

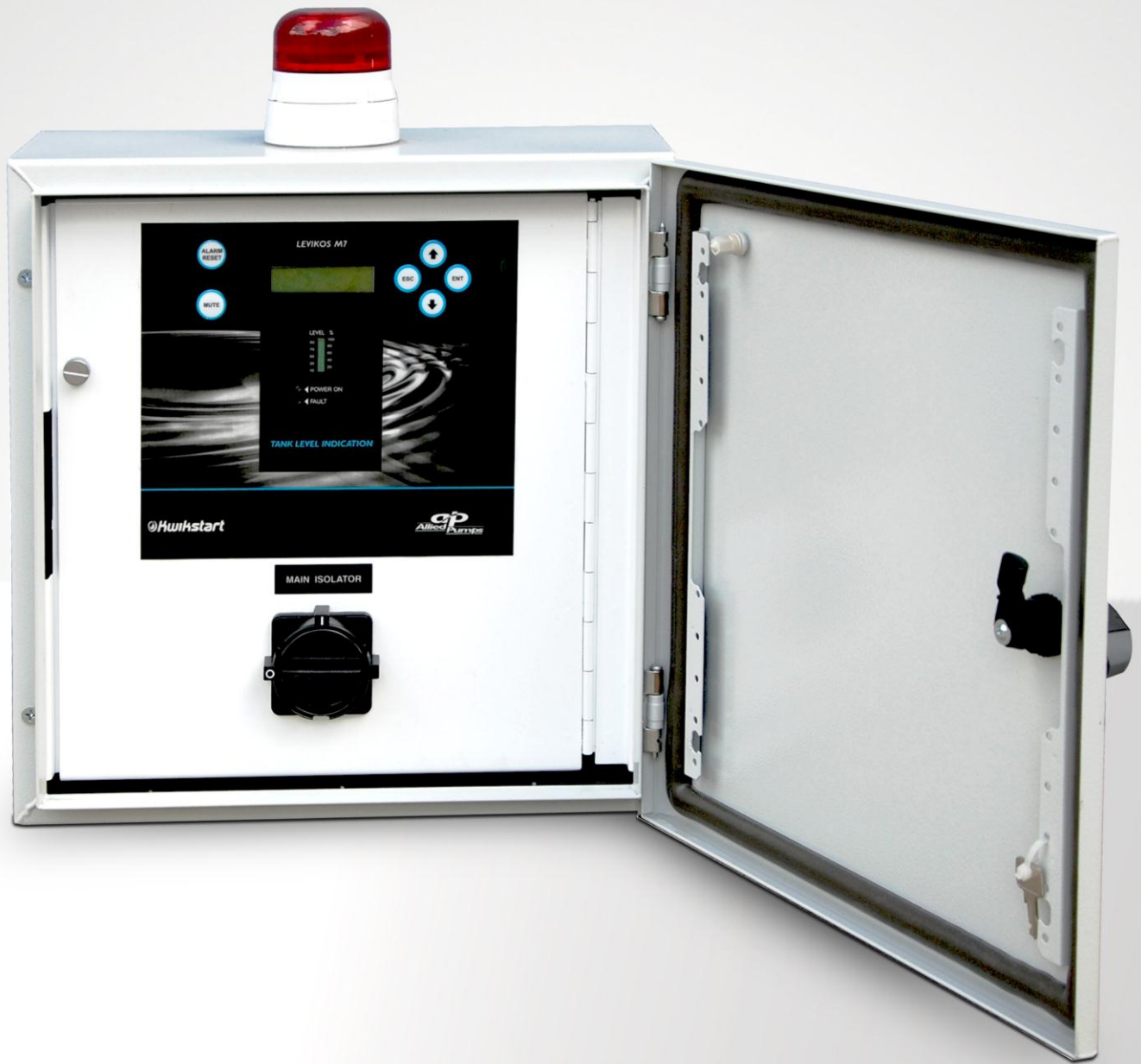
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# Levikos - Level Control System

Installation, Operation & Maintenance Manual

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## **Appendix A: Warranty and Service Information**

# LIQUID LEVEL

## 1. LIQUID LEVEL SOURCE

This section applies only to the gathering of information regarding the liquid level and not the use or display of the information.

The source of the level information comes from one of three sources

Multipoint	Up to 10 conductivity sensors or Float Switches. Advanced setup allows the sensitivity of the inputs to be selected. LEVEL1 is lower in the tank than LEVEL10 whether tank empty or tank fill.
Analogue	A continuously variable signal proportional to the depth. Advanced Setup allows the Offset and Scale to be set. The depth in mm is  $\text{Depth} = \text{Input} \times \text{Scale} + \text{Offset}$ Where Depth is depth of liquid from bottom of tank. Input is the input level scaled to 1 (ie 0 at 0V or 4mA and 1 at 10V or 20mA). Scale and Offset are Advanced Setup parameters.

