ELECTRICAL SAFETY CAT III

CE

COMPLIANT WITH FDA 21 CFR PART 11

KD10

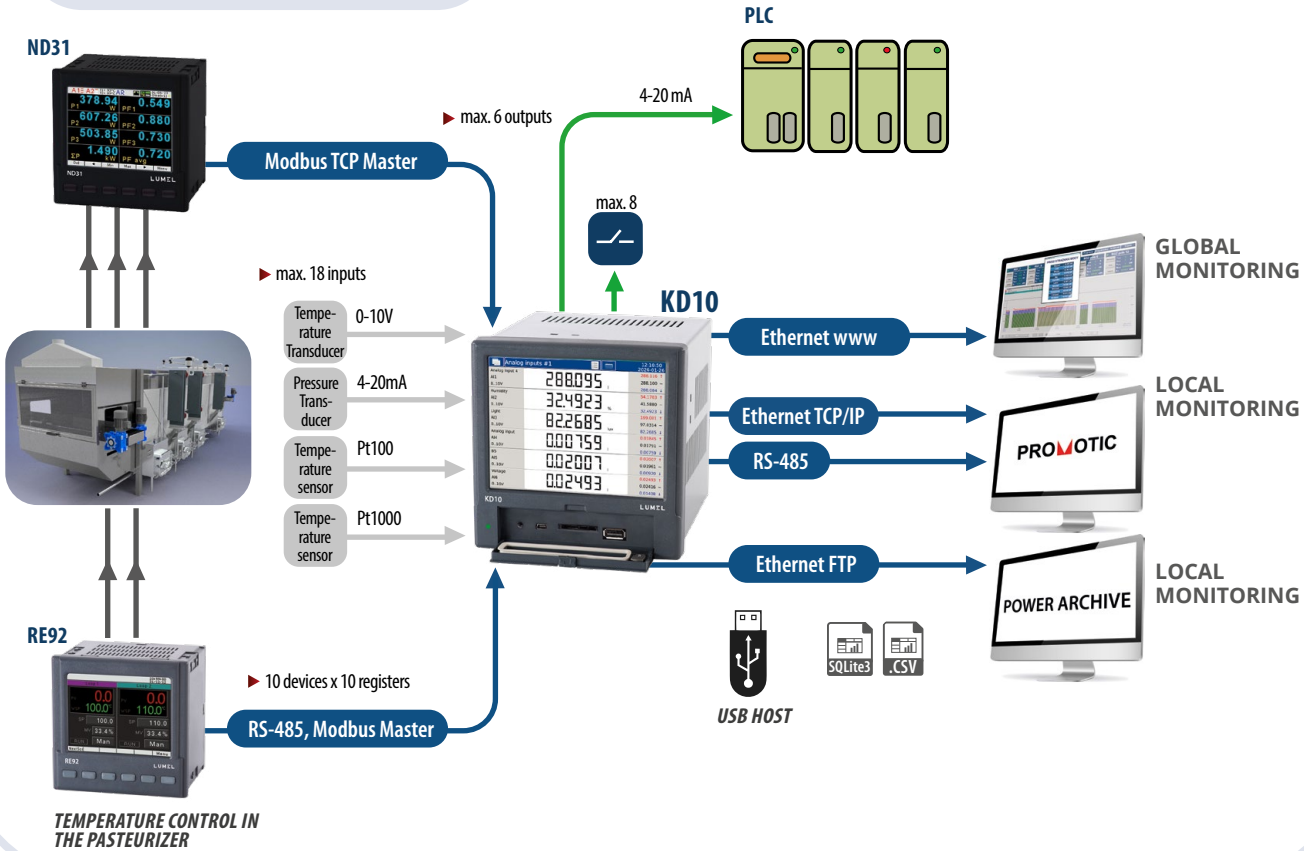
PROCESS RECORDER WITH TOUCH SCREEN

FEATURES

- **Up to 52 measurement channels** (max. 18 analog channels).
- Inputs:
  - programmable measurement (6, 12 or 18),
  - measurement 2x Pt100 / Pt1000 / resistance,
  - binary (0, 4 or 6) RS-485 Modbus RTU Master, Modbus TCP Master,
  - RS-485 Modbus RTU Master, Modbus TCP Master (up to 32 devices, up to 10 registers from one slave device).
- Outputs:
  - relay (0, 4 or 8),
  - analog 0/4...20mA (0, 3 or 6),
  - RS-485 Modbus RTU Slave, Modbus TCP Slave.
- **Color graphic LCD screen** with 5.6"TFT touch panel, 640 x 480 pixels, fully user-configurable.
- Data archiving via SD card (up to 32GB)
- Data registration in CSV or SQLite3 formats with a digital signature.
- Advanced alarms, mathematical functions, and signal scaling.
- Visualization of measurements in digital form, analog indicators, line charts, bar graphs.
- Built-in USB HOST 2.0 interface.
- **Modern and convenient to use Ethernet** 10/100 BASE-T:
  - protocol: MODBUS TCP/IP, HTTP, FTP,
  - services: www server, ftp server, DHCP client.
- Programming of parameters using free KD10 Setup software.
- PowerArchive program for managing archival data.
- External dimensions: 144 x 144 x 104 mm.

PRZYKŁADY ZASTOSOWAŃ

