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LIVE VOLTAGE 3-PHASE MONITOR

P/N – TVLVDA3

415 OR 1100VAC 3-PH GALVANICALLY ISOLATED MONITORING

DESCRIPTION:

The Ringway Live Voltage Monitor (TVLVDA3) is a voltage monitoring system that indicates the presence of 3-phase AC voltage, over a range from the nominal supply level (refer to ordering information for options) down to 10% of the system voltage. A proprietary three-phase transformer provides full galvanic-isolation for the system and allows safe monitoring of the voltage level. The relay module monitors the transformer output and drives a 24V digital output for each phase; outputs may be monitored (e.g. by a PLC). In addition, an output is provided to indicate system health. Series DC blocking has been included on transformer inputs to allow for insulation resistance testing up to 1kV with the unit connected.

The relay connects to the panel mounted indicator with the status of each phase indicated by a redundant pair of Red LED's, and a green status LED is used to confirm that the system operation is healthy. The indicator has been designed with ease of installation and connection in mind, requiring only one hole to be cut and connection via an off-the-shelf cable with RJ45 plugs.

The detector incorporates diagnostic features via an internal microprocessor. The processor drives a Status output (O_S) and corresponding LED which may be on (Green) or flashing (Amber) depending on the health of the phase monitor circuits, power supply and indication. This circuitry is intended to provide a higher level of safety through increased diagnostic coverage. As a result the system requires minimal maintenance to validate healthy operation.

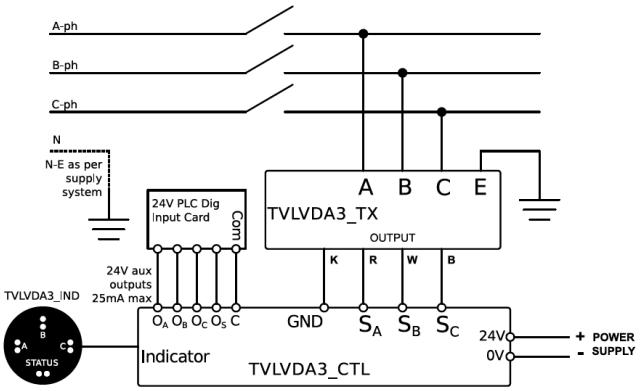
The monitoring transformer (only 190mm x 75mm x 75mm) is provided with integral double insulated cables and internal protection to avoid the requirement for bulky and expensive external fusing. Due to the compact size, ease of installation, and industry-standard detection method, the TVLVDA3 provides an economical live voltage monitoring system that is suitable for both new installations and retrofit into existing panels.

FEATURES:

- **Simple**, **robust** and **functional**.
- **Class II SELV safety isolating transformer** provides full **galvanic isolation** from monitored lines.
- **Indicates presence** of voltage from 10% - 110% system voltage - **415/1100VAC** (see order options)
- Series DC blocking allows for **insulation resistance testing to 1kV**
- **No bulky, expensive fusing** required due to **internal fusing** and **double insulated input** design.
- **Redundant LED indication** for each phase (A,B,C) as well as **system health** status (STATUS).
- Indicator designed to maintain at least **IP55** on the enclosure it is installed.

APPLICATIONS:

The Live Voltage Monitor is designed for applications that require confirmation of isolation either visually or by upstream monitoring equipment. The transformer will typically be mounted on the load side of circuit breakers or contactors to confirm successful isolation of the equipment supply.



OPERATIONAL DESCRIPTION:

INPUT STATUS (S_Φ)	AUX POWER SUPPLY	DIAGNOSTIC TEST STATUS	PH OUTPUT (O_Φ) AND LED	STATUS OUTPUT (O_S) AND LED
1	IN RANGE	1	1 (RED)	1 (GREEN)
0	IN RANGE	1	0 (OFF)	1 (GREEN)
X	X	0	U	FLASH (AMBER)
X	OUT OF RANGE	X	U	FLASH (AMBER)
X	OFF	X	0 (OFF)	0 (OFF)

Φ = Phase (A/B/C); X = Either state; U = Uncertain; See 'Specifications' for Power supply acceptable range.

SPECIFICATIONS:

Nominal System Voltage: 415V[1], 1100V[2] ph-ph (refer to ordering info.)

No of Phases (max): 3

Fault Level (max) Internally fused to 50kA

Phase Current (nom): 45mA (415V) 12mA (1100V) ph-ph

Phase Detection Threshold: 10% Nominal System Voltage

24V Power Supply (V_I): 12 – 24V[3]

Power Supply Current: 150mA (no load)

Outputs: V_I – 3V @ 25mA max (current limited)

Indication: Phase A, B, C – Red LED; Status – Green/Amber LED

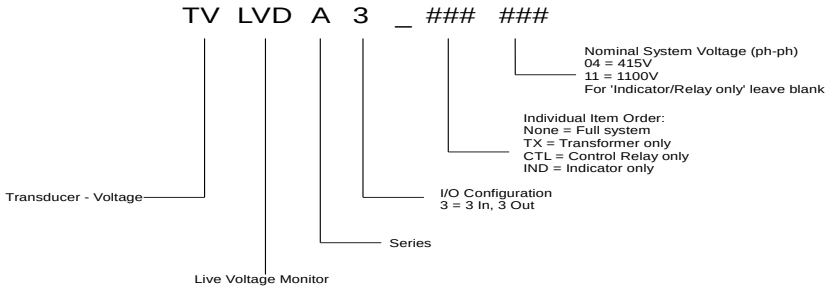
Operating Temperature: -5 → +40°C

Dimensions: Indicator: Ø 45 x 10mm (external); M32 x 1.5 - 14 long (thread) [4]

Transformer: 190mm x 75mm x 75mm

Relay: 22.5 (W) x 99 (L) x 114.5 (H) mm [5]

ORDERING INFORMATION:



[1] The 415V transformer has a standard operating range of 400-440V (Um=480V).

[2] The 1100V transformer has a standard range of 1000-1100V (Um=1200V)

[3]STATUS output (O_S) healthy within ±10% of nominated range at no load. At full load the minimum supply is 11.5V.

[4]Requires 32mm panel hole to mount

[5]Height is equivalent to depth from gear plate when mounted on hat rail.