## 2. LIQUID LEVEL DISPLAY

The unit has a bar graph consisting of 10 LEDs. These display the liquid level in the tank.

### Multipoint

In multipoint mode each LED corresponds to a probe input and the LED is on if the probe is wet. Notionally each LED corresponds to 10% of tank.

It is possible that one or more switches or conductivity probes may fail due to fat on electrodes or debris etc. The unit has the option to generate an alarm when this occurs but will continue operation according to the scheme described below.

In both Multipoint and Individual mode the tank level is mostly taken to be that of the highest sensor that that it does not have a dry sensor immediately below. The exception is in the case of a high level being present. If a Level sensor that corresponds to a High level is wet and there is a wet sensor below it then the level will be assumed to be no less than the High level. For this enhancement to be active in Multipoint mode, High Level must be selected in digital I/O.

### Analogue

In Analogue mode the Leds come on at the points shown in the table.

Depth	Number of LEDs /LEVEL
up to 5%	none
5 to 15%	1
15 to 25%	2
25 to 35%	3
35 to 45%	4
45 to 55%	5
55 to 65%	6
65 to 75%	7
75 to 85%	8
85 to 95%	9
95% and above	10

# RELAY OPERATION

There are 6 Relays on the main D1237 Levikos system plus one AUXILIARY open Collector output.

Relay Number	Ratings	D1237 Ref
1	240Vac, 2Amps	K1 – Common Alarm
2	240Vac, 2Amps	K2 – Pump1
3	240Vac, 2Amps	K3 – Pump2
4	50Vdc / ac, 2Amps	K4 – Critical
5	50Vdc / ac, 2Amps	K5 – Non-Critical
6	Open Collector 12Vdc, 100mA	Normally used for a Buzzer
7	50Vdc / ac, 2Amps	K6 – Aux Out

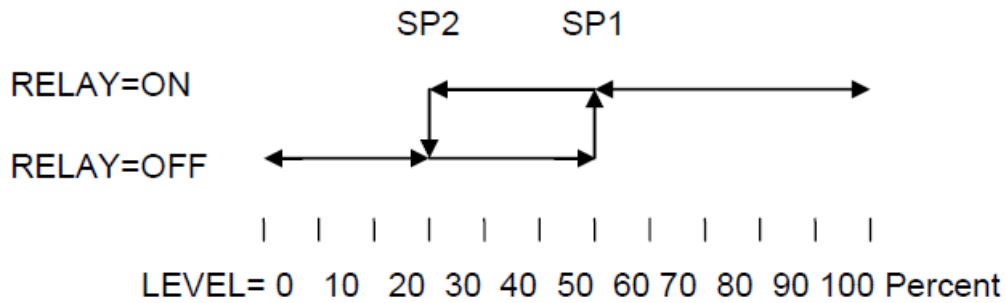
Each relay has 5 Parameters which control the operation of each relay separately. These are shown in table below:-

RELAY PARAMETER	DESCRIPTION
1	Relay Parameter (Bitmapped) B0 –RELAY_START_STATE B1–B3 Relay Function: 0: Level 1: Critical Alarm 2: Non-Critical Alarm 3: Power 4: Audible/Buzzer
2	LEVEL_SETPOINT_1 (5 to 95) Percentage 0=Relay is disabled (OFF)
3	LEVEL_SETPOINT_2 (5 to 95) Percentage
4	DELAY_SETPOINT_1(1 to 3600sec) 0=disabled
5	DELAY_SETPOINT_2 (1 to 3600sec) 0=disabled

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3	LEVEL_SETPOINT_2 (5 to 95) Percentage
4	DELAY_SETPOINT_1(1 to 3600sec) 0=disabled
5	DELAY_SETPOINT_2 (1 to 3600sec) 0=disabled

**I. RELAY FUNCTION=0 / HYSTERESIS MODE A (SETPOINT 1 > SETPOINT 2)**



Eg The diagram above shows the relay operation against the level 0 to 10 for Parameter B0= RELAY\_START\_STATE (=OFF)

