

DNGA 230 100 Double Level Control Unit

Safety instructions

This instrument is built and tested according to the current EU-directives and packed in technically safe condition. In order to maintain this condition and to ensure safe operation, the user must follow the hints and warnings given in this instruction.

During the installation the valid national rules have to be observed. Ignoring the warnings may lead to severe personal injury or substantial damage to property.

The product must be operated by trained staff. Correct and safe operation of this equipment is dependent on proper transport, storage, installation and operation.

All electrical wiring must conform to local standards. In order to prevent stray electrical radiation, we recommend twisted and shielded input cables, as also to keep power supply cables separated from the input cables. The connection must be made according to the connecting diagrams.

Before switching on the power supply take care that other equipment is not affected. Ensure that the supply voltage and the conditions in the environment comply with the specification of the device.

Before switching off the supply voltage check the possible effects on other equipment and the processing system.



Description

The Double Level Control Unit has two independent, galvanically separated electrical circuits. Each circuit controls a relay with Normally Open contacts. The status of each relay changes as a function of the two resistance inputs.

The two inputs act with a hysteresis. The sensibility of the relay circuit can be adjusted from the front of the module. LED's indicates an activated relay.

The module can be used as an evaluation module for LSKx2x or LSKx5x sensors. Please refer to the application example(s).

Technical Data

Input

Range	7...100 KOhm (Adjustable)
Probe voltage	24Vac
Probe current	4 mA

Environmental conditions

Operating temperature	-20...50°C
Storage temperature	-50...85°C
Humidity	< 85% RH, non-condensing

EMC data

Generic standards	EN 61000-6-3, EN 61000-6-2
LVD standards	EN 61010-1, EN60204-1

Mechanical data

Dimensions	91.5 x 98 x 35 mm
DIN-rail mounting	DIN 46277
Protection class	Housing: IP 20
Weight	0.325 kg

Power Supply

Supply range	230 Vac (+10 /-15%)
Frequency	50/60 Hz
Power consumption	15 mA

Output Relay

Resistive load	AC: 250 V / 10 A
	DC: 200 V / 0.4 A
	DC: 24 V / 10 A
Inductive load	AC: 250 V / 5 A
	DC: 24 V / 5 A