MONITORING OF PRODUCTION LINE PARAMETERS AND THE PASTEURIZATION PROCESS

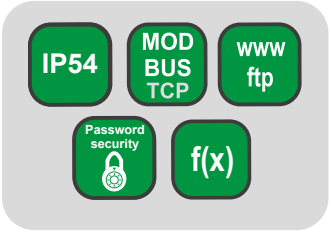


TEMPERATURE CONTROL IN THE PASTEURIZER

KD10 PROCESS RECORDER WITH TOUCH SCREEN

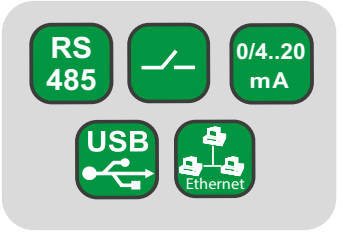
LUMEL

FEATURES

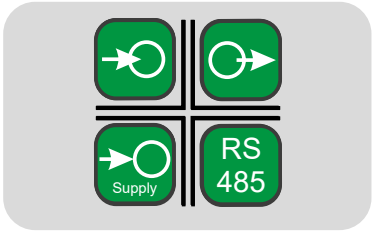


INPUTS

OUTPUTS



GALVANIC ISOLATION



TECHNICAL DATA

INPUTS

Input type		Indication range	Rated range	Class
RTD	PT100	-200...850 °C	-328...1562 °C	0,1
	PT1000	-200...850 °C	-328...1562 °C	
Fe-CuNi (J)		-205...1200 °C	-150...1200 °C	
NiCr-NiAl (K)		-205...1372 °C	-150...1372 °C	
PtRh10-Pt (S)		-50...1768 °C	-50...1768 °C	
PtRh13-Pt (R)		-50...1768 °C	-50...1768 °C	
NiCr-CuNi (E)		-205...1000 °C	-150...1000 °C	
NiCrSi-NiSi (N)		-205 ...1372 °C	-205...1372 °C	
Voltage 60mV Voltage150mV Voltage 300mV Voltage 10V		-75...75mV -155...155mV -310...310mV -13...13V	-60...60mV -150...150mV -300...300mV -10...10V	
Current 0...20mA Current 4...20mA		-24...24mA 3,6...22mA	-20...20mA 4...20mA	
400 Ω 4000 Ω		0...440 Ω 0...4040 Ω	0...400 Ω 0...4000 Ω	

ADDITIONAL INPUTS

Input type	PROPERTIES
Binary inputs	Control signal 0...2/8...24 V d.c. Switching frequency up to 50 Hz

OUTPUTS

Output type	PROPERTIES
Analog outputs	Current: 0/4 .. 20 mA programmable, load resistance ≤ 500 Ω
Relay outputs	8 or 4 programmable electromagnetic relays, normally open (NO), contact rating 250 V / 1.5 A AC or 30 V / 1 A DC

