

## LLM3 LIVE LINE MONITOR

LLM3 Live line monitor is used to indicate the presence of voltage in the three-phase power supply.

Each of the monitored phases is indicated by a LED display with an appropriate marking, e.g. L1, L2, L3. The red LEDs of the relevant indicator go out when the phase fails.

An additional external LLI3 phase presence indicator provides a convenient view of the power network status at the control cabinet door.

Advantages of LLM3 + LLI3 set:

- **Safety** - LLI3 indicator operates with low voltage potential due to full galvanic isolation from the power network
- **Reliability** - each phase is signaled by two independent LEDs and the analogue design provides resistance to electromagnetic interference
- **Versatility** - signaling available inside the control cabinet (LLM3 monitor) and on the board (LLI3 indicator)
- **Convenience** - red LEDs for clear visibility in all conditions



FEATURES	INPUT	GALVANIC ISOLATION
L1 L2 L3	V AC	→ Supply

## TECHNICAL DATA

### INPUT

Measured quantity	Measurement range
Voltage	U L-N: 190...230...400 V a.c. U L-L: 330...400...690 V a.c.

### EXTERNAL FEATURES

	LLM3	LLI3
Readout field	3 double signal diodes (LED, red colour)	
Weight	< 0.4 kg	< 0.2 kg
Dimensions	57 x 110 x 60 mm	50 x 50 mm length of the attached cable: 2m
Protection degree	from the frontal side: IP50 from the terminal side: IP00	from the frontal side: IP61
Mounting	on 35 mm rail	in a panel

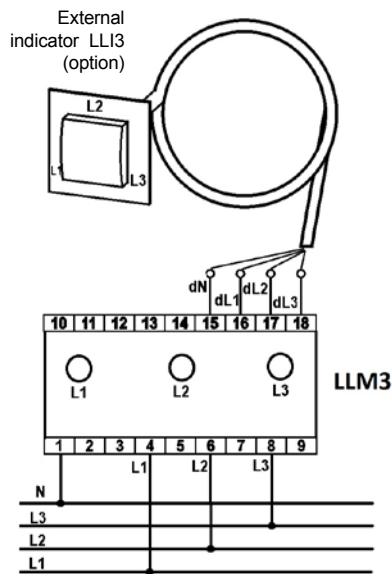
### RATED OPERATING CONDITIONS

	LLM3	LLI3
Temperature	ambient: 0...23...55°C	
Humidity	< 95% inadmissible condensation	
Working position	any	
Power consumption	< 1.2 VA	< 0.1 VA

### SAFETY AND COMPABILITY REQUIREMENTS

	LLM3	LLI3
Isolation between circuits	insulation between the input circuits (terminals 1-9) and the output circuit of the indicator (terminals 15 – 18) basic (60s /3.51kV a.c.)	-
Maximal phase-to-earth voltage	400 V	24 V

## CONNECTION DIAGRAMS



- L1, L2, L3 – monitored voltage phases
- N – neutral wire
- dN – connection of the GND signal of the Live Line Indicator LLI3 (green wire)
- dL1 – connection of the signal controlling the L1 phase diodes of the LLI3 LED indicator (white wire);
- dL2 – connection of the signal controlling the L2 phase diodes of the LLI3 LED indicator (gray wire);
- dL3 – connection of the signal controlling the L3 phase diodes of the LLI3 LED indicator (brown wire);

Fig.1. Electrical connections diagram of LLM3

## DIMENSIONS

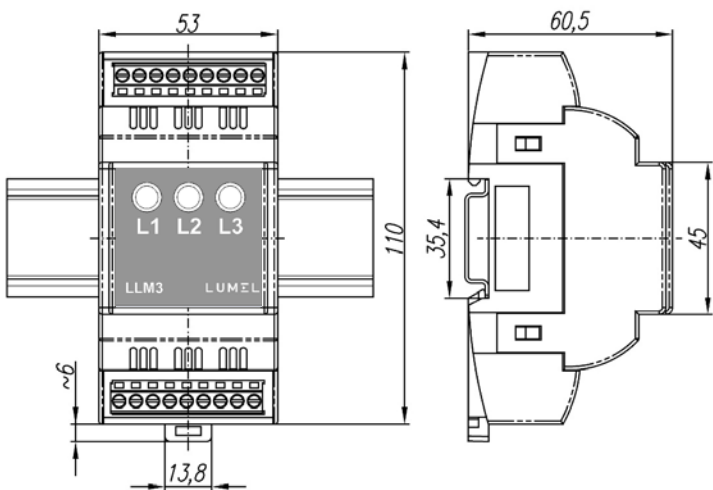


Fig.2. Dimensions and installation method of the Live Line Monitor

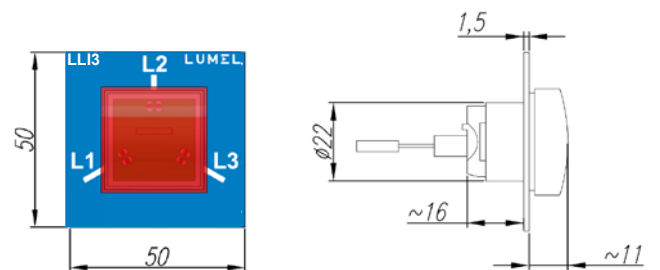


Fig.3. Dimensions and installation method of external Live Line Indicator LLI3

## ORDERING CODE

Live Line Monitor LLM3	X	X	X	XX	X
<b>Input voltage:</b>					
3 x 230...400 V a.c.	1				
<b>Phase designation:</b>					
L1 - L2 - L3		L			
A - B - C			A		
R - S - T				R	
R - Y - B					Y
<b>Accessories:</b>					
without Live Line Indicator LLI3				0	
with Live Line Indicator LLI3					1
<b>Version:</b>					
standard					00
custom-made					XX
<b>Acceptance tests:</b>					
without additional requirements					0
with quality inspection certificate					1
acc. to customer's requirements*					X

### LIST OF ACCESSORIES:

LLI3-L00 external indicator with phase designation L1 - L2 - L3  
 LLI3-A00 external indicator with phase designation A - B - C  
 LLI3-R00 external indicator with phase designation R - S - T  
 LLI3-U00 external indicator with phase designation U - V - W  
 LLI3-Y00 external indicator with phase designation R - Y - B

### CODING EXAMPLE:

**LLM3-1L1001** means the Live Line Monitor LLM3 in the standard version for the range 3x230 ... 400V a.c. with phase designation L1 - L2 - L3, with an external indicator LLI3 with a quality control certificate.

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