



DS 400 - Chart recorder

for all relevant parameters of compressed air



Standard equipment:

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








Software options:

- Integrated webserver
- Mathematics calculation function
- Totalizer function

Hardware options:

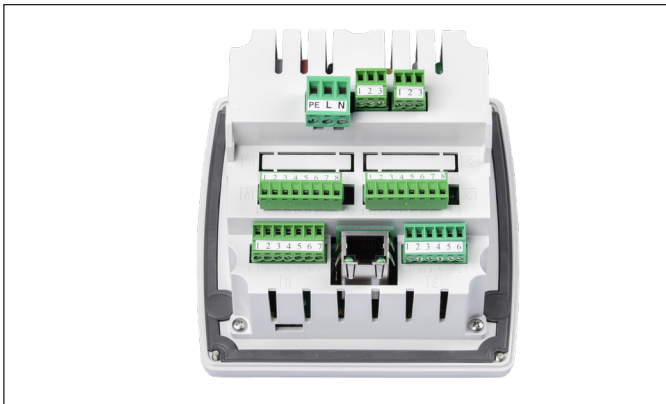
- Integrated data logger
- Ethernet / RS 485 interface
- Additional sensor inputs (digital or analog) selectable

The sensor inputs 1 and 2 and 3 and 4 can be selected according to the required sensors (see table pages 20 to 21):

Digital	Digital	Digital	Digital	Digital	Analog	Analog	Analog	Analog
CFM / CF	°Ftd	A, kWh		psi	A	°F		
								4...20 mA 0...20 mA 0...10 V Pulse Pt 100 Pt 1000
Flow sensor	Dew point sensor	Current/ effective power meter	Third-party sensors with RS 485	Pressure sensor	Clamp-on ammeter	Temperature sensor		Third party sensors analog output



Panel mounting



TECHNICAL DS 400

Dimensions:	4.5 x 4.5 x 3.8 Inches IP 54 (wall housing) 3.6 x 3.6 x 2.9 Inches (panel mounting)
Inputs:	2 digital inputs for FA 5xx resp. VA 5xx
Interface:	USB interface
Power supply:	100...240 VAC, 50-60 Hz
Accuracy:	See sensor specifications
Alarm outputs:	2 relays, (potential free)
Options:	
Data logger:	100 million measured values start/stop time, measuring 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, Pt 100, Pt 1000

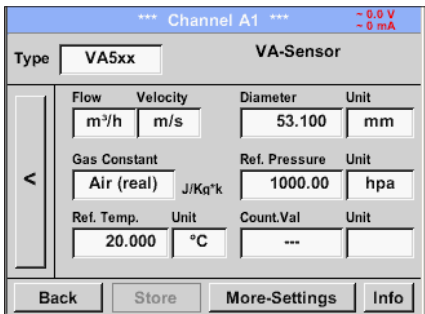
DESCRIPTION			ORDER NO.
DS 400 - Chart recorder with graphic display and touch screen	Sensor input 1+2	Sensor input 3+4	
	Digital (Z500 4003)	-----	0500 4000 D
	Digital (Z500 4003)	Digital (Z500 4003)	0500 4000 DD
	Digital (Z500 4003)	Analog (Z500 4001)	0500 4000 DA
	Analog (Z500 4001)	-----	0500 4000 A
	Analog (Z500 4001)	Analog (Z500 4001)	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 webservice			Z500 4005
Option: "Mathematics calculation function" for 4 freely selectable channels, (virtual channels): addition, subtraction, division, multiplication			Z500 4007
Option: "Totalizer function for analog signals"			Z500 4006
External Gateway Profibus for RS 485 interface connection			Z500 3008
Further accessories:			
CS Basic – data evaluation graphically and in tabular form - reading of the measured data via USB or Ethernet, license for 2 workstations			0554 8040
CS Network – energy monitoring with client/server solution (max. 20 measured values of different sensors/devices)			0554 8041
CS Network – energy monitoring with client/server solution (max. 50 measured values of different sensors/devices)			0554 8042
CS Network – energy monitoring with client/server solution (max. 100 measured values of different sensors/devices)			0554 8043
CS Network - Energy Monitoring with Client / Server Solution (max. 200 measured values of different sensors / devices)			0554 8044

INPUT SIGNALS	
Current signals internal or external power supply Measuring range Resolution Accuracy Input resistance	(0...20 mA/4...20 mA) 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	-328...1562 °F 0.1 °F ± 0.2 °F (-148...752 °F) ± 0.3 °F (further range)
RTD Pt 1000 Measuring range Resolution Accuracy	-328...1562 °F 0.1 °F ± 0.2 °F (-148...752 °F)
Pulse Measuring range	Min pulse length 500 μs frequency 0...1 kHz max. 30 VDC



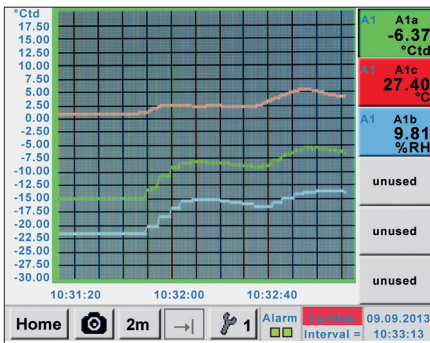
DS 500 / DS 400

Easy operation via touchscreen:



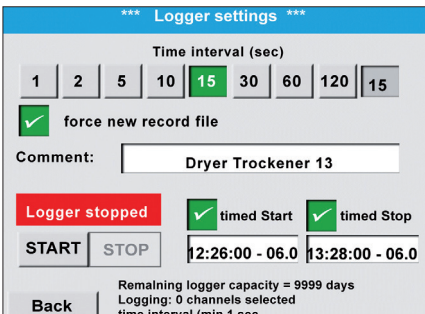
Configuration of flow sensor

In the menu of the DS 500 / DS 400, the flow sensor VA 5xx can be set to the respective pipe inner diameter. Furthermore, the unit, the gas type and the reference condition can be set. The meter reading can be set to zero if necessary.