DIGITAL INTERFACE

Interface type	PROPERTIES	
RS-485	1x Modbus Master interface (optional) 1x Modbus Slave interface	Modbus RTU transmission mode: 8N2, 8E1, 8O1, 8N1Baud rate: 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, 115.2, 230.4 kbps/sAddress: 1...247
Ethernet	Modbus Protocol TCP/IP (Master, Slave)	Web server, FTP server, DHCP client
	10/100 Base-T	RJ45 port
USB	HOST 2.0	

EXTERNAL FEATURES

Display area	5.6" TFT color graphic display with touch panel, 640 x 480 pixels	
Overall dimensions	144 x 144 x 104 mm	Panel cut-out: 138 x 138 mm
Weight	1,5 kg	
Protection rating	Front panel IP54	Terminal side: IP20

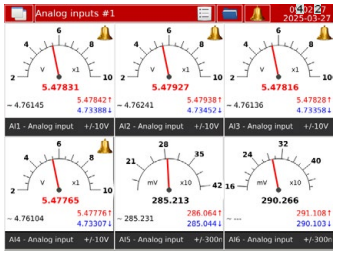
RATED OPERATING CONDITIONS

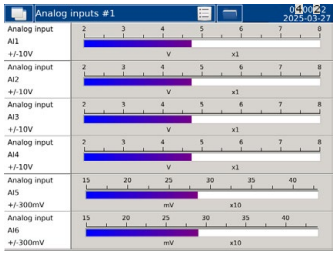
Napięcie zasilania	⊸○ 85...253 V a.c. (40...50...60 ... 400 Hz), 90...300 V d.c.	power consumption ≤ 20 VA
Supply voltage	0...23...55°C	
Relative humidity	below 75%	non-condensing

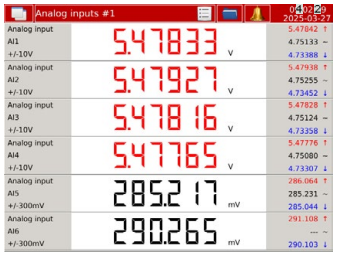
SAFETY AND COMPATIBILITY REQUIREMENTS

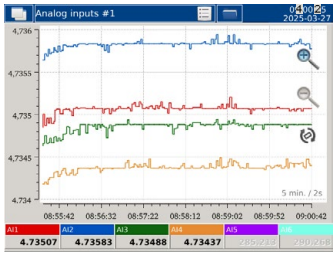
Electromagnetic compatibility	noise immunity	wg PN-EN 61000-6-2
	interference emission	wg PN-EN 61000-6-4
Pollution degree	2	wg PN-EN 61010-1
Installation category	III	wg PN-EN 61010-1
Maximum working voltage relative to earth	• for power supply circuits and relay outputs: 300 v for measurement inputs: 50 v for rs-485, ethernet, and analog output circuits: 50 v	wg PN-EN 61010-1
Altitude above sea level	< 2000 m	

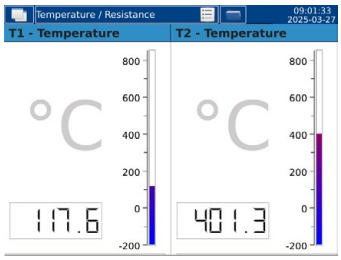
DATA VISUALIZATION

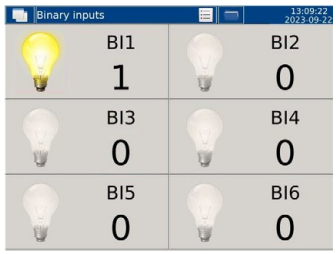












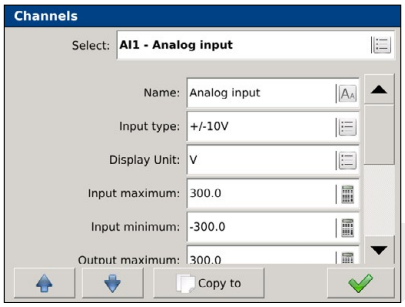
Various forms of data presentation:

