LDLOG

EN

LD Data Logger

Functional Specifications

Read carefully

Rel.: R6-03-19

Descrizione Prodotto *Product Description*	Sistema per la registrazione dati, serie LD LOG *Data recording system, LD LOG series*
Codici Identificativi Prodotto (i simboli "_" completano il codice del prodotto in base alla configurazione delle varianti) *Product Identification Codes* *(the "_" symbols complete the product code based on the configuration of the variants)*	LDLOG2 _ _ _ _ _ _ _ _ _ _ _ _ _ _ LDLOG3 _ _ _ _ _ _ _ _ _ _ _ _ _ _ LDLOG4 _ _ _ _ _ _ _ _ _ _ _ _ _ _ 108 _ _ _ _ 1

GENERAL SAFETY GUIDELINES

Danger!

In emergencies the instrument should be switched off immediately! Disconnect the power cable from the power supply!

When installing always observe local regulations!

Manufacturer is not liable for any unauthorized use or misuse of this product that may cause injury, damage to persons and / or materials.

Caution!

Instrument must be accessible at all times for both operating and servicing. Access must not be obstructed in any way!

Feeder should be interlocked with a no-flow protection device to automatically shut-off the pumps when there is no flow!

Pumps and accessories must be serviced and repaired by qualified and authorized personnel only!

Always discharge the liquid end before servicing the instrument!

Empty and rinse the liquid end before work on a pump which has been used with hazardous or unknown chemicals!

Always read chemical safety datasheet!

Always wear protective clothing when handling hazardous or unknown chemicals!

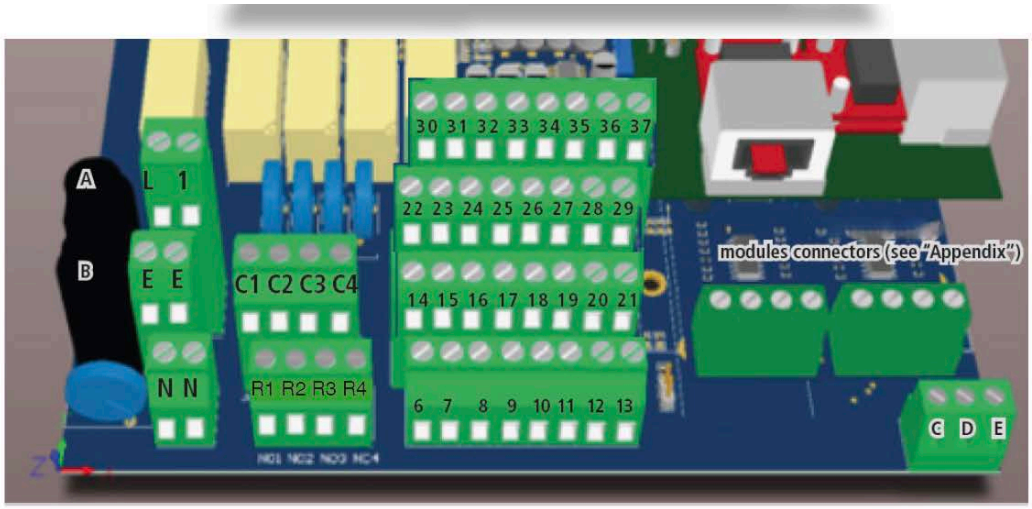
Instrument must be operated / serviced by trained technicians only!

All connection operations must be performed while the instrument is not connected to main supply!

Missed activation for Min/Max alarm and Maximum Dosing Alarm may cause hazardous overdosing!

1. Hardware specification

The Controller “LDLOG” records on a USB device (i.e.: *pendrive*) the quantities of water dosed of up to 4 dosing pumps and 4 water meters usually used in a cooling water system. The collected data are stored in a USB-pen and **secured against unauthorized access!** It uses a standard USB-PENDRIVE on which it records a CSV and EMC (encrypted) compatible file. Controller is housed into an IP64 box.



A: Main fuse (6AT)

B: instrument fuse (3.15A T)

C – D: +5V

E: GND

Main power supply: L(Live) - E(Earth) - N(Neutral) 85÷264 VAC – 50/60 Hz

C1; R1: Relay contact. If instrument is “OFF” is a N.C. contact; when instrument is powered it switches to N.O.

