



### ORDERING CODE

TYPE	MODEL	VOLTAGE	POWER SUPPLY	RELAY CONTACTS
AC	130	230	A	D

SEE PAGE 94 FOR ORDERING OPTIONS

## Application Examples

- Level control of conductive liquids.
- Borehole pump control.
- Filling and draining of pump reservoirs.
- Control of sewerage pumps.
- Dosing of liquids, chemicals or fertilisers.
- 2-wire remote stop-start control over extended distances.
- Monitoring and controlling of processes in conjunction with Light Dependent Resistors (LDR).

## Features

- Failsafe feature.
- Programmable for charging or discharging operation.
- AC modulation of probe signal to prevent plating and electrolytic corrosion.
- Low voltage probe signal for human safety.
- Adjustable sensitivity.
- Power ON and Relay ON LEDs.
- 5A SPDT or DPDT relay output.

## Description of Operation

The **AC-130** is a level control unit for conductive liquids. In conjunction with three conductive probes (e.g. CP-3 or CP-3C), it controls the level of the liquid in a reservoir between a high and a low level. It is programmable for failsafe operation in the following modes:

**Charging (Filling) Reservoirs:** When the level in the reservoir drops below the low probe, the relay energises. The relay then remains energised until the level reaches the high level probe. As soon as the high level probe becomes submerged, the relay de-energises and remains off until the level has dropped sufficiently to clear the low level probe.

**Discharging (Draining) of Reservoirs:** When the level in the reservoir rises sufficiently to submerge the high level probe, the relay energises. The relay then remains energised until the level drops below the low level probe. As the liquid clears the low level probe, the relay de-energises and remains off until the level rises sufficiently to submerge the high level probe.

**Sensitivity Adjustment:** Sensitivity of the unit is adjustable to cater for:

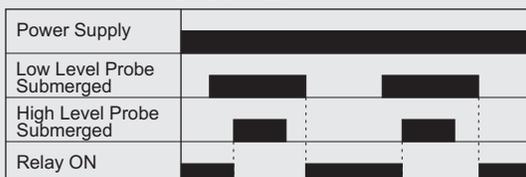
- line impedance of long distance wiring between probes and the unit,
- the conductivity of the liquids
- unwanted matter, such as foam.

**Choice of probes:** Any metal may serve as a probe. However, factors such as corrosion resistance, physical arrangement and the probability of erratic sensing of foam and condensation between probes, should be considered.

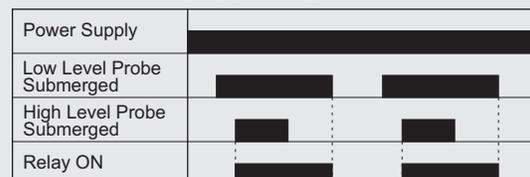
For optimum performance and ease of installation, the use of covered stainless steel probes (type CP-3C) is recommended. The length of the probes may be shortened by cutting the probe to the required length or lengthened by using extended rods (type EP-1C) and distance discs (type DD-3).

## Operational Diagrams

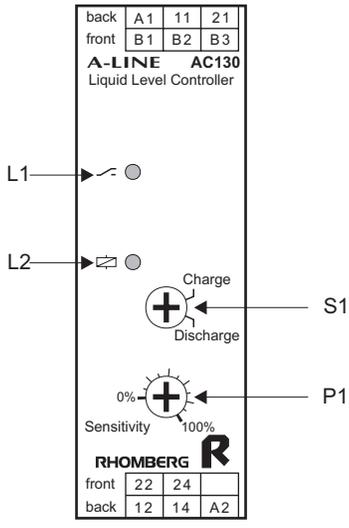
Charging (filling) of reservoirs



Discharging (draining) of reservoirs



## Description of Controls



- L1: The red "Relay ON" LED marked illuminates when the relay is energised.
- L2: The green "Power ON" LED marked illuminates when power is supplied to the unit.
- S1: The **Mode of Operation** is selected on S1. If set to "charging" the unit provides failsafe filling of reservoirs. If set to "discharging" the unit provides failsafe draining of reservoirs.
- P1: The **Sensitivity** of the liquid sensing input is adjusted on P1. Turning P1 clockwise increases the sensitivity.

## Wiring and Connection

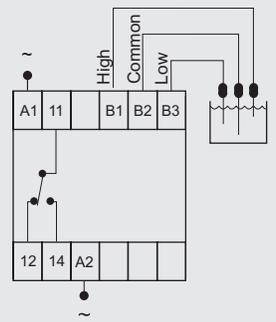
Relay Contacts-DPDT		
CONTACT1	Normally Open	11 + 14
	Normally Closed	11 + 12
CONTACT2	Normally Open	21 + 24
	Normally Closed	21 + 22

Relay Contacts-SPDT		
Normally Open	11 + 14	
Normally Closed	11 + 12	

Power Supply	
Phase/Positive	A1
Neutral/Negative	A2

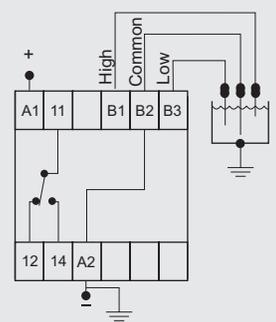
Level Probes	
High Level	B1
Common	B2
Low Level	B3

AC-130 SPDT



**APPLICATION 1**  
Connection of three probes (CP-3C)

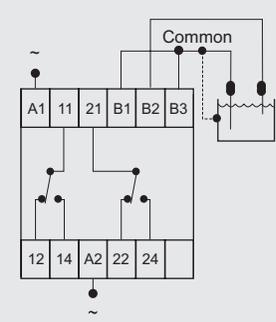
AC-130 SPDT



**APPLICATIONS 2**  
Connection of three probes (CP-3C) for DC applications.

**Important:** In DC power supply applications terminal B3 and terminal A2 will be COMMON.

AC-130 DPDT



**APPLICATION 3**  
Single level control

## Technical Specifications

POWER SUPPLY			
Type	Voltage	Tolerance	Consumption
AC Transformer (2kV galvanic isolation)	12, 24, 115, 230 (220-240), 400 (380-415), 525V	±15%	2VA (approx.)
DC	48, 60, 110V	±15%	30mA (approx.)
DC	12, 24V	±15%	100mA (approx.)

LEVEL SENSING INPUT	
Probe voltage	4V AC
Probe frequency	100Hz
Sensitivity	0 to 100kOhm (adjustable)
Response	0.5 seconds

**Note:** Other sensitivity ranges are available on request.

RELAY			
Relay Options (250V, 5A)	SPDT	DPDT	SPDT & Instantaneous

HOUSING		
Voltage	250V and below	Above 250V
Housing Width	22,5mm	45mm

Additional information in Section J, page 131.