- line charts
- digital indicators
- analog view
- bargraphs
- binary input status
- totalizer

32 sets of measured values selected by the user (6 parameters per page)

easy-to-use, intuitive menu; home screen bar: view selection list, file manager, alarm window, time and date

RECORDER CONFIGURATION WITH FREE KD10 SETUP SOFTWARE

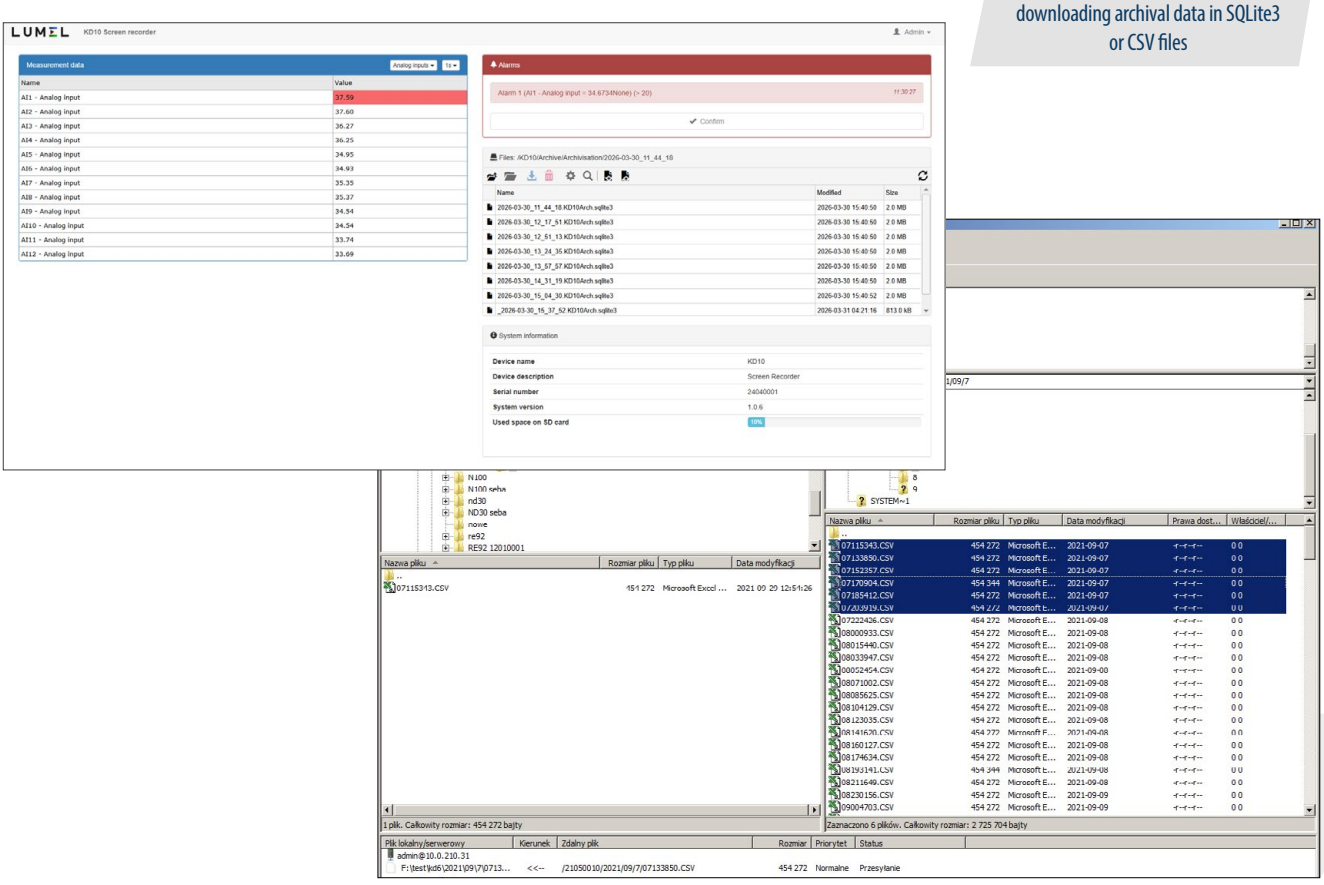


KD10 configuration via PC using the free KD10 Setup software (by copying the configuration file to an SD memory card)

Saving configuration to a file and loading to multiple identical recorders or creating a backup copy.

