

Fig.1 PCR5 modules.

APPLICATION

The digital expansion module allows the monitoring of five discrete inputs (connect/disconnect of contacts) with a single temperature input of the controller.

DESCRIPTION

The PCR5 simulates the work of NTC temperature sensor (depending on model: 1,8kΩ, 10kΩ or 20kΩ). Connecting digital inputs (DI1 ÷ DI5) to the GND, appropriate combination of precision resistors (0,1%, 15ppm) is set on the output of the module. Relays contacts are gold plated, which guarantees a purley resistive nature of the output and excellent time-temperature stability. LEDs indicate states of digital inputs and power supply.

TECHNICAL DATA

Power supply	24 V AC/DC ± 10%
Current consumption	AC: 70mA, DC: 38mA
Input signal	5 x digital inputs connecting to the GND
Input current for $R_{IN} = 0\Omega$	0,15mA
Max. resistance of inputs	100kΩ
Output signal	PCR5-1,8kΩ - consistent with NTC 1,8kΩ PCR5-10kΩ - consistent with NTC 10kΩ PCR5-20kΩ - consistent with NTC 20kΩ
Protections	- against reverse polarisation of power supply - against reverse polarisation of digital inputs
Galvanic isolation in/out	1,5kV
CE Compliance	2004/108/EC
Protection class of the case	IP-40
Ambient temperature range	-40...+80°C
Diameter of terminals	2,5 mm ²
Mounting	DIN-35 rail
Dimensions (L x W x H)	90mm x 17,5mm x 56mm
Weight	65 g