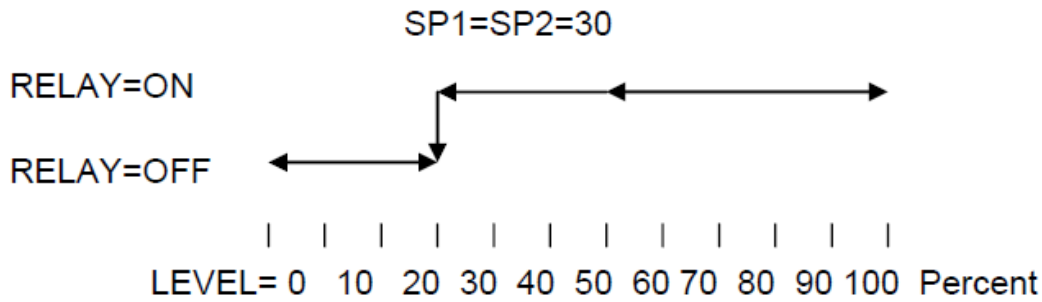
NOTE - LEVEL\_SETPOINT 1 must be > LEVEL\_SETPOINT 2

LEVEL 0 is lowest level to LEVEL 10 highest

DELAY\_SETPOINT\_1 and DELAY\_SETPOINT\_2 allow a delay for the relay to operate after the level exceeds the setpoint triggers LEVEL\_SETPOINT\_1 and LEVEL\_SETPOINT\_2.

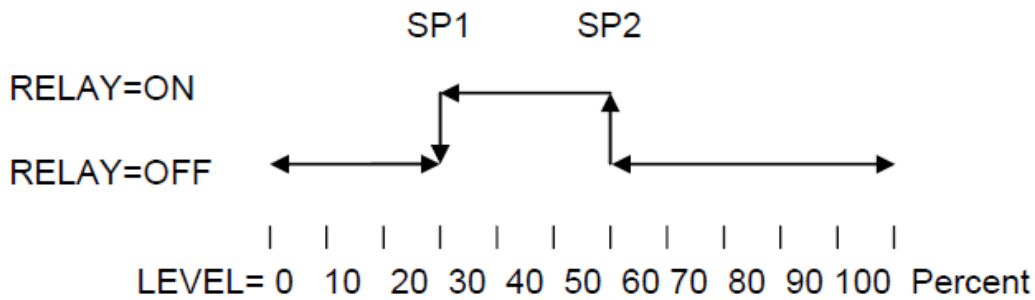
These timers are reset when the level is between the LEVEL\_SETPOINT\_1 and LEVEL\_SETPOINT\_2.

**2. RELAY FUNCTION=0 / (SETPOINT 1 = SETPOINT 2)**



DELAY\_SETPOINT\_1 allow a delay for the relay to operate after the level exceeds the setpoint triggers LEVEL\_SETPOINT\_1  
 DELAY\_SETPOINT\_2 allow a delay for the relay to operate after the level falls below the setpoint triggers LEVEL\_SETPOINT\_2

**3. RELAY FUNCTION=0 / NORMAL MODE C (SETPOINT 1 < SETPOINT 2)**



DELAY\_SETPOINT\_1 and DELAY\_SETPOINT\_2 allow a delay for the relay to operate after the level exceeds the setpoint triggers LEVEL\_SETPOINT\_1 and LEVEL\_SETPOINT\_2.  
 These timers are reset when the level is between the LEVEL\_SETPOINT\_1 and LEVEL\_SETPOINT\_2.

**4. RELAY FUNCTION=1,2,3,4 CRITICAL, NON CRITICAL , POWER RELAY, BUZZER**  
 These options can be set to override the Relay Level Output and the relay can then operate as an alarm or Buzzer output.

The delay timers also apply where  
 Delay SP1 is Relay ON delay (seconds)  
 Delay SP2 is Relay OFF delay (seconds).



# ALARMS

## 1. ALARM SOURCES

The Alarm Sources are

Alarm Name	Cause
Sensor 1	This is same as the Logikos 'SEAL 1' conductivity sensor input
Sensor 2	This is same as the Logikos 'SEAL 2' conductivity sensor input
Level Sense	The unit has an invalid state on the level sensing inputs (such as a wet point above a dry point and it has existed for over a minute)
Low Level	If the low level point is dry this alarm is generated (must be enabled under Digital I/O section to become active)
High Level	If the high level point is wet this alarm is generated (must be enabled under Digital I/O section to become active)
Power	Loss of one or more phases
External Fault	External (AUX) input is active. – The External Fault type descriptor can be set in the Config Menu

## 2. ALARM TYPES

Alarm can be of three types. These are

Non Critical	Shows on display, fault LED and Non Critical Fault relay is activated.
Local	Shows on display, fault LED, Non Critical Fault relay is activated, Alarm relay and sounder are activated.
Critical & Local	Shows on display, fault LED, Critical Fault relay is activated, Alarm relay and sounder are activated.

