

# PA 430



## Plug-on Display for Current Loop with Contacts

### Functional range

- ▶ free scalable display
- ▶ switch mode, hysteresis, parameterizable deceleration of the contacts
- ▶ display 330° rotatable
- ▶ connector 300° rotatable
- ▶ no external power supply necessary

### Product characteristics

- ▶ plug-on display for pressure transmitter with output signal: 4 ... 20 mA / 2-wire or 0 ... 10 V / 3-wire
- ▶ 4-digit LED display

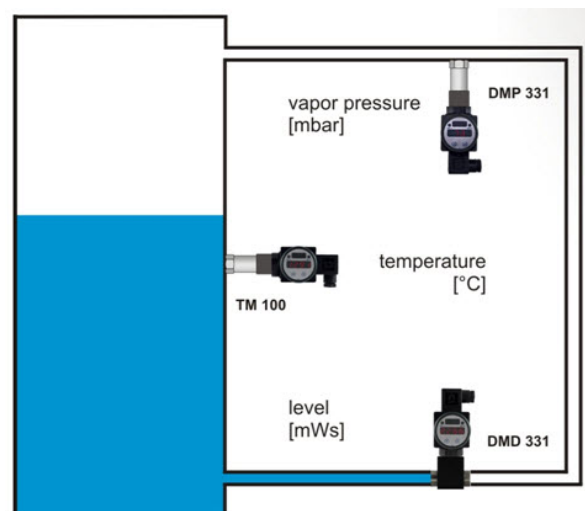
### Optional versions

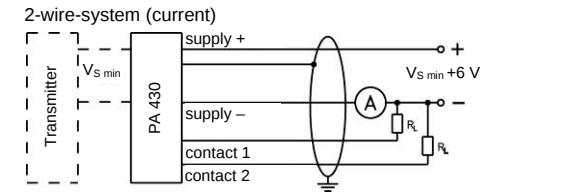
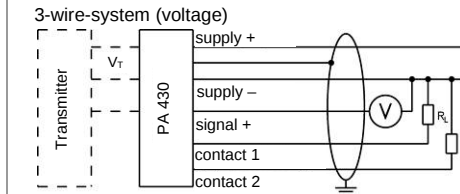
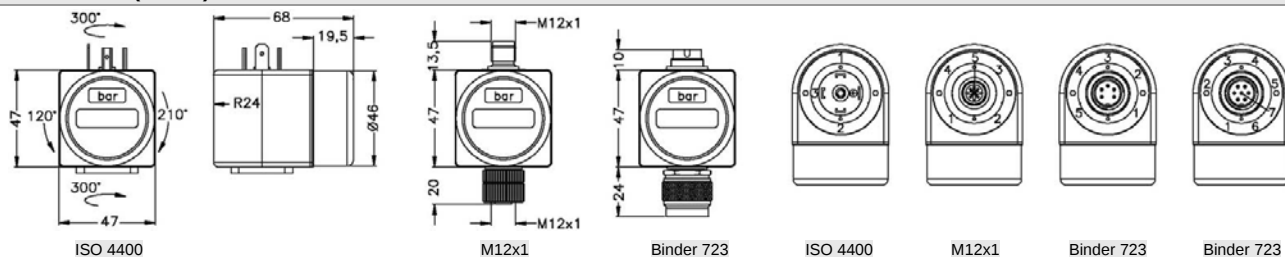
- ▶ IS-version
- ▶ 1 or 2 programmable contacts

