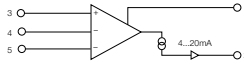


# Analog Signal Conditioners

## DK5 / Multi-range RTD-I

RTD 2- or 3-wire  
Terminal Block (See DIP Switch Range Selection Chart to right)



### DIP Switch Range Selection Chart

OFFSET	SPAN								
Offset °C	SW1	SW2	SW3	SW4	Span °C	SW5	SW6	SW7	SW8
-175	ON	ON	ON	ON	75	ON	ON	ON	ON
-150	OFF	ON	ON	ON	100	OFF	ON	ON	ON
-125	ON	OFF	ON	ON	125	ON	OFF	ON	ON
-100	OFF	OFF	ON	ON	150	OFF	OFF	ON	ON
-75	ON	ON	OFF	ON	175	ON	ON	OFF	ON
-50	OFF	ON	OFF	ON	200	OFF	ON	OFF	ON
-25	ON	OFF	OFF	ON	225	ON	OFF	OFF	ON
0	OFF	OFF	OFF	ON	250	OFF	OFF	OFF	ON
25	ON	ON	ON	OFF	275	ON	ON	ON	OFF
50	OFF	ON	ON	OFF	300	OFF	ON	ON	OFF
75	ON	OFF	ON	OFF	325	ON	OFF	ON	OFF
100	OFF	OFF	ON	OFF	350	OFF	OFF	ON	OFF
125	ON	ON	OFF	OFF	375	ON	ON	OFF	OFF
150	OFF	ON	OFF	OFF	400	OFF	ON	OFF	OFF
175	ON	OFF	OFF	OFF	425	ON	OFF	OFF	OFF
200	OFF	OFF	OFF	OFF	450	OFF	OFF	OFF	OFF

**EXAMPLES**

Temp Range	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
-50 to +150°C	OFF	ON	OFF	ON	OFF	ON	OFF	ON
-25 to +100°C	ON	OFF	OFF	ON	ON	OFF	ON	ON
+200 to +400°C	OFF	OFF	OFF	OFF	OFF	ON	OFF	ON
-70 to +85°C	ON	ON	OFF	ON	OFF	OFF	ON	ON

Use "Zero" and "Span" adjustments to achieve the desired range.

Ordering Data	Type	Part No.
Screw clamp for TS 35 rail		
Screw clamp for TS 32 rail		
Screw clamp for combi-foot, TS 35 or TS 32 rail	DK5 / multi-range RTD-I	980663
Tension clamp for TS 35 rail		

Technical Data	Input signal type	PT 100 RTD 2- or 3-wire
Material or excitation		
<b>Input range (min...max.)</b>		0°C...+100°C <sup>‡</sup>
Input impedance		
Line resistance		
Input maximum		25 mA DC
Supply voltage (min./max.)		
Supply current (min./max.)		
Current/power consumption		
<b>Power requirements</b>		External
Continuous current rating		
Response or switching freq. max.		
Supply current to PT 100 sensor		≤3 mA
Zero setting (4.0 mA) adjustment		±15°C min. of selected offset
Span adjustment (20 mA)		±45°C of selected span
<b>Output signal type</b>		Current
<b>Output range</b>		4...20 mA
Output load/loop resistance		0-1 kΩ
Output supply voltage (min./max.)		12...32 VDC
Output supply current (max.)		
Cold junction comp error		
Common mode rejection		±0.5% of full scale or 0.25°C
Accuracy input/output		±0.5% of full scale or 0.25°C
Linearity input/output		
Temperature coefficient		
Transmission frequency		
<b>Coupling method</b>		Direct
Cross-connections on pin		

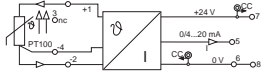
Operating Specifications		
Dielectric isolation input to output		
Dielectric isolation I/O to power supply		
Dielectric isolation I/O to DIN-rail		
Storage temperature range		-20°C...+85°C
Operating temperature range		0°C...+55°C
Relative humidity (non-condensing)		0 to 80%
Wire size		#20...12 AWG / 0.5...2.5 mm <sup>2</sup>
Clamp screw tightening torque Nm (lb.in.)		0.5 (4.38)
Mechanical dimensions (WxLxH) mm (in.)		6x77x62 (.24x3.03x2.44)
Dimensional diagram		Page 404 Fig. 3
Insulation stripping length mm (in.)		9 (.35)
Certification standards		CE

Accessories	Type	Part No.
End plate side cover	AP (1.5)	C9039986
PC software kit <sup>†</sup>		
Cross-connection, black		
Cross-connection, red		
Cross-connection, blue		
Cross-connection, yellow		

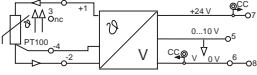
<sup>‡</sup>Factory configured setting

<sup>†</sup>Kit includes PC based Windows® software, cable and configuration manual.