## 3. RESETTING AND MUTING ALARMS

Pressing the Mute button will cause the external sounder to be deactivated until a new alarm occurs. Pressing the Alarm Reset button will do the same as pressing the Mute button plus also cause all new alarms that are no longer present to be moved to previous alarms and then cleared. Only those alarms that are no longer present will be cleared. For this reason it is best to use the Mute button to silence the alarm response. Alarm Reset also clears any motor faults.

There is an option to auto mute alarms after a certain period of time. This time is in advanced set up. If set to 0 there is not auto mute.

## 4. AUTO RESETTING ALARMS

### The method of auto resetting alarms

Some alarms are cleared when a satisfactory recovery state has been identified. When cleared they are moved from “new” to “previous” and the sounder and alarm outputs are deactivated. Auto resetting alarms will only auto reset if they will clear all of the currently active alarms. So for example if a Level sensing alarm occurred that led to a high level fault and the Level sensing alarm rectified itself the Level Sensing alarm is not cleared until the high level alarm is also rectified (pumping down to stop).

### The individual auto resetting alarms

In tank empty mode if the stop point is wet any low level alarm will be cleared automatically.

In tank fill mode if the stop point is dry any high level alarm will be cleared automatically.

# PLC OUTPUT

The unit can be set to transmit a serial data stream giving the liquid level. See PLC\_OUT.PDF.  
The output is produced every 3 minutes if enabled in advanced programming.

# MODBUS INTERFACE

The unit provides a basic Modbus interface.

The following features are available.

## DATA CONNECTION

Asynchronous

CMOS Logic Level (0 – 5V) (See \*\*Note below)

Speed - 9600 Bps Fixed

Data Bits - 8

Parity – Even

Stop Bits – 1

## MODBUS ADDRESS

Default Address = 5

Configured via front Panel Menus

Note – The Modbus feature is disabled by default and must be enabled via the front panel menus

## MODBUS COMMANDS:

3 - Read Holding Registers

6 – Write Single Register

8 – Diagnostics Command

16 – Write Multiple Registers

## 1. NOTES ON SERIAL PORT INTERFACING

This interface is compatible with many RS232 Driver ICs, but is operating with a reduced noise margin and reduced output drive impedance.

As a general rule cable distance should be limited to <2metres and cables kept at least 100mm distance from other high voltage or high current cables.

Shielding should be considered if these limits are compromised.

Connected devices should have an isolated signal reference otherwise grounding noise could cause problems.

The interface has limited protection against high voltage or current surge.

This interface should be pre-tested and verified in the actual working environment

## 2. MODBUS REGISTER DESCRIPTIONS

Notes for reading these tables:-

Generally the registers are 16bit integer number representation, with the following exceptions.

(1) Split as 2x 8 bit numbers – shown as Byte0 & Byte1

(2) Combined – where 2x 16 bit registers are combined to form a 32 bit number

These are shown as “Register Name- A” and “Register Name – B”

(3) Bitmapped – where the bit locations are shown as B0, B1, and B2 etc.

The R/W field shows if the register is Read Only (R), or Read & Write (R/W)

## 2.1 SYSTEM PARAMETERS

REGISTER NUMBER	DESCRIPTION	DEFAULT
0	User Pin	0
1	Modbus Address	6
2	ID Low	0
3	ID High	2
4	Level Source	1
5	Level Sensitivity 0=10K 1=20K 2=100K	2
6	Level Offset (mm for Analog Input)	0
7	Level Scale (mm for Full Scale)	1500
8	Level Maximum Depth (mm)	2000
9	Auto Mute Delay(Seconds, 0=Disabled)	900
10	Main Control Flags (Bitmapped) B0- Flash Alarm B1- PLC Enabled B2-Modbus Enabled B3,4,5- External Fault Type B6- Log Changed Alarms B7-Log Changed Level	0 0 1 1 0 0
11	Digital Active Flags (Bitmapped) B0 –Sense1 (Seal1) B1 –Sense2 (Seal2) B3 – High level B4 - Low Level B5 - Phase	0 0 1 0 0
12	Alarm Critical Flags B0 – Conductivity Sense1 (Seal1) B1 – Conductivity Sense2 (Seal2) B2 –Sensor Fault B3 – Low Level B4 – Hi Level B5 - Phase B6 – Aux Input	0 0 0 0 1 0 0
13	Alarm Critical Flags B0 – Conductivity Sense1 (Seal1) B1 – Conductivity Sense2 (Seal2) B2 –Sensor Fault B3 – Low Level B4 – Hi Level B5 - Phase B6 – Aux Input	0 0 0 0 1 0 0
14	High Level Alarm Delay (1 to 3600sec) 0=disabled	0
15	Spare	0
16	High Level Setpoint	95
17	Low Level Setpoint	5
18	Spare	0
19	Spare	0
20	Spare	0
21	Log Period	2

## 2.2 RELAY PARAMETERS

Each RELAY has 5 parameters values as shown in the table below.

