

# Process displays

For standard signals, temperature, resistance measurement

## PA408



### Features

- Inputs: Voltage  $\pm 10$  V,  $\pm 200$  V / Current  $\pm 20$  mA / thermocouples J,K,T,N,Pt100,Pt1000 / resistance measurement / potentiometer
- Display range can be linearised
- Two limits output
- Min, Max functions
- Sensor supply
- LED display, 4-digits, 14 mm or 20 mm high
- DIN housing 96 x 48 mm

PA408 - Process display

### Technical data - electrical ratings

Voltage supply	12...265 VDC and 20...265 VAC
Power consumption	3 W
Sensor supply	24 V $\pm 3$ V / max. 30 mA
Display	LED, 7-segment display (with 100 unit stickers for front)
Number of digits	4-digits
Digit height	14 mm 20 mm
Display range	-9999...9999 (numerals 14 mm high) -1999...9999 (numerals 20 mm high) (-oUE or oUE to signal overflow)
Display refresh	50 ms
Function	Digital display of 1 analog measured value, With Min/Max memory
A/D transformer	Principle $\Sigma\Delta$ Resolution 16 bit Measuring rate 20/s Measuring accuracy $\pm(0.1\% + 3\text{-digit})$ Temp. coeffic. 100 ppm/ $^{\circ}\text{C}$
Analog input	Current, voltage, potentiometer, temperature, resistance measurement
Programmable parameters	Measuring range Display range can be linearised Decimal point Relay outputs with time delay or hysteresis Analog input
Limits	Without, 2
Data memory	>10 years in EEPROM
Outputs relay	2x change-over contact, floating

### Technical data - electrical ratings

Standard DIN EN 61010-1	Protection class II Overvoltage category II Pollution degree 2
Emitted interference	DIN EN 61000-6-3
Interference immunity	DIN EN 61000-6-2

# Process displays

## For standard signals, temperature, resistance measurement

PA408

### Part number

PA408.0   8 AX01

Voltage supply  
8 12...265 VDC and 20...265 VAC

Outputs  
0 Without relay, display 14 mm high  
1 Two relay outputs, display 14 mm  
8 Without relay, display 20 mm high  
9 Two relay outputs, display 20 mm

### Accessories

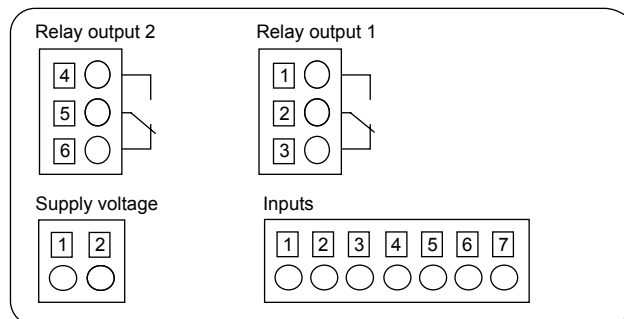
#### Mounting accessories

ZPA4.001 Accessory for DIN rail mounting (ZPA4.001)

### Technical data - mechanical design

Ambient temperature	-10...+60 °C
Storage temperature	-25...+85 °C
Relative humidity	95 % non-condensing
Connection	Spring-loaded terminal connector, detachable
Core cross-section	1 mm <sup>2</sup> (Grid 5.08) 2.5 mm <sup>2</sup> (Grid 7.62)
Protection DIN EN 60529	IP 65 (face)
Operation / keypad	Membrane with softkeys
Housing type	Built-in housing
Dimensions W x H x L	96 x 48 x 66 mm
Cutout dimensions	92 x 45 mm (+0.3)
Mounting depth	85 mm
Mounting type	Front panel installation by clip frame
Weight approx.	150 g
Material	Housing: Polycarbonate, UL 94V-0

### Connection diagram



# Process displays

For standard signals, temperature, resistance measurement

## PA408

### Inputs and outputs

#### Analog input

Input	Range	Resolution	Accuracy	Specification
Current	±20 mA	2 µA	±0.1 % (+15 µA)	Input resistance <20 Ω
Voltage	±10 V ±200 V	1 mV 20 mV	±0.1 % (+6 mV) ±0.1 % (+0.1 V)	Input resistance 1 MΩ Input resistance 1 MΩ
Potentiometer	100 Ω...100 kΩ	0.01 %	±0.1 % (+0.05 %)	Measuring current max. <0.4 mA
Resistance measurement	999.9 Ω 9999 Ω 50.00 kΩ	0.1 Ω 1 Ω 10 Ω	±0.1 % (+0.7 Ω) ±0.1 % (+6 Ω) ±0.1 % (+35 Ω)	Measuring current max. 2.3 mA Measuring current max. 230 µA Measuring current max. 23 µA

