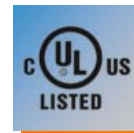


# Easy level control



## Evaluation units for level control with one or two sensors

- Direct control of pumps and valves
- Adjustable switch-on and switch-off delays and damping
- Integrated wide-range power supply for the sensor supply
- Small design requiring only very little space
- Plug-in screw terminals simplify installation



### Application

The evaluation units control levels in tanks by means of sensors thus protecting against overflow, running dry and leakage, for example.

### Level control with a sensor



The DL0201 evaluation unit uses a sensor that is installed at the tank at the height of the limit level to be monitored. When the level has been reached, the evaluation unit switches for an adjustable period of time to stop pumps, for example, as overflow or run-dry protection.

### Level control with two sensors

The DL0203 evaluation unit is a typical 2-point control that controls an upper and a lower limit on pumps and valves by means of two sensors.



Favourably priced and effective level control for tanks

Type	Nominal voltage [V]	Inputs Signal / enable	Input frequency [Hz]	Auxiliary energy for sensors	Outputs Relays / transistors	Order no.
<b>Limit level monitoring (overflow, running dry, leakage)</b>						
	110...240 AC (50...60 Hz) / 27 DC (typ. 24 DC)	1 x PNP / 1 x PNP (type 2 acc. to IEC 61131-2)	≤ 5	typ. 18.5...30 V DC / ≤ 100 mA short circuit / overload protected	1 / 1	<b>DL0201</b>
<b>Two-point control of levels</b>						
	110...240 AC (50...60 Hz) / 27 DC (typ. 24 DC)	2 x PNP / – (type 2 acc. to IEC 61131-2)	≤ 5	typ. 18.5...30 V DC / ≤ 100 mA short circuit / overload protected	1 / 1	<b>DL0203</b>

### Operating principle DL0201

The DL0201 evaluation unit is actually a timer. When it receives a signal from the connected sensor, it switches the relay change-over contact for a certain period of time. By means of two scaled potentiometers the user can set the time between 0 and 60 seconds or 0 and 60 minutes. Adjustable switch-on and switch-off delays act as damping. This suppresses brief fluctuations around the sensor switch.

In addition the evaluation unit has an enable function by means of which control can be bridged manually. A leakage sensor can also be integrated into the control function by means of the enable input.

### Application example

The upper level in a tank is monitored via a capacitive sensor. When the level has been reached, the sensor provides a signal to the evaluation unit. It closes the supply valve for the time set to prevent overflowing. The damping function prevents, for example, one single wave generating a switching signal.

### Operating principle DL0203

It is a typical two-point control. When a sensor provides a signal, the relay change-over contact switches until the second sensor provides a signal for switch-off. A switch-on delay is available that acts as damping and suppresses short-term fluctuations around the sensor switch point.

### Application example



To protect a pump against running dry two capacitive sensors are installed on the storage tank. When the lower minimum level has been reached, the sensor provides a signal to the evaluation unit. With the relay output it switches off the pump that is normally used to empty the tank.

When the upper level has been reached, the second sensor installed there switches, the relay in the evaluation unit switches on again and the pump is started.

### Further technical data

Relay outputs	1 x changeover contact 4 A (240 V AC, 24 V DC); resistive load	
Transistor outputs	1 x PNP / externally supplied 10...30 V DC SELV / ≤ 100 mA	
Ambient temperature	[°C]	-25...60
Storage temperature	[°C]	-25...70
Protection housing / terminals	IP 20 / IP 20	
Display DL0201	LED Power supply Input Output  Enable	Green Yellow Green (lights if relay energised and transistor switched) Green (lights if enable signal is present)
Display DL0203	LED Power supply Input Output	Green 2 x yellow Green (lights if relay energised and transistor switched)
Connection	4-pole connector with screw connection, 5.0 mm pitch	

### Accessories

Type	Description	Order no.
	Connector, 4 poles with screw terminals, pack of 5 (supplied)	<b>E40173</b>
	Connector, 4 poles with cage clamps, pack of 5	<b>E40171</b>