

● Characteristics

0900 - CHART RECORDER - COLOUR DISPLAY -



- Sensor input: 4 / 8 / 12 (analog and digital)
- Sensor signal: Current / Voltage / Pulse / RTD
- Accuracy: dependent on used sensors
- Display: 7" Touchpanel Colour TFT, transmissive
- Output: 4 relays, freely programmable
- Supply: 100...240 VAC / 24 VDC
- Interfaces: USB / USB-PC / Ethernet / Serial
- Sensor supply: 24 VDC, 130 mA (each sensor)
- Gehäuse: Built-on / switch panel mounting
- Software: for processing the data
- Options: Webserver / Statistic module / Measuring

● Technical Data

Input

Sensors:	4, 8, 12 inputs:	analog or digital, freely usable
	Supply:	internally or externally
Current:	Range:	4...20 mA, 0...20 mA
	Resolution:	0,0001 mA
	Input resistance:	33Ω
Voltage:	Range:	0...1 V
	Resolution:	0,05 mV
	Input resistance:	100 kΩ
Voltage:	Range:	0...10 V, 0...30 V
	Resolution:	0,5 mV
	Input resistance:	100 MΩ
RTD:	Sensor:	Pt100, Pt1000
	Range:	-200...850 °C
	Resolution:	0,1 °C
Pulse:	Pulse length:	100 μs minimum
	Frequency:	0...1 kHz
	Voltage:	30 V maximum
Interface:	RS485:	Modbus RTU
	Option:	other interfaces on request
Semiconductor:	KTY81	

Output

Switching contact:	Relays:	4x changeover (freely programmable)
	Contacts:	230 VAC, 6 A
	Function:	Alarm management, collective alarm looped (sensors with own signal output)
Sensor signal:	Analog current:	The sensor signal is used for the DLUI-HD and e.g. for a SPS
Interface:	Network:	TCP/IP RJ45 plug contact
	RS485:	Modbus RTU
	USB:	stick, cable

● Applications

With its functionality, the intelligent chart recorder and data logger DLUI-HD is suitable for all applications where measurement data has to be displayed and recorded continuously.



Photo: makrodepecher@pixelio.de



Photo: pixelquelle.de



Photo: pixelquelle.de



Photo: pixelquelle.de

● Technical Data (Continued)

Accuracy

Sensors:	see specification of the sensor	
Data logger DLUI-HD:		
Current:	±0,003 mA, ±0,05%	
Voltage:	0...1 V:	±0,2 mV, ±0,05%
	0...10 V, 0...30 V:	±2 mV, ±0,05%
RTD:	Pt100:	±0,2 °C (-100...400 °C)
		±0,3 °C (other ranges)
	Pt1000:	±0,2 °C (-100...400 °C)

Supply

Voltage:	Standard:	100...240 VAC, 50-60 Hz
	Option:	24 VDC
Sensor supply:	1 integrated power unit:	24 VDC, 25 W, 130 mA max. for each sensor (at 4 inputs)
	2 integrated power units:	24 VDC, 25 W, 130 mA max. for each sensor (at 8, 12 inputs)

