

V

LED INDICATORS

V.1 LED INDICATORS - KLU-x-20-U

DESCRIPTION

LED indicators **KLU-x-20-U** are designed for optical signaling. They consist of a 20mm LED, active current limiter circuit and aesthetic chrome housing. These LED indicators are characterized by:

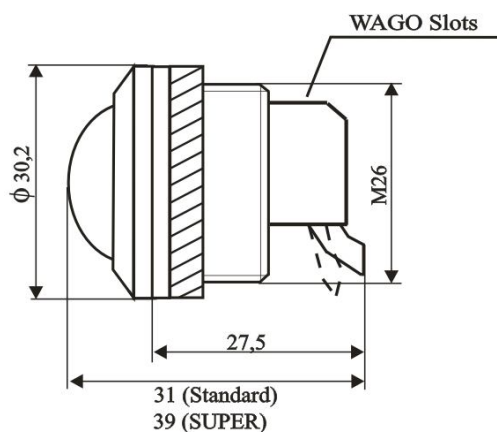
- High luminance,
- Stable luminance in full voltage range (average luminance drop up to 7%)
- Immunity to surges,
- Immunity to noises coming from environment,
- Long life in comparison with bulb based indicators.

TECHNICAL DATA

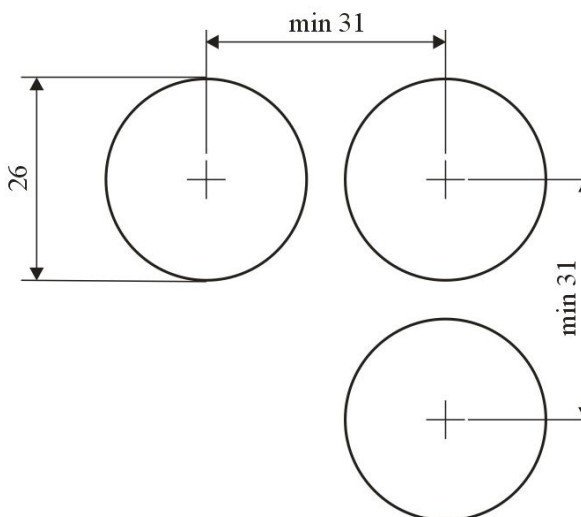
LED diameter:	20 mm
Mounting hole diameter:	26 mm
Operating voltage range:	universal 24V ÷ 260V DC or 24V ÷ 230V AC
Max operating current:	16mA
Dielectric strength (for 110V and 220V):	5300V DC
Protection degree:	IP54
Acceptable wire diameter for slots:	AWG28 ÷ AWG10
Weight:	0,12kg
Luminance (average):	

COLOR	LUMINANCE (mcd)	
	STANDARD	SUPER
R - red	60 - 100	1000 - 1200
G - green	40 - 60	800 - 900
Y - yellow	25 - 40	1100 - 1200
O - orange	25 - 40	600 - 700
B - blue	NA	400 - 500
W - white	NA	1000 - 1100
G/R - green-red	NA	800/900

