PI 500 - Hand-held instrument for industry

The new PI 500 is an all-purpose hand-held measuring instrument for many applications in industry like e. g.:

- **Flow measurement**
- **Pressure/vacuum measurement**
- **Temperature measurement**
- **Moisture/dew point measurement**

The graphic indication of colored measurement curves is inimitably.
Up to 100 million measured values can be stored with date and name of measuring site. The measured values can be transferred to the computer by means of al USB stick. The data can be comfortably evaluated with the CS Basic software.
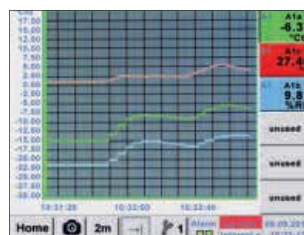
Measured data and service reports can be issued easily and quickly. The following sensors can be connected to the freely configurable sensor input of PI 500:

- Pressure sensors (high and low pressure)
- Flow sensors, VA 500/520
- Temperature sensors Pt 100, Pt 1000 / 4...20 mA
- Dew point sensors FA 510
- Effective power meters
- Optional third-party sensors with the following signals: 0...1/10 V, 0/4...20 mA, Pt 100, Pt 1000, pulse, Modbus

Special features:

- Universal sensor input for lots of common sensor signals
- Internal rechargeable Li-Ion batteries (approx. 12h continuous operation)
- 3.5" graphic display / easy operation via touch screen
- Integrated data logger for storage of the measured values
- USB interface for reading out via USB stick
- International: Up to 8 languages selectable

Measurement curves are indicated graphically and thus the user can see the behavior of the dryer at a glance since the start of the measurement.
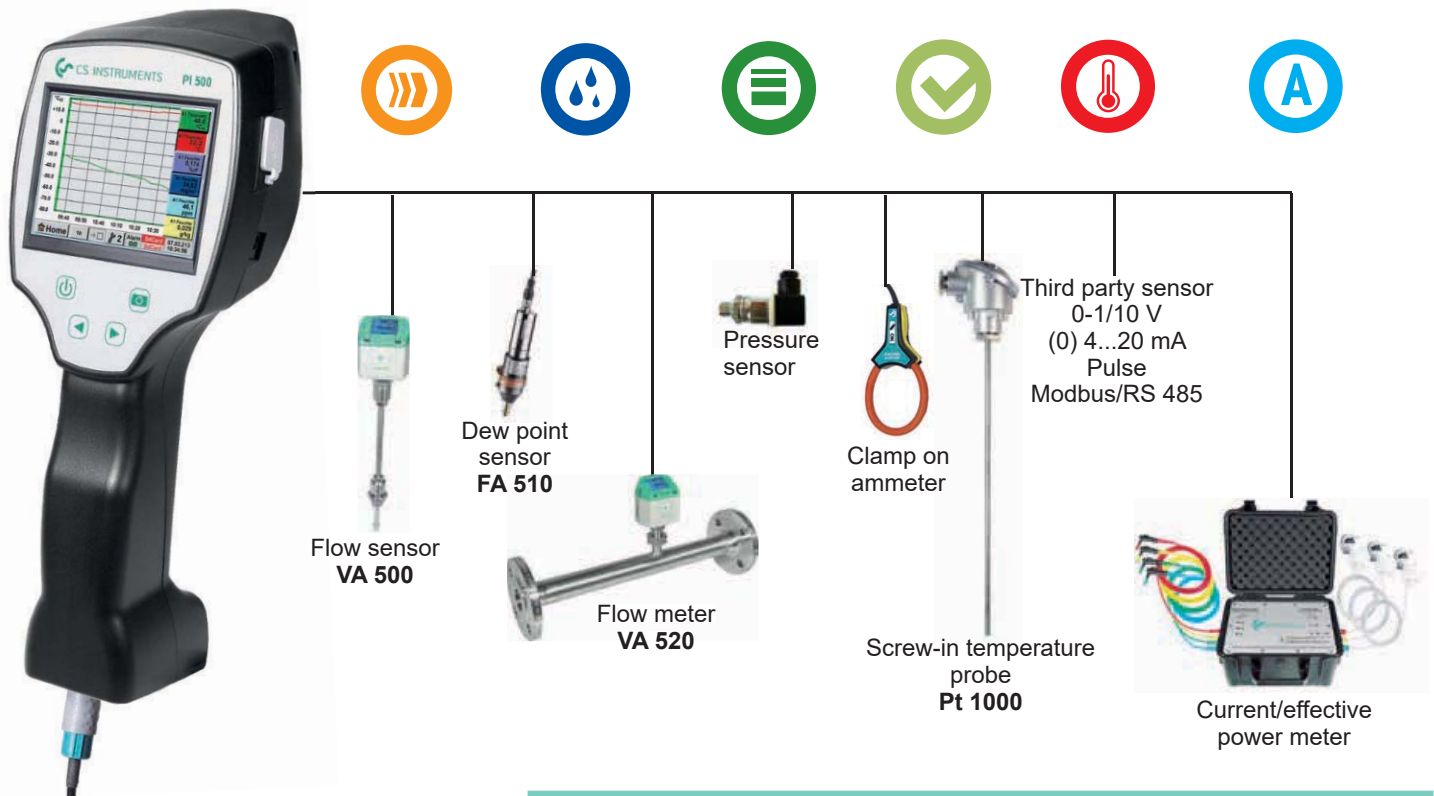

