



±1888

# Product Guide

DP Series  
712.U.001.04

## Digital Panel Meters, programmable

**48x24**  
**48x48**  
**72x24**  
**96x24**  
**96x48**  
**96x96**  
**144x48**  
**144x72**

- ✓ for DC Current and Voltage
- ✓ for AC Current and Voltage
- ✓ for Standard Signals
- ✓ for Temperature (RTD Pt 100, Pt 1000)
- ✓ 48x24, 48x48, 72x24, 96x24, 96x48, 96x96, 144x72 or 144x48 mm Bezel
- ✓ 7.62 / 10 / 14 / 20 or 25 mm Digit Height
- ✓ Red or Green LEDs
- ✓ 3, 3½, 4, 4½ or 5 Digits
- ✓ Auxiliary Supply AC 115/230 V, 50 Hz or DC 24 V



**WEIGEL**

±1888

# General Data

## Digital Panel Meters, 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** DC current or DC voltage, AC current or AC voltage TRMS, standard signals, temperature

**connection** analog inputs direct or for use on transducer, shunt, transformer

### 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 (similar to RAL 7032)  
**terminals** screw terminal barrier strip  
**enclosure code** IP 50 front  
 operating elements are accessible behind removable display lens.  
 IP 20 front  
 operating elements are passed through front mask  
 IP 20 rear of case

**panel fixing** screw clamps

**mask lettering** caption, custom logo or extra lettering to special order

**operating elements** behind removable display lens; on top side for meter DPA 08/10

**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)**  
**DPA 08/10** ...-4 ...-7  
 bezel 48 x 24 48 x 48 72 x 24  
 panel cutout 45<sup>+0.6</sup> x 22.2<sup>+0.3</sup> 45<sup>+0.6</sup> x 45<sup>+0.6</sup> 68<sup>+0.7</sup> x 22.2<sup>+0.3</sup>  
 panel thickness ≤5  
 mounting depth 120 incl. terminal barrier strip  
 bezel height 5.25

**dimensions (in mm)**  
**DPA 14** ...-4 ...-9  
 bezel 96 x 24 96 x 48 96 x 96  
 panel cutout 92<sup>+0.8</sup> x 22.2<sup>+0.6</sup> 92<sup>+0.8</sup> x 45<sup>+0.6</sup> 92<sup>+0.8</sup> x 92<sup>+0.8</sup>  
 panel thickness ≤5  
 mounting depth 120 incl. terminal barrier strip  
 bezel height 7.5

**dimensions (in mm)**  
**DPA 20/25** ...-4  
 bezel 144 x 48 144 x 72  
 panel cutout 138<sup>+1.0</sup> x 45<sup>+0.6</sup> 138<sup>+1.0</sup> x 68<sup>+0.7</sup>  
 panel thickness ≤45  
 mounting depth 120 incl. terminal barrier strip  
 bezel height 8.5

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

**options** refer to last page

**additional data** on request

### ordering information

1	2	3	4	5	6	7	8	9	
type	digit height	-	digits	input	power supply	option	colour	case	min/max

±1888

mA, V  
mV

# Short Form Data

## Digital Panel Meters, for Standard Signals

### DPA 08

### DPA 10

**Input E**  
**Input D**  
 - 48 x 24 mm  
 -4 48 x 48 mm  
 -7 72 x 24 mm

Digits	Display Span
30	3 digits -199 ... 999
31	3½ digits -1999 ... +1999
40	4 digits -1999 ... 9999
41	4½ digits* -19999 ... +19999
50	5 digits* -19999 ... 30000

\*DPA 08 only

**Input**  
**E** DC Current -19 ... 20 mA and DC Voltage -10 ... 10 V  
**D** DC Voltage 0 ... 60 - 150 mV

**Auxiliary Voltage**  
**1** 24 V DC electrically insulated

**Options**  
**0** none  
**F** Action Input: Display Dark/Hold/ON/OFF/HELP, Segment Test

**Display Colour**  
**R** red  
**G** green

### Electrical Data

**measuring range**  
 DC current 0/4 ... 20 mA input resistance 100 Ω  
 DC voltage 0 ... ±10 V input resistance 220 kΩ  
 0 ... ±60 - 150 mV 470 kΩ  
**measuring principle** dual-slope integration  
**conversion rate** approx. 1 read per second  
**error, max.** ±0.01% of reading, ±1 count  
**overrange indication** center segments will flash  
**auxiliary voltage** DC 24 V (20 ... 30 V), electrically insulated  
**power consumption** 2.5 VA max.