This is repeated for each of the relays Relays 1 to 16

The table also shows the Modbus Register Numbers 22 to 102

RELAY NUM / MODBUS REGISTER																DESCRIPTION
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
22	27	32	37	42	47	52	57	62	67	72	77	82	87	92	97	Relay Parameter (Bitmapped) B0 –RELAY_START_STATE B1–B3 Relay Function: 0: Level 1: Critical Alarm 2: Non-Critical Alarm 3: Power 4: Audible/Buzzer
23	28	33	38	43	48	53	58	63	68	73	78	83	88	93	98	LEVEL_SETPOINT_1 (5 to 95) Percentage 0=Relay is disabled (OFF)
24	29	34	38	44	49	54	59	64	69	74	79	84	89	94	99	LEVEL_SETPOINT_2 (5 to 95) Percentage
25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	DELAY_SETPOINT_1(1 to 3600sec) 0=disabled
26	31	36	41	46	51	56	61	66	71	76	81	86	91	96	101	DELAY_SETPOINT_2 (1 to 3600sec) 0=disabled

## 2.3 SYSTEM STATUS

REGISTER NUMBER	DESCRIPTION	R/W
200	Software Version	R
201	Level Flags –A B0 – Level 1 Wet B1 – Level 2 Wet B2 – Level 3 Wet B3 – Level 4 Wet B4 – Level 5 Wet B5 – Level 6 Wet B6 – Level 7 Wet B7 – Level 8 Wet B8 – Level 9 Wet B9 – Level Sensor Fault	R
202	Level - Current Percentage	R
203	Level – Analog Depth (mm)	R
204	Level – Analog Raw	R
205	Alarms Present – A (Refer bitmapped fields Register 12)	R
206	Log Index (0 to 199)	
207	u14_normalised.byte (Diagnostics)	R
208	u14_data.byte (Diagnostics)	R
209	u19_data.byte (Relays 0 to 6)	R
210	Modbus_diag1 (Diagnostics)	R
211	Modbus_diag2 (Diagnostics)	R

## 2.4 LOGGING

Each Logging Record Generates 2 Registers

(A) 2 Bytes - Time index Stamp –Minutes from Last Powerup

Value 0 to 65535

(B) 2 Bytes DATA:

Byte 0 = Level 0 to 100 Percent

Byte 1 = Bitmapped to Current Alarms Flag

B0 = Sensor1 (Seal1)

B1 = Sensor 2 (Seal2)

B2=Level Sensor Fault

B3= Low Level

B4= High Level

B5= Power (Phase) Alarm

B6=Aux Input

B7= Power Up Reset

There are 200 records stored as follows:-

Registers 300 to 499 for Time Index (Minutes)

Registers 500 to 699 for Data Bytes

REGISTER NUMBER	DESCRIPTION	R/W
300	Record 1 Time Index	R
301	Record 2 Time Index	R
***	****	R
499	Record 200 Time Index	R
500	Record 1 Data (Byte1+Byte2)	R
501	Record 2 Data (Byte1+Byte2)	R
***	****	R
699	Record 200 Data (Byte1+Byte2)	R

Records are saved at intervals set by the value set in Register 21 (minute)

Value = 0 disables this logging

Records can also be generated when New Alarms are generated.

Register 10, Bit B6 is used to Disable (=0) or Enable (=1) this logging

Records can also be saved when the level is changed by more than 8 percent.

Register 10, Bit B7 is used to Disable (=0) or Enable (=1) this logging

E.g. the trigger points are set at 0, 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, 88, 96 percent

### **3 UPDATING PARAMETER REGISTERS**

Updating of the stored (Writeable) parameter registers can be done via the Modbus interface.

Note – This should be done with caution as changes to registers will affect the operation of the system. If this is done remotely then it will not be possible to observe the actual operational state of the system.

Changes to Registers 13 or 0 could stop the Modbus interface from functioning.

Only Registers 0 to 49 can be changed.

These are stored in EEROM and are re-loaded if the system is reset after power failure.

The values displayed via the Modbus interface are accessed through holding registers.

These holding registers are updated with a system reset.

Holding registers can be written to but do not affect the system operation nor are they saved unless the save holding register procedure is completed.