Environmental Conditions

Temperature:	Operation range:	0...+50 °C
	Storage:	-20...+70 °C

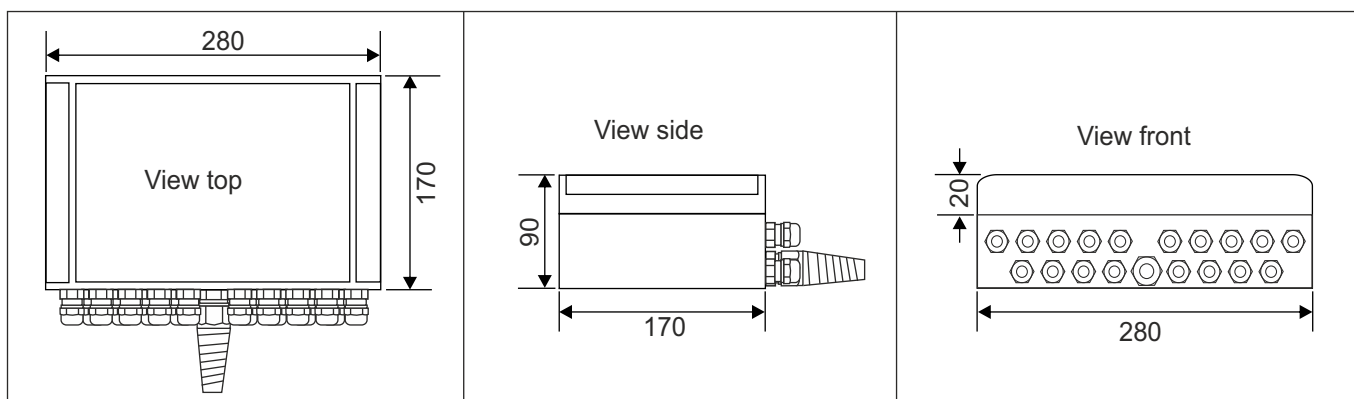
Mechanics

Casing:	Type:	aluCase AC with clip-on design covers
	Dimensions:	280 x 170 x 90 mm
	Material:	diecast aluminium
	Mounting:	covered screw channels
	Colour:	aluminium white
	Front foil:	Polyester
	Weight:	ca. 3,5 kg (with options)
	Cable input:	18 screw connections PG12 (sensors, supply, alarm relays) 1 screw connection with bend relief (RJ45 Ethernet)
Display:	Size:	7"
	Type:	TFT transmissive
	Use:	Graphik, curves, statistics
	Menu languages:	German, English
Protection class:	IP65	
Electrical connection:	Plug-in terminal strip:	0,2...2,5 mm ² (supply, relays)
	Plug-in terminal strip:	0,14...1,5 mm ² (sensors, interface)
Memory card:	SD memory:	2 GB (standard)
	Option:	up to 4 GB

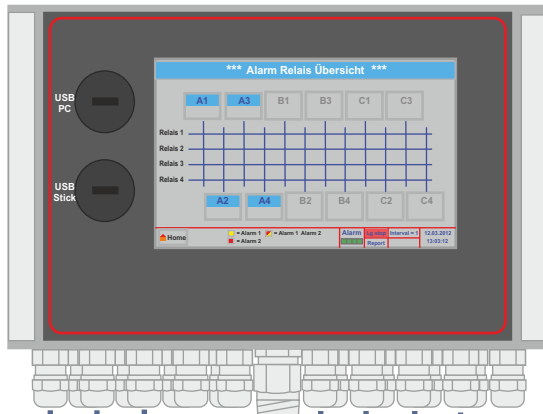
Options

Webserver
 Software for data evaluation (PC version)
 Software for data evaluation (Client/Server version) for 5, 10 or 20 DLUI-HD

● Dimensions (in mm)