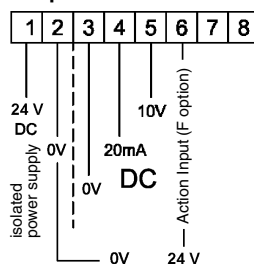
### Display

**display** 7-segment LED  
**digit height** **DPA 08** 7.62 mm  
**DPA 10** 10 mm  
**display span** see above  
**display colour** red or green  
**overrange indication** center segments will flash  
**mean value set - up** adjustable from 1 up to 99 readings  
**zero point, end value, polarity sign and decimal point programmable**

### Connection

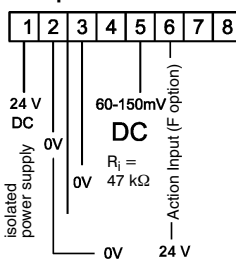
plug-in terminal barrier strip

#### E input



20mA: -19 ... +20 mA (R<sub>i</sub> = 50 Ω)  
 10V: -10 ... +10 V (R<sub>i</sub> = 150 kΩ)

#### D input



	1	2	3	4	5	6	7	8
ordering example	DPA	08	-	30	E	1	0	G -

±1888  
mA, V

## Short Form Data

### Digital Panel Meters for DC Current and DC Voltage (mA / V)

#### DPA 14

##### Input A

- 96 x 24 mm  
-4 96 x 48 mm  
-9 96 x 96 mm

Digits	Display Span
30 3 digits	-199 ... 999
31 3½ digits	-1999 ... +1999
40 4 digits	-1999 ... 9999
41 4½ digits	-19999 ... +19999
50 5 digits	-19999 ... 30000

##### Input

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

##### Auxiliary Voltage

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

Options refer to last page

##### Display Colour

R red  
G green

±1888  
µA, mV

## Short Form Data

### Digital Panel Meters for DC Current and DC Voltage (µA / mV)

#### DPA 14

##### Input D

- 96 x 24 mm  
-4 96 x 48 mm  
-9 96 x 96 mm

Digits	Display Span
30 3 digits	-199 ... 999
31 3½ digits	-1999 ... +1999
40 4 digits	-1999 ... 9999
41 4½ digits	-19999 ... +19999
50 5 digits	-19999 ... 30000

##### Input

D DC Current 100 µA / 1 mA and  
DC Voltage  
60 / 125 / 150 / 300 mV

##### Auxiliary Voltage

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

Options refer to last page

##### Display Color

R red  
G green

## Electrical Data

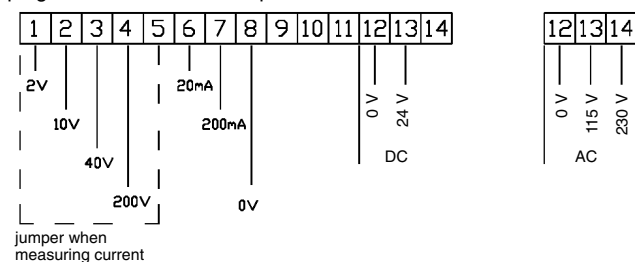
measuring ranges	input resistance
DC current	
±20 mA	100 Ω
±200 mA	10 Ω
DC voltage	
±2 V	100 kΩ
±10 V	560 kΩ
±40 V	2.2 MΩ
±200 V	12 MΩ
measuring principle	dual-slope integration
conversion rate	approx. 1 read per second
error, max.	±0.01% of reading, ±1 count
auxiliary voltage	DC 24 V (20 ... 30 V), electrically insulated or AC 115/230 V, 50 Hz, electrically insulated
power consumption	3 VA max.

