

AC/DC 6/12/24/36kV Medium Voltage Live Line Detector/Indicator. MVDH Series

FEATURES

- Pulsating light indication
- AC and DC operation with LEDs visible in bushing
- Phase-neutral operation
- Optional fiber optic output cable
- Partial discharge free
- High tolerance to overvoltages
- Extremely low input current
- Fault tolerant design
- Optional customization

APPLICATIONS

- Distribution equipment
- Capacitor banks
- MV Substations
- Rail guns
- Electric ships
- DC medium voltage grids
- MV Motors



DESCRIPTION

The MDVH series of live line voltage presence indicators provide a means to detect visually the presence of voltage in medium voltage lines, capacitors or busbars. This novel design presents 6 light pipes radially distributed around a insulator bushing that meets insulation

coordination requirements in medium voltage systems. Optionally a fiber optic connector can be fitted to provide signaling in a user front panel. The flashing circuitry inside the bushing makes the LED indication of voltage clearly visible to operators. It will detect AC as well as DC, something that is becoming of increasing importance in modern networks, as evidenced for example in the recent IEEE 1709 Medium Voltage DC on Ships standard.

Input current to the module is fairly constant with input voltage and stays below 180uA over all the permissible input voltage range. This low input current increases system reliability. Also the detectors are extremely tolerant to input over voltages. The LEDs are arranged in parallel configuration so a single LED fault will not render the module useless.

The detector is casted inside a generously sized epoxy insulator that adds in maintaining the insulation coordination margins of the overall system. Due to the high input impedance of the device and the careful 3 step casting process, partial discharges are kept to a minimum.

SPECIFICATIONS

	MVDH6	MVDH12	MVDH24	MVDH36	Units
Connection type	Phase-neutral	Phase-neutral	Phase-neutral	Phase-neutral	
Rated voltage	7.2kV	12kV	24kV	36kV	
Response time	<1	<1	<1	<1	s
Input current	<200	<200	<200	<200	μA
Overvoltage DC, 3s duration	12	20	40	50	kV
Activation Voltage, +25C	1000	2000	4000	7000	V
LED frequency	1	1	1	1	Hz
Working temperature	-25..+70	-25..+70	-25..+70	-25..+70	°C
Input bolts diameter	6	6	6	6	mm
Creepage	>605	>605	>605	>605	mm
Overvoltage factor	1.9x8h	1.9x8h	1.9x8h	1.9x8h	
Test voltages	20/60	28/75	50/125	70/170	kV
Insulation thermal class	120°C(E), IEC 60085	120°C(E), IEC 60085	120°C(E), IEC 60085	120°C(E), IEC 60085	
Routine tests	Activation voltage Input current LED frequency Partial discharges	Activation voltage Input current LED frequency Partial discharges	Activation voltage Input current LED frequency Partial discharges	Activation voltage Input current LED frequency Partial discharges	
Weight	2.1	2.1	2.1	2.1	Kg
Normative references	IEC 60273, 61243-5, 61243-2	IEC 60273, 61243-5, 61243-2	IEC 60273, 61243-5, 61243-2	IEC 60273, 61243-5, 61243-2	

CUSTOMIZATION

SAKER offers customization services in case different specifications are needed within the medium voltage spectrum. Typical elements that can be tailored to customer needs include maximum input voltage, activation voltage, terminal configuration (phase-neutral or phase-phase), or light output via fiber optic.

ORDERING CODES

CODE	Description
MVDH6	MVDH6 Voltage detector/indicator
MVDH12	MVDH12 Voltage detector/indicator
MVDH24	MVDH24 Voltage detector/indicator
MVDH36	MVDH36 Voltage detector/indicator

DIMENSIONS