● Overview DLUI-HD



Versatility

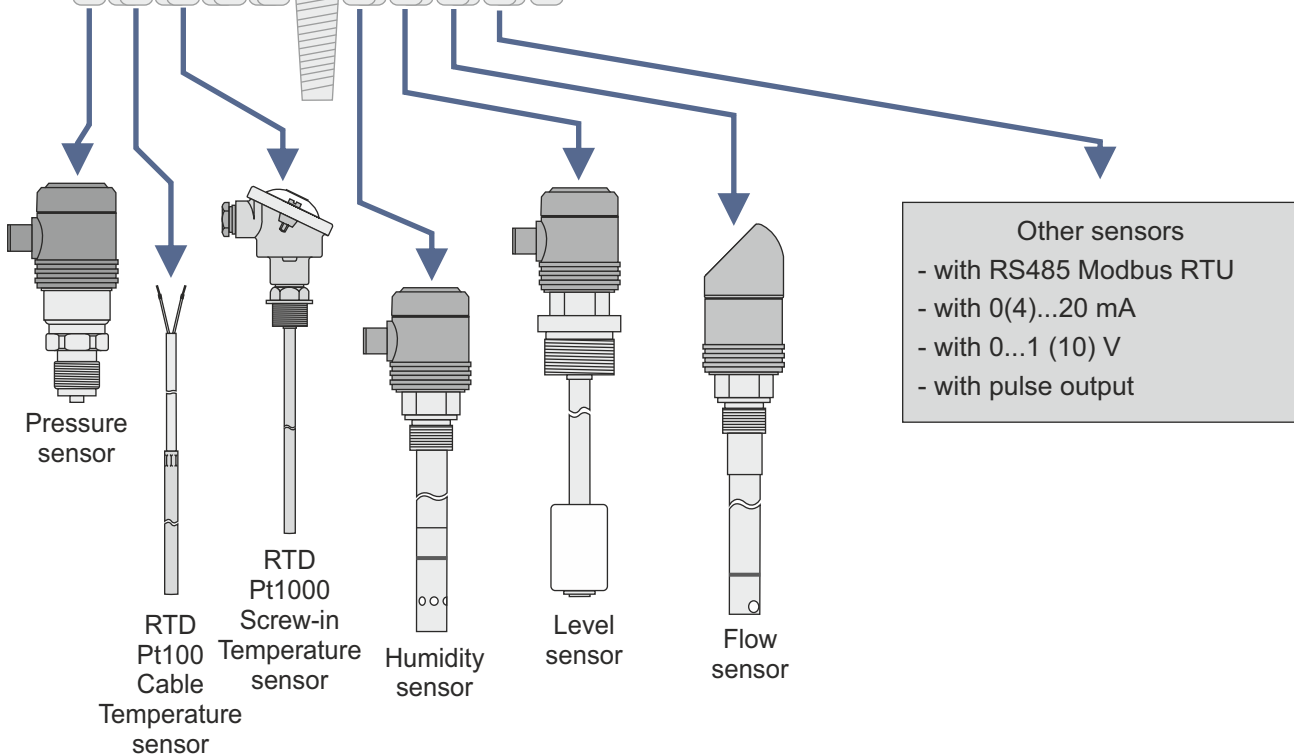
Up to 12 sensors can be connected to the device. All sensor inputs are freely to use and each sensor is supplied with 24 VDC / 130 mA .

Flexibel

The data logger is network compatible, together with the integrated webserver, this makes worldwide data transmission possible.

Alarm relays and fault message

Up to 32 threshold values can be configured freely and allocated to 4 different alarm relays. These can be used for collective alarms.



● Representation Possibilities

A1 Hall 1.1 Plant Air	A2 Hall 1.2 Plant Air	A3 Hall 1.3 Plant Air	A4 Hall 1.4 Plant Air
Flow Usage 237,7 m³/h 34006 m³	Flow Usage 729,7 m³/h 13423009 m³	Flow Usage 537,7 m³/h 155006 m³	Flow Usage 254,7 m³/h 55234006 m³
B1 Hall 1.1 Nitrogen	B2 Hall 1.2 Nitrogen	B3 Hall 1.3 Nitrogen	B4 Hall 1.4 Nitrogen
Flow Usage 337,7 m³/h 24009 NI	Flow Usage 657,7 m³/h 234006 NI	Flow Usage 15,7 m³/h 34006 NI	Flow Usage 237,7 m³/h 234006 NI
C1 Hall 1.1 Oxygen	C2 Hall 1.2 Oxygen	C3 Hall 1.3 Oxygen	C4 Hall 1.4 Oxygen
Flow Usage 17,7 m³/h 4009 NI	Flow Usage 37,7 m³/h 234006 NI	Flow Usage 223,7 m³/h 3406 NI	Flow Usage 75,8 m³/h 43554 NI