## Display

display	7-segment LED
digit height	14 mm
display span	see above
display colour	red or green
display	standard or reciprocal
overrange indication	center segments will flash
mean value set - up	adjustable from 1 up to 500 readings
round - off last digit	adjustable: 2 <sup>nd</sup> , 5 <sup>th</sup> , 10 <sup>th</sup> steps, none
zero point, end value, polarity sign and decimal point programmable	

## Connection

plug-in terminal barrier strip



	1	2	3	4	5	6	7	8	9	
ordering example	DPA	14	-	40	A	2	0	G	-4	-M

## Electrical Data

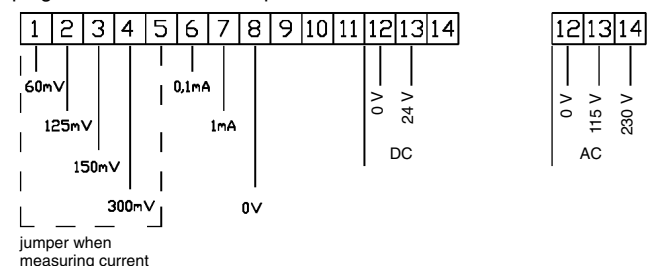
measuring ranges	input resistance
DC current	
±100 µA	560 Ω
±1 mA	68 Ω
DC voltage	
±60 mV	100 kΩ
±125 mV	220 kΩ
±150 mV	270 kΩ
±300 mV	560 kΩ
measuring principle	dual-slope integration
conversion rate	approx. 1 read per second
error, max.	±0.01% of reading, ±1 count
auxiliary voltage	DC 24 V (20 ... 30 V), electrically insulated or AC 115/230 V, 50 Hz, electrically insulated
power consumption	3 VA max.

## Display

display	7-segment LED
digit height	14 mm
display span	see above
display colour	red or green
display	standard or reciprocal
overrange indication	center segments will flash
mean value set - up	adjustable from 1 up to 500 readings
round - off last digit	adjustable: 2 <sup>nd</sup> , 5 <sup>th</sup> , 10 <sup>th</sup> steps, none
zero point, end value, polarity sign and decimal point programmable	

## Connection

plug-in terminal barrier strip



	1	2	3	4	5	6	7	8	9	
ordering example	DPA	14	-	41	D	1	0	R	-	-M

±1888  
2x mA, V

## Short Form Data

### Digital Panel Meters for DC Current and DC Voltage (mA / V), 2 Inputs

#### DPA 14

**Input B**  
- 96 x 24 mm  
-4 96 x 48 mm  
-9 96 x 96 mm

<b>Digits</b>		<b>Display Span</b>
30	3 digits	-199 ... 999
40	4 digits	-1999 ... 9999
50	5 digits	-19999 ... 30000
<b>Input</b>		
<b>B</b>	2x DC Current 20 mA and DC Voltage 10 V	
<b>Auxiliary Voltage</b>		
1	24 V DC electr. insulated	
2	115/230 V AC, 50 Hz electr. insulated	
<b>Option</b>		
0	none	
<b>Display Colour</b>		
<b>R</b>	red	
<b>G</b>	green	

## Electrical Data

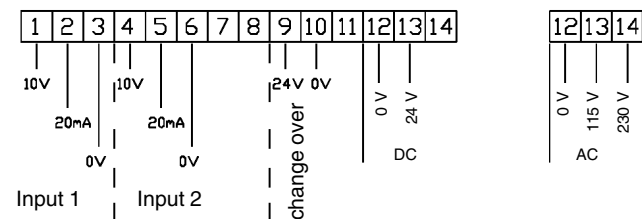
<b>measuring ranges</b>	input resistance
2x DC current	
±20 mA	100 Ω
2x DC voltage	
±10 V	560 kΩ
change over	24 V DC (opto-coupler)
measuring principle	dual-slope integration
conversion rate	approx. 1 read per second
error, max.	±0.01% of reading, ±1 count
<b>auxiliary voltage</b>	DC 24 V (20 ... 30 V), electrically insulated or AC 115/230 V, 50 Hz, electrically insulated
power consumption	3 VA max.

