

## Instruction



### General

Thank you for choosing ConTroller 712, the compact unit for control of 2 pumps or valves with alternation and level alarm.

ConTroller 712 can be connected to a GSM / GPRS modem for transmission of system conditions and alarms from the pumping station to the SCADA system.

ConTroller 712 is DIN rail mounted, and is easy to install and set up from the front panel.

### Level measurement with electrodes

ConTroller 712 is measuring the level in the well by means of base mounted or suspended level electrodes.

The mounting height of the electrodes determines the start and stop levels for the pumps and the alarm level.

ConTroller 712 is equipped with 3 voltage free control relays, of which 2 are used for control of 2 pumps/valve actuators, and the remaining is alarm output.

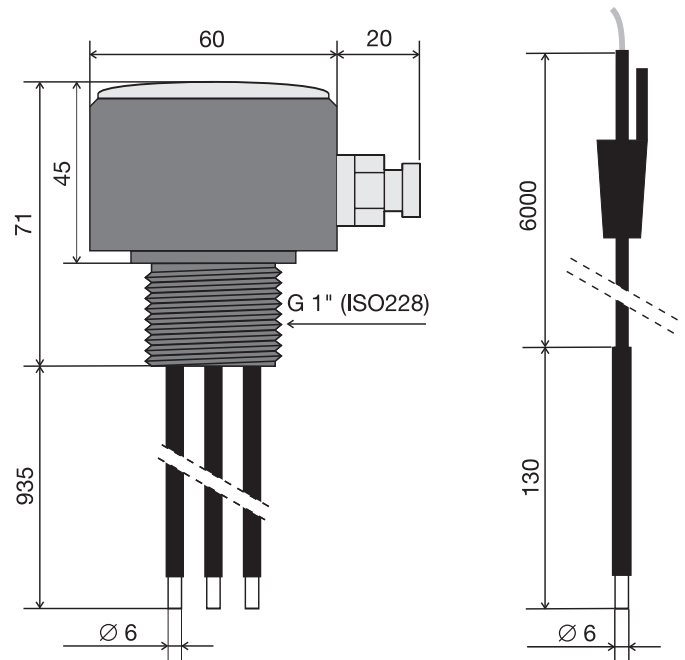
Up to 5 level electrodes can be connected, of which 1 electrode is common/ground electrode.