LED INDICATOR DIMENSIONS



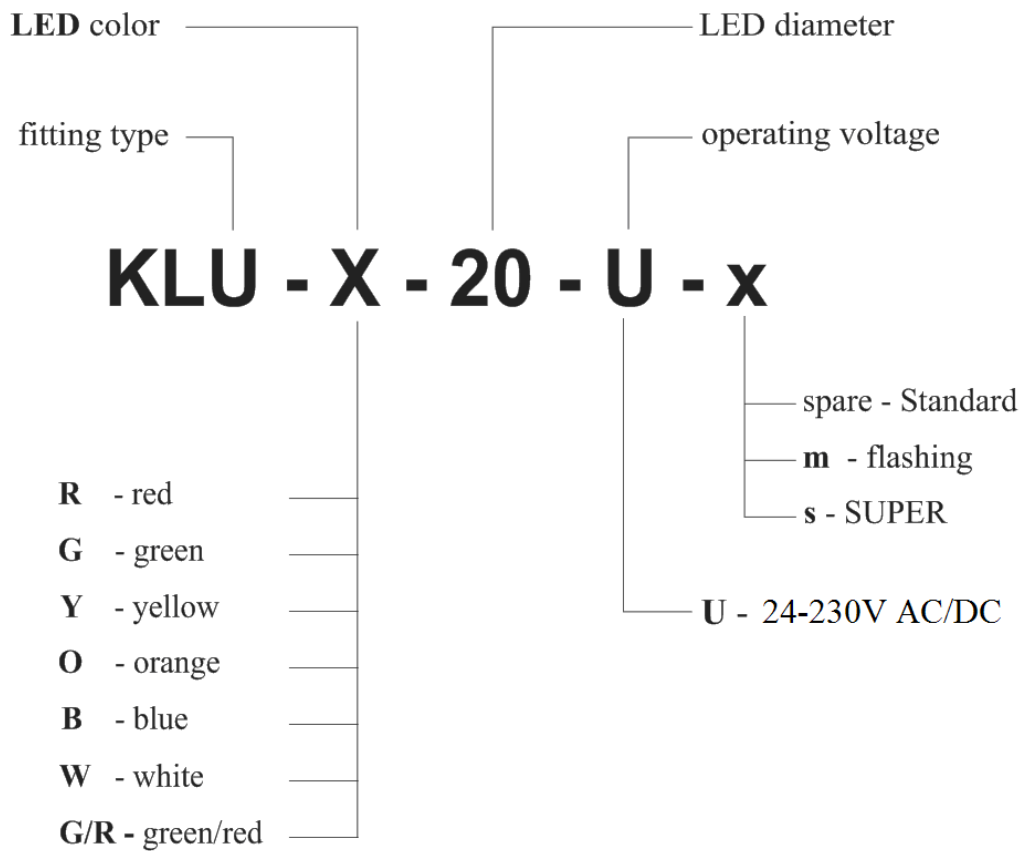
RECOMMENDED SPACING AND HOLE DIAMETERS



All dimensions in millimeters

For DC voltage, the positive wire slot color is the same as LED color. Negative or common wire slot is always black. In case of AC input voltage the connection direction does not matter.

NAME ENCODING



V.2 LED INDICATORS - KLP-x-20-U

DESCRIPTION

LED indicators KLP-x-20-U are designed for optical signaling. They consist of a 20mm LED, active current limiter circuit and plastic enclosure with metal plated ring. These LED indicators are characterized by:

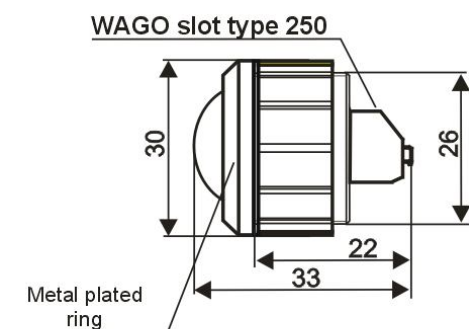
- High luminance,
- Stable luminance in full voltage range (average luminance drop up to 7%)
- Immunity to surges,
- Long life in comparison with bulb based indicators.

TECHNICAL DATA

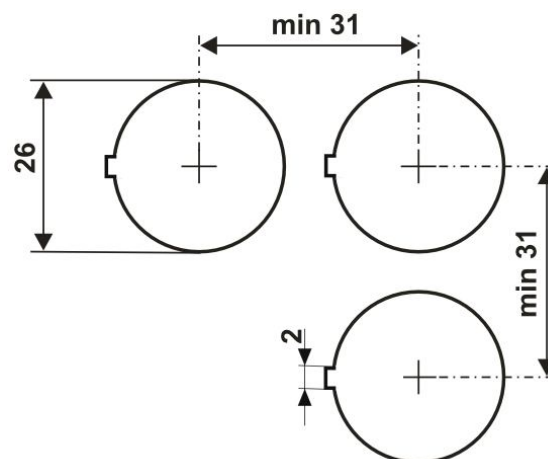
LED diameter:	20 mm
Mounting hole diameter:	26 mm
Operating voltage range:	universal 24V ÷ 230V AC/DC
Max operating current:	19mA
Protection degree:	IP30
Acceptable wire diameter for slots:	AWG28 ÷ AWG15
Weight:	0,10kg
Luminance (average):	