#### **3.1 SAVE HOLDING REGISTERS**

To save the Holding (Parameter) Registers to EEROM memory the following procedure must be followed.

(1) Write to all the holding registers (0-31) required to be changed

(2) Write value „197“ to register 254 and send using a single set register command (6)

(3) Write value „55“ to register 255 and send with a single set register command (6)

This will copy the holding registers into the stored EEPROM memory and then cause the system to initiate a “warm” restart.

The system will then re-start using the updated settings restored from EEROM memory.

# PROGRAMMING MENUS

The unit has two levels of programming Menus. These are a PIN protected Advanced Menu and a User Menu.

## 1. INITIAL COMMISSIONING

When a unit is new it is important that Load Defaults and Reset Totals.

Without doing this operation may be incorrect and erratic.

This only needs to be done once for a unit.

## 2. ACCESS TO MENU

The advanced menu is entered by holding Mute and Up and Down button down together. A person's identification number (PIN) is asked for. The number 107 will always allow access and a second user PIN also allows access. If the user PIN is entered, then the ability to change the user PIN is withheld.

On exiting the MENU the unit restarts.

## 3. MENU STRUCTURE

The Menu has the following structure.

The Menu has the following structure.

```
CONFIG
  Master Menu
    Edit
      ID Number Low
      ID Number High
      Visual Alarm (Steady or Flashing)
      Log Report Time (0(disabled) to 1440 Mins)
      Log New Alarms (OFF, ON)
      Log Level Change (OFF, ON)
      Auto Mute
      Level Alarm (manual or auto reset)
    Save Changes
    Abandon
  Digital IO - Digital I/O Menu
    Edit
      Power Check (Yes or No)
      External Fault Type
        External
        Mixer
        Monitor System
        Extra High Level
        Extra Low Level
        External Level
        treatment
      High Level (Used or Not Used)
      Low Level (Used or Not Used)
      Sensor 1 (Used or Not Used)
      Sensor 2 (Used or Not Used)
    Save Changes
    Abandon
  Level - Level Source Setup
    Edit
      Level Source (Multipoint, Analogue)
```



Multipoint (use 10 sensor probe)  
Sensitivity (3K,20K,50K)  
Analogue In (use proportional signal)  
Zero Signal Tank Level  
Span 0 to Max input  
Maximum Tank Depth  
High Setpoint (5 to 95 Percent)  
Low Setpoint (5 to 95 Percent)

Save Changes  
Abandon

#### Alarms

Edit

Sensor Fault (Local,Critical& Local,Non Critical)  
Low Level (Local,Critical& Local,Non Critical)  
High Level (Local,Critical& Local,Non Critical)  
External Fault(Local,Critical& Local,Non Critical)  
Sensor 1 (Local,Critical& Local,Non Critical)  
Sensor 2 (Local,Critical& Local,Non Critical)  
Power Fault (Local,Critical& Local,Non Critical)  
Auto Mute – (0 to 3600)Seconds  
High Alarm Delay – (0 to 600)Seconds

Save Changes  
Abandon

#### RELAYS

Edit

##### RELAY-1

Initial State (On/Off)  
Relay Function (Level, Critical, NonCritical, Power)  
Setpoint 1 (0(disabled) to 100 percent)  
Setpoint 2 (0 to 100 percent)  
Delay 1 (0 to 3600 sec)  
Delay 2 (0 to 3600 sec)

##### RELAY-2

Initial State (On/Off)  
Relay Function (Level, Critical, NonCritical, Power)  
Setpoint 1 (0(disabled) to 100 percent)  
Setpoint 2 (0 to 100 percent)  
Delay 1 (0 to 3600 sec)  
Delay 2 (0 to 3600 sec)

[REPEATED FOR RELAYS 3 to 15]

##### RELAY-16

Initial State (On/Off)  
Relay Function (Level, Critical, NonCritical, Power)  
Setpoint 1 (0(disabled) to 100 percent)  
Setpoint 2 (0 to 100 percent)  
Delay 1 (0 to 3600 sec)  
Delay 2 (0 to 3600 sec)

Save Changes  
Abandon

#### LOAD DEFAULTS

System Type (Default-A, Default -B, Default -C, Default -D)  
[Note Default system Types yet to be defined]  
Load Defaults (Yes or No)

## CHANGE PIN

### MODBUS – Setup Modbus

Edit  
    Modbus Enabled (Yes / No)  
    Modbus Address (1 to 127)  
Save Changes  
Abandon  
Exit

### LOAD DEFAULTS

System Type (Type-A, Type-B, Type-C, Type-D)  
    [Note Default system Types yet to be defined]  
Load Defaults (Yes or No)  
(Change PIN)

### EXIT

RESTARTS the processor and resumes normal operation

### LOAD DEFAULTS

Clears the Log data in EEROM

# STATUS DISPLAYS

In normal run mode the unit displays status screens.