## Specifications

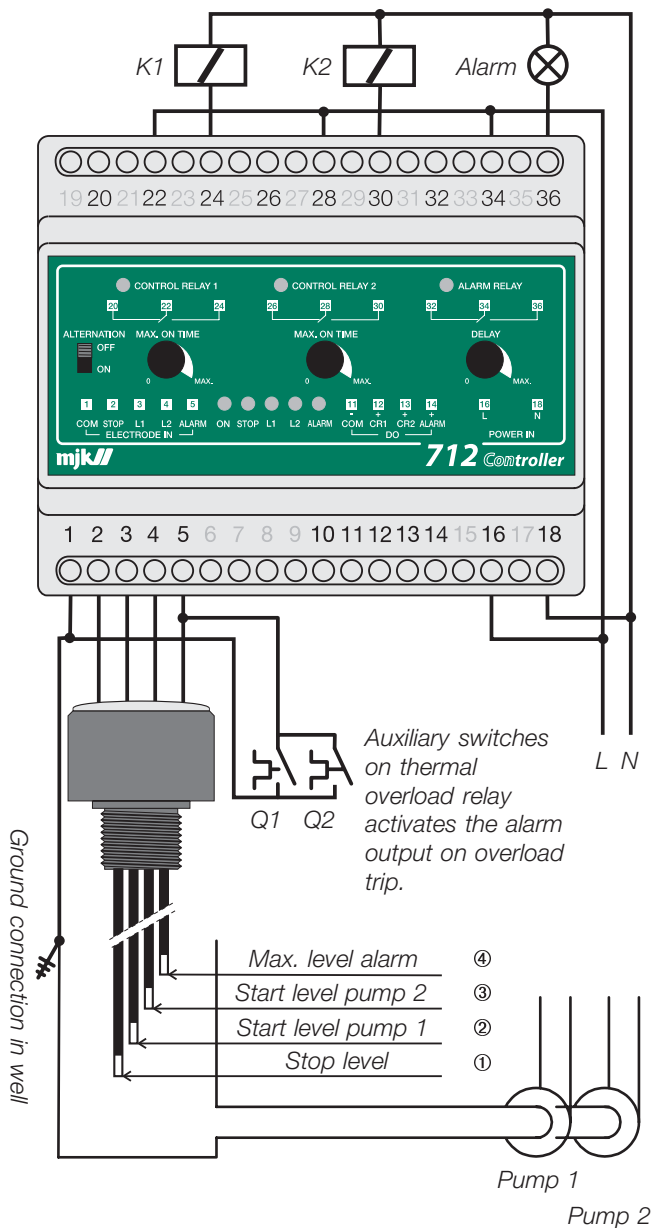
### ConTroller 712

Dimensions:	86 x 105 x 60 mm (h x w x d)
Power supply:	230 V AC +/- 10 %
Consumption:	Approx. 5 VA
Temp. range:	- 10 ... + 60 °C
Inputs:	4 x level electrodes and 1 x ground electrode
Udgange:	3 x voltage free changeover relays. (Max. load 4 A resistive / 250 V AC) Status signals to MJK GSM/GPRS modem.
Enclosure:	IP 22

Electrodes	With cable	For base	Base
Dimension:	Ø 6 x 130 mm	Ø 6 x 935 mm	Ø 60 x 71 mm



## Electrical connection



## Function

Relay no. 1 is activated when the level in the well has reached the first start electrode ②, which will start pump no. 1. The pump will be stopped again when the stop electrode ① goes free of the level surface OR when the preset running time has exceeded.

Relay no. 2 will be activated if the level continues to rise and the level reaches the second start electrode ③, which will start pump no. 2. (Note: BOTH pumps will be started if pump no. 1 in the meantime has been stopped because of runout of the preset running time.)

The pump(s) will be stopped when the stop electrode ① goes free of the level surface.

## Alarm output

The alarm output is equipped with a timer which is set by means of the potmeter 'DELAY' on the front panel. This means that an alarm condition will not activate the alarm relay before runout of the preset delay time.

The following situations will activate the alarm:

- 1: When a pump has been in uninterrupted service during a period beyond the preset maximum running time. (The pump will also be stopped.)
- 2: When the alarm electrode ④ reaches the liquid surface. (The pumps are kept running until the preset maximum running time is reached.)

The alarm is deactivated when the stop electrode ① goes free of the level surface.

## Function with short-circuited electrodes

Electrode controls are sensitive to smudging and short-circuiting of the electrodes, and a piece of wet paper will typically short-circuit the stop electrode to the ground electrode.

ConTroller 712 will therefore run the pumps on the preset running time if the electrodes are smudged or short-circuited.

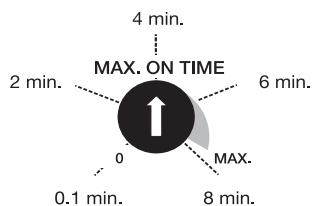
## Status outputs

ConTroller 712 is equipped with status outputs for transmission of service and alarm status to MJK GSM/GPRS-COM for communication to i.e. a SCADA system.

**Settings**

## 'Max. on time:'

2 potmeters for each relay output are placed in the front panel. The setting of the potmeters determines the maximum continuous activation time for the belonging relay:

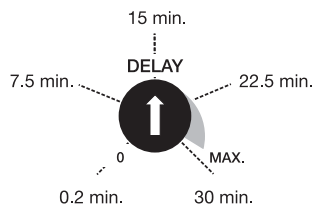


*Setting of the maximum continuous running time for the pump for each start.  
(Approx. 0,1 to 8 min.)*

## 'Delay:'

If the level for any reason should reach the alarm electrode, or if one of the pumps has been stopped because of runout of the preset maximum continuous running time, the caused alarm will be delayed for a period set by means of this potmeter.

An alarm will also occur if the level does not reach the stop electrode within a fixed running period.



*Setting of activation delay for the alarm relay.  
(Approx. 0,2 to 30 min.)*

## 'Alternation:'

Relay no. 1 will always be activated first, if the alternation switch is set to 'OFF'. Thereafter, relay no. 2 is activated if the level continues to rise



If the switch is set to 'ON', ConTroller 712 will alternate the two relay outputs so that they will be leading every second time and thus distribute the service hours equally between the two pumps.

**Maintenance**

ConTroller 712 requires no particular maintenance.

The electrodes should be cleaned periodically.