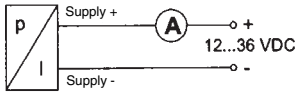
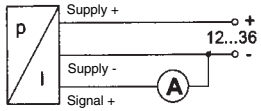
Wiring Diagrams

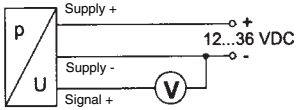
2-wire system 4...20 mA



3-wire system 0...20 mA



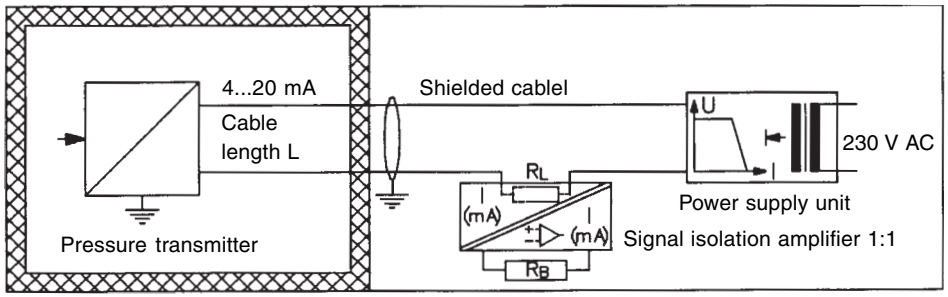
3-wire system 0...10 V etc.



Versions for Potentially Explosive Atmospheres

Electrical apparatus in areas with potentially explosive atmosphere must be installed and operated by expert personnel only.

Any manipulations with devices and connections lead to expiration of Ex permit and warranty. Intrinsically safe circuits must have potential equalization along the whole wiring inside and outside the potentially explosive area. Limiting values specified in the EC type approval must be observed. Capacitance and inductance of the connection cable are not included in the values.



Barksdale
CONTROL PRODUCTS

Barksdale GmbH
Dorn-Assenheimer Strasse 27
D-61203 Reichelsheim / Germany

Tel.: +49 - 60 35 - 9 49-0
Fax: +49 - 60 35 - 9 49-111 and 9 49-113
e-mail: Info@Barksdale.de
Web-Site: http://www.barksdale.de

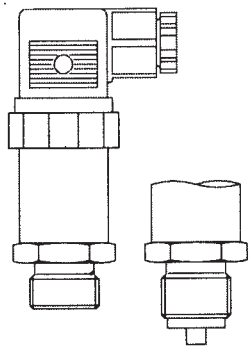
Art.-Nr.: 923-0741

Index B, 23. 06. 2003
Due to technical changes.

Operating Instructions **Pressure Transmitters Type UPA2-DMP, UPA2-DMK and UPA5** and for **Level Transmitters Type UPA2-LMP and UPA2-LMK**

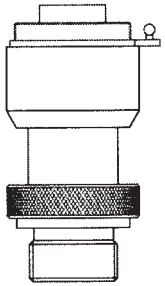
Types of transmitters

a) Pressure transmitters
UPA2-DMP / UPA2-DMK / UPA5



DIN 3852 DIN 16288

b) Screw-in transmitters
Level transmitters UPA2-LMP / UPA2-LMK



DIN 3852

c) Submersible transm.

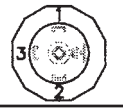
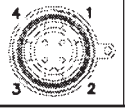
Mounting

General Notes

- devices should be installed without force
- tighten cable fittings cautiously - most fittings are made of plastics
- for outdoor installation of the devices use an overvoltage protection between power supply / controller and pressure or level transmitter
- for higher accuracy requirements send the measuring devices for re-calibration to factory every 12 months.
- **Attention:** This device is not designed to be used as the only safety relevant element in pressurized systems according PED 97/23/EC.

Electrical connection

Connector pinout chart

Connector pinout		Electrical connections			
		DIN 43650	Binder 723 (5-pin)	Bulgin Buccaneer	Cable colors (DIN 47100)
2-wire system:	Supply +	1	3	1	white
	Supply -	2	4	2	brown
	Ground	Ground pin	5	4	Cable shield
3-wire system:	Supply +	1	3	1	white
	Supply -	2	4	2	brown
	Signal +	3	1	3	green
	Ground	Ground pin	5	4	Cable shield
Connections					---

a) Pressure transmitters

DIN 3852

- check the O-ring on right position in the O-ring groove
- care for perfect surface of the sealing seat of the part the transmitter is screwedinto
- screw the transmitter into the counter thread and tighten it first only by hand (full sealing is reached already at this point!)
- then carefully tighten the device with a wrench

DIN 16288 (''Manometer Port")

- a suitable sealing - usually a copper seal - has to be used (the sealing is not being delivered with the transmitter)
- care for perfect surface of the sealing seats of both, the pressure transmitter and the part the transmitter is screwed into
- screw the pressure transmitter into the counter thread by hand
- tighten the device with a wrench

