



## Digital Bargraph Indicators, programmable

**72x24**  
**96x24**  
**144x48**

- ✓ for DC Current and Voltage, Standard Signals
- ✓ Bezel 72x24, 96x24 or 144x48 mm
- ✓ Vertical or Horizontal Display
- ✓ 20, 30, 40 or 50 Segments
- ✓ LED red or green
- ✓ One or two Bargraphs
- ✓ With or without additional 7-Segment Display
- ✓ Auxiliary Supply 115/230 V AC, 50 Hz or 24 V DC





## General Data

### Digital Bargraph Indicators, programmable

#### Application

for standard applications in switchboard-, control equipment-, process control-, and machine tool industry.

**for mounting in** switchboards, machine tools or mosaic grid panels (optional)

**for measuring connection** DC current or DC voltage, standard signals direct or for use on transducer, shunt

#### Mechanical Data

**case details** rectangular format  
**material of case** glass-fibre reinforced thermoplastics, black  
**bezel** black, mat or optionally gray varnished (similar to RAL 7037) or siliceous gray varnished (similar to RAL 7032)  
**terminals** screw terminal barrier strip  
**enclosure code** IP 50 front of case  
IP 20 rear of case  
**panel fixing** screw clamps  
**mask lettering** 0 ... 100% standard, extra caption, custom logo or special lettering to special order

**operating elements** behind removable display lens

**climatic suitability**  
**operating temperature range** 0°C ... +23°C ... +50°C  
**storage temperature range** -20°C ... +23°C ... +70°C

**relative humidity** ≤75% annual average, non-condensing

**dimensions (in mm)**

	LEA 20	LEA 23/30
bezel	72 x 24	96 x 24
panel cutout	68 <sup>+0.7</sup> x 22.2 <sup>+0.3</sup>	92 <sup>+0.8</sup> x 22.2 <sup>+0.6</sup>
panel thickness	≤5	≤5
mounting depth	120	120
bezel height	5.2	7.5
weight approx.	0.15 kg	0.25 kg

**dimensions (in mm)** LEA/LZA 43/50  
**bezel** 144 x 48  
**panel cutout** 138<sup>+1.0</sup> x 45<sup>+0.6</sup>  
**panel thickness** ≤45  
**mounting depth** 120  
**bezel height** 8.5  
**weight approx.** 0.6 kg

**mounting in mosaic grid panels**  
please specify type / manufacturer of mosaic grid when ordering

**options** refer to last page  
**additional data** on request  
**prices** refer to Price Sheet No. 720.P.000.##



## Short Form Data

### Bargraph Indicator for DC Current and DC Voltage, programmable

**LEA 20**  
72 x 24 mm

**Bargraph**  
20 20 Segments  
**Input**  
A DC Current / 200 mA and DC Voltage 2 / 10 / 40 / 200 V  
**Auxiliary Voltage**  
1 24 V DC electrically insulated  
**Options**  
0 none  
**Display Colour**  
R red  
G green  
**Appearance**  
H Vertical Display  
Q Horizontal Display

#### Electrical Data

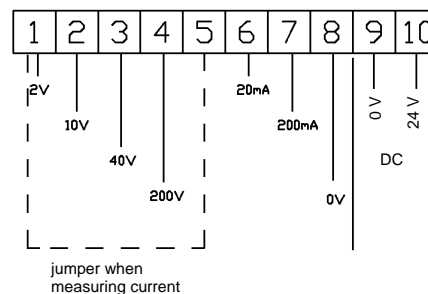
**measuring ranges** input resistance  
DC current ±20 mA 100 Ω  
±200 mA 10 Ω  
DC voltage ±2 V 100 kΩ  
±10 V 560 kΩ  
±40 V 2.2 MΩ  
±200 V 10 MΩ  
**measuring principle** dual-slope, integrating  
**conversion rate** approx. 1 read per second  
**error, max.** ±0.01% of reading ±1 count/segment  
**auxiliary voltage** 24 V DC (20 ... 30 V), electrically insulated  
**power consumption** 2.5 VA max.

