## Technical specifications: ZD22 / ZD22 D

### Measuring principle
Zirconium dioxide (ZD)

### Measuring gas supply
Diffusion

### Measuring range and measuring gas
sensor dependent

### Update time
1s

### Readiness delay
5s plus 120-180s sensor run-in phase (heating-up)

### Power supply
- **Operating voltage:** 24V DC (12-30V DC allowable)
- **Power consumption**
  - without display *1:
  - with display *1:
  - with display + horn *1:
  - with display + horn *2:
    - Fuses: RS485 and 0.2-1mA version
      - typ. 110/145/175mA @24V/18V/15V
      - max. 120/165/200mA @24V/18V/15V
  - with display + horn *2:
    - typ. 125/165/200mA @24V/18V/15V
    - max. 130/170/210mA @24V/18V/15V
    - 250mA (not changeable)
- **4-20mA version**
  - max. 132/167/197mA @24V/18V/15V
  - max. 137/177/207mA @24V/18V/15V
  - max. 142/182/222mA @24V/18V/15V
- **RS485 and 0.2-1mA version**
  - typ. 115/155/185mA @24V/18V/15V
  - max. 120/165/200mA @24V/18V/15V
  - typ. 120/155/190mA @24V/18V/15V
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### Climatic conditions
- **Short-term storage temperature:** -25...+60°C (sensor dependent)
- **Recommended storage temperature:** 0...+30°C (sensor dependent)
- **Operating temperature:** -20...+50°C (sensor dependent)
- **Humidity:** 5...95% r.h. (sensor dependent)
- **Air pressure:** 80...120kPa (sensor dependent)

### Display & controls
- **Status-LEDs:** green for operation and yellow for fault or service
- **Display:** 2,2″ graphic display
- **Buttons:** 3 function buttons (display version only)
- **AutoCal button:** for ZERO and SPAN adjustment (inboard)
- **Potentiometer:** for ZERO and SPAN adjustment (inboard)

### Service connector
- **Design:** 3,5 mm stereo jack socket (internal)
- **Analogue output:** 0.2-1.0V corresponding to 0-100% MR for sensor calibration
- **Digital input:** for configuration and firmware update

### Signal output
- **Analogue:**
  - 4-20mA (max. load: 400 Ω/650 Ω/150 Ω @24 V/18 V/12 V supply)
  - 0.2-1mA (max. load: 14K/9K3/4K5 @ 24 V/18 V/12 V supply)
- **Digital:**
  - RS-485; Half duplex; 9600/19200/38400 Baud; Modbus protocol,
  - Slide switch for 120 Ω terminating resistor

### Connection Cable
- **Cable glands:** 1 or 2 glands M16x1.5 (for cable diameter 4.5-10 mm)
- **Connection terminals:**
  - 4 double terminals (0.08 mm² to 2.5 mm² conductor cross-section)
  - 3-core e.g. LiYY 3x0.75...1.5 mm² or LiVY
  - 4-core e.g. LiYY 4x0.75...1.5 mm² or cable Y(St)Y 2x2x0.8 *3

### Housing
- **Protection class:** IP54
- **Material:** Plastic
- **Dimensions:** 96 x 140 x 49 mm (W x H x D) with sensor
- **Weight:** 175g bzw. 220g (display version)

### Approvals / Tests
- **Electromagnetic compatibility:** DIN EN 50270:2006
- **Interference emission:** Type class I
- **Interference immunity:** Type class II

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Provisions as at 1 Jan 2021. Conditions of delivery & prices subject to change without notice.

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*to *1: For low-power sensors MK442 and MK413
*to *2: For high-power sensors MK435, MK410 and MK395
*to *3: Bus line cable Y(St)Y 2x2x0.8 is only suitable for supplying several bus transmitters with power using the same cable via short cabling distances. The possible distance depends on the quantity and local distribution of the transmitters on the bus cable.