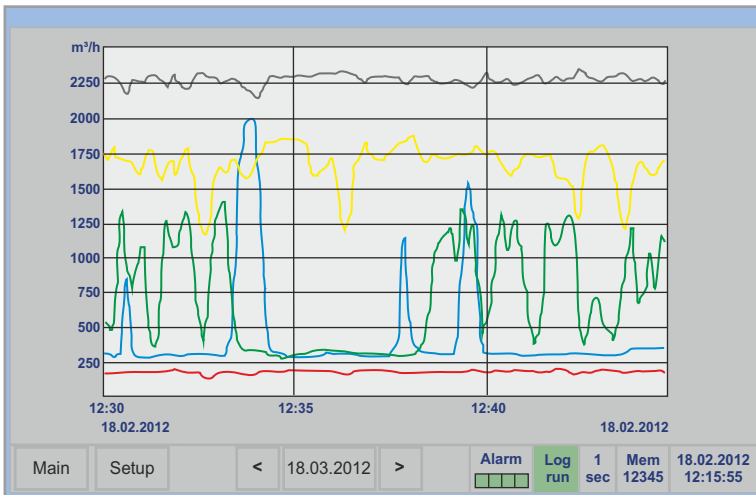
(Example)

Real time measured values

All measured values can be seen at a glance. Threshold exceedings are indicated in red colour.

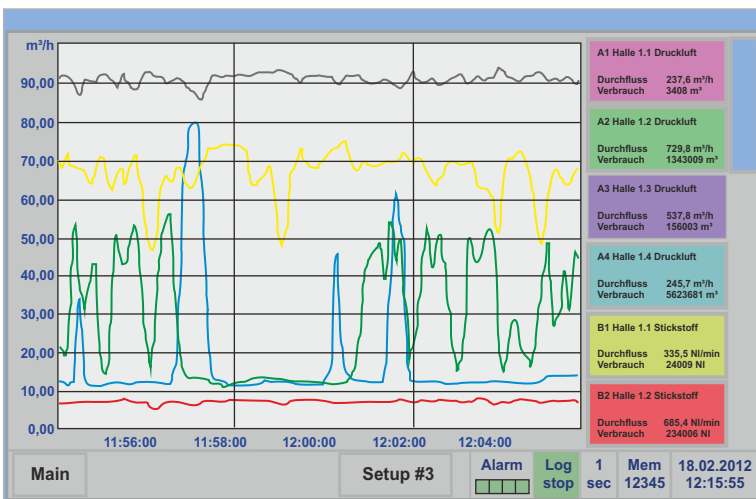
A „measuring site name“ can be allocated to each sensor.

Representation Possibilities (Continued)



Graphic display

This display replaces former evaluation of ordinary paper chart recorders and offers lots of advantages. The time axis can be moved by a finger slide. The „zoom function by finger movement“ enables an analysis of outliers.



Real time measured values and graph

Both measurement curves and actual values are indicated.

Monat	Jahr	Monats- verbrauch	Kosten	Min-Wert	Max-Wert	Mittelwert
März	2012	15666 m³	157 Euro	15,2 m³/h	120,2 m³/h	37,3 m³/h
Februar	2012	15666 m³	157 Euro	15,2 m³/h	120,2 m³/h	37,3 m³/h
Januar	2012	15666 m³	157 Euro	15,2 m³/h	120,2 m³/h	37,3 m³/h
Dezember	2011	17666 m³	177 Euro	15,2 m³/h	120,2 m³/h	37,3 m³/h
November	2011	17666 m³	177 Euro	14,9 m³/h	120,2 m³/h	37,3 m³/h
Oktober	2011	17666 m³	177 Euro	14,9 m³/h	120,2 m³/h	37,3 m³/h
September	2011	17666 m³	177 Euro	14,9 m³/h	120,2 m³/h	37,3 m³/h
August	2011	17666 m³	177 Euro	8,5 m³/h	120,2 m³/h	37,3 m³/h
Juli	2011	17666 m³	177 Euro	8,5 m³/h	120,2 m³/h	37,3 m³/h
Juni	2011	152994 m³	1533 Euro	8,5 m³/h	120,2 m³/h	37,3 m³/h
Mai	2011	17666 m³	177 Euro	8,5 m³/h	120,2 m³/h	37,3 m³/h
April	2011	17666 m³	177 Euro	8,5 m³/h	120,2 m³/h	37,3 m³/h
März	2011	17666 m³	177 Euro	8,5 m³/h	120,2 m³/h	37,3 m³/h
Februar	2011	17666 m³	177 Euro	8,5 m³/h	120,2 m³/h	37,3 m³/h