## Display

<b>display</b>	7-segment LED
digit height	14 mm
display span	see above
display colour	red or green
<b>display</b>	standard or reciprocal
overrange indication	center segments will flash
wire-break detection	programmable for downscale detection
mean value set - up	adjustable from 1 up to 500 readings
round - off last digit	adjustable: 2 <sup>nd</sup> , 5 <sup>th</sup> , 10 <sup>th</sup> steps, none
zero point, end value, polarity sign and decimal point programmable	

## Connection

plug-in terminal barrier strip



	1	2	3	4	5	6	7	8
ordering example	DPA	14	-	50	B	2	0	G -4

±1888  
A, V

## Short Form Data

### Digital Panel Meters for AC Current and AC Voltage TRMS

#### DPA 14

**Input F**  
- 96 x 24 mm  
-4 96 x 48 mm  
-9 96 x 96 mm

<b>Digits</b>		<b>Display Span</b>
30	3 digits	0 ... 999
40	4 digits	0 ... 9999
50	5 digits	0 ... 20000
<b>Input</b>		
<b>F</b>	AC Current 3 / 6 A and AC Voltage 2 / 100 / 250 / 500 V	
<b>Auxiliary Voltage</b>		
1	24 V DC electr. insulated	
2	115/230 V AC, 50 Hz electr. insulated	
<b>Options</b>	refer to last page	
<b>Display Colour</b>		
<b>R</b>	red	
<b>G</b>	green	

## Electrical Data

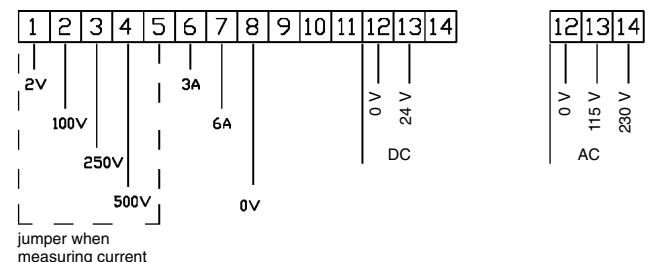
<b>measuring ranges</b>	input resistance
AC current	
3 A	20 mΩ
6 A	10 mΩ
AC voltage	
2 V	10 kΩ
100 V	470 kΩ
250 V	1 MΩ
500 V	2.2 MΩ
measuring principle	dual-slope integration, true RMS
conversion rate	approx. 1 read per second
error, max.	±0.2% of reading, ±1 count
<b>auxiliary voltage</b>	DC 24 V (20 ... 30 V), electrically insulated or AC 115/230 V, 50 Hz, electrically insulated
power consumption	3 VA max.

## Display

<b>display</b>	7-segment LED
digit height	14 mm
display span	see above
display colour	red or green
<b>display</b>	standard or reciprocal
overrange indication	center segments will flash
mean value set - up	adjustable from 1 up to 500 readings
round - off last digit	adjustable: 2 <sup>nd</sup> , 5 <sup>th</sup> , 10 <sup>th</sup> steps, none
zero point, end value and decimal point programmable	

## Connection

plug-in terminal barrier strip



	1	2	3	4	5	6	7	8	9
ordering example	DPA	14	-	30	F	2	0	G -4	-



## Short Form Data

### Digital Panel Meters for Temperature Pt 100 / Pt 1000

#### DPA 14

Input M  
Input L

- 96 x 24 mm  
-4 96 x 48 mm  
-9 96 x 96 mm

**Digits**  
31 3½ digits

**Display Span**  
-100.0 ... +199.9 °C  
-200 ... +800 °C  
-148 ... +392 °F  
-328 ... +1472 °F

**Input**  
M for RTD Pt 100 Input  
L for RTD Pt 1000 Input

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

**Options** refer to last page

**Display Colour**

R red  
G green



## Short Form Data

### Digital Panel Meters for DC Current and DC Voltage

#### DPA 20

#### DPA 25

Input A

- 144 x 48 mm  
-4 144 x 72 mm

**Digits**  
30 3 digits  
31 3½ digits  
40 4 digits  
41 4½ digits\*  
50 5 digits\*

**Display Span**  
-199 ... 999  
-1999 ... +1999  
-1999 ... 9999  
-19999 ... +19999  
-19999 ... 30000

\* DPA 20 only

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

**Auxiliary Voltage**

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

**Options** refer to last page

**Display Colour**

R red  
G green

## Electrical Data

**measuring ranges** for RTD input resolution  
-100.0...+199.9°C/-148...+392°F ±0.1 K  
-200...+800°C/-328...+1472°F ±1 K