#### Display

**scale length** 50 mm, 20 segments  
**display colour** red or green  
**appearance** vertical or horizontal display  
**overrange indication** each 2<sup>nd</sup> scale segment will flash  
**zero point/end value** programmable  
**scaling** 0 ... 100 %

#### Connection

plug-in terminal barrier strip



ordering example	LEA	20	A	1	0	R	H
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## Short Form Data

### Bargraph Indicators for DC Current and DC Voltage, programmable

**LEA 23**  
**LEA 30**  
96 x 24 mm

<b>Bargraph</b>	
23	20 Segments & 3-digit Display
30	30 Segments
<b>Input</b>	
A	DC Current 20 / 200 mA and DC Voltage 2 / 10 / 40 / 200 V
<b>Auxiliary Voltage</b>	
1	24 V DC electrically insulated
2	115/230 V AC, 50 Hz electr. insulated
<b>Options</b> refer to last page	
<b>Display Colour</b>	
R	red
G	green
<b>Appearance</b>	
H	Vertical Display
Q	Horizontal Display

### Electrical Data

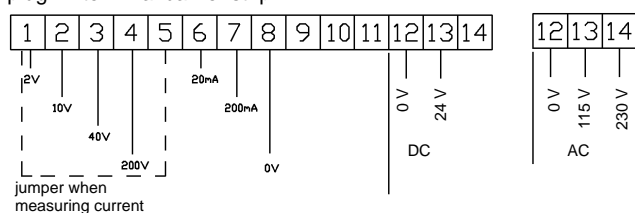
<b>measuring ranges</b>	input resistance
DC current	
±20 mA	100 Ω
±200 mA	10 Ω
DC voltage	
±2 V	100 kΩ
±10 V	560 kΩ
±40 V	2.2 MΩ
±200 V	10 MΩ
measuring principle	dual-slope, integrating
conversion rate	approx. 1 read per second
error, max.	±0.01% of reading, ±1 count/segment
<b>auxiliary voltage</b>	24 V DC (20 ... 30 V), electrically insulated or 115/230 V AC, 50 Hz, electrically insulated
power consumption	2.5 VA max.

### Display

<b>scale length</b>	<b>LEA 30</b> 75 mm, 30 segments
	<b>LEA 23</b> 50 mm, 20 segments
<b>Display</b>	<b>LEA 23</b> 7-segment LED, digit height 7 mm, display span -99 ... 999
display colour	red or green
appearance	vertical or horizontal display
overrange indication	each 2 <sup>nd</sup> scale segment and center segments will flash
mean value set-up	adjustable from 1 to 500 reads
round-off last digit	adjustable: 2 <sup>nd</sup> , 5 <sup>th</sup> , 10 <sup>th</sup> step, none
zero point/end value	programmable
scaling	0 ... 100 %, caption on request

### Connection

plug-in terminal barrier strip



ordering example **LEA 30 A 2 0 G H**



## Short Form Data

### Bargraph Indicator for DC Current and DC Voltage, programmable

**LEA 43**  
**LEA 50**  
144 x 48 mm

<b>Bargraph</b>	
43	40 Segments & 3-digit Display
50	50 Segments
<b>Input</b>	
A	DC Current 20 / 200 mA and DC Voltage 2 / 10 / 40 / 200 V
<b>Auxiliary Voltage</b>	
1	24 V DC electrically insulated
2	115/230 V AC, 50 Hz electr. insulated
<b>Options</b> refer to last page	
<b>Display Colour</b>	
R	red
G	green
<b>Appearance</b>	
H	Vertical Display
Q	Horizontal Display

### Electrical Data

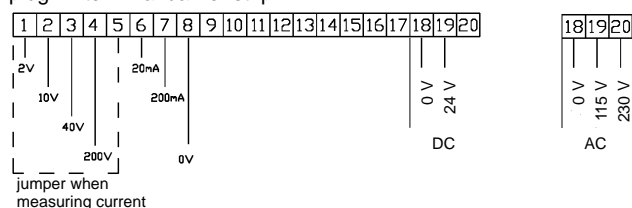
<b>measuring ranges</b>	input resistance
DC current	
±20 mA	100 Ω
±200 mA	10 Ω
DC voltage	
±2 V	100 kΩ
±10 V	560 kΩ
±40 V	2.2 MΩ
±200 V	10 MΩ
measuring principle	dual-slope, integrating
conversion rate	approx. 1 read per second
error, max.	±0.01% of reading, ±1 count/segment
<b>auxiliary voltage</b>	24 V DC (20 ... 30 V), electrically insulated or 115/230 V AC, 50 Hz, electrically insulated
power consumption	5 VA max.