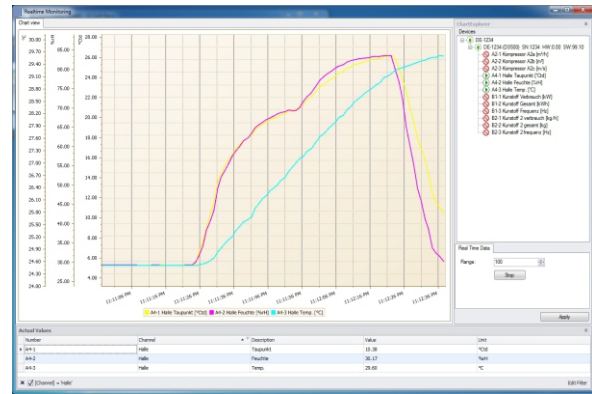
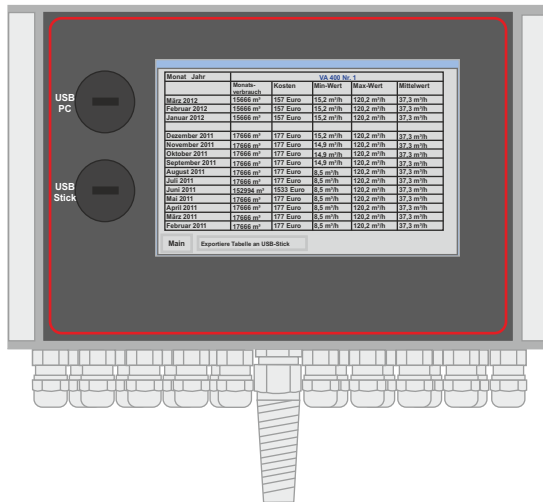
Main Exportiere Tabelle an USB-Stick

Statistics and reports

In difference to ordinary chart recorders the DLUI-HD offers not only measurement data logging, but also the evaluation of all consumption sensors as daily, weekly or monthly report at the push of a button. It is no longer necessary to read out the counter and transfer the values manually into a list. The reports can be imported into Excel on every PC via USB stick. After import they can be printed out without any additional software.

Flexible Data Transfer for Each Application

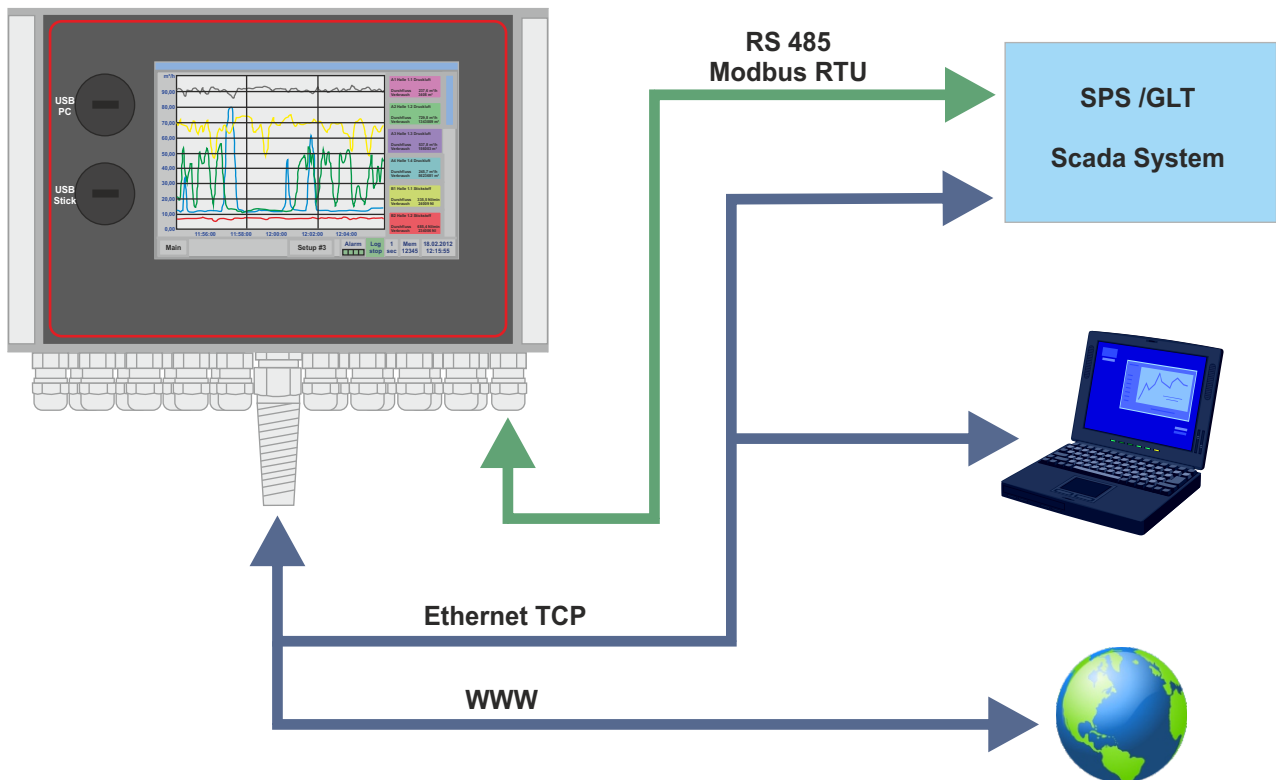
Data transfer via USB stick or USB cable