COLOR	LUMINANCE (mcd)	
	STANDARD	SUPER
R - red	60 - 100	1000 - 1200
G - green	40 - 60	800 - 900
Y - yellow	25 - 40	1100 - 1200
O - orange	25 - 40	600 - 700
B - blue	NA	400 - 500
W - white	NA	1000 - 1100

LED INDICATOR DIMENSIONS



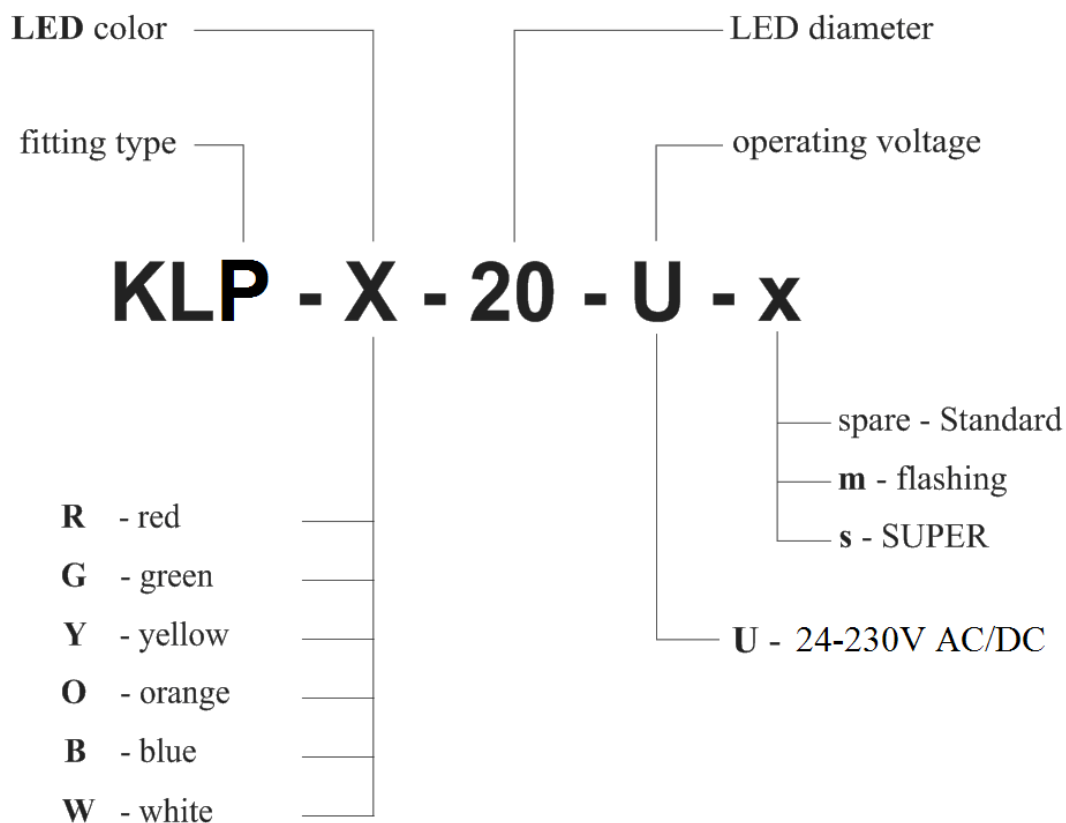
RECOMMENDED SPACING AND HOLE DIAMETERS



All dimensions in millimeters

Both slots color is the same as LED color, with one exception for yellow variant where the slots are red.