All physical parameters of moisture measurement are calculated automatically.

It is possible to store up to 100 million measured values. Each measurement can be stored with a comment, e.g. measuring site name. The time interval can be freely determined.

PI 500 - Hand-held instrument with large sensor selection

Flow sensor
VA 500

Dew point sensor
FA 510

Pressure sensor

Flow meter
VA 520

Clamp on ammeter

Screw-in temperature probe
Pt 1000

Third party sensor
0-1/10 V
(0) 4...20 mA
Pulse
Modbus/RS 485

Current/effective power meter

DESCRIPTION	ORDER-NO.
PI 500 portable measuring instrument with integrated data logger, incl. power supply	0560 0511
Option for PI 500: "mathematics calculation function" for 4 freely selectable „virtual" channels	Z500 5107
Option „Totalizer function for analogue signals"	Z500 5106
CS Basic – data evaluation graphically and in tabular form - reading of the measured data via USB or Ethernet, license for 2 workstations	0554 8040
Transport case	0554 6510

Further sensors can be found on pages 30 to 33

INPUT SIGNALS

Current signals internal or external power supply	(0...20mA/4...20mA)
Measuring range Resolution Accuracy Input resistance	0...20 mA 0.0001 mA ± 0.03 mA ± 0.05 % 50 Ω
Voltage signal: Measuring range Resolution Accuracy Input resistance	(0...1 V) 0...1 V 0.05 mV ± 0.2 mV ± 0.05 % 100 kΩ
Voltage signal Measuring range Resolution Accuracy Input resistance	(0...10 V / 30 V) 0...10 V 0.5 mV ± 2 mV ± 0.05 % 1 MΩ
RTD Pt 100 Measuring range Resolution Accuracy	-200...850°C 0.1°C ± 0.2°C (-100...400°C) ± 0.3°C (further range)
RTD Pt 1000 Measuring range Resolution Accuracy	-200...850°C 0.1°C ± 0.2° (-100...400°C)
Impuls Measuring range	Min pulse length 500 µs frequency 0...1 kHz max. 30 VDC

TECHNICAL DATA PI 500	
Display:	3.5″ touchpanel TFT transmissive, graphics, curves, statistics
Interface:	USB interface
Power supply for sensors::	Output voltage: 24VDC ± 10% Output current: 120 mA in continuous operation
Power supply:	Internal rechargeable Li-Ion batteries, charging time approx. 4 h, PI 500 continuous operation> 4h depending on power consumption for ext. sensor
Power adapter:	100 - 240 VAC / 50 - 60 Hz, 12 VDC - 1A, safety class 2 only for use in dry rooms
Dimensions:	82 x 96 x 245 mm
Housing material:	PC/ABS
Weight:	450 g
Operating temperature:	0...50°C Ambient temperature
Storage temperature:	-20 bis +70°C
EMC:	DIN EN 61326
Sensor input:	For connection of pressure and temperature sensors, current clamps, external sensors with 4 ... 20 mA, 0-10V, Pt 100, Pt 1000, Modbus
Memory Size:	8 GB - Memory card standard