Mechanical life cycle	> 30 x 10 ⁶ operations
Operation voltage	250...440 Vac

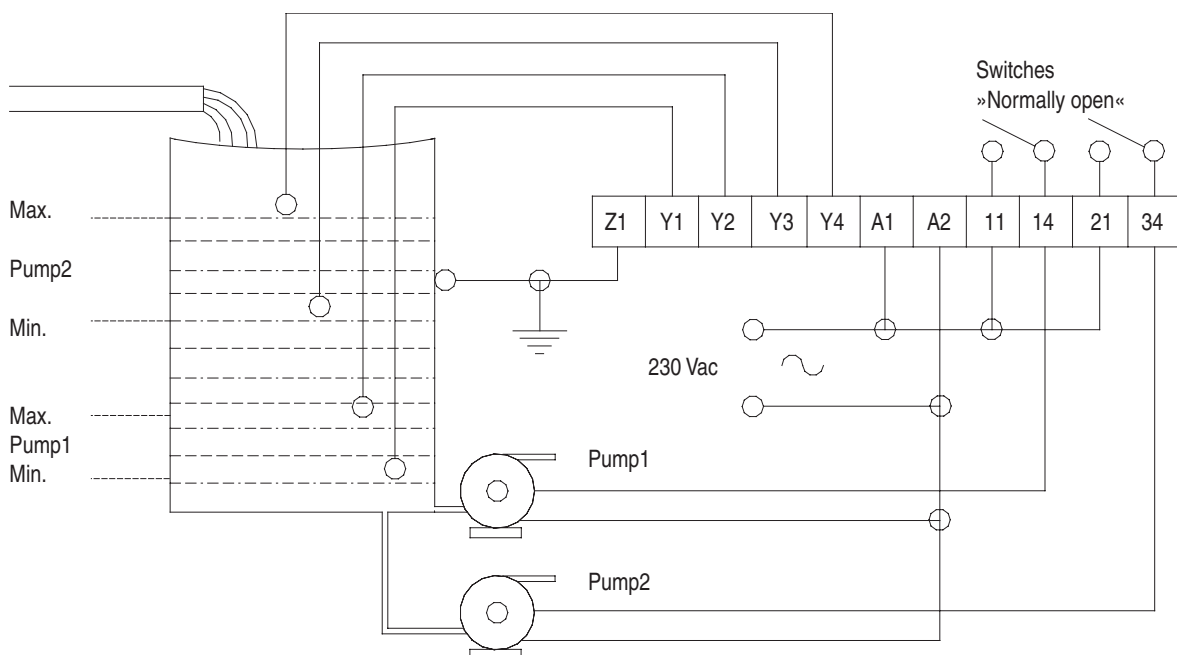
Disposal of product and packing

According to national laws or by returning to Baumer

WARNING

This product contains no replaceable parts.
In case of malfunction the product must be shipped to Baumer for repair.

Application Example



Example 1

A tank is being filled with waste water. Pump1 is supplying a filter unit. Pump2 is securing the tank from overflowing.

Tank: Metal

Ground: Via the LSK process connection

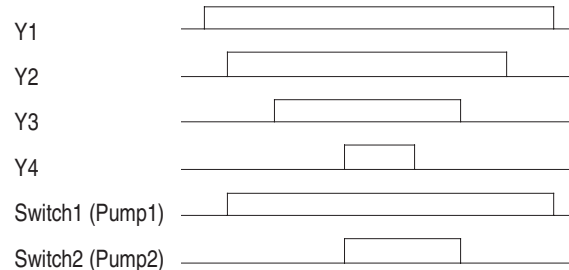
Instrument: LSK 250, 4 coated rods.