NAME ENCODING



V.3 LED INDICATORS - KLPP-x-20

DESCRIPTION

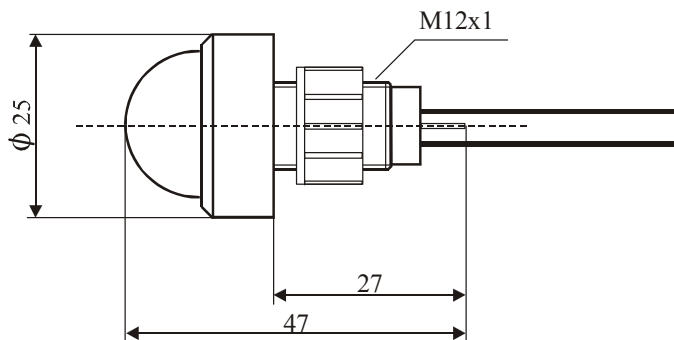
LED indicators KLPP-x-20 are designed for optical signaling. They consist of a 20mm LED, passive current limiter and plastic enclosure. These LED indicators are characterized by:

- High luminance,
- Low power consumption,
- Long life in comparison with bulb based indicators.

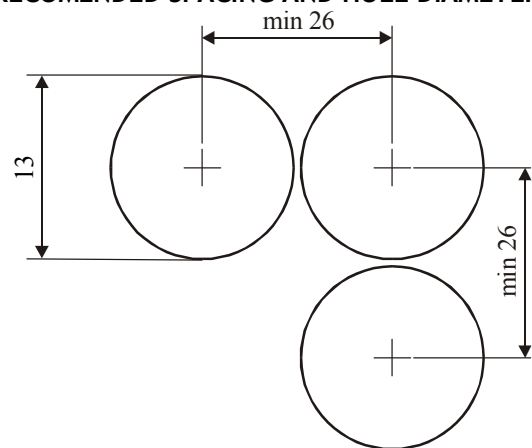
TECHNICAL DATA

LED diameter:	20 mm
Mounting hole diameter:	12 mm
Rated power consumption:	1.2 W
Connection wires:	LGY AWG24
Wire length:	330 mm
Available voltages:	12V, 24V, 48V, ... 110V, 220V AC/DC