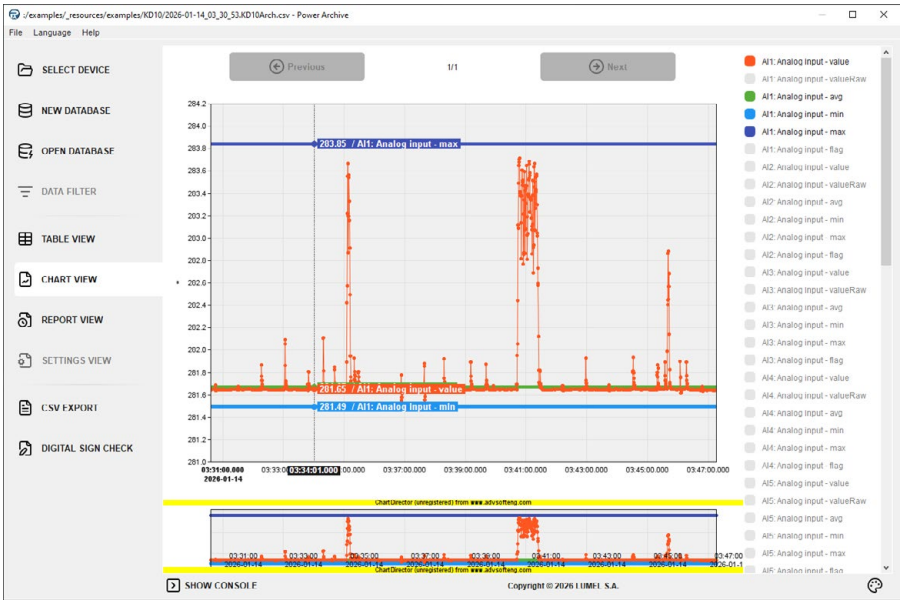
REMOTE READOUT OF PARAMETERS THROUG ETHERNET: WWW SERVER, FTP

WWW server for remote reading of measurement data; FTP server for downloading archival data in SQLite3 or CSV files



KD10 PROCESS RECORDER WITH TOUCH SCREEN

REVIEW OF ARCHIVAL DATA IN THE POWER ARCHIVE SOFTWARE



Presentation of data obtainded from the recorder as tables, graphical charts or reports

Verification of the authenticity and correctness of an archive file using digital signature

ORDERING

KD10 Screen Recorder	X	X	XX	X	X
Measurement inputs:					
6 programmable measurement inputs	1				
12 programmable measurement inputs	2				
18 programmable measurement inputs	3				
Additional inputs/outputs[1]:					
none		0			
8 relay outputs		1			
6 binary inputs, 4 relay outputs		2			
6 binary inputs, 3 analog outputs		3			
4 binary inputs, 6 analog outputs[2]		4			
Version:					
standard			00		
special*			XX		
Language:					
multilanguage polish/english				M	
other*				X	
Acceptance tests:					
No additional requirements					0
With an additional quality control certificate					1
With a calibration certificate					2
As agreed with the customer*					X

[1] option unavailable for 18 programmable measurement inputs
[2] Modbus RTU Master is unavailable

*only upon agreement with the manufacturer

ORDERING EXAMPLE - code: **KD10 3000M0** means:
KD10 - KD10 recorder
3 - 18 measurement inputs
0 - without additional inputs / outputs
00 - standard version
M - Polish-English language version
0 - without additional requirements

KD10-19 | W.042026

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