Suitable sensors for DS 500 mobile, DS 400 mobile, PI 500, DP 510, LD 510

Flow meters for installation and removal under pressure (insertion-type)

VA 500

VA 550

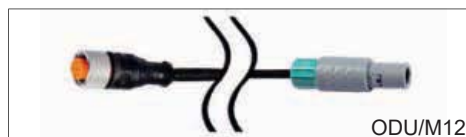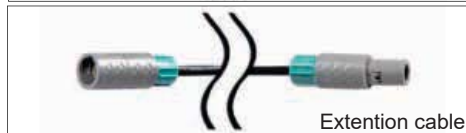| CONSUMPTION METERS INSERTION-VERSION	ORDER-NO.
VA 500 flow meter, Max version (185 m/s), probe length 220 mm, incl. 5 m connection cable to mobile devices	0695 1124
VA 500 flow meter, High-Speed version (224 m/s), probe length 220 mm, incl. 5 m connection cable to mobile devices	0695 1125
VA 550 Flow meter, measuring head in robust aluminium die casting housing	0695 0550 + order code A_...M..._

Inline flow meter

VA 520

VA 570

FLOW METERS INLINE VERSION	ORDER-NO.
Inline Flow meter VA 520 with integrated measuring section, (R 1/4″ DN 8)	0695 0520
Inline Flow meter VA 520 with integrated measuring section, (R 1/2″ DN 15)	0695 0521
Inline Flow meter VA 520 with integrated measuring section, (R 3/4″ DN 20)	0695 0522
Inline Flow meter VA 520 with integrated measuring section, (R 1″ DN 25)	0695 0523
Inline Flow meter VA 520 with integrated measuring section, (R 1 1/4″ DN 32)	0695 0526
Inline Flow meter VA 520 with integrated measuring section, (R 1 1/2″ DN 40)	0695 0524
Inline Flow meter VA 520 with integrated measuring section, (R 2″ DN 50)	0695 0525
Inline Flow meter VA 570 with integrated 1/2″ measuring section	0695 0570 + order code A_...K_
Inline Flow meter VA 570 with integrated 3/4″ measuring section	0695 0571
Inline Flow meter VA 570 with integrated 1″ measuring section	0695 0572
Inline Flow meter VA 570 with integrated 1 1/4″ measuring section	0695 0573
Inline Flow meter VA 570 with integrated 1 1/2″ measuring section	0695 0574
Inline Flow meter VA 570 with integrated 2″ measuring section	0695 0575

FA 510

DEW POINT SENSORS	ORDER-NO.
FA 510 Dew point sensor, -80 ... + 20 ° Ctd incl. measuring chamber mobile and 5 m connection cable to mobile devices	0699 1510
FA 510 Dew point sensor, -20 ... + 50 ° Ctd incl. measuring chamber mobile and 5 m connection cable to mobile devices	0699 1512

ODU/M12

Extention cable

CONNECTION CABLE FOR VA 500/520 AND FA 510 SENSORS	ORDER-NO.
Connection cable for VA / FA sensors to mobile devices, ODU/M12, 5 m	0553 1503
Extention cable for mobile für mobile equipment, 10 m	0553 0504

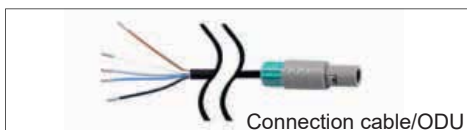| CALIBRATION CERTIFICATES FOR FLOW METERS AND DEW-POINT SENSORS	ORDER-NO.
5 point precision calibration for flow sensors incl. ISO certificate	3200 0001
Precision adjustment at -40 ° Ctd with ISO certificate	0699 3396