LED INDICATOR DIMENSIONS



RECOMENDED SPACING AND HOLE DIAMETER



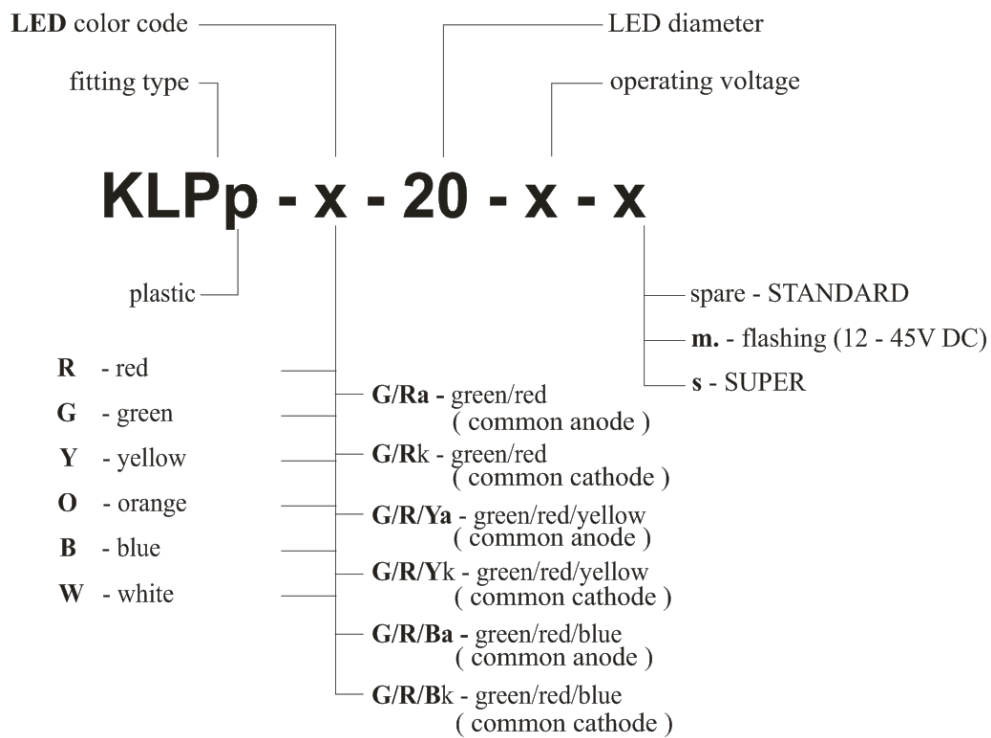
All dimensions in millimeters

WIRE COLOR ENCODING

For AC variant: Color of both wires is the same as LED color. For multicolor LED's common wire is violet.

For DC variant: In case of common cathode, the positive wire color is the same as LED color, negative wire is black. In case of common anode, the negative wire color is the same as LED color, positive wire is brown.

NAME ENCODING



V.4 LED INDICATORS - KLx-5/8/10

DESCRIPTION

LED indicators **KLx-5/8/10** are designed for optical signaling. They consist of a 5, 8 or 10mm LED, passive current limiter and plastic or aesthetic chrome housing. These LED indicators are characterized by:

- High luminance,
- Low power consumption,
- Long life in comparison with bulb based indicators.

LED indicators **KLx-5/8/10** have four variants of housing:

- chrome housing, type "A" (raised): **KLA-5; KLA-8; KLA-10**
- chrome housing, type "U" (concave): **KLU-8; KLU-10**
- plastic housing, type "P": **KLP-5; KLP-8; KLP-10**
- plastic housing with wires, type "Pp": **KLPP-5; KLPP-10**

