Technical Data

	HBLT-C1	HBLT-C1-ENC
Supply:		
Voltage	24 V AC/DC ± 10 %	100..240 V AC
Frquency	50/60 Hz	50/60 Hz
Current draw	Max 40 mA	Max 1.5 A
Connection	Screw terminal	Screw terminal
Wire size	< 2,5 mm²	< 2,5 mm²
Installation conditions :		
Surrounding temperature	-20…+70°C	-20…+70°C
Protection class	IP45	IP65
Relative humidity	20…80 %	20…80 %
Approvals:		
EMC Emission	EN61000-3-2	EN61000-3-2
EMC Immunity	EN61000-4-2	EN61000-4-2
GOST R	No 0903044	
Mechanical specifications:		
Mounting	In front of panel	On wall
External measurement	96x96x94 mm (BxHxD)	298x220x182 mm (BxHxD)
Cut-out measurement	92,8x92,8 mm	N.A.
Material	Plastic	Plastic
Weight	0.2 kg	1.4 kg
Display:		
Digit's display	3 digits, red	3 digits, red
Alarm indication	LED (green og red)	LED (green og red)
Programming	From front	From front
Updatting	1 time each second	1 time each second
Valve position indication	5 x LED (yellow)	5 x LED (yellow)
Input:		
Analogue input - sensor	4-20 mA	4-20 mA
Analogue input – valve feedback	4-20 mA	4-20 mA
Alarm – max level	Relay – 5…25 V DC	Relay – 5…25 V DC
Output:		
Analogue output	4-20 mA	4-20 mA
Load	3A/24 VDC	3A/24 VDC
Relay output	@24VAC/VDC: 3 x 3A	@24VAC/VDC: 3 x 3A
	@110 VAC: 3 x 5A	@110 VAC: 3 x 5A
	@220 VAC: 3 x 5A	@220 VAC: 3 x 5A
Solid state output	NC/NO-1A-24VAC/VDC	NC/NO-1A-24VAC/VDC

HB Products WE INCREASE UPTIME AND EFFICIENCY IN THE REFRIGERATION INDUSTRY

Quick Guide
HBLT-C1 Controller
Level Controller for Industrial Refrigeration Systems

The functions of display buttons:

CON: Provides access to Control parameters

ALARM: Provides access to Alarm parameters

ROTATE: Switch between the Alarms

CAL: Provides acces to calibration

OK: Saves , return, forward to next function

TEST: Start automatic test mode

VALVE: Displaying the valve position

RUN: In regulation process

↑: Change parameters +1

MODE: Switch from liquid level to valve position & by pressing MODE for 10 sec. manual operation can be achieved.

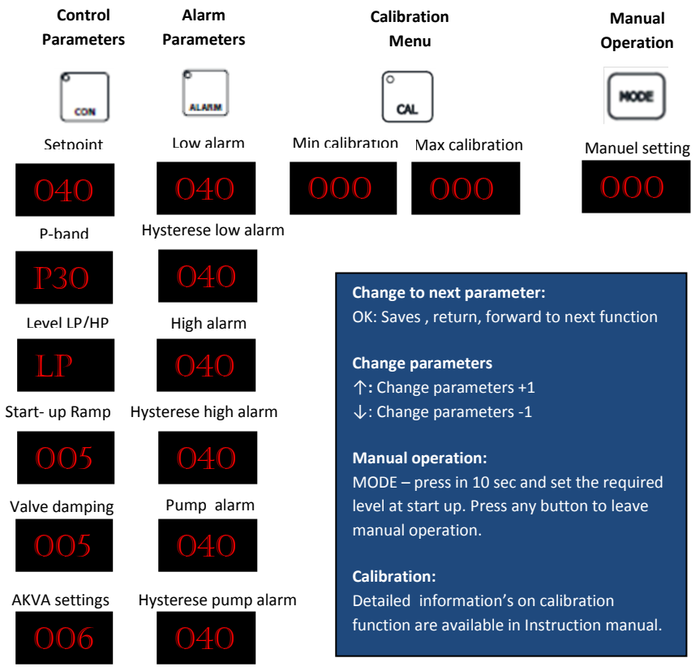
↓: Change parameters -1

ALARM LOW: Indicates low level

ALARM HIGH: Indicates high level

ALARM PUMP: Indicates pump alarm

Operation menue:



Change to next parameter:
OK: Saves , return, forward to next function

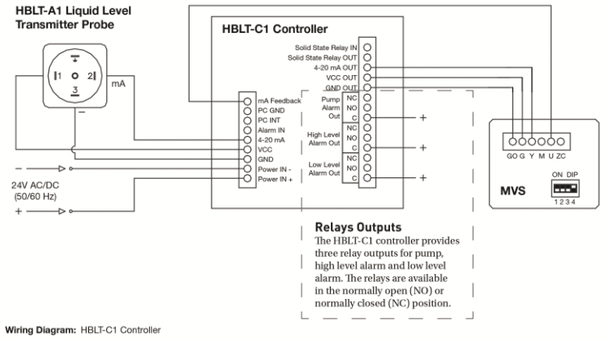
Change parameters
↑: Change parameters +1
↓: Change parameters -1

Manual operation:
MODE – press in 10 sec and set the required level at start up. Press any button to leave manual operation.

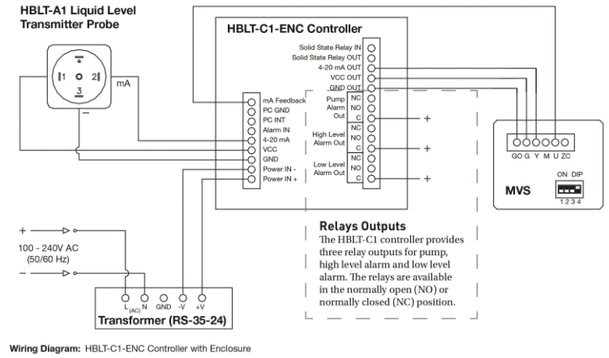
Calibration:
Detailed information's on calibration function are available in Instruction manual.

HB Products
WE INCREASE
UPTIME AND EFFICIENCY
IN THE REFRIGERATION INDUSTRY

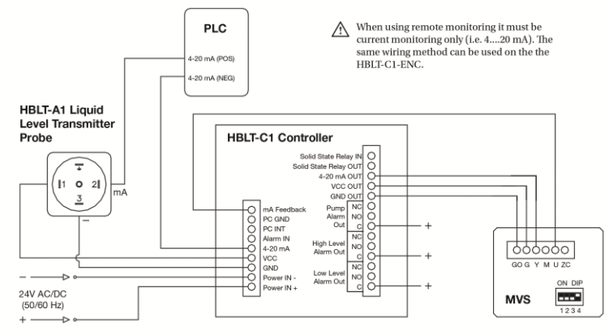
Connection of sensor and valves:



Wiring Diagram: HBLT-C1 Controller



Wiring Diagram: HBLT-C1-ENC Controller with Enclosure



Wiring Diagram: HBLT-C1/HBLT-C1-ENC Controller with Remote Monitoring

Short parameter description:

Parameters	Decription	Range	Factory settings
Control			
Set-point	Required level range	000…100 %	040
P-band	P-band.The regulation area. In percentage of setpoint	000…200%	P30
Ramp	Start- up ramp for valve to minimize fluctuation at start up	000…30% pr. sec.	005
Valve damping	If valve act to quickly a damping factor can be added	0.1…100 pr. sec.	005
Periode time - AKVA	If AKVA valve is installed this factor define the number of pulses pr. Sec. For other valves than AKVA the setting should be 006.	003…010	006
Alarm			
Low level alarm	An alarm level can be set. Three-way alarm output NO/NC	000…100 %	010
Hysterese – Low level	Hysterese of low alarm level. The relay will stay on in this range	000…100 %	005
High level alarm	An alarm level can be set. Three-way alarm output NO/NC	000…100 %	085
Hysterese – High level	Hysterese of low alarm level. The relay will stay on in this range	000…100 %	005
Pump alarm	An alarm level can be set. Three-way alarm output NO/NC	000…100 %	015
Hysterese Pump alarm	Hysterese of low alarm level. The relay will stay on in this range	000…100 %	005

PC GND & PC INT: Has no function in this controller.
Solide state relay IN & Solide state relay OUT: Should only be used when AKVA valve is used.