If no Ethernet- or Bus connection exists or if the installation would be too costly the recorded data can be stored onto an USB stick and transferred to the PC.

The DLUI-HD will automatically identify the USB stick. The user will be guided through the menu „Read-out data“. The data stored in the USB stick can be evaluated comfortably at the PC via software.

Data transfer, remote maintenance and consumption analysis via webserver and integrated Ethernet interface, RS 485 Modbus RTU



The current measured data and the stored measured data can be transferred via Ethernet or RS 485 (Modbus). The integrated webserver enables the user to read out the measured data via internet.

For the evaluation of the data at the PC the user has a comfortable and versatile software available. Threshold exceedings can be sent via SMS and e-mail.

The DLUI-HD can be connected via Ethernet / RS 485 to customers own systems (GLT, SPS, Scada).

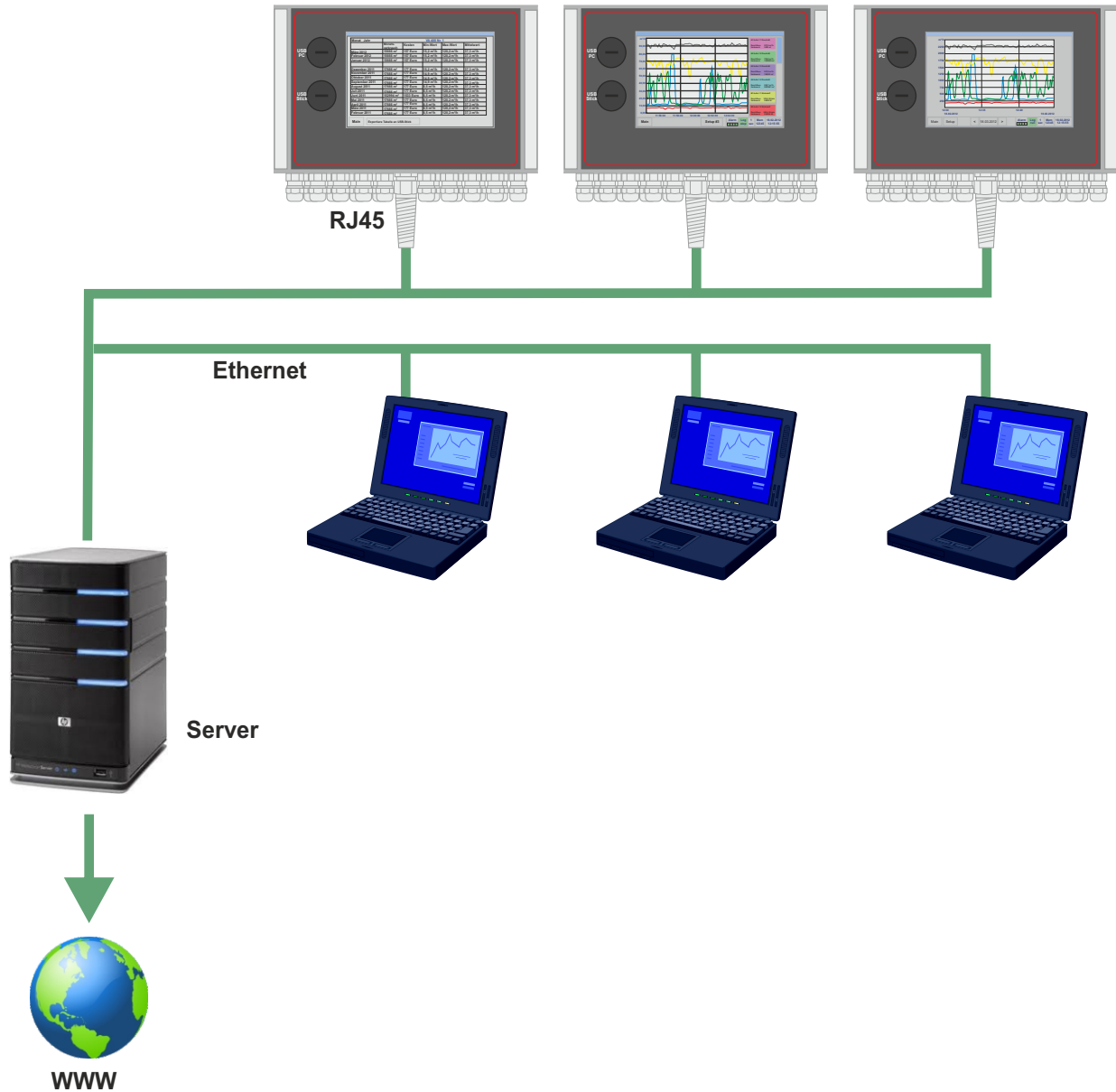
Via software the data can be evaluated comfortably.