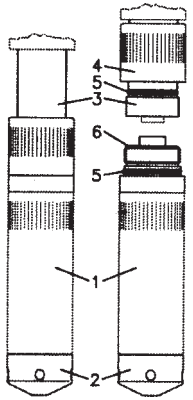
Special Notes for Mounting

- **Hydraulic Systems:** - pressure port is recommended to show up (bleeding)
  - in case of extreme dynamic stress a damping element should be used
- **Steam Pipes:** cooling track should be provided
- **Very Small Pressure Ranges:** strong tightening of the pressure transmitter may cause a slight drift of the output curve

b) Screw-in Transmitters

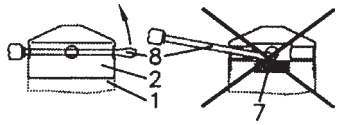
- check the O-ring on right position in the O-ring groove
- care for perfect surface of the sealing seat of the part the transmitter is screwedinto
- screw the device into the counter thread, then grip the screw-in transmitter at the knurled collar and tighten it by hand (no tool necessary!)

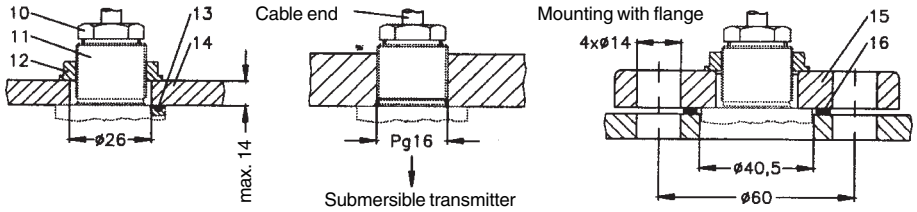
c) Submersible Level Transmitters



- assembly status at delivery: assembled
- main components: probe unit (1) and cable unit (3)
- Disassembly
  - grip at the knurling the probe unit (1) with one hand and the spigot nut (4) (not the cable unit!) with the other hand
  - hold the cable unit (3) in position, unscrew the spigot nut cautiously (to the left); then draw back the cable unit straight
- Assembly
  - check O-rings (5, 6) on surface harms
  - if O-rings are O.K., grease the two radial rings (5) slightlywith petroleum jelly or O-ring grease; do not grease the axial O-ring (6) (clean if already greasy)
  - join probe and cable units at the connector, hold the cable unit straight, and tighten the spigot nut carefully.

- Removing the **Protective Cap**
  - *by hand:* hold the probe unit (1), then tip the protective cap (2) and pull it away
  - *with a screw driver or similar:* put the tool (8) *straight* through two holes of the protective cap; don't harm the pressure sensor (7)!

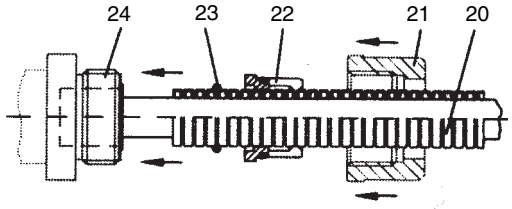




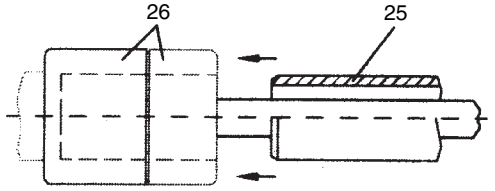
10 - Compression Screw Pg11
11 - Fitting Part Pg16
12 - Fastening Nut (PA66)
13 - O-Ring (Standard: Viton)
14 - Tank or Housing Wall
15 - Flange (PVC; to be ordered separately)
16 - Gasket (Standard: Viton)

possibly adjustment of transmitter suspension length with compression screw (10).

- Assembly of **Corrugated PP Pipe**
  - cut corrugated pipe (20) at a right angle (with sharp knife or similar)
  - put the spigot nut (21) over a corrugated pipe end
  - push the slotted part (22) about 40 to 50 mm over the corrugated pipe
  - cautiously push the O-ring (23) up to the third or fourth groove (caution: the O-ring has to lay well in the groove; (it must not be twisted!)
  - push the slotted part *up to* the O-ring (not over the O-ring!)
  - put the corrugated pipe into the fitting (24)
  - turn the spigot nut on the fitting; screw it by hand *on block*



- Assembly of **Rigid PVC or Stainless Steel Pipe**
  - saw the pipe (25) at a right angle and chamfer it (about 30°); care for good surface
  - push the pipe carefully *on block* into the



Maintenance

Usually maintenance of the devices is not necessary.
Especially with level transmitters dirt may deposit on the pressure sensor diaphragm.
Depending on the medium and the degree of pollution regular cleaning is necessary. The best way is to use suited cleaning solvents.
Caution! The diaphragm of stainless steel sensors must not be touched!