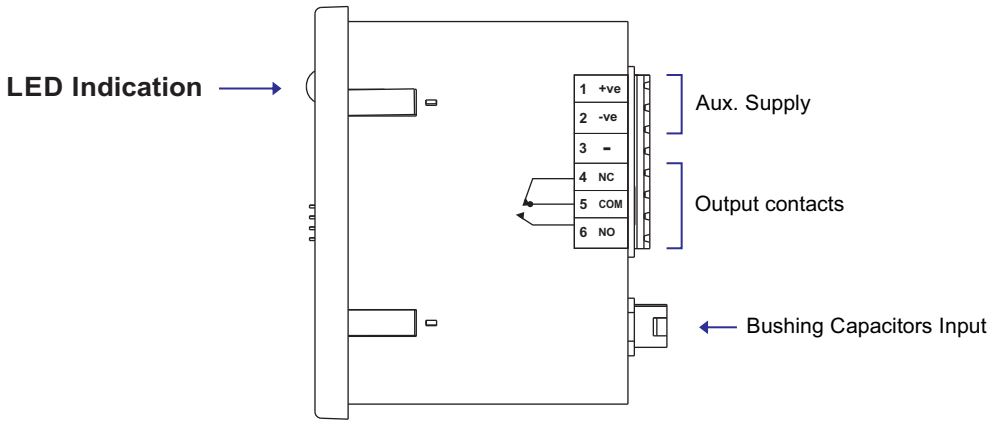
Indication	VDIS-G-I			VDIS-G-S				Description
	L1	L2	L3	L1	L2	L3	State of the Relay contacts (Relay1)	
A0	○	○	○	○	○	○		Operating voltage not present For VDIS : Auxiliary voltage present
A1	●	●	●	●	●	●		Operating voltage present For VDIS : Auxiliary voltage present
A2	●	●	●	●	●	●		Operating voltage present For VDIS-: Auxiliary voltage not present
A3	○	●	●	○	●	●		Failure in Phase L1, operating voltage at L2 & L3 For VDIS-: Auxiliary voltage present
LED does not light up ○				LED lights up ●				

8) SCADA compatible VDIS-S

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

◆ Voltage in any of the phase ≥ 45%	:	NO contact will become NC
	:	NC contact will become NO
	:	LEDs will BLINK
◆ Voltage in all the phases ≤ 10%	:	NO & NC contacts will not operate
	:	LEDs will not BLINK

LED / Contacts can start operating in between 10% & 45% of phase voltages.
For the operation of these output contacts, Aux supply to VDIS is mandatory. The Aux Supply range is 18-60V DC.

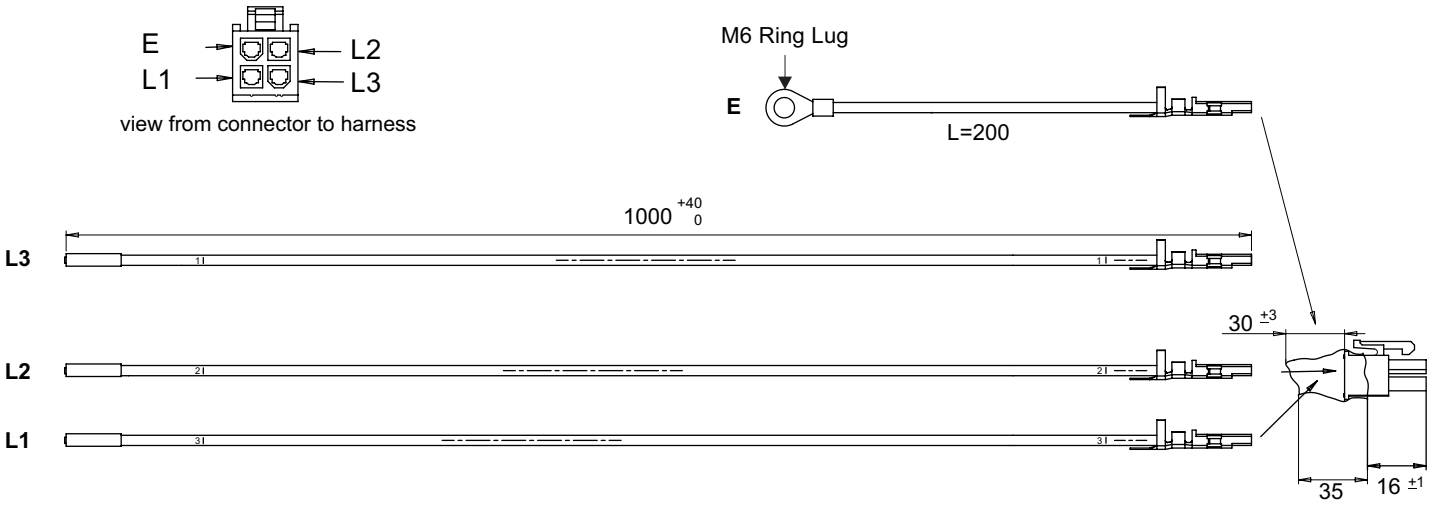


9) Wire Harness for VDIS

VDIS is available with optional accessories of cable harness as per below cable lengths / Terminations.

