

# KD8 SCREEN RECORDER



## FEATURES:

IP65



MOD BUS



- Intuitive servicing - LCD TFT 5.7" screen, with touch panel.
- Data archiving on CompactFlash card, capacity up to 4 GB.
- IP65 protection grade on the front panel.
- 3 or 6 analog programmable measuring inputs.
- 6 or 12 alarms outputs.
- 4 or 8 digital inputs.
- Visualization of measurements in digital form, analog indicators, diagrams, bargraphs.
- RS-485 and USB serial interfaces.
- MS Windows® CE operating system.
- PC softwares: KD8 SETUP, KD CHECK, KD CONNECT, KD ARCHIVE.
- Programmable events.
- Menu available in various language versions.

## INPUTS:



## OUTPUTS:



RS 485

USB

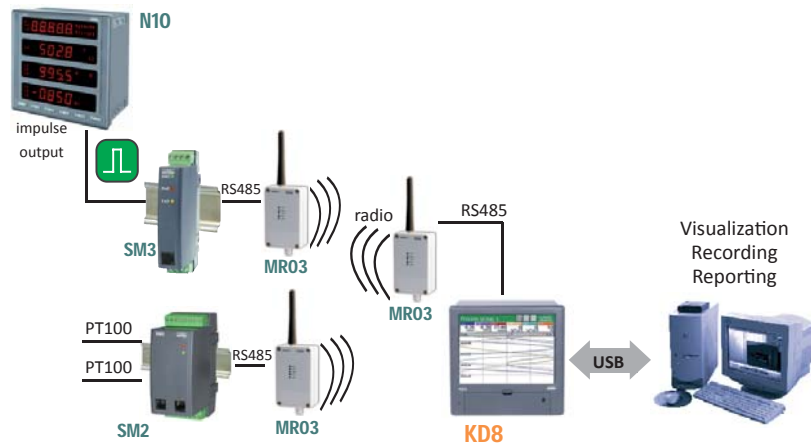
## GALVANIC ISOLATION:



Supply

Digital interface

## EXAMPLE OF APPLICATION

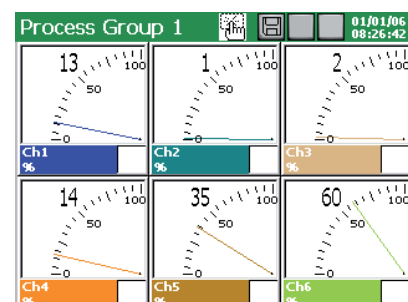
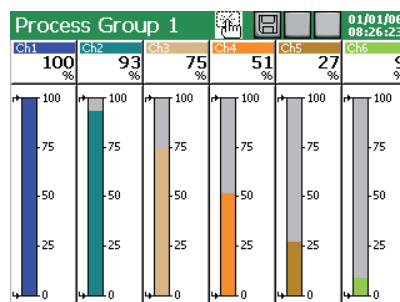
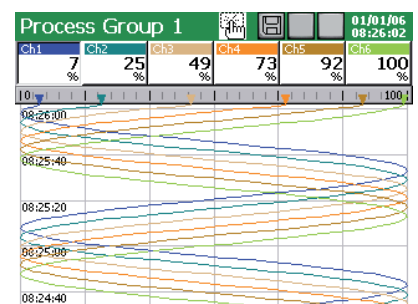
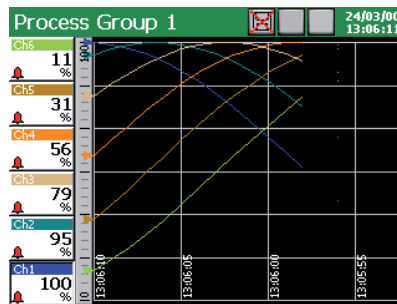


System of measurement, control and recording of temperature and energy with wireless communication.

## EXAMPLES OF MEASURING DATA PRESENTATION

### Various forms of data display:

- linear diagrams,
- digital indicators,
- analog views,
- bargraphs,
- tables and others. (manual and automatic switching between screens.)



