



AYVAZ

Compact System in Level Control

KP Series Level Control Systems

KP Series Level Control Systems



Applications :

Can be used for steam boilers, supply tanks, concrete tanks, plastics tanks, chemical industry and where continued level monitoring is required.

Designs ;

GALAXY KP 01/ KP 01-D/ KP 01-2R Screw connection : 3/4" BSP (DIN ISO 228) (fig. A)

GALAXY KP 01 F / KP 01-FD / KP 01-F2R : Flange connection for marine applications DN 50, PN 40, DIN 2635 (fig. B)

Main Features

Compact system GALAXY Level Systems work according to capacitance measurement principle. GALAXY Level Control Systems are used to display different levels in conductor and non-conductor liquids. GALAXY KP 01, GALAXY KP 01-D and GALAXY KP 01 - 2R comprises a level transmitter which is integrated into the electrode body and which produces a standard analog signal of 4-20 mA. Analog output of 4-20 mA can be monitored from the display located on the panel protection cap. GALAXY KP 01 - D and GALAXY KP 01-2R not only the output of 4-20 mA can be monitored from the display located on the panel protection cap, but also liquid level in vessel or the boiler can be seen on the same screen as percentage. GALAXY KP 01-2R two relay contact points can be set between top and bottom measuring points. (For example on-off valve or pump control.) A specially designed and winglet-fit cooling pipe is used for heat insulation of the electrode.

Function :

Capacitance measurement principle is used to indicate the level. Electrode rod and vessel wall form a capacitor. It is basically based on the fact that the value of a capacity is effected by dielectric value of the substance between the plates and from the plate areas, as well as from the distance between them. As the area of the electrode and tank wall is fixed, the only variable thing is the substance inside the tank which plays a dielectric role. If the level of such dielectric substance changes, the current running through the plates would change proportionately, as well. A dielectric is defined as an insulating substance which keeps many liquids such as water outside.

Dielectric constant of air and vacuum is 1 while it is bigger than 1 for other substances, and, therefore, capacity changes in line with the change in amount of the substance inside the tank. In order to obtain a useful result of measurement, measuring rod (dip stick) dipped at various depths into liquid must be insulated entirely. After zero point measuring range is adjusted, level can be read through the display unit.

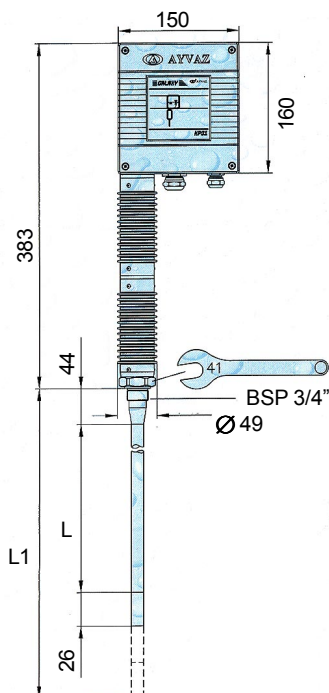


FIG. A

L	L1
300	373
400	477
500	583
600	688
700	794
800	899
900	1004
1000	1110
1100	1214
1200	1319
1300	1423
1400	1528
1500	1636
2000	2156

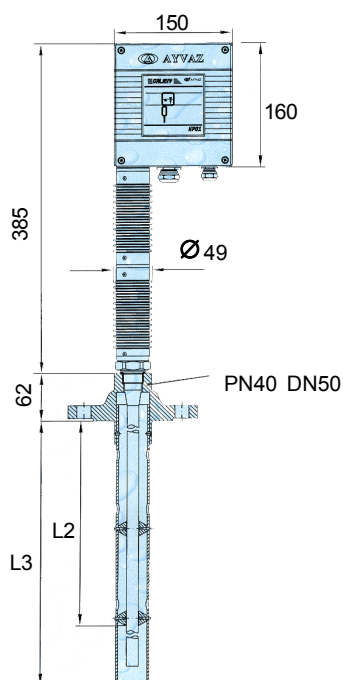


FIG. B

L2	L3
275	316
375	420
475	526
575	631
675	737
775	842
875	947
975	1053
1075	1157
1175	1262
1275	1366
1375	1471
1475	1579
1975	2099

KP Series Level Control Systems Technical Information

Technical Information :

Maximum operating pressure : 32 bar, at 238 C.

Connections :

Screw connection 3/4" BSP (DIN ISO 228)

Flange connection DN 50, PN 40, DIN 2635.