**NEW**  
**WTS4/WTZ4 PT 100/3 C**  
 -200°C...+800°C  
 Enclosed Pluggable



**NEW**  
**WTS4/WTZ4 PT 100/3 V**  
 -200°C...+800°C  
 Enclosed Pluggable



**UPAC RTD**  
 § (see below) / -200°C...+850°C  
 Enclosed



**UPAC RTD / Relay Output**  
 § (see below) / -200°C...+850°C  
 Enclosed



**picoPak RTD/I**  
 RTD Input / 10 Ω Copper,  
 $\alpha = 0.0047, 0...100^\circ\text{C}$   
 Terminal Block



Type	Part No.	Type	Part No.	Type	Part No.	Type	Part No.	Type	Part No.
WTS4 PT 100/3 C	<b>843215</b>	WTS4 PT 100/3 V	<b>843209</b>	UPAC TransM RTD	<b>828030</b>	UPAC Alarm RTD	<b>828028</b>	picoPak RTD/I	<b>998319</b>
WTZ4 PT 100/3 C	<b>843216</b>	WTZ4 PT 100/3 V	<b>843213</b>						
<b>PT100/3</b>		<b>PT100/3</b>		<b>RTD</b>		<b>RTD</b>		<b>RTD</b>	
				‡		‡		Cu10 Ω	
<b>PT100/3-wire, -200°C...800°C</b>		<b>PT100/3-wire, -200°C...800°C</b>		<b>-200°C...+850°C</b>		<b>-200°C...+850°C</b>		<b>10 Ω Copper, <math>\alpha = 0.0047, 0...100^\circ\text{C}</math>*</b>	
				20 Ω					
				40% of base sensor R or 100 Ω max.		±5 V differential			
24 VDC ± 20% (19.2...28.8 VDC)		24 VDC ± 20% (19.2...28.8 VDC)		9...30 VDC		9...30 VDC		15...30 VDC	
				83...166 mA		83...166 mA		25...45 mA	
				1.5 to 2.5 W		1.5 to 2.5 W			
<b>External</b>		<b>External</b>		<b>External</b>		<b>External</b>		<b>External</b>	
				1.0 A		1.0 A			
				200 ms typ., 400 ms max..		100 ms min.			
				0% to 50% of full scale input		0% to 50% of full scale input			
				100% to 50% of full scale input		100% to 50% of full scale input			
<b>Current</b>		<b>Voltage</b>		<b>Current or Voltage</b>		<b>Relay Contacts</b>		<b>Current</b>	
<b>0(4)...20 mA</b>		<b>0...10 V</b>		<b>0...20 mA, 4...20 mA (load&lt;600 Ω)</b>		<b>240 VAC / 30 VDC @ 1 A</b>		<b>4...20 mA*</b>	
				<b>0...1 mA (load&lt;7.5 kΩ)</b>					
				<b>0...5 V, 0...10 V (load&gt;1 kΩ)</b>					
				see spec above				600 Ω max.	
								150 μA / 0.1°C	
± 0.5% of FS		± 0.5% of FS		At 20°C ± 0.1% typ., ± 0.2% max. of full scale		At 20°C ± 0.1% typ., ± 0.2% max. of full scale		0.05% of full scale nominal, 0.2% max. for voltage output	
				±0.015% of max. temp.		±0.05% of full scale			
<b>Direct</b>		<b>Direct</b>		<b>Optically Isolated</b>		<b>Optically Isolated</b>		<b>Optically Isolated</b>	
				1800 VDC		1800 VDC		1500 VAC RMS, 2 port	
				1800 VDC		1800 VDC			
				1800 VDC		1800 VDC			
-20°C...+85°C		-20°C...+85°C		-25°C...+70°C		-25°C...+70°C		-40°C...+85°C	
0°C...+55°C		0°C...+55°C		0°C...+55°C		0°C...+55°C		-40°C...+75°C	
				-25°C...+70°C		-25°C...+70°C			
#22...12 AWG		#22...12 AWG		#20...12 AWG / 0.5...2.5 mm <sup>2</sup>		#20...12 AWG / 0.5...2.5 mm <sup>2</sup>		#26...12 AWG / 0.5...2.5 mm <sup>2</sup>	
				0.5 (4.38)		0.5 (4.38)		0.6 (5.31)	
12.5x92.4x112.5 (.49x3.64x4.43)		12.5x92.4x112.5 (.49x3.64x4.43)		17.7x90x111.5 (.70x3.54x4.39)		17.7x90x111.5 (.70x3.54x4.39)		12x88x68 (.47x3.46x2.68)	
Page 402 Fig. 1		Page 402 Fig. 1						Page 404 Fig. 4	
UL, CSA, CE		UL, CSA, CE		7 (.28)		7 (.28)		UL, CSA, CE	
<b>Type</b>	<b>Part No.</b>	<b>Type</b>	<b>Part No.</b>	<b>Type</b>	<b>Part No.</b>	<b>Type</b>	<b>Part No.</b>	<b>Type</b>	<b>Part No.</b>
AP MCZ 1.5	<b>838903</b>	AP MCZ 1.5	<b>838903</b>	-	-	-	-	-	<b>998471</b>
ZQV 2.5N/2	<b>171808</b>	ZQV 2.5N/2	<b>171808</b>						
ZQV 2.5N/2	<b>171790</b>	ZQV 2.5N/2	<b>171790</b>						
ZQV 2.5N/2	<b>171799</b>	ZQV 2.5N/2	<b>171799</b>						
ZQV 2.5N/2	<b>169380</b>	ZQV 2.5N/2	<b>169380</b>						

\*Consult factory for custom configurations.  
 §PT100, PT500, PT1000, CU10, CU100, Ni20 or NiFe604 RTD, 2- or 3-wire  
 ‡<2 mA for PT100, PT500, PT1000, Ni20 or NiFe604  
 <10 mA for CU10, CU100, RTD, 2- or 3-wire