### Typical application



in situ display of pressure, temperature and level



|                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                    |                     |                    |                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|---------------------------------|
| <b>Analogue signal</b>                                                                                                                                                                                                                        |                                                                                                                                                                                                                                    |                     |                    |                                 |
| 2-wire-system                                                                                                                                                                                                                                 | 2-wire: 4 ... 20 mA                                                                                                                                                                                                                |                     |                    |                                 |
| Option IS-version                                                                                                                                                                                                                             | 2-wire: 4 ... 20 mA                                                                                                                                                                                                                |                     |                    |                                 |
| 3-wire-system                                                                                                                                                                                                                                 | 0 ... 10 V                                                                                                                                                                                                                         |                     |                    |                                 |
| <b>Supply</b>                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                    |                     |                    |                                 |
| 2-wire-system                                                                                                                                                                                                                                 | supplied by current loop; voltage drop $\leq 6$ V; $V_S = (V_{T \min} \dots V_{T \max}) + 6 V_{DC}$<br>with $V_T$ = supply of the used transmitter<br>IS-version: max. 28 $V_{DC}$ (for combination of transmitter and PA 430)     |                     |                    |                                 |
| 3-wire-system                                                                                                                                                                                                                                 | display is supplied parallel with transmitter $V_{S \min} = 8 V_{DC} \dots V_{T \min}$ ; $V_{S \max} = V_{T \max} \dots 36 V_{DC}$<br>with $V_T$ = supply of the used transmitter                                                  |                     |                    |                                 |
| <b>Contact (optionally) <sup>1</sup></b>                                                                                                                                                                                                      |                                                                                                                                                                                                                                    |                     |                    |                                 |
| Number, type                                                                                                                                                                                                                                  | max. 2 independent PNP open collector contacts                                                                                                                                                                                     |                     |                    |                                 |
| Switching performance                                                                                                                                                                                                                         | $V_{switch} = V_S - 2$ V; contact rating max. 125 mA, short-circuit resistant                                                                                                                                                      |                     |                    |                                 |
| max. switching current <sup>2</sup>                                                                                                                                                                                                           | 70 mA                                                                                                                                                                                                                              |                     |                    |                                 |
| Repeatability                                                                                                                                                                                                                                 | $\leq \pm 0.1$ % FSO                                                                                                                                                                                                               |                     |                    |                                 |
| Switching frequency                                                                                                                                                                                                                           | max. 10 Hz                                                                                                                                                                                                                         |                     |                    |                                 |
| Switching cycles                                                                                                                                                                                                                              | $> 100 \times 10^6$                                                                                                                                                                                                                |                     |                    |                                 |
| Delay time                                                                                                                                                                                                                                    | 0 ... 100 sec                                                                                                                                                                                                                      |                     |                    |                                 |
| <sup>1</sup> max. 1 contact for: 4 ... 20 mA / 2-wire with plug ISO 4400; 0 ... 10 V / 3-wire with Binder 723 (5-pin) or M12x1; IS-version<br>no contact possible with 0 ... 10 V / 3-wire with plug ISO 4400                                 |                                                                                                                                                                                                                                    |                     |                    |                                 |
| <sup>2</sup> the real switching current in the application depends on the power supply unit                                                                                                                                                   |                                                                                                                                                                                                                                    |                     |                    |                                 |
| <b>Miscellaneous</b>                                                                                                                                                                                                                          |                                                                                                                                                                                                                                    |                     |                    |                                 |
| Electrical protection                                                                                                                                                                                                                         | reverse polarity protection (no damage, but also no function);<br>electromagnetic compatibility (emission and immunity according to EN 61326);<br>short-circuit protection; ingress protection IP 65                               |                     |                    |                                 |
| Display                                                                                                                                                                                                                                       | 4-digit, 7-segment red LED display, digit height 7 mm; range of indication -1999 ... +9999;<br>accuracy 0.1 % $\pm$ 1 digit; digital damping 0.3 ... 30 sec (programmable);<br>measured value update 0.0 ... 10 sec (programmable) |                     |                    |                                 |
| Permissible temperatures                                                                                                                                                                                                                      | electronics / environment: -25 ... 85 °C storage: -40 ... 85 °C                                                                                                                                                                    |                     |                    |                                 |