**measuring principle** dual-slope integration  
**conversion rate** approx. 1 read per second  
**error, max.** ±0.01% of reading, ±1 count

**auxiliary voltage** DC 24 V (20 ... 30 V), electr. insulated or  
AC 115/230 V, 50 Hz, electr. insulated

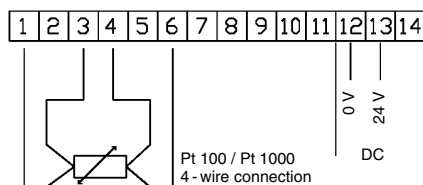
**power consumption** 3 VA max.

## Display

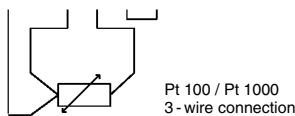
**display** 7-segment LED  
**digit height** 14 mm  
**display span** see above  
**display colour** red or green  
**overrange indication** center segments will flash  
**zero adjustment** possible

## Connection

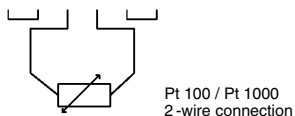
plug-in terminal barrier strip



Pt 100 / Pt 1000  
4-wire connection



Pt 100 / Pt 1000  
3-wire connection



Pt 100 / Pt 1000  
2-wire connection

	1	2	3	4	5	6	7	8	9
ordering example	DPA	14	-	31	M	2	0	G	-4 -M

## 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 integration  
**conversion rate** approx. 1 read per second  
**error, max.** ±0.01% of reading, ±1 count

**auxiliary voltage** DC 24 V (20 ... 30 V), electr. insulated or  
AC 115/230 V, 50 Hz, electr. insulated

**power consumption** 5 VA max.

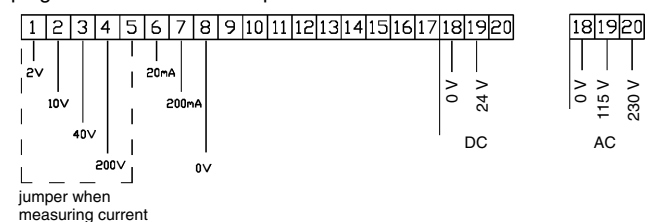
## Display

**display** 7-segment LED  
**digit height** DPA 20 20 mm  
DPA 25 25 mm

**display span** see above  
**display colour** red or green  
**overrange indication** center segments will flash  
**mean value set-up** adjustable from 1 up to 500 readings  
**zero point, end value, polarity sign and decimal point** programmable

## Connection

plug-in terminal barrier strip



jumper when  
measuring current

	1	2	3	4	5	6	7	8
ordering example	DPA	20	-	31	A	1	0	G -

±1888  
A, V

## Short Form Data

### Digital Panel Meters for AC Current / AC Voltage TRMS

**DPA 20**

**DPA 25**

Input F

- 144 x 48 mm  
-4 144 x 72 mm

<b>Digits</b>		Display Span
30	3 digits	0 ... 999
40	4 digits	0 ... 9999
50	5 digits *	0 ... 20000
	* DPA 20 only	
<b>Input</b>		
F	AC Current 3 / 6 A and AC Voltage 2 / 100 / 250 / 500 V	
<b>Auxiliary Voltage</b>		
1	24 V DC electr. insulated	
2	115/230 V AC, 50 Hz electr. insulated	
<b>Options</b>	refer to right-side column	
<b>Display Colour</b>		
R	red	
G	green	