< Y1 level: Stop Pump1

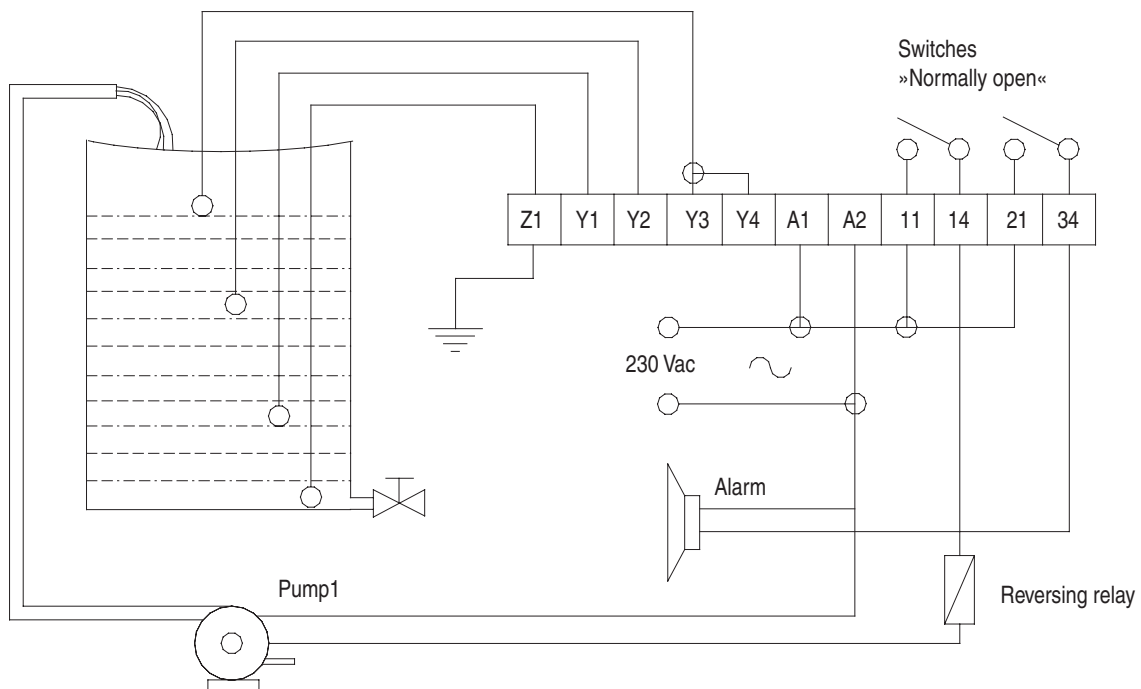
≥ Y2 level: Start Pump1

< Y3 level: Stop Pump2

≥ Y4 level: Start Pump2



Application Examples

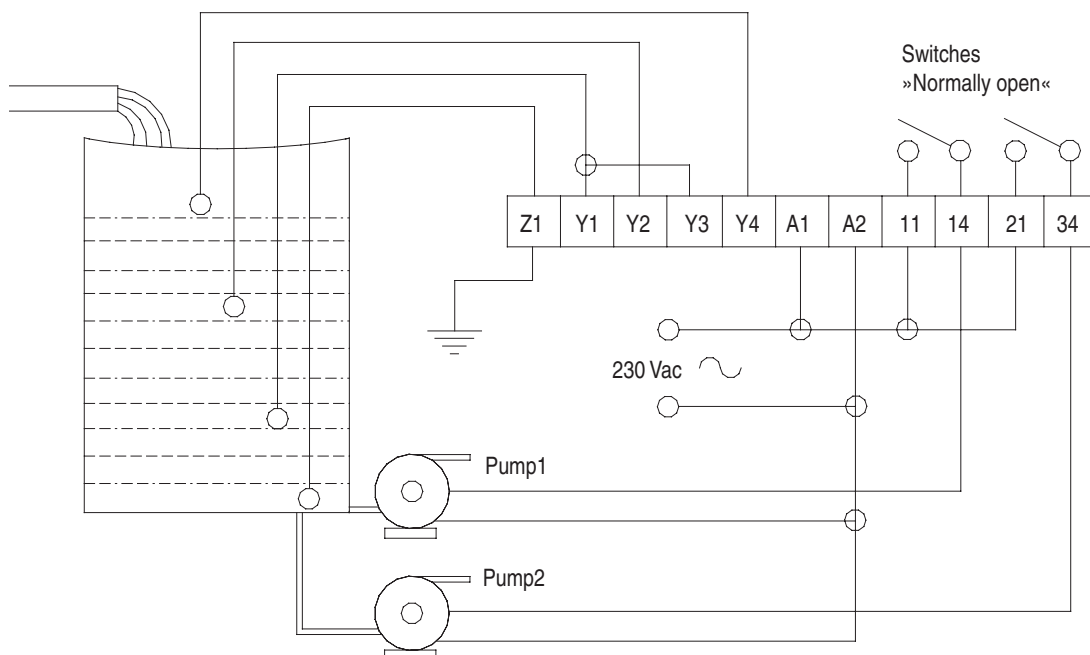


Example 2 (above)

