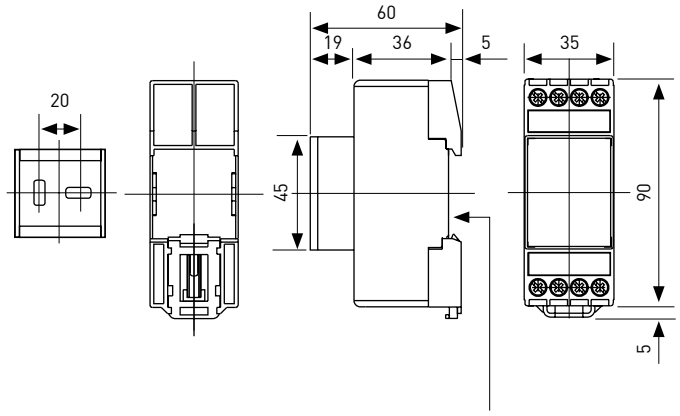
A03-A04

Electronic level controls with probes for conductive liquids

Electronic level controls with probes to control and monitor the level of conductive liquids. Suitable to control autoclave pumps, steam generator pumps, tanks filling and emptying etc.

1 SENSITIVITY - 2 MANUAL RESET - 3 ALARMS

Dimensions (mm)

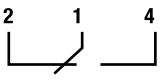


mounting on 35 mm rail EN 50022-3 DIN 46277-3

	Power supplyrating V c.a.	Contact temperature 250V a.c.	External working degree °C	Protection	Availability
ELECTRONIC LEVEL CONTROLS					
A03F	24 V c.a.	5A - AC 12	-10 ÷ 50	IP20	in stock
A03M	230 V c.a.	5A - AC 12	-10 ÷ 50	IP20	in stock
A03DS1	110 V c.a.	5A - AC 12	-10 ÷ 50	IP20	on request
SHUTDOWN LEVEL CONTROLS WITH MANUAL RESET					
A04F	24 V c.a.	5A - AC 12	-10 ÷ 50	IP20	in stockA04M
230 V c.a.	5A - AC 12	-10 ÷ 50	IP20	in stock	

ELECTRICAL FEATURES

Voltage between the electrodes: 8 Va.c.
Adjustable detection range from 2 to 20 k W.
Cable section 1mm², maximal cable length 800 m, insulation 600 Va.c.
Insulation resistance: 100 M V.
Dielectric strength 1.500 Va.c. in 1 min.
Output connection through electromagnetic SPDT relay.
Consumption: 4VA.



Level increase:
1-2 opens
1-4 closes

Level decrease:
1-4 opens
1-2 closes

HOMOLOGATION AND STANDARDS

Conformity with CEI-EN 60947-5-1 standards.

INSTALLATION

Fixing by clip-on to 35 mm rail EN 50022-3, DIN 46277-3 or using plates, supplied for surface installation.

OPERATION

Level controls operation depends on liquid conductivity, therefore are not suitable for use with liquids such as oil, diesel fuel, gasoline, lubricating oils and other oil derivates, distilled water etc.
The level is determined by the length of the electrodes of three probes: two are required for the level differential, one, the longest, to ensure conductivity (if the tank is not metallic).

SOME ALLOWED LIQUIDS

LIQUID TYPE	RESISTANCE Ω cm	LIQUID TYPE	RESISTANCE Ω cm
drinking water	5 ÷ 10kΩ	milk	~ 1kΩ
water from the well	2 ÷ 5kΩ	buttermilk	~ 1kΩ
river water	2 ÷ 15kΩ	fruit juices	~ 1kΩ
rain water	15 ÷ 20kΩ	vegetable juices	~ 1kΩ
sewage water	0.5 ÷ 2kΩ	soups	~ 1kΩ
sea water	~ 0.03kΩ	wine	~ 2.2kΩ
salt water	~ 2.2kΩ	beer	~ 2.2kΩ
natural water/hard water	~ 5kΩ	coffee	~ 2.2kΩ
chlorinated water	~ 5kΩ	soup foam	~ 18kΩ
condensate water	~ 18kΩ		