C3; R3: Alarm relay. (not in use)

Pump1: block n.7

Pump2: block n.8

Pump3: block n.10

Pump4: block n. 12

GND: block n. 6 – 11 – 19 – 21

28(+); 29(-): RS485 port

Pulse sender water meter 1: block n. 20

Pulse sender water meter 2: block n. 22

Pulse sender water meter 3: block n. 24
Pulse sender water meter 4: block n. 26

30, 32, 34, 36: +5V
31, 33, 35, 37: GND

SYMBOL FIXED = USB DEVICE READY
SYMBOL BLINKING = USB DEVICE WRITING

Using a terminal (e.g.: hyper terminal) LDLOG can export logging activity using “READ” command

6. Start- und Main Display

6.1 Start display

Abb. 6.1

After 3-5 seconds go on to the first main display

6.2 Main display

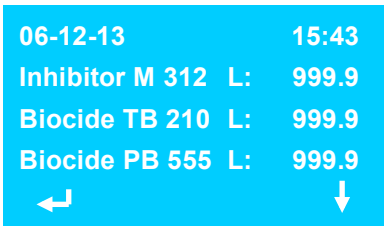


Abb. 6.2.1

1. Main display:

Actual dosing quantities.
“L” = quantity in liter

Push Encoder = Open passcode display for main menu

Turn Encoder = Scroll in the main display

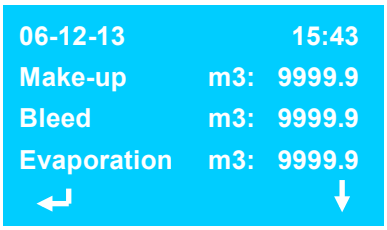


Abb. 6.2.2

2. Main display:

Actual water quantities.
“m3” = Cubic meter

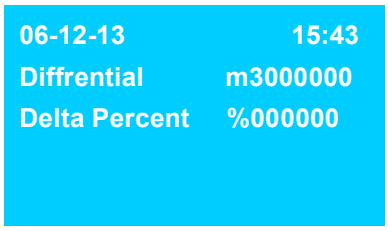


Abb. 6.2.3

Differential between WMx and WMx (water meter)
Delta Percent (diference in % between two water meter)

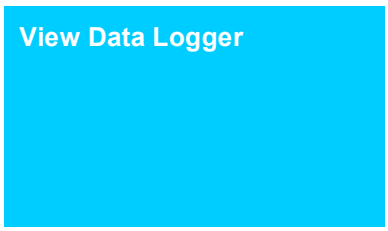


Abb. 6.2.3

3. Main display:

Opening of data logger

Push Encoder = Open passcode - display for data logger

6.3 Main display Data Logger

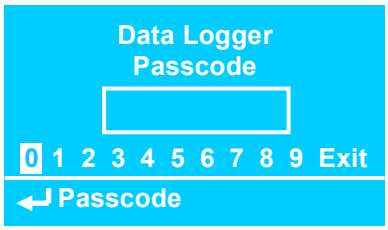


Abb. 6.3.2

Open with **data logger passcode**

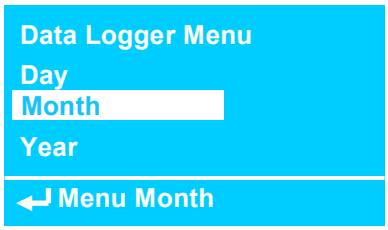


Abb. 6.3.3

Turn Encoder = Scroll in the menu

Push Encoder = Open selected log-section

1. Data Logger display:

View of the dosing quantities depending to the selected log-section.

Date:		05-12-13
Inhibitor M 312	L:	12.3
Biocide TB 210	L:	8.7
Biocide PB 555	L:	2.0

Month:		12-13
Inhibitor M 312	L:	456.3
Biocide TB 210	L:	242.7
Biocide PB 555	L:	60.0

Year:		2013
Inhibitor M 312	L:	7537.3
Biocide TB 210	L:	2887.7
Biocide PB 555	L:	720.0

Abb. 6.3.4

2. Data Logger display:

View of the water quantities depending to the selected log-section.

Date:		05-12-13
Make-up	m3:	195.1
Bleed	m3:	65.4
Evaporation	m3:	129.7

Month:		12-13
Make-up	m3:	5850.2
Bleed	m3:	1950.7
Evaporation	m3:	3891.6

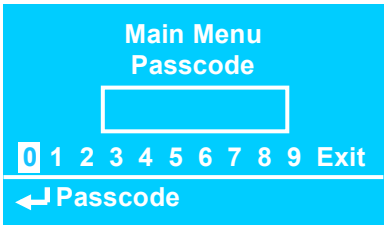
Year:		2013
Make-up	m3:	70123.4
Bleed	m3:	23338.7
Evaporation	m3:	46692.1