| Material of display housing                                                                                                                                                                                                                   | PA 6.6, polycarbonate                                                                                                                                                                                                              |                     |                    |                                 |
| Mechanical stability                                                                                                                                                                                                                          | vibration: 5 g RMS (20 ... 2000 Hz) shock: 100 g / 11 msec                                                                                                                                                                         |                     |                    |                                 |
| Weight                                                                                                                                                                                                                                        | approx. 150 g                                                                                                                                                                                                                      |                     |                    |                                 |
| CE-conformity                                                                                                                                                                                                                                 | EMC Directive: 2014/30/EU                                                                                                                                                                                                          |                     |                    |                                 |
| <b>Explosion protection (optionally for 4 ... 20 mA / 2-wire)</b>                                                                                                                                                                             |                                                                                                                                                                                                                                    |                     |                    |                                 |
| Approval AX14-PA 430                                                                                                                                                                                                                          | IBExU 06 ATEX 1050 X / IECEx IBE 21.0039 X zone 1: II 2G Ex ia IIC T4 Gb                                                                                                                                                           |                     |                    |                                 |
| Safety techn. maximum values                                                                                                                                                                                                                  | $U_i = 28$ V, $I_i = 93$ mA, $P_i = 660$ mW, $C \approx 0$ nF, $L_i \approx 0$ $\mu$ H;<br>plus cable inductivities 1 $\mu$ H/m and cable capacities 100 pF/m                                                                      |                     |                    |                                 |
| Permissible temperature for environment                                                                                                                                                                                                       | -25 ... 70 °C                                                                                                                                                                                                                      |                     |                    |                                 |
| <b>Wirings diagrams</b>                                                                                                                                                                                                                       |                                                                                                                                                                                                                                    |                     |                    |                                 |
|                                                                                                                                                            |                                                                                                                                                |                     |                    |                                 |
| <b>Pin configuration</b>                                                                                                                                                                                                                      |                                                                                                                                                                                                                                    |                     |                    |                                 |
| Electrical connection                                                                                                                                                                                                                         | ISO 4400                                                                                                                                                                                                                           | M12x1 metal (5-pin) | Binder 723 (5-pin) | Binder 723 (7-pin) <sup>3</sup> |
| Supply +                                                                                                                                                                                                                                      | 1                                                                                                                                                                                                                                  | 1                   | 3                  | 3                               |
| Supply -                                                                                                                                                                                                                                      | 2                                                                                                                                                                                                                                  | 2                   | 4                  | 1                               |
| Signal + (for 3-wire)                                                                                                                                                                                                                         | 3 <sup>1</sup>                                                                                                                                                                                                                     | 3 <sup>1</sup>      | 5 <sup>1</sup>     | -                               |
| Contact 1                                                                                                                                                                                                                                     | 3 <sup>1</sup>                                                                                                                                                                                                                     | 5                   | 2                  | -                               |
| Contact 2                                                                                                                                                                                                                                     | -                                                                                                                                                                                                                                  | 3 <sup>1</sup>      | 1 <sup>1</sup>     | -                               |
| Shield                                                                                                                                                                                                                                        | ground pin                                                                                                                                      | 4                   | ground pin         | 2                               |
| <sup>3</sup> intended for usage with DMP 331i, DMP 333i and LMP 331i with electrical connection Binder Series 723 (7-pin); pins 4, 5, 6, 7 are wired through 1:1; standard without contacts; contacts on request; 3-wire version not possible |                                                                                                                                                                                                                                    |                     |                    |                                 |
| <b>Dimensions (in mm)</b>                                                                                                                                                                                                                     |                                                                                                                                                                                                                                    |                     |                    |                                 |
|                                                                                                                                                           |                                                                                                                                                                                                                                    |                     |                    |                                 |

