

# AZ20

## Digital LED Display- and Control Unit for panel mounting 5 digits

- For all standard signals
- Individually programmable
- Alarming functions
- Limit switch outputs
- Min/Max memory
- Totalizator function
- Frequency-Analogue converter
- Adaptation of characteristic curve
- Red, orange, green, blue or tricolor LEDs



### Description:

The devices of type AZ20 are suitable to display standard signals used in industry and engineering. Input modules are available for voltage, current, Pt100, thermocouples and frequency. By their optional power supply output for sensors and an additional analogue output these devices are applicable in a wide range of installations. Additional serial interfaces according to RS232 or RS485 specification spend even more flexibility to the AZ20. Characteristic curves can be adapted individually with up to 30 interpolation points, therefore even in difficult applications of measurement and control technology these devices can be deployed. All parameters can be set by the front buttons of the membran keys as well as by a special software comfortably from your PC or laptop. A very good visualisation even from the distance, especially by exceeding limit values, is achieved by optional tricolor LEDs.

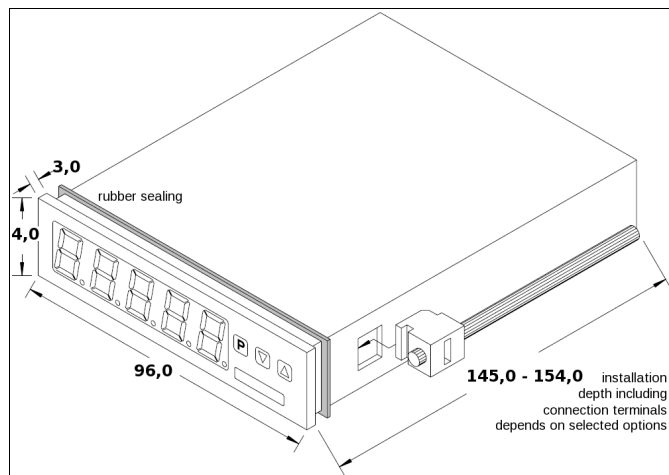
### Applications:

Due to the wide range of combinable options of input and output signals and in addition limit switches the AZ20 has nearly unlimited possibilities for applications in industrial and laboratory installations.

## Models:

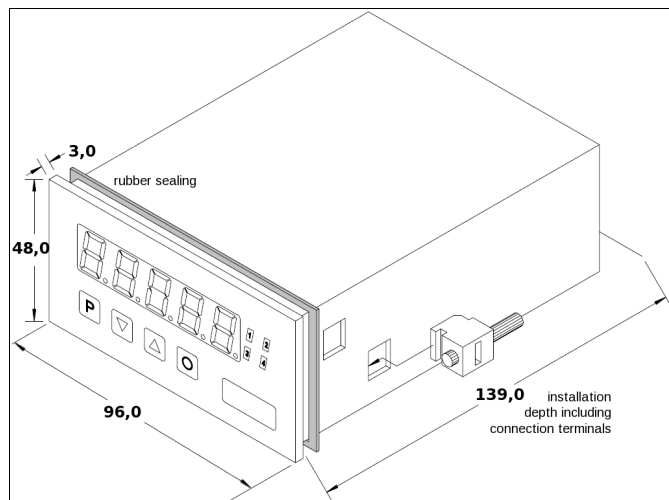
### AZ20.2:

96 x 24 mm, for panel cut-out 92,0 x 22,2 mm:



### AZ20.4

96 x 48 mm, for panel cut-out 92,0 x 45,0 mm:



## Technical Data:

**Display:** 5 digit LED display, option red, orange, green, blue or tricolor (green ↔ orange ↔ red, depends on operation condition), 14 mm height

range: -19999 ... 99999

integration time: 0,1 ... 10 seconds

**Housing:** polycarbonate black  
sealing EPDM black

**Protection:** front IP65 standard  
back IP00

**Temperature:**  
operation: 0 ... +50 °C  
storage: -20 ... +80 °C

## Input Signals:

**voltage:** 0 ... 10 VDC (-12 ... +12 VDC max)  
Ri approx. 200 kΩ  
accuracy 0,1 % from range,  
±1 digit; 100 ppm/K drift

**current:** 0 (4) ... 20 mA (-22 ... 24 mA max)  
Ri approx. 100 Ω  
accuracy 0,1 % from range  
±1 digit; 100 ppm/K drift

**frequency:** 0,01 Hz ... 999,99 kHz  
pulse input, TTL, Namur,  
3 wire initiator PNP/NPN  
Ri at 24 V approx. 4 kΩ  
high/low level > 15 V / < 4 V  
TTL: > 4,6 V / < 1,9 V  
accuracy 0,05 % from range  
±1 digit

**Pt100:** -200 ... 850 °C, resolution 0,1 °C  
accuracy 0,1 % from range  
±1 Digit; 100 ppm/K drift

**Thermocouple:** Type B 80 ... 1820 °C  
Type E -270 ... 1000 °C  
Type J -210 ... 1200 °C  
Type K -270 ... 1372 °C  
Type L -200 ... 900 °C  
Type N -270 ... 1300 °C  
Type S -50 ... 1768 °C  
Type T -270 ... 400 °C  
Type R -50 ... 1768 °C  
resolution 0,1 °C  
accuracy 2 K, ±1 digit  
100 ppm/K drift  
deviation from characteristic < ±1 K