N.B. resistance values from the table are approximate

SOME NOT ALLOWED LIQUIDS

LIQUID TYPE
demineralised water
deionised water
gasoline
oil
liquefied gases
paraffin
ethanol
varnishes
liquids with high alcohol content

FEATURES

Controller's modular case is manufactured in shockproof thermoplastic material, designed for side by side multi-installations.
Knob to adjust the sensibility according to the liquid to be controlled.

ACCESSORIES

code UA03Y waterproof box IP65

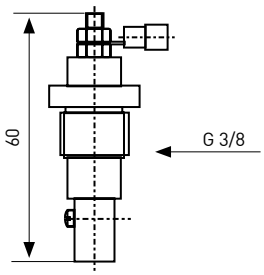
A03-A04

Electronic level controls with probes for conductive liquids

EA18 Identification probe in AISI 303 stainless steel.

SUITABLE FOR WELLS AND TANKS UNDER PRESSURE AND/OR FOR HIGH TEMPERATURES.

Dimensions (mm)



FEATURES

Maximum operating pressure: 10 bar.
Maximum temperature: 160 ° C.
Male connection G 3/8".

INSTALLATION

Connection between the probe and the level control is realized through a single-pole flexible cable (not supplied).
Electrode probe is not supplied as well.

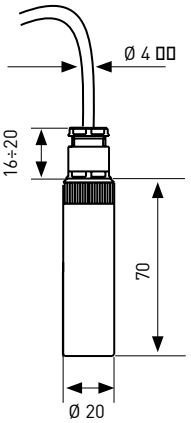
ACCESSORIES

code 2013347 Stainless steel electrode AISI 303 - 1 m length.
code 2013348 Stainless steel electrode AISI 303 - 2 m length.

EA19 Ballasted PVC probe with electrode

SUITABLE FOR WELLS, STORAGE TANKS AND RESERVOIRS FOR IRRIGATION.

Dimensions (mm)



FEATURES

Operation at atmospheric pressure.
Maximum temperature: 80°C.
Stainless steel electrode AISI 303 (included).
Cable gland G1/4".
Connection cable 1x1,5mm² (not included).

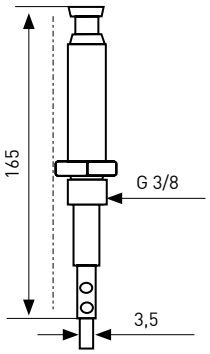
INSTALLATION

Connection between the probe and the level control is realized through a single-pole flexible cable (not supplied).

EA20 Stainless steel electronic probe AISI 303

SUITABLE FOR WELLS AND TANKS UNDER PRESSURE AND/OR FOR HIGH TEMPERATURES.

Dimensions (mm)



FEATURES

Maximum operating pressure: 35 bar.
Maximum temperature: 250°C.
Male connection G3/8".

INSTALLATION

Connection between the probe and the level control is realized through a single-pole flexible cable (not supplied).
Electrode probe is not supplied as well.

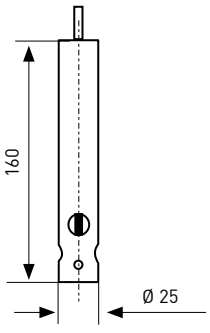
ACCESSORIES

code 2013347 Stainless steel electrode AISI 303 - 1 m length.
code 2013348 Stainless steel electrode AISI 303 - 2 m length.

EA21 Ballasted PVC probe with electrode

SUITABLE FOR WELLS, STORAGE TANKS AND RESERVOIRS FOR IRRIGATION.

Dimensions (mm)



FEATURES

Operation at atmospheric pressure.
Maximum temperature: 50°C.
6m cable length (electrode is not included).
Stainless steel electrode AISI 316 (included).