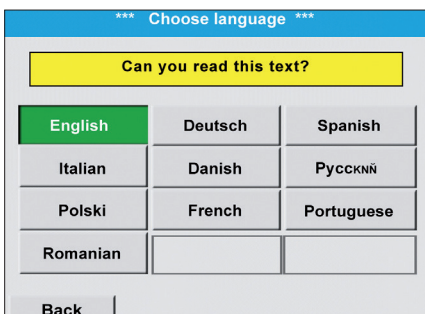
Graphic view

In the graphic view all measured values are indicated as curves. It is possible to browse back on the time axis by a slide of the finger (without data logger maximum 24 h, with data logger back to the start of the measurement).



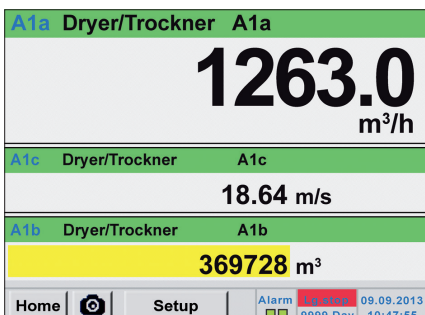
Data logger

With the option integrated data logger the measured values are stored in the DS 500 / DS 400. The time interval can be freely set. Furthermore there is the possibility to fix the starting time and the end time of the data recording. Read-out of the measured data via USB interface or via the optional Ethernet interface.



Selection of the language

DS 500 / DS 400 is available in several languages.



All relevant parameters at a glance

In addition to the flow rate in CFM, the DS 500 / DS 400 also displays other parameters such as total consumption in CF and speed in ft/s.



Webserver

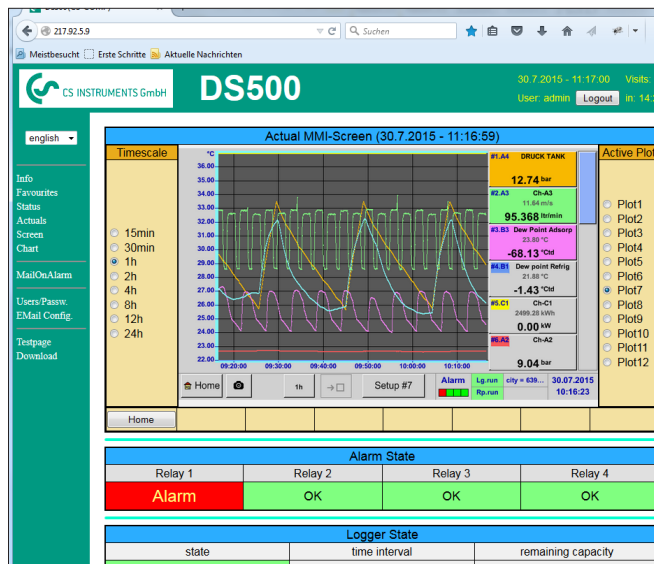
The new webserver with substantially extended features for the chart recorders DS 500 and DS 400 is available with immediate effect. Users can get direct access to their measured data worldwide (current and historic) and display them on their smart phone, tablet or computer.

The new webserver can be ordered as an option with each stationary DS 500 / DS 400, but also for their mobile devices. For using the features of the webserver, the DS 500 / DS 400 must be set up with it's own IP address within the corporate network.

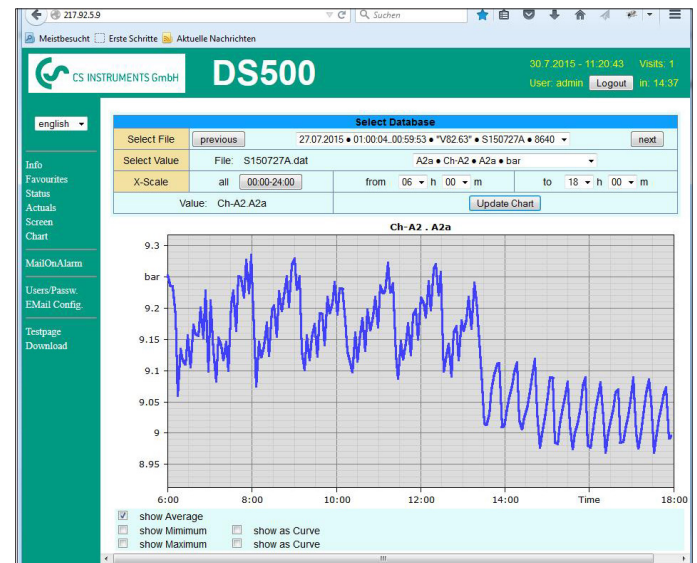
The webserver in the DS 500 / DS 400 provides a website, which displays the measured values. This website can be accessed from smartphones, tablets and computers via the installed browser. Advantage: This is all possible without the installation of any new or additional software.



View of real time measured values (graphic view)



View of historic measured values as a single chart (time period freely selectable)



Access authorization

Different groups with different users/passwords can be assigned to different access levels.

Starting the data logger

In case of a stopped data logger the group operator or administrator can start the data logger remotely, via the webserver.

The new webserver can be retrofitted to any DS 500/DS 400 already in use.