Note: Cable length of the Phase wire may vary based on the users requirement.

Cable Termination Length	
Cable Harness separately	: **T0**
Cable Harness Length : L=800mm & Earth=200mm (with Connector)	: **T1**
Cable Harness Length : L=1000mm & Earth=200mm (with Connector)	: **T2**
Cable Harness Length : L=1200mm & Earth=200mm (with Connector)	: **T3**
Cable Harness Length : L=1700mm & Earth=200mm (with Connector)	: **T4**
Cable Harness Length : L=2000mm & Earth=200mm (with Connector)	: **T5**
Cable Harness Length : L=3000mm & Earth=200mm (with Connector)	: **T6**

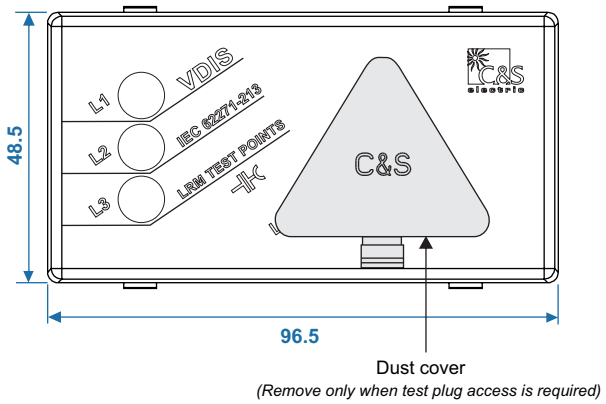


Assembled view of Female connector having lugs at other end of wire

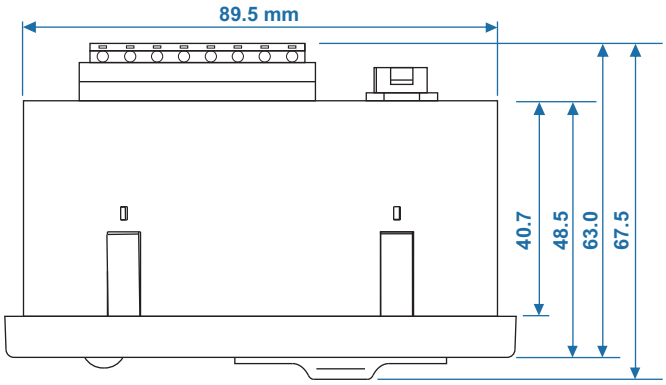
10) Dimension Details

All the dimension are in mm (Gen.Tol : + 0.8, -0.0 mm)

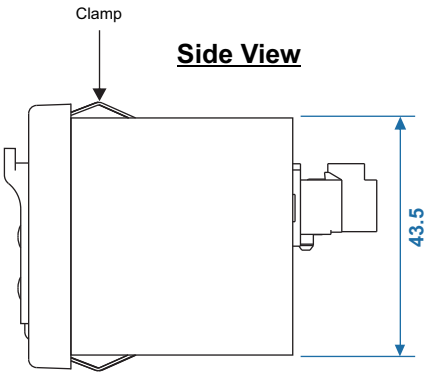
Front View



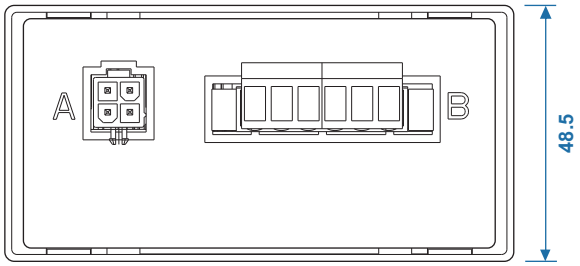
Top View



Side View

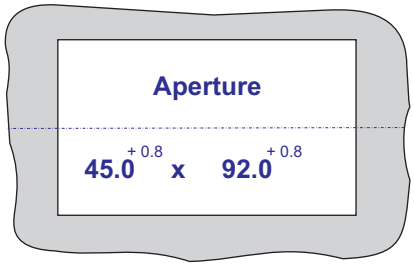


Back View



11) Panel Cut out Dimensions (for both variants)

Mounting through clamp on VDIS



12) Ordering Information a) Ordering Information for VDIS

VDIS-G - x - xx - xx - xxx - xx - x - x - x - xx

I	: Indicator
S	: Indicator with SCADA contact

Nominal Voltage (P-P)	
01	: 3.3 - 7.2 kV
02	: 7.2 - 12 kV
03	: 09 - 15 kV
04	: 12 - 24 kV

Bushing Capacitance	
C1	: 18.5 - 19.5 pF
C2	: 22 - 25 pF
C3	: 55 - 66 pF
C4	: 15 - 18 pF
Cx	: Customised