#### Temperature range thermo sensors

Thermo sensors	Range	Resolution	Accuracy	Specification
Thermocouple J	-150.0...+1000.0 °C -150...+1100 °C	0.1 °C 1 °C	±(0.1 % +0.6 °C)	Cold junction compensation -10...+60 °C
Thermocouple K	-150.0...+1000.0 °C -150...+1200 °C	0.1 °C 1 °C	±(0.1 % +0.6 °C)	
Thermocouple T	-150.0...+400.0 °C -150...+400 °C	0.1 °C 1 °C	±(0.2 % +0.8 °C)	
Thermocouple N	-150.0...+1000.0 °C -150...+1300 °C	0.1 °C 1 °C	±(0.1 % +0.6 °C)	
Pt100 (3-wire)	-150.0...+800.0 °C -150...+800 °C	0.1 °C 1 °C	±(0.15 % +0.5 °C)	
Pt1000 (2-wire)	-150.0...+800.0 °C -150...+800 °C	0.1 °C 1 °C	±(0.15 % +0.5 °C)	Line resistance max. 40 Ω Measuring current 1 mA Measuring current 100 µA

#### Relay outputs

Relay	Switching voltage max.	Switching current max.	Switching performance max.
2x changeover	250 VAC / 110 VDC	1 A	150 VA / 30 W

# Process displays

## For standard signals, temperature, resistance measurement

PA408

### Terminal assignment

#### Inputs

##### Voltage supply

Terminal	Assignment
1	Voltage supply
2	Voltage supply

##### Analog inputs / process

Terminal	Assignment
1	Common 0 V
2	–
3	–
4	–
5	±20 mA
6	+24 V sensor supply
7	±10 V, ±200 V

##### Analog inputs / Pt100 / Pt1000 / thermocouple

Terminal	Assignment	Pt100/Pt1000	Thermocouple
1	Pt100 Common / Pt1000	Thermocouple -	
2	Pt100 / Pt1000	Thermocouple +	
3	n.c.	n.c.	
4	Pt100	n.c.	

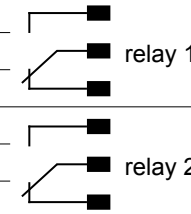
##### Analog inputs / potentiometer / resistor

Terminal	Potentiometer assignment	Resistor
1	Potentiometer -	Common
2	Potentiometer out	999,9...9999 Ω
3	Potentiometer +	50.00 kΩ

#### Outputs

##### Limit outputs / two relays

Terminal	Assignment
1	normally open
2	changeover
3	normally closed
4	normally open
5	changeover
6	normally closed



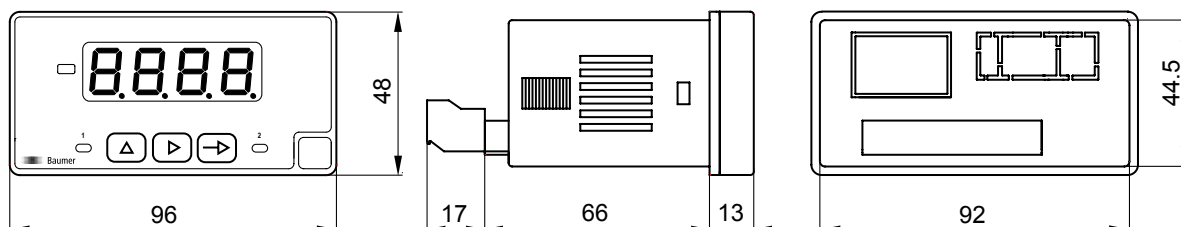
# Process displays

For standard signals, temperature, resistance measurement

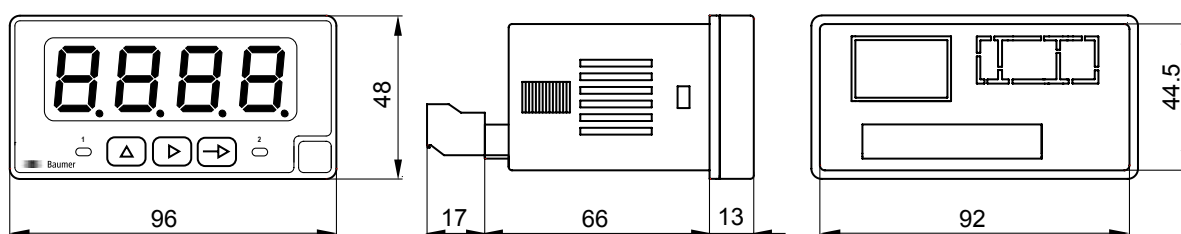
## PA408

### Dimensions

#### PA408 - numerals 14 mm high



#### PA408 - numerals 20 mm high



#### PA408 - clip frame mounting