INSTALLATION

Connection between the probe and the level control is realized through a single-pole flexible cable (6 m).

A03-A04

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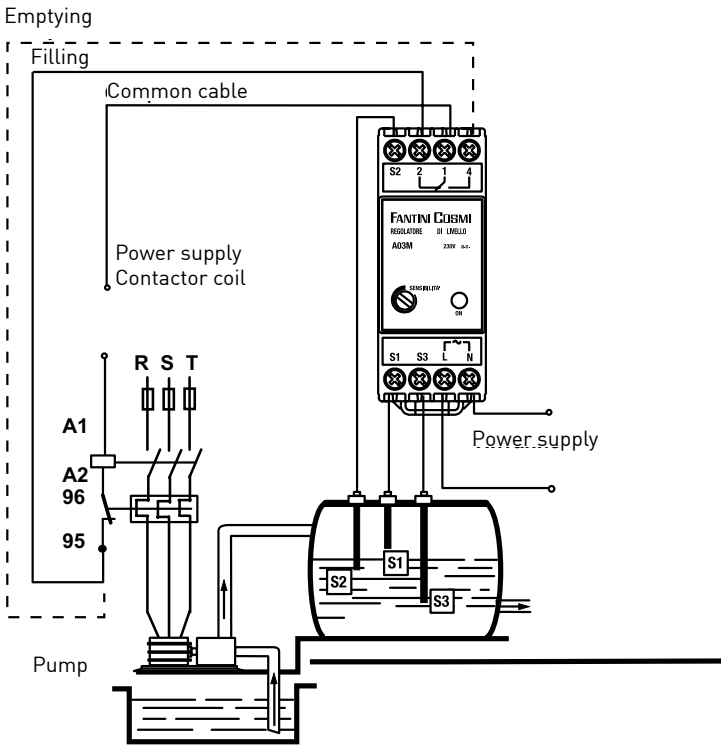
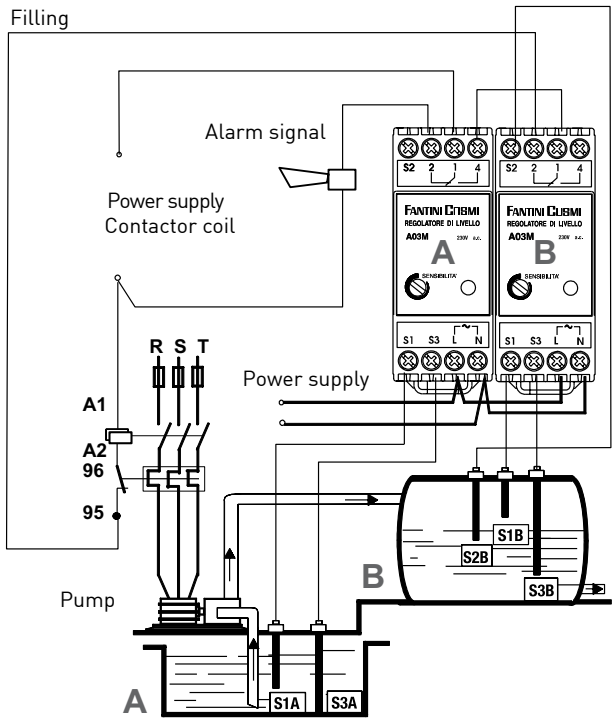
INSTALLATION EXAMPLES