Power Supply	
PS1	: 18 - 36V DC
PS2	: 18 - 60V DC
PS0	: Not applicable *

*** PS0** option Applicable for "**VDIS-G-I**" model only.

Cable Termination Length	
T0	: Cable Harness separately
T1	: Cable Harness Length : L=800mm & Earth=200mm (with Connector)
T2	: Cable Harness Length : L=1000mm & Earth=200mm (with Connector)
T3	: Cable Harness Length : L=1200mm & Earth=200mm (with Connector)
T4	: Cable Harness Length : L=1700mm & Earth=200mm (with Connector)
T5	: Coaxial Cable Harness Length : L=2000mm & Earth=200mm (with Connector)
T6	: Coaxial Cable Harness Length : L=3000mm & Earth=200mm (with Connector)

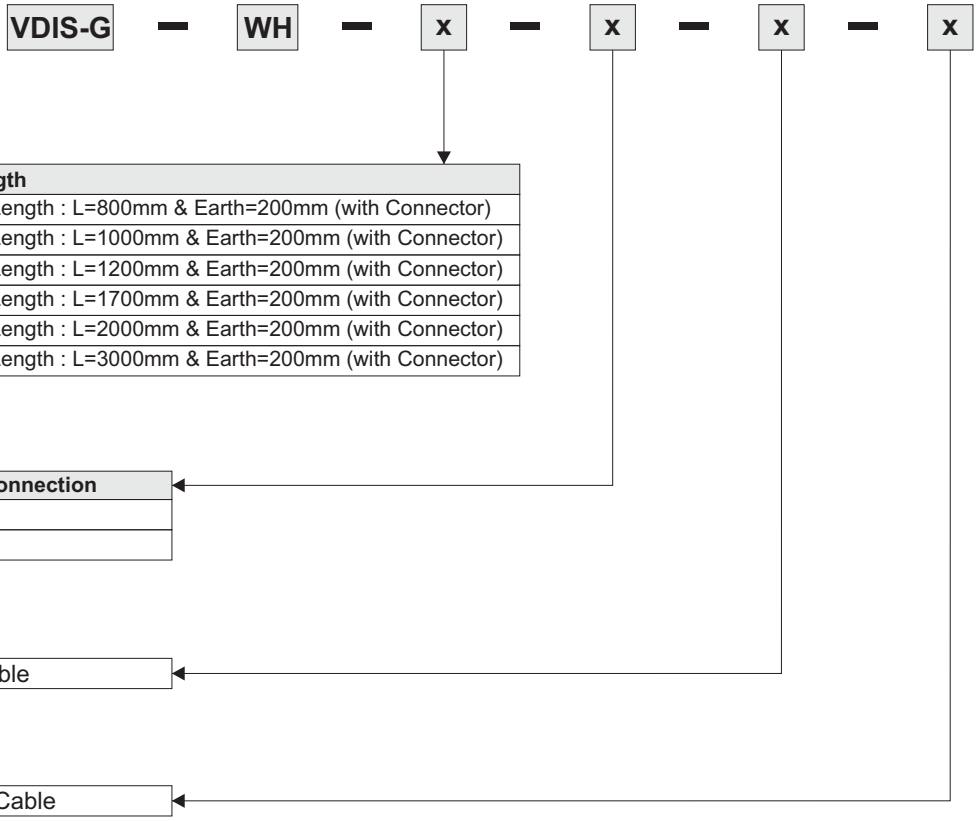
Cable Harness ends connection	
P	: Pin Type
R	: Ring Type

Cable Type	
S	: Single core
C	: Coaxial cable core

M	: Marking on Cable

HF	: Halogen Free Cable

b) Ordering Information for Cable Harness (only separate from VDIS-G)



Note : Refer Page no. 6 further for cable harness details.

Revision History

S.No.	Rev.No.	Details	Date
01	01	Change in **nominal voltage & bushing capacitance** details of ordering information on page-8	05.12.23
02	02	Change in ordering information on page 8	07.12.23
03	03	Change in ordering information on page 8 (one more option of **1000 mm wire length** included)	22.03.24
04	04	Change in **panel cut out** detail on page 7	15.10.24
05	05	Change in Tech data on page 4, **wire harness** details on page 6, ordering information and **Cable Harness** on page 8	18.12.24
06	06	Change in ordering information, include **Halogen free** cable option on page 8	20.12.24
07	07	Change in ordering information, include **cable type** (single core or coaxial single cable) option on page 8	15.04.25
08	08	Change in ordering information, include **PS0**= not applicable option in Power supply heading on page 8	28.04.25
09	09	Change in Dimension Details on page 7 , Tol. is + 0.8, -0.0 mm instead of ± 1.0 mm.	29.07.25
10	10	Include “Indications of the Integrated Voltage Detecting and Indicating system of VDIS” on page 5	07.10.25

NOTE

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