

LDLOG



EN

LD Data Logger



Read carefully

Functional Specifications

Rel.: R5-09-17



NORME CE
EC RULES(STANDARD EC)
NORMAS DE LA CE

Direttiva Bassa Tensione
Low Voltage Directive
Directiva de baja tensión } 2014/35/UE

Direttiva EMC Compatibilità Elettromagnetica
EMC electromagnetic compatibility directive
EMC directiva de compatibilidad electromagnética } 2014/30/UE



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!

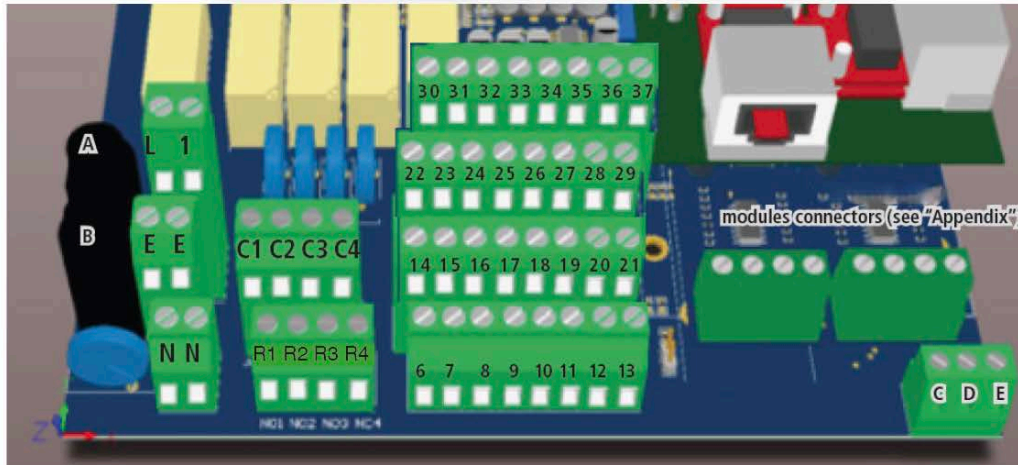
Instrument must be operated / serviced by trained technicians only!

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 3 dosing pumps and 3 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, 32, 35: +5V

31, 34, 36, 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

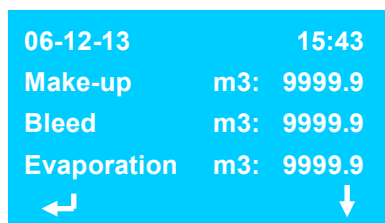


Abb. 6.2.2

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)

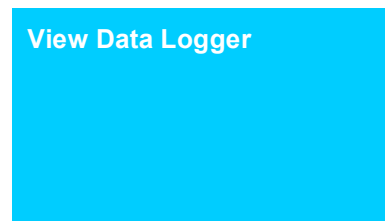


Abb. 6.2.3

3. Main display:

Opening of data logger



Push Encoder = Open passcode - display for data logger

6.3 Main display Data Logger

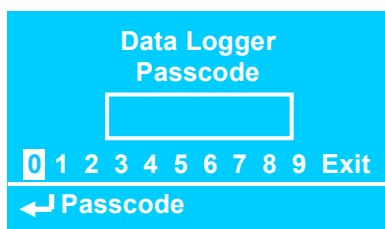


Abb. 6.3.2

Open with **data logger passcode**

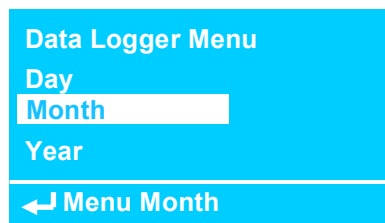


Abb. 6.3.3



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

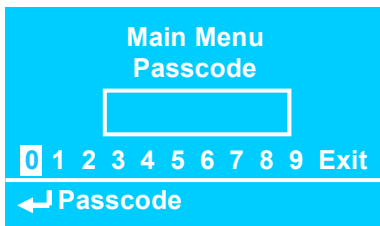


Turn Encoder = Scroll in log file



Push Encoder = Exit log file

6.4 Main menu



Ab. 6.4.1

Open with **main menu passcode**



Turn Encoder = Scroll in the menu



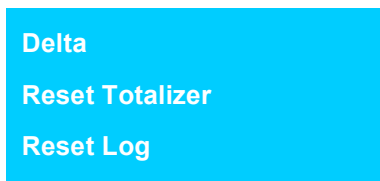
Push Encoder = Open selected log-section



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



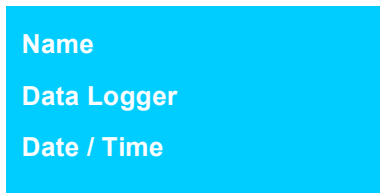
Water Meter x: name and scale (Pulses per liter or Liter per pulses) and enable or disable it



Delta: edit name and activate differential between two water meters

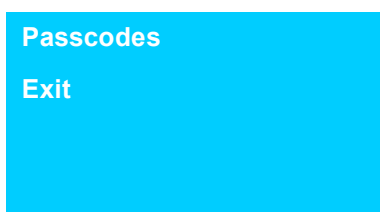
Reset Totalizer: reset total counted values