Abb. 6.3.5

Turn Encoder = Scroll in log file

Push Encoder = Exit log file

6.4 Main menu



Ab. 6.4.1

Open with **main menu passcode**

Turn Encoder = Scroll in the menu

Push Encoder = Open selected log-section

Main Menu

Pump 1
Pump 2
Pump 3

Pump x: edit name, scale and enable or disable it

Water Meter 1

Water Meter 2

Water Meter 3

Water Meter x: name and scale (Pulses per liter or Liter per pulses) and enable or disable it

Delta

Reset Totalizer

Reset Log

Delta: edit name and activate differential between two water meters

Reset Totalizer: reset total counted values

Reset Log: delete all log values

Name

Data Logger

Date / Time

Name: edit name of controller

Data Logger: set data sampling interval

Passcodes

Exit

Date/Time: set controller date and time

Passcodes: passcodes management

Ab. 6.4.2

7.1 Menus Pump 1, 2, 3…

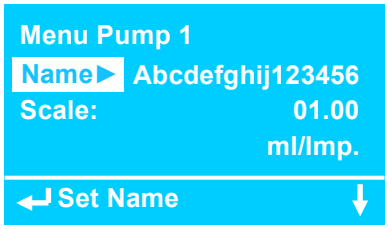


Abb. 7.1.1

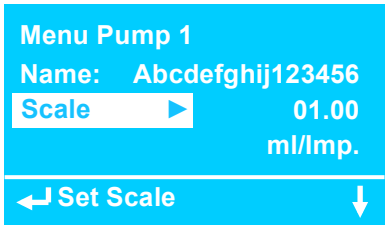


Abb. 7.1.2

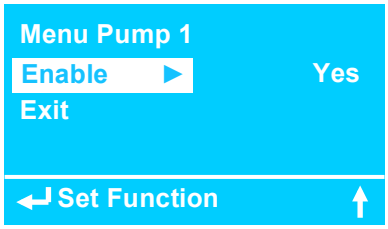


Abb. 7.1.3

Name:

Description of the digital inputs of the dosing pumps 1 – 3.
Alphanumeric input with capitals, small letters and special characters.
Size: 16 characters.

Default: „Pump 1“, “Pump 2“ and „Pump 3“.

Notice:

In the main menu the names still remain as „Pump 1“, “Pump 2“ and „Pump 3“.

Scale:

Input of quantity in milliliter per pulse.

Range: 00.01 – 99.00 ml/Imp.

Default: 1.00 ml/Imp.

Enable:

Enabling or disabling of the display of the selected pump in the first main display and in the first data logger display.

Selection:

Yes = Enabled

No = Disabled

Default: „Yes“

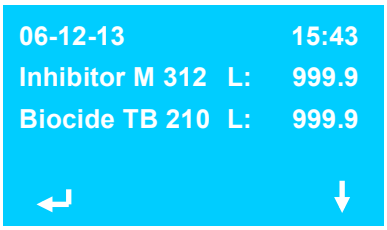


Abb. 7.1.4

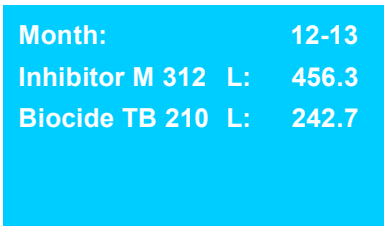


Abb. 7.1.5

Example for 1. Main Display and Data Logger View Display:

- The first dosing pump input is named “Inhibitor M 312”.
- The second dosing pump input is named “Biocide TB 210”
- The third dosing pump input is disabled.
  Therefore nothing is shown on the display

7.2 Menus Water Meter 1, 2, 3…

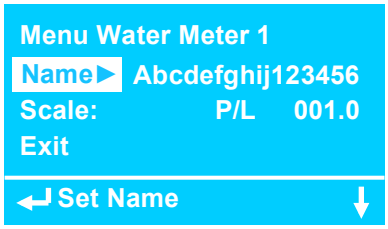


Abb. 7.2.1

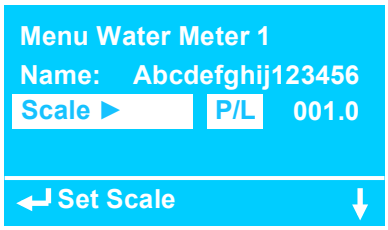


Abb. 7.2.2

Name:

Description of the digital inputs of the water meters 1 – 3.
Alphanumeric input with capitals, small letters and special characters.
Size: 16 characters.

Default: „Water Meter 1“, „Water Meter 2“ and „ Water Meter 3“

Notice:

In the main menu the names still remain as „Water Meter 1“, „Water Meter 2“ and „ Water Meter 3“

Scaling:

Selection of the dimension:

P/L = Pulse per Liter

L/P = Liter per Pulse

Input of quantity in pulse per liter or liter per pulse.