The Scroll Buttons are used to move to each level

INFO (DEFAULT)	Displays LEVIKOS Version & ID Number
Level	Shows Current Level as percentage
Alarms Present	Scrolls through a list of alarms set:- Sensor1 Sensor 2 Sensor Flt Low Level High Level Power External Fault Type Reset
Alarms New	Scrolls through a list of alarms set:- Sensor1 Sensor 2 Sensor Flt Low Level High Level Power External Fault Type Reset
Logging (Repeated Scroll to increment record no.)	Reads the Log Records from most recent to oldest- The information is presented in a 'Rotating' display of the following information:-
	(1) Record (1 to 199) (2) Time Ago HH:MM (3) Level nn (4) Alarm Flags (Displayed if Set):- Sensor1 Sensor 2 Sensor Flt Low Level High Level Power External Fault Type Reset

## CONFIG

Master Menu

Edit

ID Number Low

ID Number High

Visual Alarm (Steady or Flashing)

Log Report Time (0(disabled) to 1440 Mins))

Log New Alarms (OFF, ON)

Log Level Change (OFF, ON)

Auto Mute

Level Alarm (manual or auto reset)

Save Changes

Abandon

Digital IO - Digital I/O Menu

Edit

Power Check (Yes or No)

External Fault Type

External

Mixer

Monitor System

Extra High Level

Extra Low Level

External Level

treatment

High Level (Used or Not Used)

Low Level (Used or Not Used)

Sensor 1 (Used or Not Used)

Sensor 2 (Used or Not Used)

Save Changes

Abandon

Level – Level Source Setup

Edit

Level Source (Multipoint, Analogue)

Multipoint (use 10 sensor probe)  
Sensitivity (3K,20K,50K)  
Analogue In (use proportional signal)  
Zero Signal Tank Level  
Span 0 to Max input  
Maximum Tank Depth  
High Setpoint (5 to 95 Percent)  
Low Setpoint (5 to 95 Percent)

Save Changes

Abandon

## Alarms

Edit

Sensor Fault (Local,Critical& Local,Non Critical)  
Low Level (Local,Critical& Local,Non Critical)  
High Level (Local,Critical& Local,Non Critical)  
External Fault(Local,Critical& Local,Non Critical)  
Sensor 1 (Local,Critical& Local,Non Critical)  
Sensor 2 (Local,Critical& Local,Non Critical)  
Power Fault (Local,Critical& Local,Non Critical)  
Auto Mute – (0 to 3600)Seconds  
High Alarm Delay – (0 to 600)Seconds

Save Changes

Abandon

## RELAYS

Edit

### RELAY-1

Initial State (On/Off)  
Relay Function (Level, Critical, NonCritical, Power)  
Setpoint 1 (0(disabled) to 100 percent)  
Setpoint 2 (0 to 100 percent)  
Delay 1 (0 to 3600 sec)  
Delay 2 (0 to 3600 sec)

### RELAY-2

Initial State (On/Off)  
Relay Function (Level, Critical, NonCritical, Power)  
Setpoint 1 (0(disabled) to 100 percent)  
Setpoint 2 (0 to 100 percent)  
Delay 1 (0 to 3600 sec)  
Delay 2 (0 to 3600 sec)

[REPEATED FOR RELAYS 3 to 15]

# APPENDIX A

## Warranty and Service Information

# WARRANTY

Warranty is subject to Allied Pumps Pty Ltd terms and conditions of sale and limited to replacement or repair, at Manufacturer's discretion, of any parts or equipment, excluding and travel, site, removal or reinstallation costs, for a period of twelve months from date of invoice, provided such part of equipment that is deemed by the respective manufacturer to be faulty. Any work done on site to inspect or remedy faults that are subsequently not accepted as being under warranty by the manufacturer, or are caused by misuse, fair wear or operating procedures, will be charged at parts and labour and travelling time rates applicable at the time.

Warranty does not provide for circumstances outside Allied Pumps control including (but not limited to); seismic activity, base or ground movement, mechanical impact, abuse or negligence, or general wear and tear.

Warranty does not cover equipment that is not installed, continuously monitored and maintained in accordance with the manufacturer's requirements, including, but not limited to, regular servicing, and/or regulatory requirements and applicable Australian Standards. Warranty does not cover damage caused by dry running the pumps.