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INPUTS					
Input signal	Measuring range/ Accuracy class (%)		Minimal subrange/ Accuracy class (%)		
Voltage	0 .. ±9999 mV	0.15	5 mV	0.25	
Current	0 .. ±20 mA	0.15	1 mA		
Thermocouple (TC):					
<b>J</b> (Fe-CuNi)	-200 .. 1200°C	0.1	100°C	1	
<b>K</b> (NiCr-NiAl)	-200 .. 1370°C		130°C	0.7	
<b>N</b> (NiCrSi-NiSi)	-200...1300°C		200°C	0.5	
<b>E</b> (NiCr-CuNi)	-200...1000°C		100°C	1	
<b>R</b> (PtRh13-Pt)	0 .. 1760°C	0.2	540°C	0.3	
<b>S</b> (PtRh10-Pt)	0 .. 1760°C		570°C	0.3	
<b>T</b> (Cu-CuNi)	-200 .. 400°C	0.1	110°C	0.9	
<b>B</b> (PtRh30-PtRh6)	400 .. 1820°C	0.2	1000°C	0.2	
<b>L</b> (GOST)	-200 .. 800°C	0.1	90°C	0.2	
<b>K</b> (GOST)	-200 .. 1370°C		130°C	0.7	
Resistance transmitter (RTD):					
<b>Pt 100</b>	-200 .. 850°C	0.15	50°C	0.25	
<b>Pt 500</b>		0.3		0.5	
<b>Pt 1000</b>		0.3			
<b>Ni 100</b>	-60 .. 180°C	0.15		0.25	
<b>Cu 100</b>	-50 .. 180°C				
<b>GR.21</b> (GOST'78) (GOST'94)	-260 .. 1100°C				
<b>50P</b> (GOST'78) (GOST'94)					
<b>100P</b> (GOST'78)					
<b>100P</b> (GOST'94)					
<b>50M</b> (GOST'78) (GOST'94)	-200 .. 200°C				
<b>100M</b> (GOST'78) (GOST'94)					
Potentiometric transmitter	50 .. 2000 Ω				100 Ω
Resistance transmitter	0 .. 2000 Ω				100 Ω
Logic input	control signal 0/5 .. 24 V d.c.		switching frequency up to 50 Hz		

OUTPUTS	
Output type	Properties
Relay	- electromagnetic relays: ≤ 250 V a.c./1 A or ≤ 30 V d.c./1 A
Output to supply object transducers	- 2 outputs 24 V d.c./ 30 mA

DIGITAL INTERFACE	
Interface type	Properties
RS-485	interface: MODBUS Slave, baud rate 0.3 .. 256 kbit/s, transmission mode: ASCII/ RTU
USB	device V.1.1, socket USB-B-G

EXTERNAL FEATURES		
Supply voltage	90 .. 230 .. 253 V	input power ≤ 30 VA
Temperature	operating: 0 .. 23 .. 55°C	storage: -20 .. 60°C
Humidity	< 70%	condensation inadmissible

RATED OPERATING CONDITIONS		
Display field	LCD 5.7" TFT type	320 x 240 pixels, with touch screen
Overall dimensions	144 x 144 mm	panel cut-out dimensions: 138+1 x 138+1 mm
Weight	< 2 kg	
Protection grade	from frontal side: IP65	from terminal side: IP20

SAFETY AND COMPATIBILITY REQUIREMENTS		
Electromagnetic compatibility	noise emissions	acc. to EN 61000-6-4
	noise immunity	acc. to EN 61000-6-2
Isolation between circuits	500 V d.c.	acc. to EN 61010-1
Isolation between supply and measuring system	2 kV	
Pollution level	2	
Installation category	II	
Maximal operating voltage in relation to earth	for the measuring system, relays and supply: 500 V	acc. to EN 61010-1
Altitude above sea level	< 2000 m	

SOFTWARES ASSISTING THE KD8 RECORDER WORK:

**KD ARCHIVE**  
Software destined to review and analyse archive data from the recorder on a PC computer, stored in a binary format with digital signature.

**KD8 SETUP**  
Software destined to configure recorder settings by means of a PC computer.

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## EXEMPLARY FUNCTIONS OF KD8 ASSISTING SOFTWARES

**SOFTWARES ASSISTING THE KD8 RECORDER WORK:**

### KD CONNECT

Software destined for the communication between the recorder and the PC computer through the USB interface in order to download archive data and record/erase on the CF card.

### KD CHECK

Software destined to verify the digital signature in archive data stored in text format.

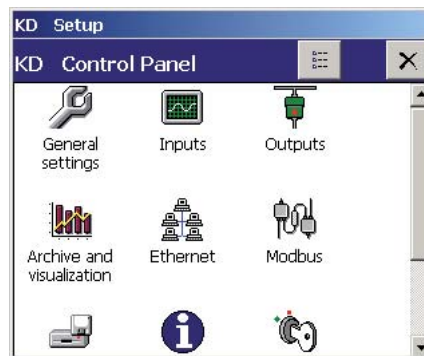
Recorder information:  
Copyright (c) 2007-2008 by LZAE Lumel S.A.  
Screen Recorder KD8  
System version: 0.5.0.3 (13/05/2008, 12:00)  
Hardware version: 00.00.00.00.00.00.00  
Image HW ver.: 00.00.00.00.00.00.00  
Bootloader version: 0.1.0.0