Reset Log: delete all log values



Name: edit name of controller

Data Logger: set data sampling interval



Date/Time: set controller date and time

Passcodes: passcodes management

Ab. 6.4.2

7.1 Menus Pump 1, 2, 3...

| | |
|--------------|------------------|
| Menu Pump 1 | |
| Name ▶ | Abcdefghij123456 |
| Scale: | 01.00 ml/Imp. |
| ← Set Name ↓ | |

Abb. 7.1.1

| | |
|---------------|------------------|
| Menu Pump 1 | |
| Name: | Abcdefghij123456 |
| Scale ▶ | 01.00 ml/Imp. |
| ← Set Scale ↓ | |

Abb. 7.1.2

| | |
|------------------|-----|
| Menu Pump 1 | |
| Enable ▶ | Yes |
| Exit | |
| ← Set Function ↑ | |

Abb. 7.1.3

| | |
|--------------------|-------|
| 06-12-13 | 15:43 |
| Inhibitor M 312 L: | 999.9 |
| Biocide TB 210 L: | 999.9 |
| ← ↓ | |

Abb. 7.1.4

| | |
|--------------------|-------|
| Month: | 12-13 |
| Inhibitor M 312 L: | 456.3 |
| Biocide TB 210 L: | 242.7 |

Abb. 7.1.5

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“

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...

| | |
|--------------------|------------------|
| Menu Water Meter 1 | |
| Name ▶ | Abcdefghij123456 |
| Scale: | P/L 001.0 |
| Exit | |
| ← Set Name ↓ | |

Abb. 7.2.1

| | |
|--------------------|------------------|
| Menu Water Meter 1 | |
| Name: | Abcdefghij123456 |
| Scale ▶ | P/L 001.0 |
| ← Set Scale ↓ | |

Abb. 7.2.2

| | |
|--------------------|----|
| Menu Water Meter 1 | |
| Enable ▶ | Ja |
| Exit | |
| ← Set Function ↑ | |

Abb. 7.2.3

| | |
|----------|-----------|
| 06-12-13 | 15:43 |
| Make-up | m3: 999.9 |
| Bleed | m3: 999.9 |
| ← ↓ | |

Abb. 7.2.4

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

Abb. 7.2.5

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

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“

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

```

Menu Water Meter 3
Name▶ Abcdefghij123456
Scale: P/L 001.0
WM1 – WM2: Yes
← Set Name ↓
    
```

Abb. 7.2.6

```

Menu Water Meter 3
Name: Abcdefghij123456
Scale: P/L 001.0
WM1 – WM2 Yes
← Set WM1 – WM2 ↓
    
```

Abb. 7.2.7

```

Menu Water Meter 3
Enable ▶ Yes
Exit
← Set Function ↑
    
```

Abb. 7.2.8

```

06-12-13 15:43
Make-up m3: 999.9
Bleed m3: 999.9
← ↓
    
```

Abb. 7.2.9

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“

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“

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

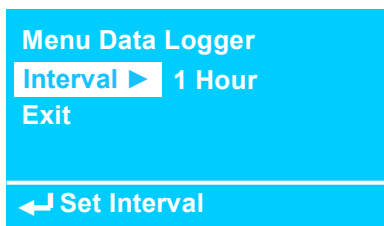


Abb. 7.3

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

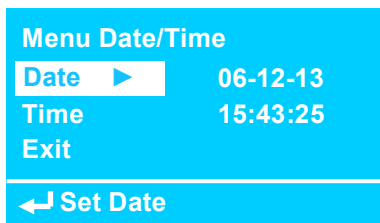


Abb. 7.4

7.5 Menu Passcodes

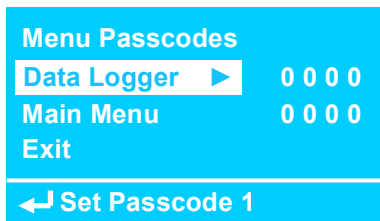


Abb. 7.5

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“



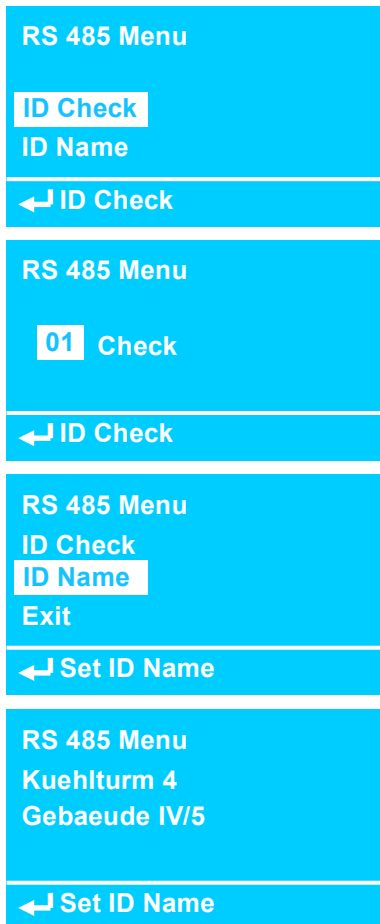
Caution!

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.



Notice:

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

7.8 Menu Language

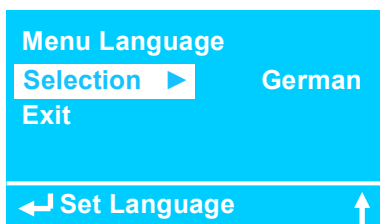


Abb. 7.8

Selection:

German – Deutsch

English – Englisch

Default: „German“

LDLOG



When dismantling this instrument 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.