# DS 400 - Multifunction measuring instrument

for all relevant parameters of compressed air

**Software options:**
- Integrated webserver
- Mathematics calculation function
- Totalizer function

**Hardware options:**
- Integrated data logger
- Ethernet / RS 485 interface
- additional sensor inputs (digital or analogue) selectable



**Standard equipment:**
- USB interface
- 3.5" graphic display with touch screen
- Integrated mains unit for supply of the sensors
- 4...20 mA output of all connected active sensors
- Pulse output (for total consumption) in case of flow sensors
- 2 alarm relays (pot.-free switch-over contacts, max. 230 V, 3 A)

## Technical data DS 400

| | |
|---|---|
| **Dimensions:** | 118 x 115 x 98 mm, IP 54 (wall housing)<br>92 x 92 x 75 mm, IP 54 (panel mounting) |
| **Inputs:** | 2 digital inputs for FA 410 resp. VA 400 |
| **Interface:** | USB |
| **Power supply:** | 100...240 VAC, 50-60 Hz |
| **Accuracy:** | see VA 400 |
| **Alarm outputs:** | 2 Relays, (pot.-free) |
| **OPTIONS** | |
| **Data logger:** | 100 million meas. values start/stop time, meas. rate freely adjustable |
| **2 additional sensor inputs:** | for connection of pressure sensors, temperature sensors, clamp-on ammeters, third-party sensors with 4...20 mA 0 to 10 V, Pt100, Pt1000 |

## The sensor inputs 1+2 as well as 3+4 can be selected according to the required sensors:

| Digital | Digital | Digital | Digital | Analogue | Analogue | Analogue | Analogue |
|---|---|---|---|---|---|---|---|
| m³/h, m³ | °Ctd | A, kW/h | beliebig | bar | A | °C | °C |
| | | | MOD BUS | | | | 4...20 mA<br>0...20 mA<br>0...10 V<br>Pulse<br>Pt 100<br>Pt 1000 |
| Flow-sensor | Dew point sensor | Current meters | Third-party sensors with RS 485 | Pressure sensor | Clamp-on ammeter | Temperature sensor | Third-party sensors ana-logue output |

| Description | Sensor input 1+2 | Sensor input 3+4 | Order no. |
|---|---|---|---|
| DS 400 - Multifunction measuring instrument with graphic display and touch screen | Digital | ---------- | 0500.4000 D |
| | Digital | Digital | 0500.4000 DD |
| | Digital | Analogue | 0500.4000 DA |
| | Analogue | ---------- | 0500.4000 A |
| | Analogue | Analogue | 0500.4000 AA |
| **Options** | | | |
| Option: Integrated data logger for 100 million measured values | | | Z500.4002 |
| Option: Integrated Ethernet and RS 485 interface | | | Z500.4004 |
| Option: Integrated webserver | | | Z500.4005 |
| Option: "Mathematics calculation function" for 4 freely selectable channels, (virtual channels): addition, subtraction, division, multiplication | | | Z500.4007 |
| Option: "Totalizer function for analogue signals" | | | Z500.4006 |
| **Further accessories** | | | |
| CS Soft Basic - data evaluation in graphic and table form - reading out of the measured data of DS 400 via USB or Ethernet | | | 0554.7040 |
| CS Soft Network - Database Client/Server Solution (up to 5 DS 400) - database (MySQL) to Server - data evaluation via Client-Software | | | 0554.7041 |
| CS Soft Network - Database Client/Server Solution (up to 10 DS 400) - database (MySQL) to Server - data evaluation via Client-Software | | | 0554.7042 |
| CS Soft Network - Database Client/Server Solution (up to 20 DS 400) - database (MySQL) to Server - data evaluation via Client-Software | | | 0554.7043 |
| CS Soft Network - Database Client/Server Solution (> 20 DS 400) - database (MySQL) to Server - data evaluation via Client-Software | | | 0554.7044 |

### Input signals

| | |
|---|---|
| **Current signal** | (0...20mA/4...20mA) internal or external power supply |
| Measuring range | 0…20 mA |
| Resolution | 0,0001 mA |
| Accuracy | ± 0,003 mA ± 0,05 % |
| Input resistance | 50 Ω |
| **Voltage signal** | (0...1 V) |
| Measuring range | 0…1 V |
| Resolution | 0,05 mV |
| Accuracy | ± 0,2 mV ± 0,05 % |
| Input resistance | 1 MΩ |
| **Voltage signal** | (0...10 V / 30 V) |
| Measuring range | 0…10 V |
| Resolution | 0,5 mV |
| Accuracy | ± 2 mV ± 0,05 % |
| Input resistance | 1 MΩ |
| **RTD** Pt 100 | |
| Measuring range | -200…850° C |
| Resolution | 0,1° C |
| Accuracy | ± 0,2°C (-100...400°C)<br>± 0,3°C (further range) |
| **RTD** Pt 1000 | |
| Measuring range | -200…850° C |
| Resolution | 0,1° C |
| Accuracy | ± 0,2° (-100...400°C) |
| **Pulse** | |
| Measuring range | min.pulse length 500 µs<br>frequency 0...1 kHz<br>max. 30 VDC |