If Buyer requires our services in respect of site inspection or service outside of what is covered by Manufacturers' warranties, then Buyer should enter into a separate agreement with ALLIED PUMPS in respect to the same. In the event of no such separate agreement, all operations, calibrating, cleaning and maintenance of plant is the responsibility of the buyer.

ALLIED PUMPS have not acted as a consultant nor charged design fees on this project, and are in no way responsible for, nor guarantee any particular level or performance of the treatment plant supplied or effluent quality unless such guarantee is specially given in writing.

Under no circumstances is ALLIED PUMPS liable for any direct or consequential loss or business interruption or damage to persons or properties of any nature due to any cause whatsoever.

Application of warranties is conditional on ALLIED PUMPS having received in cash the total contract price. Furthermore, ALLIED PUMPS reserves the right to withdraw any code compliance, Australian Standard compliance or selection compliance, should the contract not be paid in full.



## SCHEDULE SERVICE INFORMATION REQUEST

Allied Pumps recommends regular scheduled servicing for all systems & packages to ensure acceptable service life and reduce the potential for emergency service requirement.

### ROUTINE SERVICING

This equipment must be serviced on a regular basis in accordance with the manufacturer's requirements. Failure to do so may void warranty.

As a minimum, this equipment must be serviced on a six monthly basis. More arduous applications will require more regular servicing. Schedule service is in addition to any statutory/standards requirements which should be addressed independently as applicable.

Service should be carried out by experienced service technicians and we recommend this is done by Allied Pumps or an Authorised Dedicated Service Team.

Yes, please send more information on your preventative maintenance program for the following, including a quotation to service our system.

### APPLICATION AND WARRANTY REGISTRATION – Please complete the following:

Company Name: \_\_\_\_\_ Contact Name: \_\_\_\_\_

Site Address: \_\_\_\_\_

Postal Address: \_\_\_\_\_

Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_ Mobile: \_\_\_\_\_

System: \_\_\_\_\_

Model No.: \_\_\_\_\_ Serial No.: \_\_\_\_\_

If you have other systems on-site that you wish to have maintained to our high standards please fill in as many details as you can below.

Application: \_\_\_\_\_ Approx. Age: \_\_\_\_\_

Make: \_\_\_\_\_ Model: \_\_\_\_\_

Location: \_\_\_\_\_

Comment: \_\_\_\_\_

Please fax back to: 08 9356 5255 or  
Email to: [service@alliedpumps.com.au](mailto:service@alliedpumps.com.au)

C-D/105

### PERTH

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E: [service@alliedpumps.com.au](mailto:service@alliedpumps.com.au)

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# COMMISSION WORK ORDER



CLIENT: ..... DATE: .....  
CONTACT: ..... REQ: .....  
PROJECT: ..... COMP: .....  
SITE ADDRESS: .....

SITE CONTACT: ..... PH: ..... TIME: .....

## LEVIKOS CONTROL SYSTEM

MODEL: .....

URGENT  ROUTINE  ADDITIONAL CHARGE REQUIRED

### EQUIPMENT DETAIL: (Important must be filled out before leaving site!)

Description: .....  
Cont. S/N: ..... Approx Age: .....  
Notes: .....

### PRE-COMMISSION CHECKLIST

(Site Contractor to complete & check off checklist below and return to Allied Pumps)

- 1 Mains Power Connected
- 2 Vehicle Access Possible
- 3 Pump Room Access OK

*I have read and thoroughly checked the checklist above. I acknowledge that I am responsible for any costs that occur with the site visit of the Allied Pumps technician, in the case of installation not being in conformance with this checklist.*

Name (Authorised Personnel only): ..... Name: ..... Date: .....

### SCOPE OF EXTRA WORKS

ITEM	QTY	DESCRIPTION	COMPLETE	MATERIAL / SPECIAL TOOLS

**ATTENTION INSTALLER!**  
Should site commissioning be required, please tick off ALL relevant completed points on above checklist, fill in project details and email to [service@alliedpumps.com.au](mailto:service@alliedpumps.com.au) or fax to (08) 9358 0060

**Notes:**  
1.0 Service department requires minimum **3 days** notice prior to commissioning in Perth metro area. For country areas please enquire.  
2.0 Site commissioning may incur additional charge if not included in original quotation or if installation is found to be incomplete when commission technicians are on site

**[alliedpumps.com.au](http://alliedpumps.com.au)**

Disclaimer: Allied Pumps reserves the right to modify the information and illustrations contained in this document without prior notice. The information provided in this document is intended to be helpful. However, this document is not intended to cover all regulations that apply to your practice. If you need advice regarding specific product operations and maintenances, you are encouraged to consult with an Allied Pumps Pty Ltd professional.