As an alternative the webserver in DLUI-HD can be addressed via any web browser. Current measured values and consumption statistics can be transferred via the webserver.

● Client Software / Server Solution

Transparent measurement data any time at any PC

Via client / server software solution an optional number of DLUI-HD devices can be evaluated via Ethernet. The software stores the measured data of all DLUI-HD cyclically (cycle time freely adjustable) in a SQL data base on the server. In case the stored alarm values are exceeded, the software automatically sends a SMS or an email. Furthermore, different user levels can be defined in the server so that single staff members only can access the measured data of certain DLUI-HDs. The evaluation of the measured can be carried out via client software from each PC within a company.



Server Software Function

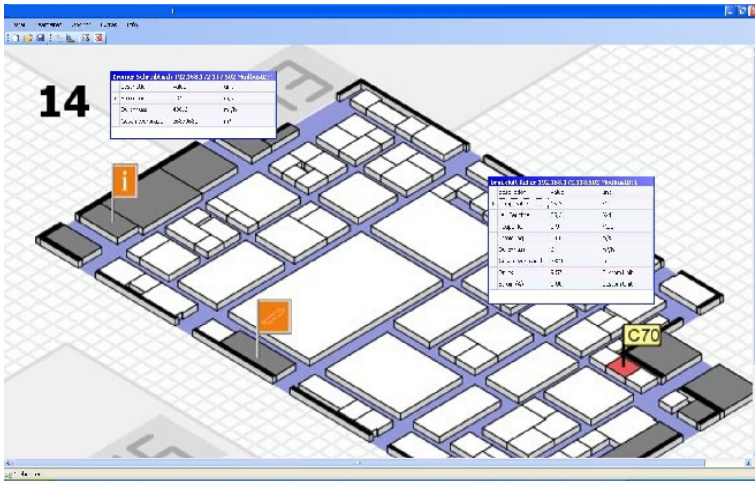
- Automatic data storage in My SQL data base (cycle time freely programmable)
- User administration
- Configuration of alarm message and transmission via email and SMS
- Configuration backup generation