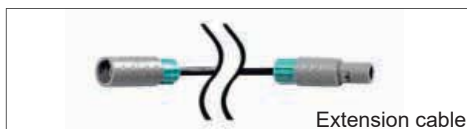## Suitable sensors for DS 500 mobile, DS 400 mobile, PI 500, DP 510, LD 510

PRESSURE PROBES	± 1% ACCURACY	± 0,5% ACCURACY
Standard pressure probe CS 16, 0...16 bar	0694 1886	0694 3555
Standard pressure probe CS 40, 0…40 bar	0694 0356	0694 3930
Standard pressure probe CS 1.6, 0. 1.6 bar abs.		0694 3550
Standard pressure probe CS 10, 0...10 bar	0694 3556	0694 3554
Standard pressure probe CS 100, 0…100 bar		0694 3557
Standard pressure probe CS 250, 0…250 bar		0694 3558
Standard pressure probe CS 400, 0…400 bar		0694 3559
Precision pressure probe CS -1...+15 bar, ± 0.5% accuracy of. f.s.		0694 3553
Differential pressure probe 1.6 bar diff.		0694 3561
Calibration certificate pressure, 5 calibration points for the whole measuring range	3200 0004	

0604 0201

0604 0208

0604 0205

0554 0200

TEMPERATURE SENSORS	ORDER-NO.
Bendable temperature probe PT 100 (2-wire) class A, length: 300 mm, d=3 mm, -70°C to +500°C, connect cable PFA, 2 m with ODU-plug (8 pole) to mobile instruments	0604 0200
Screw-in temperature sensor PT 100 class A, length 300 mm, d = 6 mm, with transmitter 4...20 mA = -50 °C...+ 500 °C (2-wire)	0604 0201
Cross-band surface temperature probe, thermocouple Type K, with integrated transducer 4…20 mA = 0°C…+180°C, 2 m connect calbe (PVC) with ODU-plug (8-pole) to mobile instruments	0604 0202
Cable temperature sensor PT 100 class A (4-wire), length: 300 mm, d = 6 mm, -70 ... + 260 ° C, 5 m connect cable PFA with open ends	0604 0205
Cable temperature sensor PT 100 class A (4-wire), length: 100 mm, d = 6 mm, -70 ... + 260 ° C, 5 m connection cable PFA with open ends	0604 0206
Cable temperature sensor PT 100 class A (4-wire), length: 200 mm, d = 6 mm, -70 ... + 260 ° C, 5 m connect cable PFA with open ends	0604 0207
Magnetic surface temperature sensor, magnet 39x26x25 mm, PT 100 class B (2-wire), -30...+ 180 °C, 5m connection cable PFA with open ends	0604 0208
Compression fittings: 6mm; G 1/2˝ teflon clamping ring pressure-tight up to 10 bar. Material: stainless steel, application area: max. + 260 °C	0554 0200
Compression fittings: 6mm; G 1/2˝ teflon clamping ring pressure-tight up to 16 bar. Material: stainless steel, application area: max. + 260 °C	0554 0201
Calibration certificate temperature, 2 calibration points	0520 0180

Connection cable/ODU

Extension cable

ODU connector

CONNECTION CABLES FOR PRESSURE SENSORS / TEMPERATURE SENSORS:	ORDER-NO.
Connection cable for pressure, temperature and external sensors to mobile devices, ODU/open ends, 5 m	0553 0501
Connection cable for pressure, temperature and external sensors to mobile devices, ODU/open ends, 10 m	0553 0502
Extension cable for mobile instruments, ODU / ODU, 10 m	0553 0504
ODU plug for connection to mobile devices	Z604 0104

Clamp-on ammeter

CLAMP ON AMMETER	ORDER-NO.
Clamp-on ammeter 0 ... 1000 A TRMS incl. 3 m connection cable	0554 0519
Clamp-on ammeter 0 ... 400 A TRMS incl. 3 m connection cable	0554 0511