## Ordering code PA 430

PA 430

|  |  |  |  |   |  |  |   |  |  |  |  |   |  |  |  |  |  |  |
|--|--|--|--|---|--|--|---|--|--|--|--|---|--|--|--|--|--|--|
|  |  |  |  | - |  |  | - |  |  |  |  | - |  |  |  |  |  |  |
|--|--|--|--|---|--|--|---|--|--|--|--|---|--|--|--|--|--|--|

| Standard version                                   |   |   |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
|----------------------------------------------------|---|---|---|---|---|---|---|---|--|---|---|---|--|--|--|--|--|---------|
|                                                    | 8 | 5 | 0 |   |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| Analogue output                                    |   |   |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| 4 ... 20 mA / 2-wire                               |   |   |   | 1 |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| 0 ... 10 V / 3-wire                                |   |   |   | 3 |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| intrinsic safety for zone 1 / 4 ... 20 mA / 2-wire |   |   |   | E |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| customer                                           |   |   |   | 9 |   |   |   |   |  |   |   |   |  |  |  |  |  | consult |
| Contact <sup>1</sup>                               |   |   |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| without contact                                    |   |   |   | 0 |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| 1 contact                                          |   |   |   | 1 |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| 2 contacts                                         |   |   |   | 2 |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| Electrical connection                              |   |   |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| ISO 4400                                           |   |   |   |   | 1 | 0 | 0 |   |  |   |   |   |  |  |  |  |  |         |
| Binder series 723 (5-pin)                          |   |   |   |   | 2 | 0 | 0 |   |  |   |   |   |  |  |  |  |  |         |
| Binder series 723 (7-pin) <sup>2</sup>             |   |   |   |   | A | 0 | 1 |   |  |   |   |   |  |  |  |  |  |         |
| M12x1 (5-pin) / metal version                      |   |   |   |   | N | 1 | 0 |   |  |   |   |   |  |  |  |  |  |         |
| Unit                                               |   |   |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| without <sup>3</sup>                               |   |   |   |   |   |   |   | 0 |  |   |   |   |  |  |  |  |  |         |
| bar                                                |   |   |   |   |   |   |   | 1 |  |   |   |   |  |  |  |  |  |         |
| mbar                                               |   |   |   |   |   |   |   | 2 |  |   |   |   |  |  |  |  |  |         |
| mH <sub>2</sub> O                                  |   |   |   |   |   |   |   | 3 |  |   |   |   |  |  |  |  |  |         |
| %                                                  |   |   |   |   |   |   |   | P |  |   |   |   |  |  |  |  |  |         |
| mA                                                 |   |   |   |   |   |   |   | A |  |   |   |   |  |  |  |  |  |         |
| customer                                           |   |   |   |   |   |   |   | 9 |  |   |   |   |  |  |  |  |  | consult |
| Label on display                                   |   |   |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| standard                                           |   |   |   |   |   |   |   | 1 |  |   |   |   |  |  |  |  |  |         |
| neutral                                            |   |   |   |   |   |   |   | N |  |   |   |   |  |  |  |  |  |         |
| customer                                           |   |   |   |   |   |   |   | 9 |  |   |   |   |  |  |  |  |  | consult |
| Special version                                    |   |   |   |   |   |   |   |   |  |   |   |   |  |  |  |  |  |         |
| standard                                           |   |   |   |   |   |   |   |   |  | 0 | 0 | 0 |  |  |  |  |  |         |
| customer                                           |   |   |   |   |   |   |   |   |  | 9 | 9 | 9 |  |  |  |  |  | consult |

<sup>1</sup> max. 1 contact for: 4 ... 20 mA / 2-wire with plug ISO 4400; 0 ... 10 V / 3-wire with Binder 723 (5-pin) or M12x1 (5-pin); IS protection

no contact possible with 0 ... 10 V / 3-wire with plug ISO 4400

<sup>2</sup> intended for the use with DMP 331i, DMP 333i and LMP 331i with el. connection Binder Serie 723 (7-pin)

<sup>3</sup> the unit signs are loose-settled