SYSTEM WITH A03 LEVEL CONTROL FOR AUTOMATIC LEVEL MONITORING



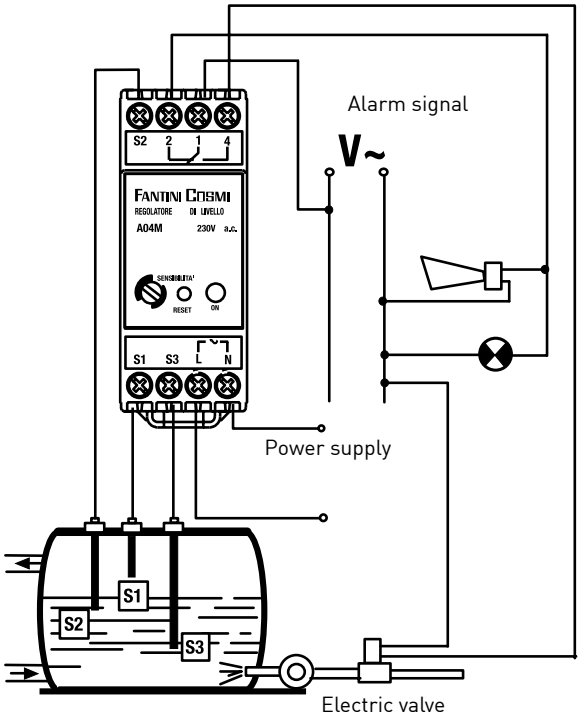
Probe S3 should be longer and should be ground connected (lead terminal S3). If the reservoir is metallic and in contact with the liquid, probe S3 can be removed, connecting directly level control lead terminal with the reservoir.

SYSTEM WITH A03 LEVEL CONTROL FOR AUTOMATIC LEVEL MONITORING



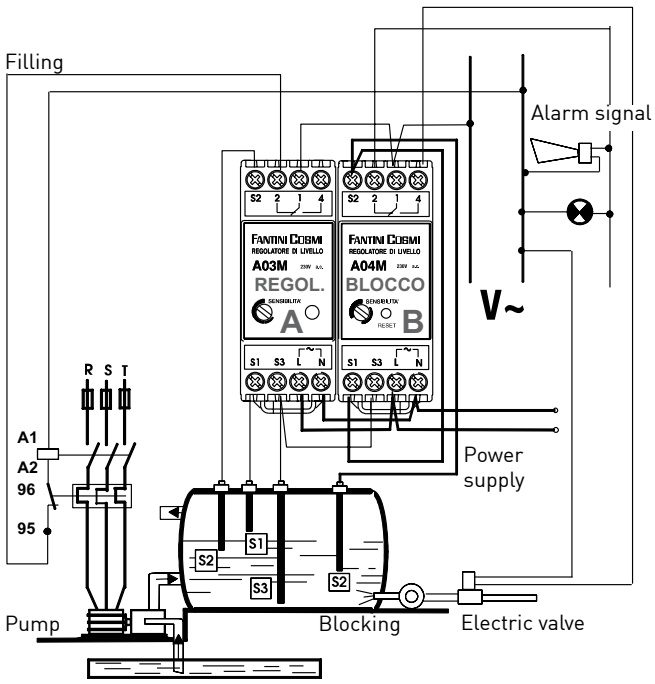
Level control B (A03) controls the liquid level in the reservoir B; level control A (A03) serves as a protection against the liquid lack in the reservoir A; accordingly, is stopping the pump and sends an alarm signal.

SYSTEM WITH A04 LEVEL CONTROL FOR AUTOMATIC LEVEL MONITORING



Shutdown level control A04 closes the electric valve and activates an alarm, if the level drops lower than S2.
The operation is restored pressing the button reset, when the liquid level exceeds S1.
If you are not satisfied with level difference between S1 and S2, simply remove the probe S1 and make a bridge between terminals S1 and S2; in this way, the level switch can be restored, when the fluid level is still higher than S2.

SYSTEM WITH TWO LEVEL CONTROLS: A03 FOR MONITORING AND A04 FOR MINIMUM LEVEL SAFETY BLOCK



Level control A (A03) regulates the level between S1 and S2; shutdown level control B (A04) interferes to stop the pump and activates an acoustic alarm, if the level drops below the level control's (A04) probe S2.