TECHNICAL DATA

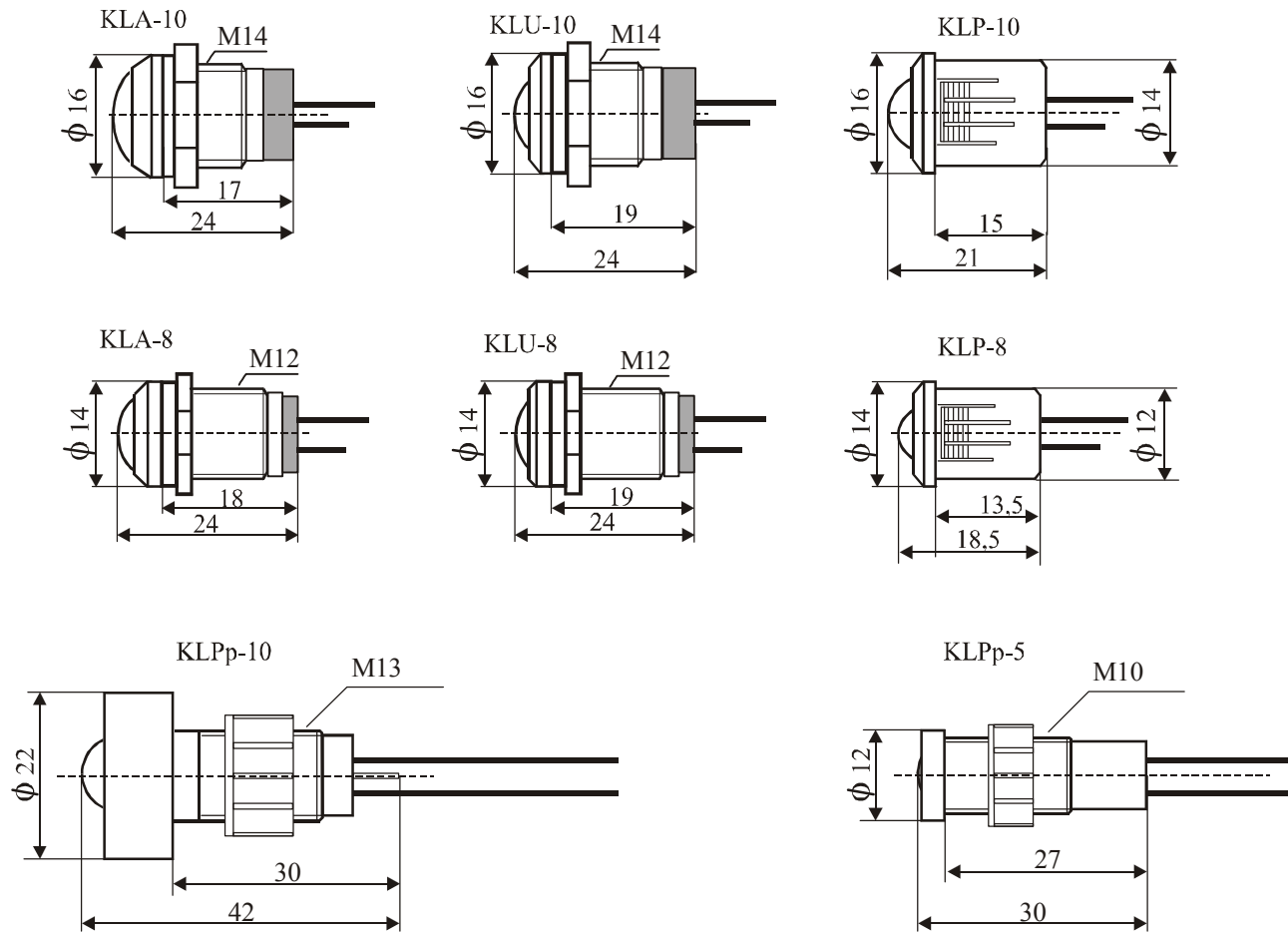
Operating voltage (*selected from range*): 5 - 220V AC/DC
 Current consumption max: 20 mA (5V - 24V AC/DC)
 5 mA (48V - 220V AC/DC)

Luminance (average):

LUMINANCE (mcd)		
COLOR	STANDARD	SUPER
R - red	200 - 350	650 - 800
G - green	20 - 70	650
Y - yellow	20 - 70	550
O - orange	20 - 100	550
B - blue	NA	250
W - white	NA	700
G/R - green-red	50/60	450/500
G/R/Y - green-red-yellow	NA	450/500/300
G/R/B - green-red-blue	NA	450/500/180

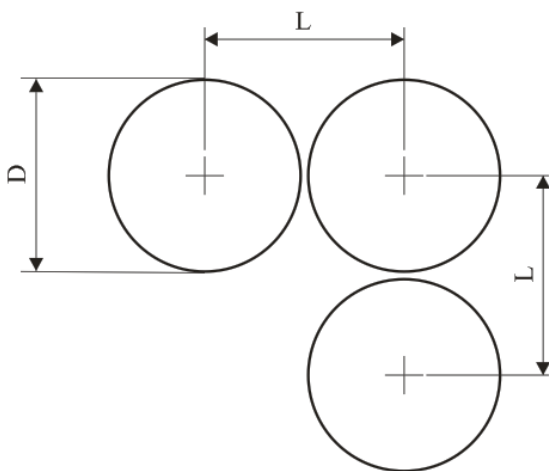
5mm LED indicators with operating voltage above 60V are always made as **Pp** variant of housing. For nonstandard operating voltage, replace the voltage code with actual operating voltage.

DIMENSIONS



All dimensions in millimeters

RECOMMENDED SPACING AND HOLE DIAMETER



Type \ Dimm.	HOLE DIAMETER D (mm)	MIN. SPACING L (mm)
KLA-10	14	20
KLU-10	14	20
KLP-10	14	17
KLPp-10	14	23
KLA-8	12	17
KLU-8	12	17
KLP-8	12	15
KLPp-5	10	13

NAME ENCODING