File name	Date	Size
20080519 121250 0 G1 - Process Group 1.csv	20/05/08 (13:16:50)	3176
20080519 121250 0 G2 - Process Group 2.csv	20/05/08 (13:17:00)	2504
20080519 121250 0 - AuditLog.csv	25/05/08 (13:25:04)	16
Configuration_20080519_121250_KD8	25/05/08 (10:37:20)	1608
20080525 094720 0 G1 - Process Group 1.csv	25/05/08 (09:24:38)	638
20080525 094720 0 G2 - Process Group 2.csv	25/05/08 (09:24:38)	496
20080525 102500 0 G1 - Process Group 1.csv	25/05/08 (09:25:42)	398
20080525 102442 0 G1 - Process Group 1 - AlarmLog.csv	25/05/08 (09:25:42)	1548
20080525 102500 0 G2 - Process Group 2.csv	25/05/08 (09:25:42)	316
20080525 112600 0 G1 - Process Group 1.csv	25/05/08 (09:42:36)	118

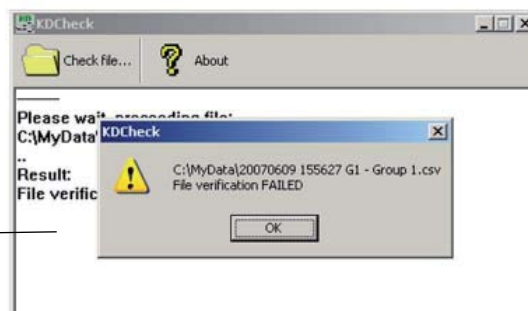
Downloading and erasing of archive data by means of the PC computer - KD CONNECT.



Review of archive data through the PC computer - KD ARCHIVE.



Configuration of the KD8 recorder by means of the PC computer - KD8 SETUP.



Verification of the digital signature of text data - KD CHECK.

**Contact Details:**

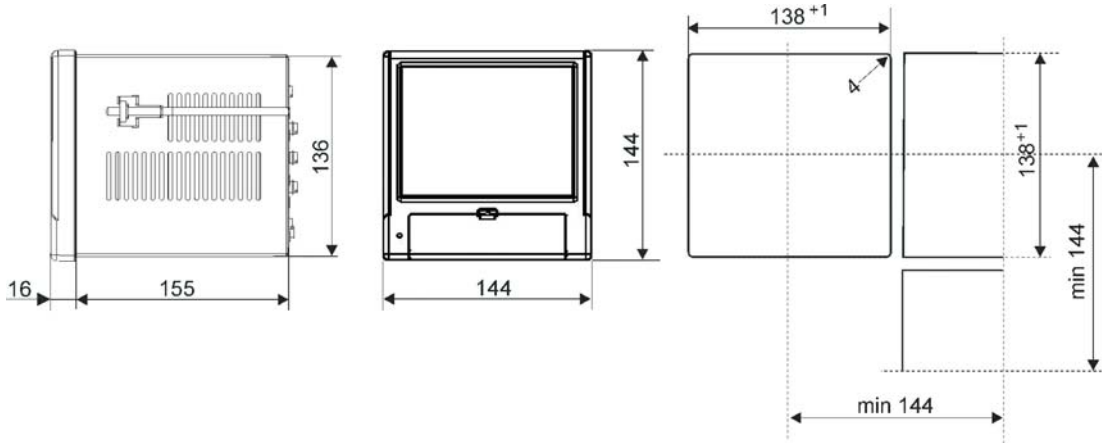
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## OVERALL DIMENSIONS



### SEE ALSO:



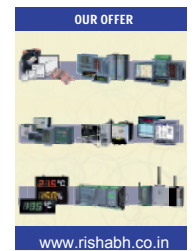
Temperature sensors.



Interface converter PD10.



KD7 recorder.



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## ORDERING

Screen Recorder KD8 -	X	X	X	X	XX	X
<b>Measuring inputs:</b>						
3 programmable measuring inputs	1					
6 programmable measuring inputs	2					
<b>Alarms and binary inputs:</b>						
without alarms and binary inputs	0					
alarms (NO relays) + binary inputs <sup>1)</sup>	1					
<b>Supply:</b>						
90..253 V a.c.		1				
<b>Softwares servicing the recorder from PC:</b>						
KD Connect, KD Check				1		
KD Connect, KD Check, KD Archive, KD8 Setup				2		
<b>Version:</b>						
standard					00	
custom made <sup>2)</sup>					XX	
<b>Acceptance tests:</b>						
without extra quality inspection requirements						8
with an extra quality inspection certificate						7
according to customer's request <sup>2)</sup>						X

<sup>1)</sup> for each 3 measuring inputs a package with 6 alarms and 4 binary inputs is installed

<sup>2)</sup> after agreeing with the manufacturer

### Example of order:

the code **KD8-1-0-1-1-00-8** means:

- KD8** - recorder of KD8 type,
- 1** - with 3 programmable measuring inputs,
- 0** - without alarms and binary inputs,
- 1** - supply: 90 .. 253 V a.c.,
- 1** - with KD Connect and KD Check softwares,
- 00** - in standard version,
- 8** - without extra quality inspection requirements.

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