Range: 000.1 – 999.9

Default: „P/L“ and 001.0

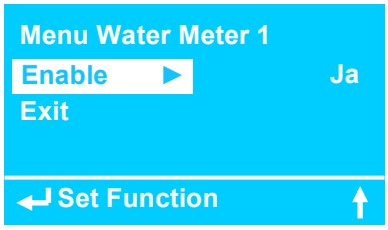


Abb. 7.2.3

Enable:

Enabling or disabling of the display of the selected pump in the first main display and in the first data logger display.

Selection:

Yes = Enabled

No = Disabled

Default: „Yes“

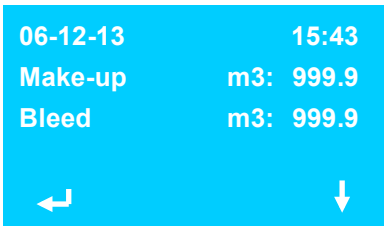


Abb. 7.2.4

Abb. 7.2.5

Example for 2. Main Display and Data Logger View Display:

- The first water meter input is named “Make-up”.
- The second water meter input is named “Bleed”
- The third water meter input is disabled.
  Therefore nothing is shown on the display (see chapter 7.2.1).

7.2.1 Menu Water Meter 3

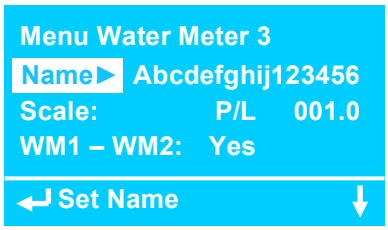


Abb. 7.2.6

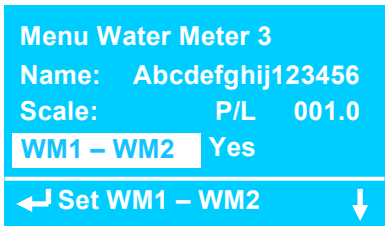


Abb. 7.2.7

WZ1 – WZ2:

The menu for the third water meter has an additional feature.
The function of the counter can be selected as a sum counter or differential counter for the calculation of the amount of evaporation of a cooling tower.

Selection:

Yes = Differential counter

No = Sum Counter

Default: „Yes“

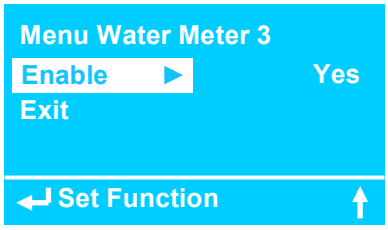


Abb. 7.2.8

Enable:

Enabling or disabling of the display of the selected water meter in the second main display and in the second data logger display.

Selection:

Yes = Enabled

No = Disabled

Default: „Yes“

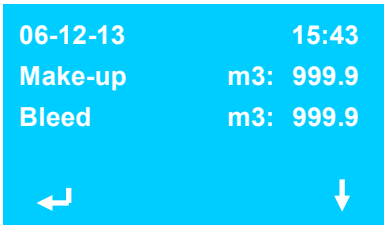


Abb. 7.2.9

Example for 2. Main Display:

- The first water meter input is named “Make-up”.
- The second water meter input is named “Bleed”
- The third water meter input is disabled.
  Therefore nothing is shown on the display

7.3 Menu Data Logger

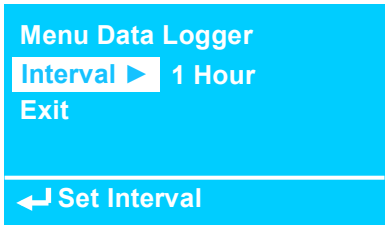


Abb. 7.3

Interval:

Selection of the logging interval

- 15 minutes (log at xx:00, xx:15, xx:30 and xx:45)
- 1 hour (log every full hour)
- 6 hours (log at 6, 12, 18 or 24 o´clock)
- 12 Stunden (1. Datensatz um 12 oder 24 Uhr*)
- 1 day (log at 23:59:59)

Default: „1 hour“

Log files on the USB-Pen:

Table 1: Controller identification and names of the inputs

SN (serial number)	13136330100000021	17 char
P1	Abcdefghij123456	14 char
P2	Abcdefghij123456	14 char
P3	Abcdefghij123456	14 char
WM1	Abcdefghij123456	14 char
WM2	Abcdefghij123456	14 char
WM3	Abcdefghij123456	14 char
ID Name	Abcdefghijklmnopqr1234567890	16 char