## Electrical Data

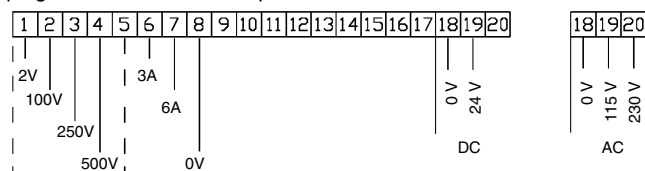
<b>measuring ranges</b>	input resistance
AC current	
3 A	20 mΩ
6 A	10 mΩ
AC voltage	
2 V	10 kΩ
100 V	470 kΩ
250 V	1 MΩ
500 V	2.2 MΩ
measuring principle	dual-slope integration, true RMS
conversion rate	approx. 1 read per second
error, max.	±0.2% of reading, ±1 count
<b>auxiliary voltage</b>	DC 24 V (20 ... 30 V), electrically insulated or AC 115/230 V, 50 Hz, electrically insulated
power consumption	5 VA max.

## Display

<b>display</b>	7-segment LED	
digit height	<b>DPA 20</b>	20 mm
	<b>DPA 25</b>	25 mm
display span	see above	
display colour	red or green	
overrange indication	center segments will flash	
mean value set-up	adjustable from 1 up to 500 readings	
zero point, end value and decimal point programmable		

## Connection

plug-in terminal barrier strip



jumper when measuring current

	1	2	3	4	5	6	7	8
ordering example	DPA	25	-	40	F	2	0	G -4

±1888

## Options

### Digital Panel Meters, programmable

**DPA 14**

**DPA 20**

**DPA 25**

Input A/E  
Input D  
Input F  
Input L  
Input M

**Options**

0	none
1 *	Analog Output 0 ... 10 V (load ≥1000 Ω)
2 *	Analog Output 0/4 ... 20 mA (load ≤500 Ω)
4 *	like 1, galvanically isolated
7 *	1 Control Output, open collector max. 30 V, max. 0.5 A, max. 12 W
8 *	2 Control Outputs, open collector max. 30 V, max. 0.5 A, max. 12 W
D *	Input Blanked Control active high, 24 V
G *	Segment Test Input
H *	Display Hold Input active high, 24 V
R	2 Setpoints Relay N.O./N.C.
S *	Rerial Output RS232

**Additional Option**

-M *	Min./Max. Value Storage
* DPA 14 only (not with B input)	

## Extras

**R option**

<b>setpoints</b>	2 relays N.O./N.C.
capacity	<b>DPA 14</b> max. 200 V, max. 0.5 A, max. 10 W
limit	<b>DPA 20/25</b> max. 250 V, max. 4 A, max. 200 W
response time	approx. 1 ms
hysteresis	adjustable, internal adjustment
status indication	small, single-digit 7-segment LED

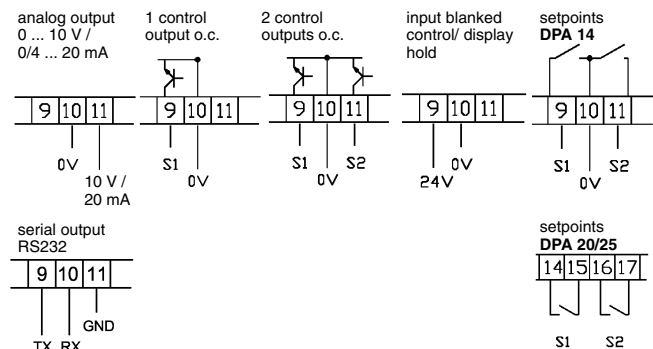
**S option**

RS232 serial output	baud rate (150 ... 19200 baud), parity, data bits, device address, write direction and protocol adjustable
---------------------	--

**Further options**

caption	please specify
extra lettering	please specify
logo on the lens	please specify
factory calibration	please specify
special measuring range on request	
non-standard auxiliary voltage on request	
enclosure code	IP 54 to IP 65 front using rubber cover attachment 96x48

## Connection



- specifications subject to change without notice; date of issue 03/07 -

## WEIGEL – MESSGERÄTE GmbH

P.O.B. 720 154 • D-90241 Nürnberg • Telephone: 0911/42347-0  
Erlenstraße 14 • D-90441 Nürnberg • Telefax: 0911/42347-39  
Internet: <http://www.weigel-messgeraete.de>  
e-mail: [vertrieb@weigel-messgeraete.de](mailto:vertrieb@weigel-messgeraete.de)