**Digital input:** galvanically isolated  
< 2,4 V OFF, 10 V ON, 30 V max  
Ri approx. 5 kΩ

**Analogue output:** 4(0) ... 20 mA; 0 ... 10 V  
16 bit resolution

## Switching output:

**relais:** change over contact, 250 V / 5 AAC,  
30 V / 5 ADC  
> 30000 cycles at 30 V / 5 A ohm  
resistive load, > 1000000 mechanic

**photo MOS-Fet:** N/O contact,  
30 VDC/AC, 400 mA

**Sensor supply:** 24 VDC, 50 mA; 10 VDC, 20 mA

## Interfaces:

**RS232:** 9600 baud, no parity, 8 data, 1 stop  
max 3 m cable length

**RS485:** 9600 baud, no parity, 8 data, 1 stop  
max 1000 m cable length

**Power supply:** supply unit 230 VAC, max 20 VA  
10 ... 30 VDC, max 8 VA  
galvanically isolated

**Memory:** EEPROM,  
data preservation > 100 years

## Modelcode:

Order Number: **AZ20. 4. I. 1. A. R2. 2. 0. R**

### Digital LED Display- and Control Unit for panel mounting

#### Model:

2 = dimension 24 x 96 mm  
4 = dimension 48 x 96 mm

#### Input signal:

I = 0(4) ... 20 mA; 0 ... 10 V  
F = Frequency-pulse  
T = Thermocou  
P = Pt100

#### Power supply:

1 = 230 VAC  
2 = 10 ... 30 VDC

#### Analogue output:

0 = without output signal  
A = Analogue output 0(4)...20 mA; 0...10 V  
AA = 2 analogue outputs 0(4)...20 mA; 0...10 V  
(only by model 48 x 96 mm)

#### Switching outputs:

0 = without switching output  
R2 = with 2 relay outputs  
R4 = with 4 relay outputs  
(only by model 48 x 96 mm)  
M8 = with 8 photo-MOSFET outputs  
(only by model 48 x 96 mm)

#### Sensor power supply

0 = without  
1 = with 10 VDC  
2 = with 24 VDC

#### Interface:

0 = without  
S2 = serial interface RS232  
S4 = serial interface RS485

#### Display colour:

R = red LEDs  
Y = yellow orange LEDs  
G = green LEDs  
B = blue LEDs  
T = tricolor (green ↔ orange ↔ red,  
depending on operating condition)

#### Options (combinable):

0 = without  
S = software for parametrization  
U = USB cable to connect to PC  
D = digital input (included in case of sensor power supply)

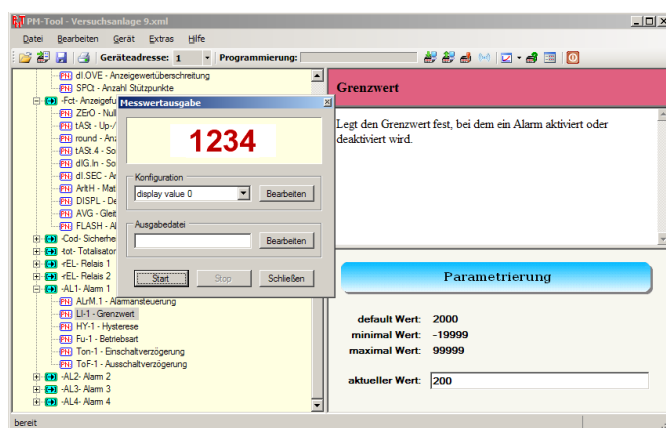
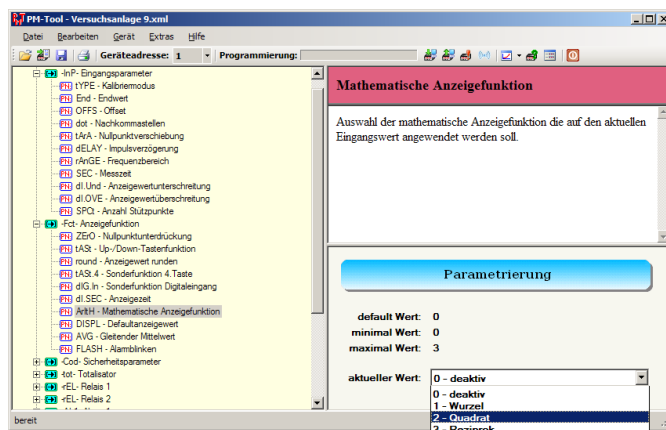
Please note unit inscription in plain text.

## Please note:

In the case of models 48 x 96 mm with 230 VAC power supply (models AZ20.4.x.1....) not all combinations of output signals and relay contacts can be realized due to the size of the AC power adapter. For example a combination of 1 x analogue output with sensor power supply is possible, but a second analogue output not.

## Option: Parametrizing software

With this parametrizing software all parameters of the device can be read, adjusted, and saved back to the device. The connection between the PC and the AZ20 is made by a USB cable, which can be obtained also as an option. The complete set of parameters can be saved as a XML file and can be retrieved easily and transferred to the device. So, the AZ20 can be adapted rapidly to meet different requirements by simple transfer of saved datasets with a view mouse clicks. In addition, all display and scaling adjustments, mathematical functions, too, and – depending of the hardware – alarm and relay functions can be set. Further, the actual measured value can be saved in a file of the PC's hard disk. Especially to adapt non linear characteristic curves of various sensors the AZ20 can be programmed to linearise with up to 30 data points.



The software is at the moment only available for Windows® operating systems in german and english language.