

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 of 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	А	°F	°F
		OVERVIEW 348.01 \ 151.55 \ 135.649 = 685.45 mm	MOD- BUS					420 mA 020 mA 010 V Pulse Pt 100 Pt 1000
Flow sensor	Dew point sensor	Current/ effective power meter	Third-party sensors with RS 485	Pressu	re sensor	Clamp-on ammeter	Temperature sensor	Third party sensor analog output

TECHNICAL DS 400





Panel mounting



Back view

DESCRIPTION			ORDER NO.	INPUT SIGNALS		
	Sensor input 1+2	Sensor input 3+4		Current signals	(020 mA/420 mA	
	Digital (Z500 4003)		0500 4000 D	internal or external		
DS 400 - Chart recorder	Digital (Z500 4003)	Digital (Z500 4003)	0500 4000 DD	power supply Measuring range		
with graphic display and touch screen	Digital (Z500 4003)	Analog (Z500 4001)	0500 4000 DA	Resolution	020 mA 0.0001 mA	
	Analog (Z500 4001)		0500 4000 A	Accuracy Input resistance	± 0.0001 mA ± 0.03 mA ± 0.05 %	
	Analog (Z500 4001)	Analog (Z500 4001)	0500 4000 AA	·	50 Ω	
Options:				Voltage signal:	(01 V)	
Option: Integrated data lo	ogger for 100 million meas	ured values	Z500 4002	Measuring range Resolution	01 V 0.05 mV ± 0.2 mV ± 0.05 %	
Option: Integrated Ethern	et and RS 485 interface		Z500 4004	Accuracy		
Option: Integrated webse	rver		Z500 4005	Input resistance	100 kΩ	
	Option: "Mathematics calculation function" for 4 freely selectable channels, (virtual channels): addition, subtraction, division, multiplication			Voltage signal Measuring range	(010 V / 30 V) 010 V	
Option: "Totalizer function	n for analog signals"		Z500 4006	Resolution	0.5 mV ± 2 mV ± 0.05 %	
External Gateway Profibus for RS 485 interface connection		Z500 3008	Accuracy Input resistance	$\pm 2 \text{ mV} \pm 0.05 \%$ 1 MΩ		
Further accessories:				RTD Pt 100 Measuring range	-3281562 °F	
CS Basic – data evaluatio	on graphically and in tabul or Ethernet, license for 2 v	0	0554 8040	Resolution Accuracy	0.1 °F ± 0.2 °F (-148752 ± 0.3 °F (further ran	
0,	nitoring with client/server s of different sensors/dev		0554 8041	RTD Pt 1000 Measuring range	-3281562 °F	
CS Network – energy monitoring with client/server solution (max. 50 measured values of different sensors/devices)			0554 8042	Resolution Accuracy	0.1 °F ± 0.2° F (-148752	
CS Network – energy monitoring with client/server solution (max. 100 measured values of different sensors/devices)			0554 8043	Pulse Measuring range	Min pulse length 500 frequency 01 kHz	
	nitoring with Client / Serve les of different sensors / d		0554 8044	0	max. 30 VDC	

Dimensions:	4.5 x 4.5 x 3.8 inch IP 54 (wall housing) 3.6 x 3.6 x 2.9 inch (panel mounting)
Inputs:	2 digital inputs for FA 5xx resp. VA 5xx
Interface:	USB interface
Power supply:	100240 VAC, 50-60 Hz
Accuracy:	See sensor specifica- tions
Alarm outputs:	2 relays, (potfree)
Options:	
Data logger:	100 million measured values start/stop time, measuring rate freely adjustable
2 additional sen- sor inputs:	For connection of pres- sure sensors, tempera- ture sensors, clamp-on ammeters, third-party sensors with 420 mA, 0 to 10 V, Pt 100, Pt 1000



DS 500 / DS 400

Easy operation via touchscreen:

VA-Sensor Туре VA5xx Velocity Diameter Unit Flow 53.100 m³/h m/s mm Gas Constant tef. Pressure Unit < Air (real) J/Kg*k 1000.00 hpa 20.000 °C Store Back More-Settings Info

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 inside diameter. Furthermore, the unit, the gas type and the reference condition can be set. The meter reading can be set to "zero" if necessary.



*** Logger settings ***
Time interval (sec)
1 2 5 10 15 30 60 120 15
force new record file
Comment: Dryer Trockener 13
Logger stopped vimed Start vimed Stop
START STOP 12:26:00 - 06.0 13:28:00 - 06.0
Back Remaining logger capacity = 9999 days Logging: 0 channels selected time interval (min 1 sec

Choose language *** Can you read this text? Can you read this text? English Deutsch Spanish Italian Danish Русский Polski French Portuguese Romanian Back

A1a	Dryer/Trockne	er A1a			
		1263	.0 m³/h		
A1c	Dryer/Trockner	A1c			
		18.64 m/s			
A1b	Dryer/Trockner	A1b			
369728 m³					
Hom	e 🙆 Setup	Alarm Lg.stop 9999 Day	09.09.2013 10:47:55		

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).



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

 $\mathsf{DS}\ 500$ / $\mathsf{DS}\ 400$ "speaks" several languages. The desired language can be selected via the selection button.

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.

Web server

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

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

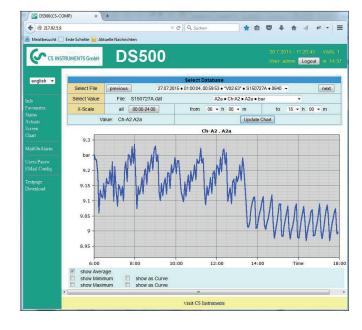
The web server in the DS 500/400 provides a website, which displays the measured values. This website can be accessed from smartphones, tablets and computers via the respectively installed browser. Advantage: This is all possible without the installation of any new or additional software.



View of the real time measured values (graphic table view)

Datei Bearbeiten Ansicht Chronik Les	ezeichen Eytras Hilfe +	⊽ C ⁴ Q Such	en 📩	i i	J ↓ ☆ √	* •			
Meistbesucht 🗋 Erste Schritte 📡 Akt	uelle Nachrichten	0			30.7.2015 - 11:17 Jser: admin Lo				
english 👻	Actu	al MMI-Screen (30.7.2015 - 11:16	6:59)					
Timescale Info Favourites Status Screen Infinin Chart Infinin Chart Infinin MailCoAltarm Infinin Lotan Passe: Lotan Passe: Download Infinin Infi	P 8 8 8 8 NB NB		100.00 101000 100.00 10100 100.00 10100	12 82.43 95. -68 -68 -68 -68 -68 -68 -68 -68	DRUCK TANK 2,74 bar CA-A3 1154 mile W Point Assorp 23.80 rCm 23.81 rCm ww point Relrig 21.81 rCm Ch-A3 13.73 rCm was point Relrig 21.81 rCm Ch-C1 000 zu Whh Ch-C1 0.04 bar ess-m 30.07.2015 10:16:23	Plot1 Plot2 Plot3 Plot5 Plot6 Plot6 Plot7 Plot8 Plot9 Plot9 Plot9 Plot9 Plot9 Plot9 Plot10 Plot11 Plot12			
Home									
	Alarm State								
Rela		Relay 2		Relay 3		Relay 4			
Ala	rm	ОК ОК		Ok		<			
	Logger State								
	state	time interval		remaining capacity					
	run	10 sec			639 days				

View of the 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 web server.

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