### Display

<b>scale length</b>	<b>LEA 50</b> 125 mm, 50 segments
	<b>LEA 43</b> 100 mm, 40 segments
<b>Display</b>	<b>LEA 43</b> 7-segment LED, digit height 7 mm, display span -99 ... 999
display colour	red or green
appearance	vertical or horizontal display
overrange indication	each 2 <sup>nd</sup> scale segment and center segments will flash
mean value set-up	adjustable from 1 to 500 reads
zero point/end value	programmable
scaling	0 ... 100 %, caption on request

### Connection

plug-in terminal barrier strip



ordering example **LEA 43 A 2 0 G Q**



## Short Form Data

### Bargraph Indicator for DC Current, DC Voltage with 2 Inputs, programmable

**LZA 43**  
**LZA 50**  
144 x 48 mm

#### Bargraphs

**43** 2x 40 Segments &  
2x 3-digit Display  
**50** 2x 50 Segments

#### Inputs

**A** DC Current 20 / 200 mA and  
DC Voltage 2 / 10 / 40 / 200 V

#### Auxiliary Voltage

**1** 24 V DC, electrically insulated  
**2** 115/230 V AC, 50 Hz electr.  
insulated

**Options** refer to right-side column

#### Display Colour

**R** red  
**G** green

#### Appearance

**H** Vertical Display  
**Q** Horizontal Display

## Electrical Data

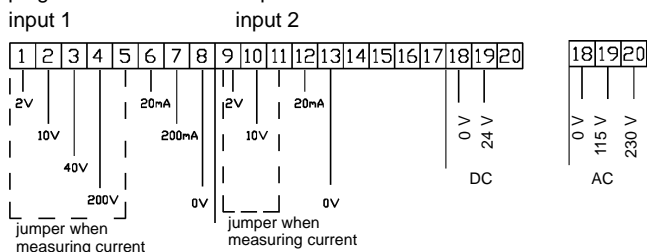
measuring ranges	input resistance	
DC current		
±20 mA	100 Ω	(input 1 & 2)
±200 mA	10 Ω	(input 1 only)
DC voltage		
±2 V	100 kΩ	(input 1 & 2)
±10 V	560 kΩ	(input 1 & 2)
±40 V	2.2 MΩ	(input 1 only)
±200 V	10 MΩ	(input 1 only)
measuring principle	dual-slope, integrating	
conversion rate	approx. 1 read per second	
error, max.	±0.01% of reading, ±1 count/segment	
auxiliary voltage	24 V DC (20 ... 30 V), electrically insulated or 115/230 V AC, 50 Hz, electrically insulated	
power consumption	5 VA max.	

## Display

same as LEA 43, LEA 50 (refer to preceding page)

## Connection

plug-in terminal barrier strip



ordering example    **LZA 50 A 2 0 R Q**



## Options

### Digital Bargraph Indicators, programmable

**LEA 23**  
**LEA 30**  
**LEA 43**  
**LEA 50**  
**LZA 43**  
**LZA 50**

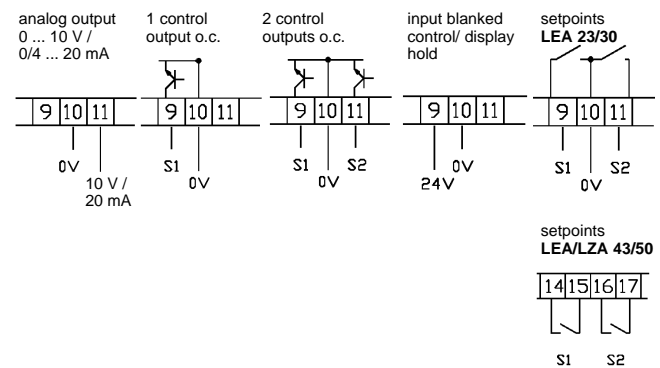
#### Options

**0** none  
**1\*** Analog Output 0 ... 10 V  
(load ≥1000 Ω)  
**2\*** Analog Output 0/4 ... 20 mA  
(load ≤500 Ω)  
**7\*** 1 Control Output open collector  
30 V max., 0.5 A max., 12 W max.  
**8\*** 2 Control Outputs open collector  
30 V max., 0.5 A max., 12 W max.  
**D\*** Input Blanked Control  
active high, 24 V  
**H\*** Input Display Hold  
active high, 24 V  
**R** 2 Setpoints  
Relay N.O. / N.C.  
\*LEA 23 / LEA 30 only

## Extras

setpoints	2 relays N.O. / N.C.
capacity limit	
<b>LEA 23/30</b>	200 V max., 0.5 A max., 10 W max.
<b>LEA/LZA 43/50</b>	250 V max., 4 A max., 200 W max.
response time	approx. 1 ms
hysteresis	adjustable, internal adjustment
status indication	small, single-digit 7-segment LED

#### Connection



#### additional options

scaling	non-standard (0 ... 100%)
extra lettering	please specify
custom logo	please specify
special measuring range	on request
factory calibration	please specify
non-standard auxiliary voltage	on request
mosaic grid mounting	on request

additional options    on request

– specifications subject to change without notice; date of issue 06/97 –

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