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TEMATEC
Temperature · Technology

PA 430

Plug-on Display self powered

- for 4 ... 20 mA / 2-wire or 0 ... 10 V / 3-wire transmitters
- standard: plug ISO 4400
  optionally: M12x1 5-pin or Binder Series 723

Description

The plug-on display PA 430 has been designed to equip 4 ... 20 mA / 2-wire or 0 ... 10 V / 3-wire transmitters with a digital display. Additional up to 2 PNP open collector contacts for a limiting value control can be offered. The plug-on display has to be installed between male and female plug and is ready for work immediately.

Operation

The configuration of the plug-on display PA 430 is menu-driven via two miniature push buttons located in the front. Following parameters could be configured: decimal point, zero point, end point, damping, measuring value update, switch-on and switch-off points, and hysteresis- or compare mode as well as switch-on and switch-off delay of the optional contacts. Those parameters are being stored in an EEPROM and, thus, are being kept also in case of power breakdown. Limit exceeding in both directions can be displayed as a message. Furthermore an access protection is provided.

Application

- process control in situ

Characteristics

- rugged, plastic housing
- quick and easy installation
- display 330 ° rotatable
- plug and thread insertion 300° rotatable
- 4-digit, red LED display with digit height 7 mm
- up to two configurable contacts
- optionally with Ex-protection for 4 ... 20 mA / 2-wire
- easy configuration via two push buttons

CE Ex

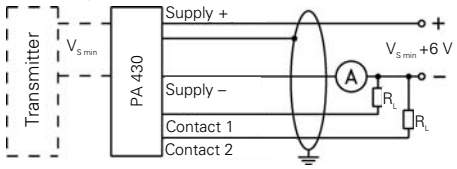
PA 430 Plug-on Display

07. 2008

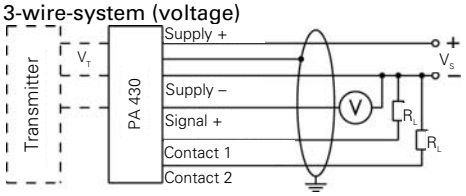
Analogue signal		
2-wire-system	4 ... 20 mA	Ex-protection: 4 ... 20 mA
3-wire-system	0 ... 10 V	
Supply		
2-wire-system	supplied by current loop; voltage drop ≤ 6 V; $V_S = (V_{T\,min} ... V_{T\,max}) + 6\ V_{DC}$ with V_T = supply of the used transmitter	
	Ex-protection: max. 28 V_{DC} (for combination of transmitter and PA 430)	
3-wire-system	display is supplied parallel with transmitter $V_{S\,min} = 8\ V_{DC} ... V_{T\,min}$; $V_{S\,max} = V_{T\,max} ... 36\ V_{DC}$ with V_T = supply of the used transmitter	
Contact (optional) [1]		
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	
Repeatability	≤ ± 0.1 % FSO	
Switching frequency	max. 10 Hz	
Switching cycles	> 100 x 10^6	
Delay time	0 ... 100 sec.	
[1] *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; Ex-protection no contact possible with 0 ... 10 V / 3-wire with plug ISO 4400*		
Miscellaneous		
Electrical protection	reverse polarity protection (no damage, but also no function); electromagnetic compatibility (emission and immunity according to EN 61326); short-circuit protection; ingress protection IP 65	
Display	4-digit, 7-segment red LED display, digit height 7 mm; range of indication -1999 ... +9999; accuracy 0.1 % ± 1 digit; digital damping 0.3 ... 30 sec. (programmable); 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
Explosion protection (optionally for 4 ... 20 mA / 2-wire)		
Approval AX11-PA 430	zone (0) 1: II (1) 2 G EEx ia IIC T4	
Safety techn. maximum values	$U_i = 28$ V; $\Sigma I_i = 93$ mA; $\Sigma P_i = 660$ mW; max. switching current [2]: 70 mA; max. inductivity: 4.7 mH	
Permissible temperatures for environment	-25 ... 70° C	
[2] *the real switching current in the application depends on the power supply unit*		

Wirings diagrams

2-wire-system (current)



3-wire-system (voltage)

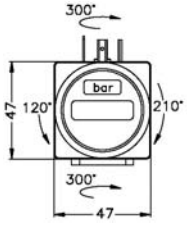


Pin configuration

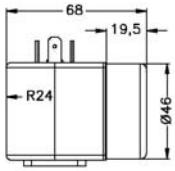
Electrical connection	ISO 4400	M12x1 metal (5-pin)	Binder 723 (5-pin)	Binder 723 (7-pin) [3]
Supply +	1	1	3	3
Supply –	2	2	4	1
Signal + (for 3-wire)	3 [1]	3 [1]	1 [1]	-
Contact 1	3 [1]	5	2	-
Contact 2	-	3 [1]	1 [1]	-
Ground	ground contact	4	5	2

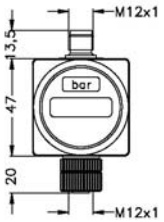
[3] *intended for usage with DMP 331i, DMP 333i and LMP 331i with el. connection Binder Series 723 (7-pin); Pins 4, 5, 6, 7 are wired through 1:1; standard without contacts; contacts on request; 3-wire version not possible*

Dimensions (in mm)

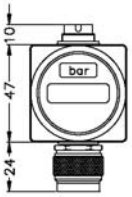


ISO 4400

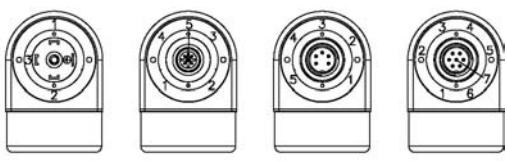




M12x1



Binder 723



ISO 4400 | M12x1 (5-pin) | Binder 723 (5-pin) | Binder 723 (7-pin)

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													on request
Contact [1]																	
without contact					0												
1 contact					1												
2 contacts					2												
Electrical connection (output)																	
ISO 4400						1	0	0									
Binder series 723 (5-pin)						2	0	0									
Binder series 723 (7-pin) [2]						A	0	1									
M12x1 (5-pin) / metal version						N	1	0									
Electrical connection (input)																	
ISO 4400									1	0	0						
Binder series 723 (5-pin)									2	0	0						
Binder series 723 (7-pin)									A	0	1						
M12x1 (5-pin) / metal version									N	1	0						
Unit																	
without [3]												0					
bar												1					
mbar												2					
mH_2O												3					
%												P					
mA												A					
customer												9					on request
Label on display																	
standard													1				
neutral													N				
customer													9				on request
Special version																	
standard														0	0	0	
customer														9	9	9	on request

[1] 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); Ex-protection
no contact possible with 0 ... 10 V / 3-wire with plug ISO 4400

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

[3] the unit signs are loose-settled