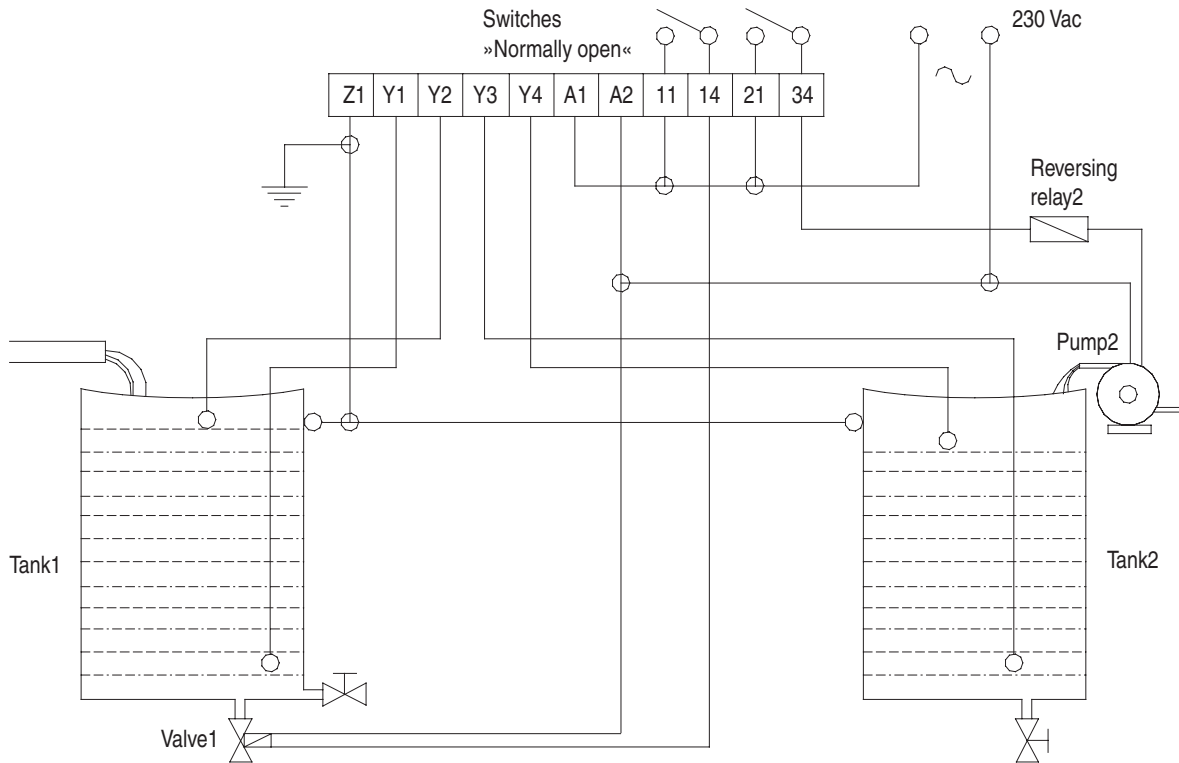
Pump1 is filling a tank to a certain level.
 The alarm is securing the tank from overflowing.
 Tank: Non-Metal
 Ground: Via one uncoated rod
 Instrument: LSK 250, 3 coated rods, 1 uncoated.
 < Y1 level: Start Pump1
 > Y2 level: Stop Pump1
 Y3 + Y4 level: Alarm

Example 3 (below)

A tank is being filled with waste water. Pump1 is supplying a filter unit.
 Pump2 is securing the tank from overflowing.
 Tank: Non-metal
 Ground: Via one uncoated rod
 Instrument: LSK 250, 3 coated rods, 1 uncoated.
 < Y1 + Y3 level: Stop Pump1 + Pump 2
 > Y2 level: Start Pump1
 > Y4 level: Start Pump2



Application Examples



Example 4 (above)

Tank1 is being filled with water and emptied via a water tap.

Security valve1 is securing the tank from overflowing.

Tank1: Metal

Ground: Via the LSK process connection.

Instrument: LSK 250, 2 coated rods.

< Y1 level: Close valve1

> Y2 level: Open valve1

Tank 2 is filled via pump2 and emptied via a water tap.

Tank2: Metal

Ground: Via the LSK process connection.

Instrument: LSK 250, 2 coated rods.

< Y3 level: Start Pump2

> Y4 level: Stop Pump2

Example 5 (below)

Tank1 and Tank2 are being filled with water via Pump1 and Pump2.

Tank1: Metal

Ground1: Via the LSK process connection

Instrument1: LSK 020 - stub version.

Tank2: Non-metal

Ground2: Via one uncoated rod

Instrument2: LSK 250 - one coated rod - one uncoated rod.

Power on: Start Pump1 and Pump2

< Y1 + Y2 level: Start Pump1

< Y3 + Y4 level: Start Pump2

> Y1 + Y2 level: Stop Pump1

> Y3 + Y4 level: Stop Pump2