Table 2: Calendar day (example with 15 minutes interval)

Date	Time	P1	P2	P3	WM 1	WM2	WM3
13/12/06	06:00	8.2	0.0	0.0	81.7	3.2	78.5
13/12/06	06:15	8.4	0.4	0.0	82.1	3.2	78.9
13/12/06	…..	9.9	14.3	0.0	101.2	3.2	98
13/12/06	08:00	12.1	14.3	0.0	120.9	0.7	120.2
13/12/06	……	13.2	14.3	0.0	123.8	5.8	118.0
13/12/06	08:30	14.9	14.3	0.0	135.1	5.8	129.3
13/12/06	……	21.3	14.3	0.0	210.9	70.3	140.6
13/12/06	14:00	22.2	14.3	0.4	212.2	71.2	141.0
13/12/06	…	22.9	14.3	12.0	214.3	71.2	143.1
13/12/06	16:45	26.2	14.3	12.0	258.7	72.6	186.1

Table 3: Calendar Month

Date	P1	P2	P3	WM 1	WM2	WM3
13/12	951.7	114.4	96.0	10267	3115	7152
13/11	843.1	114.4	96.0	8022	2674	5348
13/10	905.2	114.4	96.0	8866	2955	5911
…						

Table 4: Calendar Year

Date	P1	P2	P3	WM 1	WM2	WM3
2013	10950	5183	4380	109567	36502	73065
2012	10220	5183	4380	97455	32485	64970
2010	10585	5183	4380	104390	34796	69594
…						

7.4 Menu Date/Time

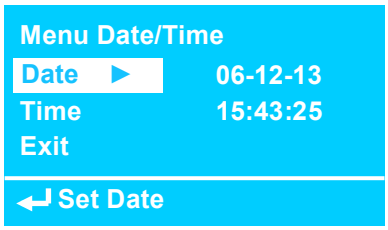


Abb. 7.4

7.5 Menu Passcodes

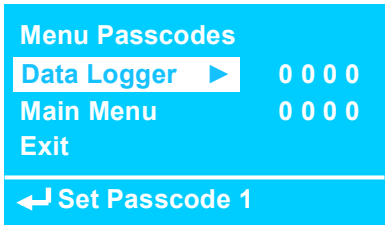


Abb. 7.5

Data Logger:

Entrance to the data logger view displays.

Default: „0 0 0 0“

Main menu:

Entrance to the main menu

Default: „0 0 0 0“

Caution!

A universal service passcode must be implemented for the case that the user has lost the passcode for the main menu!

Cillit Universal Passcode: ._____.

7.6 Menu RS 485

For remote control with a BT USB.

RS 485 Menu

ID Check
ID Name

↵ ID Check

RS 485 Menu

01 Check

↵ ID Check

RS 485 Menu
ID Check
ID Name
Exit

↵ Set ID Name

RS 485 Menu
Kuehlturm 4
Gebaeude IV/5

↵ Set ID Name

Notice:

If you are downloading data from rs485 please remove USB device prior to start

7.8 Menu Language

Menu Language
Selection ▶ German
Exit

↵ Set Language ↑

Abb. 7.8

Selection:

German – Deutsch
English – Englisch
Default: „German“

PRECAUTIONS RELATING TO DIRECTIVES, REGULATIONS AND STANDARDS

§ CE/EU and UKCA marking

We guarantee that this product meets the essential requirements of the applicable Directives and Regulations based on the following specifications. Please carefully consider the following specifications for use of the product in European Union member countries and the United Kingdom.

• CE/EU harmonized directives and standards

Directives

DIRECTIVE 2014/35/EU
DIRECTIVE 2014/30/EU
DIRECTIVE 2011/65/EU
DELEGATED DIRECTIVE (EU) 2015/863

Harmonized standards

EN ISO 12100
EN IEC 61326-1
CEI EN 61010-1
EN IEC 63000

• UKCA harmonized regulations and standards

Regulations

2008 2016 No. 1091
2016 No. 1101
2012 No. 3032

Harmonized standards

BS EN ISO 12100
BS EN IEC 61326-1
BS EN 61010-1
BS EN IEC 63000

Disposal of end-of-life equipment by users

This symbol warns you not to dispose of the product with normal waste. Respect human health and the environment by giving the discarded equipment to a designated collection center for the recycling of electronic and electrical equipment. For more information visit the online site.

When dismantling a pump please separate material types and send them according to local recycling disposal requirements. We appreciate your efforts in supporting your local Recycle Environmental Program. Working together we'll form an active union to assure the world's invaluable resources are conserved.