Material Structure :

Case : Aluminium injection 3,2161 (G-AISI8CO3)

Body : Stainless steel 4,4571 (CrNiMoTt 17 122)

Flange : Forged Steel 1,0460 (O 22,8)

Measuring electrode : Stainless steel 1,1571

Electrode insulation : PTFE

Intermediate Disc : PTFE

Main Supply :

230 V ±% 10, 50 - 60 Hz

115 V ±% 10, 50 - 60 Hz(Opsiyonel)

24 V ±% 10, 50 - 60 Hz(Opsiyonel)

Power Consumption : 5 VA

Fuse : Thermal Fuse Tmax = 115 °C

Precision :

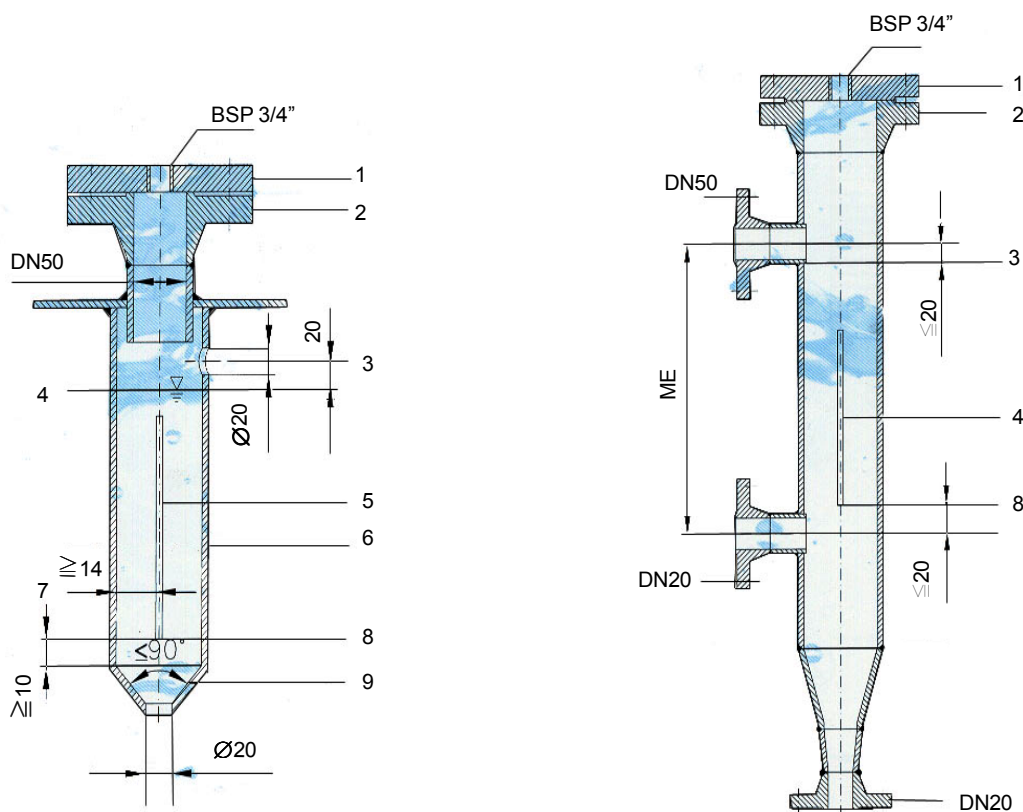
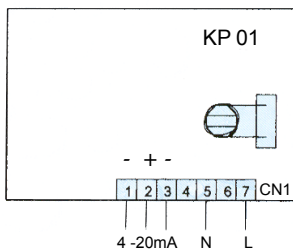
Degree 1 : water >0,5 µS/cm

Degree 2 : water >020 µS/cm

Degree 3 : Fuel oil 2,3

Output : 4-20 mA level-proportionate

Sample Connection Diagram



Indicators and adjusters :

2 red LEDs to indicate that it is worked outside 0% and 100 %. 1 green LED to indicate that it is worked in the range of 0% to 100 %. 1 DIP switch for the adjustment of measuring degree. 1 display unit for reading (in % or mA)

4-20 mA analog output (on KP 01-D and KP 01-2R models).

2 buttons for setting two relay contact values between 0% and 100% and for selecting the analog output in % or mA (on KP 01- 2R model only). 1 button for selecting the analog output in % or mA (on KP 01 -D model only). 2 LEDs on the cover for seeing that analog output is read in % or mA (on KP 01-D and KP 01 -2R models only).

4 LEDs on the cover for seeing the "on" and "off" position of relay contacts (on KP 01 -2R model only).

Cable inlet : 1 x PG 9 / 1 x PG 13,5

Protection : IP 65 DIN 40050

Maximum allowable ambient temperature : 70 °C

Weight : Approx. 2.3 kg.

Important Note :

For cable connection , use multi-conduit flexible cable with minimum conductor size of 1.5 mm²

L. Effective measuring degree

L1. Maximum assembly length

L2. Maximum effective measuring degree for marine applications

L3. Maximum assembly length for marine applications

1. Flange PN 40, DN 50, DIN 2527

Flange PN 40, DN 100, DIN 2527

2. Rules on the approval of boiler stand pipe with connection flange must be taken into consideration.

3. Ventilation hole

4. High water level (HW)

5. Electrode rod,diameter = 14 mm

6. Protection pipe, > DN 100

7. Electrode distance v 14

8. Low water level (LW)

9. Reduction 88.9 x 3.2-42,4 x 2,6 W DIN 2616 section 2.