Client Software Function

- Indication of current measured values
- Graphical chart with zoom function
- Tabulated representation
- Report generation (standard report with min/max values, number of alarms, alarm point of time)
- Automatic consumption report

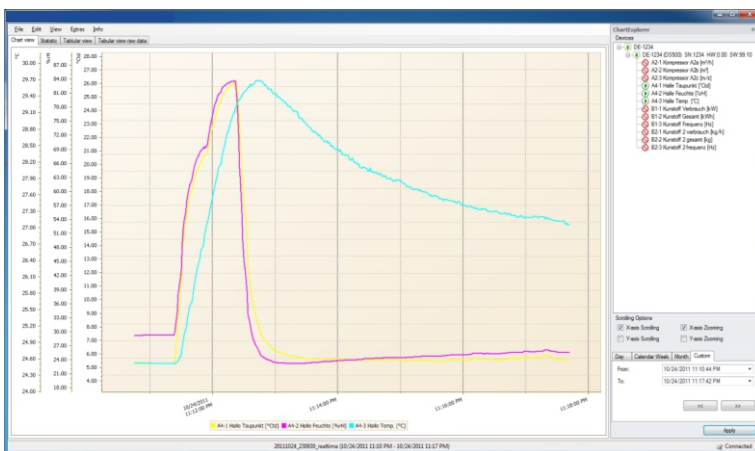
More Device Details

View of current measurement values



- Load background image
- Place / fix window with measurement values
- Red measurement values in case of alarm
- Quick access to measurement history

Graphical chart with zoom function



- Selection of the measuring channels to be indicated
- Easy zoom-in and zoom-out
- Up to 8 Y-axis
- Quick access to:
 - day view
 - week view
 - month view

Consumption analysis

				Einheit	Jan 11	Feb 11	Mrz 11	Apr 11	Mai 11	Summe 2011	
Halle 1	DLUI-HD	Kanal A1	m ³	Zählerstand Anfang	9560	18440	26550	34502	43201		
		Maschine 1	m ³	Zählerstand Ende	18440	26550	34502	43201	50458		
			m ³	Monatsverbrauch	8880	8110	7952	8699	7257	40898	
			m ³ /h	Durchschnittsverbrauch	17,6	16,1	15,8	17,3	14,4	16,2	
			m ³ /h	Min Wert	3,5	3,5	3,7	3,7	3,7		
			m ³ /h	Max. Wert	37,7	38	38,5	35,1	35,8		
			€	Kosten	133	122	119	130	109	613,00 €	
			Kanal A2	m ³	Zählerstand Anfang	24750	57002	87541	113245	113245	
			Maschine 2	m ³	Zählerstand Ende	57002	87541	113245	113245	138451	
				m ³	Monatsverbrauch	32252	30539	25704	0	25206	113701
			m ³ /h	Durchschnittsverbrauch	64	60,6	51	0	50		
			m ³ /h	Min Wert	11,4	11,5	11,5	0	11,6		
			m ³ /h	Max. Wert	97,4	94,2	95,5	94,5	94,2		
			€	Kosten	484	458	386	0	378	1.706,00 €	
Summe Halle 1		Summe	m ³	Monatsverbrauch	41132	38649	33656	8699	32463	154599	
		Summe	€	Kosten	617	580	505	130	487	2319	
			m ³ /h	Durchschnittsverbrauch	81,6	76,7	66,8	17,3	64,4		

For the consumption analysis the module „Statistics“ is necessary.

● **Order Code**

L	M	X	X	X	X	X	X	-	X	X	X
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Input:	4x for analog and digital Sensors	0									
	8x for analog and digital sensores	1									
	12x for analog and digital sensores	2									
Supply:	100...240 VAC		0								
	24 VDC		1								
Enclosure:	Built-on			0							
	Flush mounting			1							
Webserver:	Without				0						
	With				1						
Modul statistics:	Without					0					
	With					1					
Sampling rate:	Standard						0				
Other:	Special model										0

Accessories: Basic Software for graphical and tabular data evaluation
 Order number: 040-00018-99