PCR5

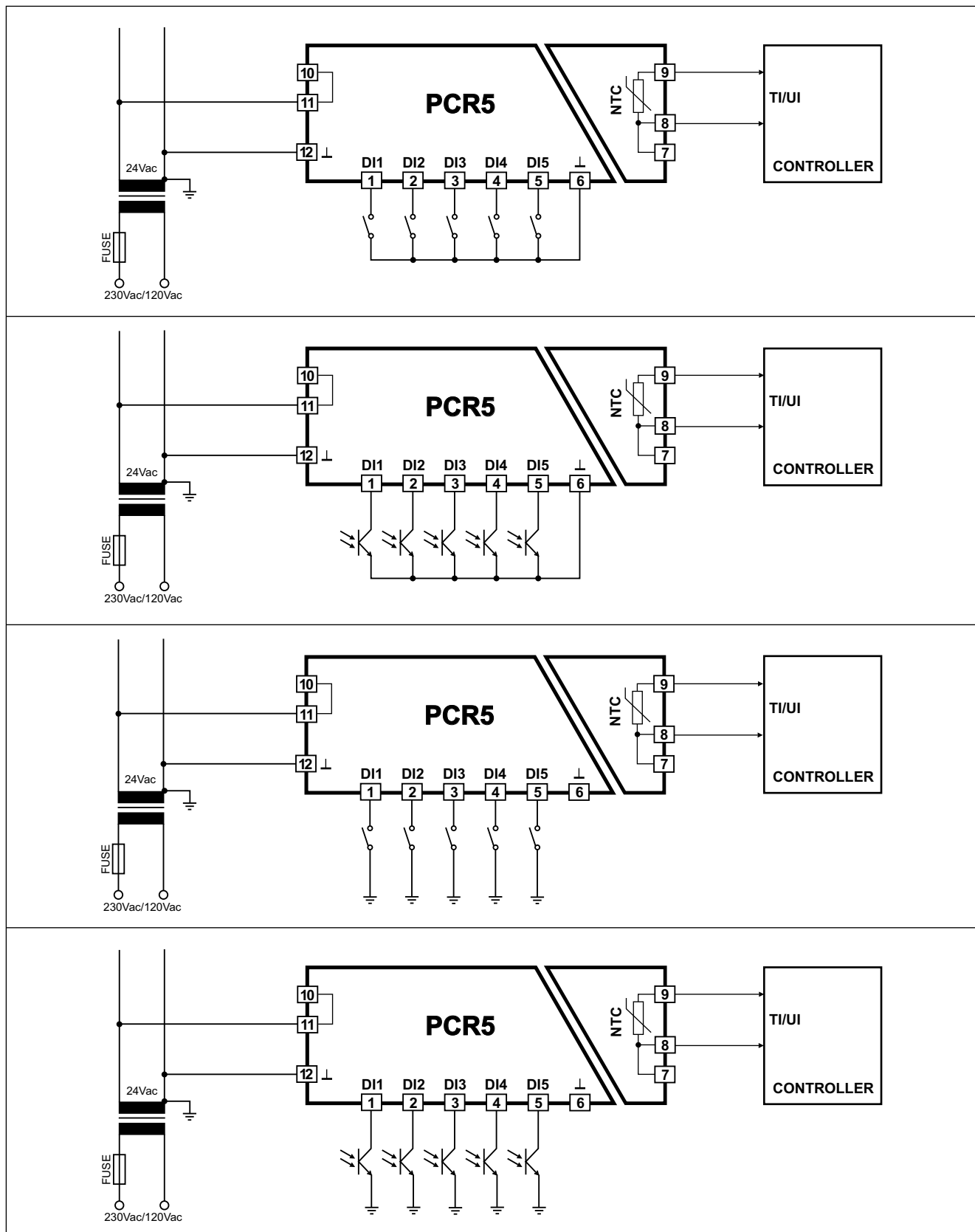


Fig.2 Connection methods examples of the PCR5.

PCR5-1,8kΩ TABLE OF STATES FOR TAC Xenta 200, 300, 400 CONTROLLERS

Lp.	DI1	DI2	DI3	DI4	DI5	Topt [°C]	Tmin [°C]	Tmax [°C]	Ropt [Ω]	Rmax [Ω]	Rmin [Ω]
1	0	0	0	0	0	-30,9	-31,6	-24,4	24 300	25 214	16 984
2	1	0	0	0	0	-13,6	-24,4	-9,5	9 720	16 984	7 879
3	0	1	0	0	0	-3,9	-9,5	-0,6	6 052	7 879	5 226
4	1	1	0	0	0	3,5	-0,6	6,2	4 406	5 226	3 926
5	0	0	1	0	0	9,7	6,2	11,8	3 449	3 926	3 145
6	1	0	1	0	0	14,1	11,8	15,9	2 843	3 145	2 628
7	0	1	1	0	0	18,0	15,9	19,6	2 415	2 628	2 258
8	1	1	1	0	0	21,5	19,6	23,0	2 102	2 258	1 974
9	0	0	0	1	0	24,8	23,0	26,2	1 848	1 974	1 752
10	1	0	0	1	0	27,6	26,2	28,9	1 658	1 752	1 580
11	0	1	0	1	0	30,3	28,9	31,5	1 503	1 580	1 439
12	1	1	0	1	0	32,7	31,5	33,9	1 375	1 439	1 320
13	0	0	1	1	0	35,1	33,9	36,0	1 265	1 320	1 219
14	1	0	1	1	0	37,2	36,0	38,2	1 175	1 219	1 134
15	0	1	1	1	0	39,2	38,2	40,1	1 094	1 134	1 059
16	1	1	1	1	0	41,1	40,1	42,0	1 025	1 059	992
17	0	0	0	0	1	43,0	42,0	43,8	960	992	933
18	1	0	0	0	1	44,7	43,8	45,5	906	933	882
19	0	1	0	0	1	46,4	45,5	47,1	858	882	836
20	1	1	0	0	1	47,9	47,1	48,7	815	836	795
21	0	0	1	0	1	49,4	48,7	50,2	775	795	757
22	1	0	1	0	1	50,9	50,2	51,6	739	757	723
23	0	1	1	0	1	52,3	51,6	52,9	708	723	692
24	1	1	1	0	1	53,6	52,9	54,3	677	692	663
25	0	0	0	1	1	55,0	54,3	55,6	648	663	636
26	1	0	0	1	1	56,2	55,6	56,8	623	636	612
27	0	1	0	1	1	57,4	56,8	58,0	600	612	589
28	1	1	0	1	1	58,6	58,0	59,2	579	589	568
29	0	0	1	1	1	59,8	59,2	60,3	558	568	549
30	1	0	1	1	1	60,9	60,3	61,4	540	549	531
31	0	1	1	1	1	62,0	61,4	62,5	522	531	514
32	1	1	1	1	1	63,1	62,5	63,5	506	514	499

0 - opened contacts, 1 - closed contacts

Possible compensation of the controller should be made for the state no. 32 (all inputs shorted to the GND).

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